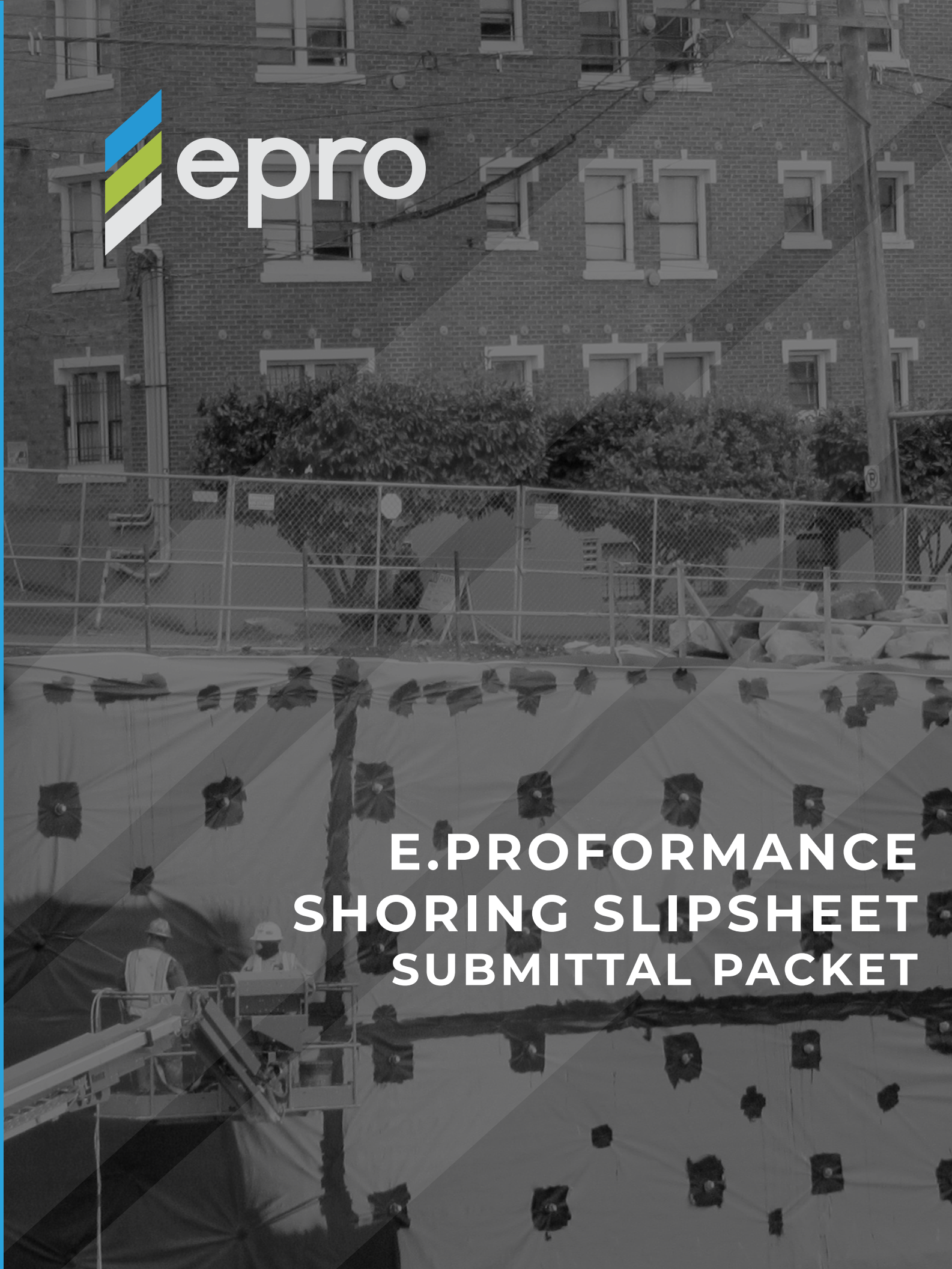
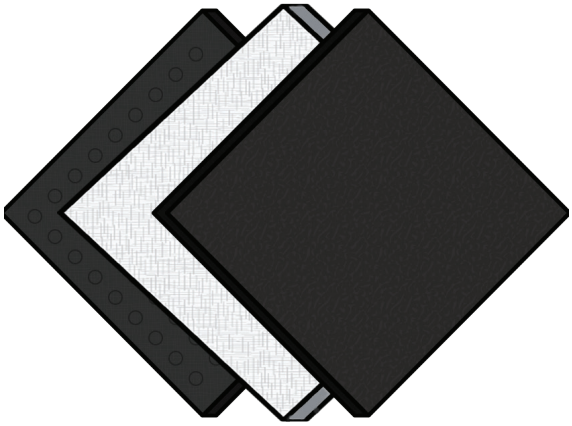
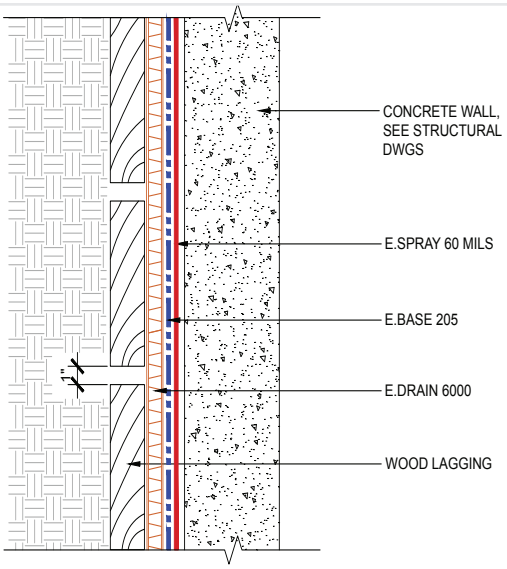


epro

E.PROFORMANCE SHORING SLIPSHEET SUBMITTAL PACKET

E.Proformance Slipsheet





System: E.Proformance Slipsheet | **Former System Name: System III-LWP**

Application: Shoring | **System Thickness: 70 to 75 mils**

	1st Layer	2nd Layer	3rd Layer
Product Name	e.drain 6000	e.base 205	e.spray 60 mils
Former Name	Ecodrain-S6000	Ecoshield-P	Ecoline-S

DESCRIPTION

E.Proformance Slipsheet is a redundant field-installed composite waterproofing system for below-grade pre-applied blindside vertical wall protection, and provides a variation to the standard E.Proformacne Shoring system to accommodate for the shrinkage of below grade vertical walls. 60 mils of e.spray is applied directly to the geotexile face of e.base 205 to provide a tenacious bond directly to the concrete wall. E.Proformance Slipsheet is ideal for sites with underslab drainage, minimal wateproofing risk, or in conjunction with other E.Series systems after transitioning above the water table.

E.Proformace Slipsheet is compatible with cast-in-place poured concrete or shotcrete, and maybe applied to different types of shoring methods including soldier pile, back lagging, shotcrete soil nail, internal rakers, caissons, secant walls, and sheet piles.

BENEFITS

- Fully Bonded. System fully bonds with below grade foundation wall.
- Seamless. Field-installed composite membranes do not contain a continuous seam.
- Fast Installation. Less weather sensitivity compared to comparable competitive systems and does not require addtional protection against weather.
- Exceptional Tensile Strength. Fabric reinforcement enahnces overall strength.

LIMITATIONS

- A protective bentonite layer is not included in this system configuration.
- Extreme weather conditions can impact installation methodology.

SPECIFICATIONS, DRAWINGS, AND TECHNICAL ASSISTANCE

The most current specifications and drawings can be found on www.eproinc.com. For project specific details contact EPRO directly, or the local EPRO representative.

Site conditions, performance goals, and budget determine which system is more appropriate for a given project. For more information regarding product performance, testing, plan review, or general technical assistance, please contact EPRO.

WARRANTY

EPRO provides a wide range of warranty options for E.Series systems. For a project to be eligible for any warranty option beyond a 1-year material warranty, an EPRO Authorized Applicator must be used and the project must be registered and approved by EPRO prior to the commencement of any product application.

Warranty options available for this system include:

- Material warranty
- E.Series Labor and Material Warranty
- E.Assurance No-Dollar-Limit Warranty

For information relating to EPRO's E.Assurance warranty program, contact EPRO. All E.Assurance no-dollar-limit labor and material warranties are approved on a project by project basis. E.Asssurance warranties are available for deck applications when E.Series systems are used on the below-grade envelope.

PROPERTIES	TEST METHOD	VALUE
Tensile Strength	ASTM D412	926 psi
Elongation	ASTM D412	763%
Adhesion to Concrete	ASTM D903	15.6 lbf/in
Puncture Resistance	ASTM D1709	220 lbf
Hydrostatic Head Resistance	ASTM D5385	100 psi (231 ft)
Water Vapor Transmission	ASTM E96	.021 perms

e.drain 9000

Typical Physical Properties

Physical Property	Test Method	Value
Dimpled Core		
Core Material		Polypropylene
Color		Black
Dimple Height	ASTM D 1777	0.4" (10.16mm)
Compressive Strength	ASTM D 6364	21,000 psf (1005 kN/m²)
Flow rate	ASTM 4716	23 g/min/ft
Filter Fabric		
Grab Tensile	ASTM D 4632	370x250 lbs
CBR Puncture Resistance	ASTM D 6241	850 lbs
Apparent Operating Size	ASTM D 4751	40 sieve size (.42mm)
Water Flow Rate	ASTM D 4491	60 gpm/ft² (2460 l/min/m²)

Dimensions: 4' x 50', 6' x 50', 8' x 50'
Weight: 4' roll = 50 lbs, 6' rolls = 75 lbs, 8' rolls = 100 lbs

e.fastener

Product Description

Basic Use: e.fastener is used to properly secure e.drain in place on blindside shoring wall applications. e.fastener is a five pronged fastener specifically designed to fit into the e.drain shallow dimple when secured by a galvanized steel shot pin.

Composition: Five-pronged orange fastener is made of high density polyethylene (HDPE).

Benefits

- Ensures proper securement of e.drain with proprietary fastener
- Creates uniform and consistent detailing of fasteners
- Secures systems on a wide variety of substrates

Limitations

- Proper spacing and detailing must be followed in order to not compromise system

Technical Data

Specification Writer: Contact EPRO before writing specifications on this product. E.Series system assemblies should be reviewed in order to meet project specific site conditions.

Installation

Preparation: Determine fastening pattern prior to installation.

Application: Please refer to manufacturer's specifications. Drainage panels may run horizontally or vertically. Secure seam overlaps using e.fasteners 12 inches on center, and vertical field areas shall be secured with e.fasteners every 3 feet in an alternating manner.

Availability and Packaging

Contact EPRO sales representative for local distributors or authorized applicators (www.eproinc.com).

500 fasteners per box

Warranty

Limited Warranty: EPRO Services, Inc. believes to the best of its knowledge that performance tables are accurate and reliable. EPRO warrants this product to be free from defects. EPRO makes no other warranties with respect to this product, express or implied, including without limitation the implied warranties of MERCHANTABILITY OR FITNESS FOR PARTICULAR PURPOSE. EPRO's liability shall be limited in all events to supplying sufficient product to retreat the specific areas to which defective product has been applied. EPRO shall have no other liability, including liability for incidental or resultant damages, whether due to breach of warranty or negligence. This warranty may not be modified or extended by representatives of EPRO or its distributors.

Equipment

Secure with shot pins using power-actuated fastener or by hand.

Technical Services and Information

Complete technical services and information are available by contacting EPRO at 800.882.1896 or www.eproinc.com.

This product was formally known as Delta Fastener.

e.poly

Product Description

Basic Use: e.poly is a polyester fabric that is designed to reinforce membrane terminations, transitions, penetrations, seams, and general repair areas. Used in every E.Series assembly, e.poly is installed between two layers of e.roll or e.spray.

Composition: e.poly is a 100% polyester textile material composed of staple fibers hydraulically entangled.

Benefits

- Excellent conformability and elongation
- Exceptional tear resistance and high tensile strength
- Open weave allows complete saturation and integration

Limitations

- Not suitable for expansion joints or areas where movement is desired

Technical Data

Properties: See physical properties table

Coverages: 6", 12" and 40" rolls cover 150, 300, and 1,080 square feet, respectively

Specification Writer: Contact EPRO before writing specifications on this product. E.Series system assemblies should be reviewed in order to meet project specific site conditions.

Installation

Preparation: Please refer to manufacturer's specifications for substrate requirements. Application of e.poly should be done when weather conditions meet the requirement of e.roll or e.spray.

Installation: Please refer to manufacturer's specifications. Install specified thickness of e.roll or e.spray and immediately embed e.poly into the initial layer of e.roll or e.spray. Once firmly pressed into the uncured membrane, fully saturate with additional layer of e.roll or e.spray to the specified thickness.

Availability and Packaging

Contact EPRO sales representative for local distributors or authorized applicators (www.eproinc.com).

Roll: 6" x 300', 12" x 300', and 40" x 324' rolls are available

Warranty

Limited Warranty: EPRO Services, Inc. believes to the best of its knowledge that performance tables are accurate and reliable. EPRO warrants this product to be free from defects. EPRO makes no other warranties with respect to this product, express or implied, including without limitation the implied warranties of MERCHANTABILITY OR FITNESS FOR PARTICULAR PURPOSE. EPRO's liability shall be limited in all events to supplying sufficient product to retreat the specific areas to which defective product has been applied. EPRO shall have no other liability, including liability for incidental or resultant damages, whether due to breach of warranty or negligence. This warranty may not be modified or extended by representatives of EPRO or its distributors.

Equipment

No special equipment is needed.

Technical Services and Information

Complete technical services and information are available by contacting EPRO at 800.882.1896 or www.eproinc.com.

This product was formally known as Polyester.

epro | e.poly

Typical Physical Properties

Physical Property	Test Method	Value
Weight		3 oz.
Bursting Strength	ASTM D3786	177 lbs.
Tensile Strength	ASTM D1682	57.1 psi
Tear Strength	ASTM D1117	16.1 lbs
Elongation	ASTM D1682	62.0%
Conformability		Excellent
Ease of saturation		Excellent

Dimensions: 6" x 300', 12" x 300', and 40" x 324' rolls are available

e.drain 6000

Product Description

Basic Use: e.drain 6000 is applied in negative side applications to blindside shoring walls, in positive side applications to over excavated walls, and over plaza decks. e.drain 6000 prefabricated drainage composite is designed to protect the E.Series system assembly, while effectively eliminating the buildup and ponding of water against the membrane assembly.

Composition: e.drain 6000 features a lightweight three-dimensional, high-compressive strength polypropylene core and bonded non-woven geotextile fabric. The bonded filter fabric allows water to pass freely into the molded drain while preventing soil particles from entering and clogging the core structure.

Benefits

- Provides extremely high compressive strength to meet a wide variety of project conditions
- Polypropylene provides greater chemical resistance than traditional polystyrene
- Maintains flexibility in freezing temperatures

Limitations

- Long-term UV exposure is not recommended

Technical Data

Properties: See physical properties table

Coverages: 6’ x 50’ roll covers 300 square feet; 8’ x 50’ roll covers 400 square feet, not including overlaps or waste

Specification Writer: Contact EPRO before writing specifications on this product. E.Series system assemblies should be reviewed in order to meet project specific site conditions.

Installation

Preparation: Please refer to manufacturer’s specifications for substrate requirements. Rolls should be inspected for cosmetic damage prior to application. Substrate must be inspected prior to application to make certain it is in accordance with manufacturer’s requirements.

Application: Please refer to manufacturer’s specifications. Drainage panels may run horizontally or vertically. In blindside shoring applications, secure e.drain to shoring using 2-inch flat washer fasteners every 24 inches on center on seams and terminations and a minimum of every 48 inches on center in the field.

Availability and Packaging

Contact EPRO sales representative for local distributors or authorized applicators (www.eproinc.com).

Roll: 6' x 50', 8' X 50'

Weight: 6' rolls = 64 lbs, 8' rolls = 81 lbs

Warranty

Limited Warranty: EPRO Services, Inc. believes to the best of its knowledge that performance tables are accurate and reliable. EPRO warrants this product to be free from defects. EPRO makes no other warranties with respect to this product, express or implied, including without limitation the implied warranties of MERCHANTABILITY OR FITNESS FOR PARTICULAR PURPOSE. EPRO’s liability shall be limited in all events to supplying sufficient product to retreat the specific areas to which defective product has been applied. EPRO shall have no other liability, including liability for incidental or resultant damages, whether due to breach of warranty or negligence. This warranty may not be modified or extended by representatives of EPRO or its distributors.

Equipment

Secure with shot pins using power-actuated fastener or by hand.

Technical Services and Information

Complete technical services and information are available by contacting EPRO at 800.882.1896 or www.eproinc.com.

This product was formally known as Ecodrain-S6000.

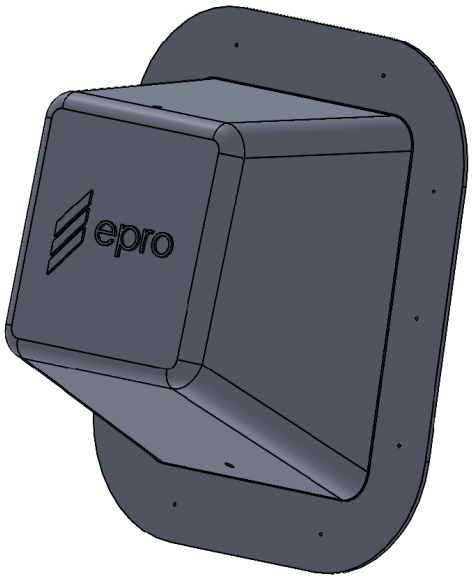
epro | e.drain 6000

Typical Physical Properties

Physical Property	Test Method	Value
Dimpled Core		
Core Material		Polypropylene
Color		Black
Dimple Height	ASTM D1777	0.4" (10.16 mm)
Compressive Strength	ASTM D1621	16,500 psf (790 kN/m²)
Flow rate	ASTM D4716	21 gal/min/ft
Filter Fabric		
Grab Tensile	ASTM D4632	100 lbs
CBR Puncture Resistance	ASTM D6241	250 lbs
Apparent Operating Size	ASTM D4751	70 US Sieve (.0212mm)
Water Flow Rate	ASTM D4491	140 gpm/ft² (5704 l/min/m²)
UV Resistance	ASTM D4355	70% (500 hrs)

Dimensions: 6' x 50', 8' X 50'
Weight: 6' rolls = 64 lbs, 8' rolls = 81 lbs

e.cover tb



Product Description

Basic Use: e.cover tb is a prefabricated, highly durable, quick and easy to install thermoplastic tieback cover designed to maximize concrete cover and minimize reinforcement interference. e.cover tb simplifies complex waterproofing detailing around soil retention tieback heads eliminating the need for time consuming field fabrication of tieback covers. e.cover tb is mechanically fastened to the soil retention system and easily integrates with any of EPRO's pre-applied systems for these critical detail areas. Specially molded with high density polyethlyne (HDPE), e.cover tb is highly impact resistant with superior strength and durability to withstand concrete and shotcrete placement. Integrated ports for filler injection and perimeter fastener holes enhance productivity, protection, and durability. Available in three separate sizes, e.cover tb will fit most rod and strand tieback heads.

Composition: e.cover tb is a high density polyethlene (HDPE) durable thermoplastic pressure molded tieback cover with integrated filler injection holes, perimeter fastener guide holes and tie-back conforming shape.

Benefits

- Quick and easy installation eliminates field fabrication of tieback covers while enhancing protection at critical detailing areas.
- Highly durable high density polyethlyne (HDPE) withstands concrete placement while offering robust waterproofing and environmental protection.
- HDPE allows heat weld capability for integration with waterproofing systems that utilize HDPE heat welded seams.
- Specially designed shape maximizes concrete cover, minimizes reinforcement interference, and reduces the potential for shadowing or non-consolidation of concrete.
- Integrated injection holes and perimeter fastener holes enhance durability, and ease of installation.

Limitations

- The soil retention system should be relatively flat, without protrusions, and provide continuity with the field waterproofing membrane.
- e.cover tb will not accomodate installation over non-standard sized tieback heads. Rod or strands should be cut relatively flush with the anchor nut or wedge.
- Rebar cannot impede the proper placement of the cover over the tieback.

Technical Data

Shelf life: Unlimited.

Properties: See dimensions table.

Specification Writer: Contact EPRO before writing specifications on this product. EPRO system assemblies should be reviewed in order to meet project specific site conditions.

Installation

Surface Preparation: All surfaces shall be prepared in accordance to manufacturer's specifications. In general, this means all surfaces shall be uniform and free of loose materials.

Application: Please refer to manufacturer's specifications.

Availability and Packaging

Contact EPRO sales representative for local distributors or authorized applicators (www.eproinc.com).

e.cover tb is available in three separate sizes with 6", 8", and 10" depths as measured from retention wall to cover peak. e.cover tb is also available as special order composed of ABS or TPO.

Warranty

Limited Warranty: EPRO Services, Inc. believes to the best of its knowledge that performance tables are accurate and reliable. EPRO warrants this product to be free from defects. EPRO makes no other warranties with respect to this product, express or implied, including without limitation the implied warranties of MERCHANTABILITY OR FITNESS FOR PARTICULAR PURPOSE. EPRO's liability shall be limited in all events to supplying sufficient product to retreat the specific areas to which defective product has been applied. EPRO shall have no other liability, including liability for incidental or resultant damages, whether due to breach of warranty or negligence. This warranty may not be modified or extended by representatives of EPRO or its distributors.

e.cover tb

Equipment

No special equipment is necessary.

Technical Services and Information

Complete technical services and information are available by contacting EPRO at 800.882.1896 or www.eproinc.com.

Dimensions

	Total Base Dimensions		Inner Cavity Dimensions At Base		Minimum Blockout Size	Minimum Sonotube Size
	Height x Width	Diagonal	Height x Width	Depth		
e.cover tb 6	14" x 12" 355mm x 305mm	14.23" 361mm	8" x 6" 203mm x 152mm	6" 152mm	20" x 18" 508mm x 457mm	22" 559mm
e.cover tb 8	18" x 16" 457mm x 406mm	19.87" 505mm	12" x 10" 305mm x 254mm	8" 203mm	24" x 22" 610mm x 559mm	28" 712mm
e.cover tb 10	21" x 18" 533mm x 457mm	23.45" 595mm	15" x 12" 381mm x 305mm	10" 254mm	27" x 24" 686mm x 610mm	32" 813mm

e.stop

Product Description

Basic Use: e.stop b is an expanding strip waterstop designed to stop water infiltration through cast-in-place concrete construction joints. It expands upon contact with water to form a positive seal against the concrete. The key to e.stop b's effectiveness is that it is highly expansive, which seals and fills voids in cracks and concrete.

Composition: e.stop b is a moisture activated high sodium bentonite content based waterstop.

Benefits

- Active swelling waterstop is fully encased in concrete to seal off water ingress
- Fast and easy installation
- Seals around pipe penetrations
- Ideal when pouring against existing concrete
- High resistance to hydrostatic pressure

Limitations

- Not a self-adhering product and requires the use of e.stop primer prior to securing waterstop to concrete, metal, or PVC (Pipe) surfaces
- Not designed, nor intended to function as an expansion joint sealant
- It is designed for structural concrete with a minimum of 3,000 psi compressive strength. e.stop b requires a minimum of 3" (75 mm) of concrete coverage.
- Not resistant to pre-hydration

Technical Data

Properties: See physical properties table

Coverages: 16.67" linear feet

Specification Writer: Contact EPRO before writing specifications on this product. E.Series system assemblies should be reviewed in order to meet project specific site conditions.

Installation

Preparation: Surfaces should be clean and dry. Remove all dirt, rocks, rust or other construction debris. Do not install e.stop b in standing water or on an iced substrate. Apply a continuous layer of e.stop primer along the substrate where e.stop b will be installed. Assure proper 3" (75 mm) concrete coverage will be maintained.

Installation: Firmly press the entire length of e.stop b onto the adhesive. For best results apply e.stop b within 30 minutes of adhesive installation. e.stop primer may be applied to damp surfaces, but not in standing water.

At structural and pipe penetrations, cut into strips to fit around the penetration. Apply to adhesive and abut coil ends together. On irregular surfaces such as stone or rough concrete, make sure waterstop remains in direct contact with the substrate along the entire installation. There should not be any air gap between the waterstop and the substrate

Availability and Packaging

Contact EPRO sales representative for local distributors or authorized applicators (www.eproinc.com).

Roll: 16.67' x 3/4" x 1" x per roll, six rolls per case

Warranty

Limited Warranty: EPRO Services, Inc. believes to the best of its knowledge that performance tables are accurate and reliable. EPRO warrants this product to be free from defects. EPRO makes no other warranties with respect to this product, express or implied, including without limitation the implied warranties of MERCHANTABILITY OR FITNESS FOR PARTICULAR PURPOSE. EPRO's liability shall be limited in all events to supplying sufficient product to retreat the specific areas to which defective product has been applied. EPRO shall have no other liability, including liability for incidental or resultant damages, whether due to breach of warranty or negligence. This warranty may not be modified or extended by representatives of EPRO or its distributors.

Equipment

No special equipment is needed.

Technical Services and Information

Complete technical services and information are available by contacting EPRO at 800.882.1896 or www.eproinc.com.

This product was formally known as Eprostop-BP.

epro | e.stop

Typical Physical Properties

Physical Property	Test Method	Value
Hydrostatic Head	Independent	231 ft
Wet/Dry Cycling (25 cycles)	Independent	No Effect
Adhesion to Concrete	Independent	Excellent

Dimensions: 16.67' x 3/4" x 1"

e.roll

Product Description

Basic Use: e.roll is a key component to EPRO's redundant field installed composite design concept and is a roller applied version of e.spray. It is designed to be used for system detailing, repairs, and in areas where the required clearance for e.spray cannot be achieved. e.roll is most commonly used in conjunction with e.poly to reinforce system penetrations, terminations, seams, cracks, and membrane transitions. e.roll is used on decks, over-excavated walls, blindside vertical walls, and underslab E.Series assemblies. e.roll can be applied to a wide range of materials/ substrates, high density polyethylene (HDPE), polyolefin sheets, geotextile fabric, wood, metal, foam insulation, and concrete based surfaces (green concrete, shotcrete and concrete masonry units (CMU)).

Composition: e-roll is a medium viscosity water-based, polymer-modified anionic asphalt emulsion, which exhibits exceptional bonding, elongation and waterproofing characteristics.

Benefits

- e.roll is a single component material, no additional blending is required
- Provides the ability to easily detail and repair assemblies without the use of a spray pump
- Non-toxic, non-hazardous, non-flammable, and VOC free
- Forms both a mechanical and ionic bond directly to concrete
- Application to damp substrates is acceptable

Limitations

- Surfaces shall be free of dirt and debris
- Material should be stored above 40°F and not allowed to freeze
- Not a traffic bearing surface, additional protection required
- Must not be applied to ponded water
- Cold temperatures will prolong cure time

Technical Data

Shelf life: 1 year. The ability to apply the product beyond its estimated shelf life is dependent on storage conditions and homogeneity of the product. Storing material in an enclosed temperature controlled environment that maintains a minimum ambient temperature of 65° Fahrenheit will likely extend the shelf life beyond 1 year.

Properties: See physical properties table

Specification Writer: Contact EPRO before writing specifications on this product. E.Series system assemblies should be reviewed in order to meet project specific site conditions.

Installation

Surface Preparation: All surfaces shall be prepared in accordance to manufacturer's specifications. In general, this means all surfaces shall be uniform, free of loose materials, and surface contaminants. Contaminant and loose debris shall be removed prior to application by suitable methods. A test should always be done prior to application using the same cleaning preparation and application procedures to be used on the project.

Application: Please refer to manufacturer's specifications. e.roll shall be spray applied to the specified nominal mil thickness. e.roll may be applied by roller or brush.

Cleaning: Clean all tools, hoses, spray guns, and tips with kerosene and/or equivalent.

Availability and Packaging

Contact EPRO sales representative for local distributors or authorized applicators (www.eproinc.com).

e.roll is available in 5 gallon or 1 gallon containers.

Warranty

Limited Warranty: EPRO Services, Inc. believes to the best of its knowledge that performance tables are accurate and reliable. EPRO warrants this product to be free from defects. EPRO makes no other warranties with respect to this product, express or implied, including without limitation the implied warranties of MERCHANTABILITY OR FITNESS FOR PARTICULAR PURPOSE. EPRO's liability shall be limited in all events to supplying sufficient product to retreat the specific areas to which defective product has been applied. EPRO shall have no other liability, including liability for incidental or resultant damages, whether due to breach of warranty or negligence. This warranty may not be modified or extended by representatives of EPRO or its distributors.

e.roll

Equipment

No special equipment is necessary.

Technical Services and Information

Complete technical services and information are available by contacting EPRO at 800.882.1896 or www.eproinc.com.

This product was formally known as Ecoline-R.

Typical Physical Properties

Physical Property	Test Method	Value
Color		Brown to Black
Solvent Content		No Solvents
Shelf Life		1 year
Tensile Strength	ASTM 412	32 psi
Elongation	ASTM 412	3860%
Resistance to Decay	ASTM E 154 SECTION 13	9% Perm Loss
Accelerated Aging	ASTM G 23	No Effect
Moisture Vapor Transmission	ASTM E 96	0.071 g/sq. ft./hr.
Hydrostatic Water Pressure	ASTM D 751	28 psi
Perm Rating	ASTM E 96 (US Perms)	0.17
Methane Transmission Rate	ASTM D 14334	0
Adhesion to Concrete & Masonry	ASTM C 836	7 lbf/inch
Hardness	ASTM C 836	85
Crack Bridging	ASTM C 836	No Cracking
Low Temp. Flexibility	ASTM C 836-00	No Cracking at -20°C

Packaging: 5 gallon bucket

e.spray

Product Description

Basic Use: e.spray is a key component to EPRO's redundant field installed composite design concept. e.spray is a polymer modified asphalt (PMA) applied to nominal dry thicknesses of 60, 80, and 100 mils depending on the E.Series system configuration. For robust horizontal deck applications, a 120 mil reinforced option should be specified. Spray applied to form a seamless barrier, e.spray is an integral component to all E.Series systems due to its ability to further enhance and bond to a variety of materials; these material include, high density polyethylene (HDPE), polyolefin sheets, geotextile fabric, wood, metal, foam insulation, and concrete based surfaces (green concrete, shotcrete and concrete masonry units (CMU)). e.spray is applied with a proprietary self-contained sprayer designed to produce high build, monolithic, and rapidly curing membranes.

Composition: e.spray is a non-hazardous, low-viscosity, water-based, anionic asphalt emulsion modified with a blend of synthetic polymerized rubbers and proprietary additives. e.spray is highly stable during transit and proper storage, but becomes highly reactive during the spray application to form a rapidly cured membrane with exceptional bonding, elongation, and hydrophobic characteristics.

Benefits

- Provides a layer of seamless protection and redundancy in all E.Series system assemblies
- Hydrophobic and resistant to methane gas
- Non-toxic, non-hazardous, non-flammable, and VOC free
- Forms a tenacious bond directly to concrete
- Application to damp substrates is acceptable
- Can be applied in below freezing temperatures with proper equipment

Limitations

- Surfaces shall be free of dirt and debris
- Material should be stored above 40°F and not allowed to freeze
- Not a traffic bearing surface, additional protection required
- Must not be applied to ponded water
- Direct foot traffic should be limited when ambient air temperatures are greater than 100°F
- Green concrete may require a primer coat prior to application

Technical Data

Shelf life: 6 months. The ability to apply the product beyond its estimated shelf life is dependent on storage conditions and homogeneity of the product. Storing material in an enclosed temperature controlled environment that maintains a minimum ambient temperature of 65° Fahrenheit will likely extend the shelf life beyond 6 months.

Properties: See physical properties table

Specification Writer: Contact EPRO before writing specifications on this product. E.Series system assemblies should be reviewed in order to meet project specific site conditions.

Additional test information available upon request.

Installation

EPRO Authorized Applicators must be approved in writing by EPRO prior to receiving a contract in order to qualify for a warranty for this product and system assembly.

Surface Preparation: All surfaces shall be prepared in accordance to manufacturer's specifications. Surfaces shall be uniform, free of loose materials, and surface contaminants. Contaminant and loose debris shall be removed prior to application by suitable methods.

Application: Please refer to manufacturer's specifications. e.spray shall be spray applied to the specified nominal mil thickness. When properly applied, e.spray will set up immediately on the surface and promptly start the curing process. Light foot traffic is acceptable, but must be limited to the authorized EPRO applicator. The initial cure is complete when e.spray is no longer ejecting moisture, 12 to 48 hours depending on ambient air conditions.

Availability and Packaging

Contact EPRO sales representative for local distributors or authorized applicators (www.eproinc.com).

e.spray is available in the following packaging options:

55 gallon drum
275 gallon tote
330 gallon tote

e.spray

Warranty

Limited Warranty: EPRO Services, Inc. believes to the best of its knowledge that performance tables are accurate and reliable. EPRO warrants this product to be free from defects. EPRO makes no other warranties with respect to this product, express or implied, including without limitation the implied warranties of MERCHANTABILITY OR FITNESS FOR PARTICULAR PURPOSE. EPRO's liability shall be limited in all events to supplying sufficient product to retreat the specific areas to which defective product has been applied. EPRO shall have no other liability, including liability for incidental or resultant damages, whether due to breach of warranty or negligence. This warranty may not be modified or extended by representatives of EPRO or its distributors.

Equipment

Spray System: AD-55 Sprayer is available through EPRO. To discuss alternative spray machine options, please contact EPRO directly.

Smoke Testing: EPRO Smoke Test Machine for underslab applications

Technical Services and Information

Complete technical services and information are available by contacting EPRO at 800.882.1896 or www.eproinc.com.

This product was formally known as Ecoline-S.

Typical Physical Properties

Physical Property	Test Method	Value
Color		Brown to Black
Solvent Content		No Solvents
Shelf Life		6 months
Tensile Strength	ASTM 412	32 psi
Elongation	ASTM 412	4140%
Resistance to Decay	ASTM E 154 Section 13	4% Perm Loss
Accelerated Aging	ASTM G 23	No Effect
Moisture Vapor Transmission	ASTM E 96	0.026 g./sq. ft./hr.
Hydrostatic Water Pressure	ASTM D 751	26 psi
Perm Rating	ASTM E 96 (US Perms)	0.21
Methane Transmission Rate	ASTM D 1434	0
Adhesion to Concrete & Masonry	ASTM C 836 & C 704	11 lbf./inch
Adhesion to HDPE	ASTM C 836	28.363 lbf./inch
Adhesion to Polypropylene Fabric	ASTM C 836	31.19 lbf./inch
Hardness	ASTM C 836	80
Crack Bridging	ASTM C 836-00	No Cracking
Low Temp. Flexibility		No Cracking at -20° C

Packaging: 55 gallon drum, 275 gallon tote, 330 gallon tote

e.stop gu

Product Description

Basic Use: e.stop gu is a self-adhering gunnable expanding waterstop paste designed to stop water infiltration through cast-in-place concrete at construction joints and penetrations. It expands upon contact with water to form a positive seal against the concrete. The key to e.stop gu's effectiveness is that it is highly expansive, which seals and fills voids in cracks and concrete, and is easy to apply using caulking equipment.

e.stop gu can be applied over rough and smooth concrete, steel piles, dowels and Nelson Studs, and on iron or PVC pipes.

For shotcrete applications, e.stop gu requires a double layer application with a minimum 1-inch separation.

Composition: e.stop gu is a gray hydrophilic expanding urethane waterstop sealant.

Benefits

- Active swelling waterstop is fully encased in concrete to seal off water ingress.
- Self-adhering over concrete, iron, steel, and PVC.
- Fast and easy installation.
- Conforms to irregular surfaces.
- Seals around pipe penetrations.
- Ideal when pouring against existing concrete.
- High resistance to hydrostatic pressure.

Limitations

- Not an expansion joint sealant.
- It is designed for structural concrete with a minimum of 2,600 psi compressive strength.
- Requires a minimum of 3-inch (75 mm) of concrete coverage depending on the size of the bead used.
- Must be fully cured before concrete pour.
- Not resistant to pre-hydration.

Technical Data

Properties: See physical properties table.

Coverages: Coverage is dependent on the size of application bead. Applied material skins over after two hours and moisture cures in ten hours.

Minimum bead size and estimated linear coverage:

- 1/2" x 1/2": 6'-6" (2 m)
- 3/8" x 3/4": 5'-11" (1.8 m)

Storage and Handling: Store raised off the floor, away from moisture and sun, between 55-80°F (13-27°C).

Shelf Life: 12 months.

Specification Writer: Contact EPRO before writing specifications on this product. EPRO System selection should be reviewed in order to meet project specific site conditions.

Installation

Preparation: Please refer to manufacturer's specifications for substrate requirements. Tubes should be inspected for cosmetic damage prior to application.

Application: Please refer to manufacturer's specifications. Substrate Preparation: Wipe substrates to receive e.stop gu clean to remove any dirt, dust, or moisture. Clean the surface of penetrations or protrusions with a wire brush to remove dirt, dust, rust, and loose particles. Surface must be free of frost or ice. No priming is necessary.

Installation: e.stop gu is used as a waterstop for penetrations, piles, dowels, and all concrete construction joints.

Availability and Packaging

Contact EPRO sales representative for local distributors or authorized applicators (www.eproinc.com).

Tube Size: 10.8 oz (320 ml), 0.68 lbs (0.31 kg)
Case Size: 24 tubes, 16.2 lbs (7.35 kg)

Warranty

Limited Warranty: EPRO Services, Inc. believes to the best of its knowledge that performance tables are accurate and reliable. EPRO warrants this product to be free from defects. EPRO makes no other warranties with respect to this product, express or implied, including without limitation the implied warranties of MERCHANTABILITY OR FITNESS FOR PARTICULAR PURPOSE. EPRO's liability shall be limited in all events to supplying sufficient product to retreat the specific areas to which defective product has been applied. EPRO shall have no other liability, including liability for incidental or resultant damages, whether due to breach of warranty or negligence. This warranty may not be modified or extended by representatives of EPRO or its distributors.

Equipment

Caulking gun (10.8 oz. tube capactiy).

Technical Services and Information

Complete technical services and information are available by contacting EPRO at 800.882.1896 or www.eproinc.com.

This product was formally known as SepaSeal SH-100 by Kingfield Construction Products.

Physical Properties	
Hydrostatic Head Resistance	
1/2 x 1/2	100 feet (43 psi / 30.5 m)
3/8 x 3/4	150 feet (65 psi / 46 m)

PM Sealant

Product Description

Basic Use: PM Sealant is a Silyl Terminated Polyether (STPE) non-isocyanate, non-solvent detailing sealant that combines the strength of polyurethanes with the weathering resistance of silicones. PM Sealant can withstand the most stringent requirements for high performance bonding and elasticity under severe aging and UV weathering conditions without cracking or yellowing when subjected to extended UV-light exposure.

PM Sealant is used for penetration detailing, as a seam edge and patching detailing sealant, along the transition construction joint between two pours, and for sealing applied termination bar.

Compliances: Conforms to ASTM C920, Type S, Grade NS, Class 25, and AAMA 802.3 Type II Back Bedding Compound. USDA accepted.

Composition: PM Sealant is a gray, single-component, 100% solids, moisture-cured, elastomeric STPE sealant.

Benefits

- Replaces Silicone and Urethane sealants.
- Does not require a primer.
- Cures rapidly, even at low temperatures, and retains its properties to -75°F (-59°C).
- Non-reactive, PM Sealant will not oxidize or corrode metals.
- PM Sealant does not contain VOC's.
- Provides a continuous smooth surface.

Limitations

- Surfaces must be clean and dry for application.
- Surfaces must be free from frost or ice.

Technical Data

Properties: See physical properties table.

Coverages: Coverage is dependent on the size of application bead. Minimum Bead Size & Estimated Linear Coverage:

- 3/8" x 3/8" (10 mm x 10 mm): Penetrations, seam edges, corner & patch detailing.
  - Sausage: 21' (6.4 m)

- 3/4" x 3/4" with 1" cant (19 mm x 19 mm with 25 mm cant): Horizontal to vertical footing or brick ledge transition joint, wall vertical inside corner.
  - Sausage: 11' (3.4 m)

Storage and Handling: Store raised off the floor, away from moisture and sun, between 55-80°F (13-27°C).

Shelf Life: Sausage = 12 months.

Specification Writer: Contact EPRO before writing specifications on this product. EPRO System selection should be reviewed in order to meet project specific site conditions.

Installation

Preparation: Please refer to manufacturer's specifications for substrate requirements. Buckets and Sausages should be inspected for cosmetic damage prior to application.

Application: Please refer to manufacturer's specifications.

Substrate Preparation: Use with adequate ventilation. Wipe substrates to receive PM Sealant clean to remove any dirt, dust, or moisture. Clean the surface of penetrations or protrusions with a wire brush to remove dirt, dust, rust, and loose particles. Surface must be free of frost or ice. No priming is necessary.

Installation: Determine minimum bead thickness and tool into surface.

Horizontal to vertical transition joints shall be applied like a caulk into a 1" (25 mm) cant, making sure product is injected into the joint with as well as applied to the surface.

Availability and Packaging

Contact EPRO sales representative for local distributors or authorized applicators (www.eproinc.com).

Sausage Size: 20 oz (591 ml), 2.5 lbs (1.13 kg)
Case Size: 20 sausages, 50 lbs (22.7 kg)

Warranty

Limited Warranty: EPRO Services, Inc. believes to the best of its knowledge that performance tables are accurate and reliable. EPRO warrants this product to be free from defects. EPRO makes no other warranties with respect to this product, express or implied, including without limitation the implied warranties of MERCHANTABILITY OR FITNESS FOR PARTICULAR PURPOSE. EPRO's liability shall be limited in all events to supplying sufficient product to retreat the specific areas to which defective product has been applied. EPRO shall have no other liability, including liability for incidental or resultant damages, whether due to breach of warranty or negligence. This warranty may not be modified or extended by representatives of EPRO or its distributors.

Equipment

Caulking gun (20 oz. sausage capactiy), knife, box cutter.

Technical Services and Information

Complete technical services and information are available by contacting EPRO at 800.882.1896 or www.eproinc.com.

This product was formally known as Primetak Detail Sealant by Kingfield Construction Products.

PM Sealant

Physical Property	Test Method	Value
Material		STPE
Color		Gray
Corrosive Properties		Non-corrosive
High Temperature Resistance		Up to 300°F for short periods
Low Temperature Flexibilty		Properties retained to -75°F (-59°C)
Skin Time		< 30 minutes @ 77°F & 50% RH
Tack Free Time	ASTM C 679	< 60 minutes @ 77°F & 50% RH
Sag	ASTM D 2202	Non-sagging
Staining	ASTM C 510	Non-staining
Tensile Strength	ASTM D 412	225 PSI
Lap Shear (shear rate = 1"/min)	(internal eq. ASTM D 1002)	275 PSI
Elongation	ASTM D 412	275%
Hardness	ASTM C 661	45-50
Ultraviolet Radiation (UV) Rating	ASTM G 26	2000+ hours UV-A, no change in appearance or physical properties

Dimensions: Sausage: 20 oz (591 ml)
Weight: Sausage: 2.5 lbs (1.13 kg)

EPRO Services, Inc.
(800) 882-1896
eproinc.com

7/1/20

SAFETY DATA SHEET

According to Regulation (EC) No 1907/2006 (REACH)

1. PRODUCT IDENTIFICATION

Trade Name(s): e.adhesive
Product Description: Waterborne acrylic coating
Synonyms: N/A
CAS No: N/A

Supplier:
EPRO Services, Inc.
PO Box 347
Derby, KS 67037
800-882-1896 (8:00am – 5:00pm CST)

2. HAZARD(S) IDENTIFICATION

Physical hazards: Not classified.
Health hazards: Skin corrosion/irritation (Category 2); Serious eye damage/eye irritation (Category 2B); Carcinogenicity (Category 2)
Environmental hazards: Not classified.
OSHA defined hazards: Not classified.
Hazard statement: Suspected of causing cancer. Causes eye irritation. Causes skin irritation.

Precautionary statement
Prevention: Obtain special instructions before use. Do not handle until all safety precautions have been read and understood. Wear protective gloves/protective clothing/eye protection/face protection. Wash hands thoroughly after handling.
Response: IF IN EYES: Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing. IF ON SKIN (or hair): Remove/take off immediately all contaminated clothing. Rinse skin with water/shower. IF exposed or concerned: Get medical advice/attention. If skin irritation occurs: Get medical advice/attention. If eye irritation persists: Get medical advice/attention. Take off contaminated clothing and wash before reuse.
Storage: Store locked up.
Disposal: Dispose of contents/container in accordance with local/regional/national/international regulations.
Hazards not otherwise classified (HNOC): None known.
Supplemental Information: Not applicable.

3. COMPOSITION/INFORMATION ON INGREDIENTS

Mixtures:

Chemical Name	CAS Number	%
Vinyl Acetate	108-05-4	<0.5
Other components below reportable levels		99.5

*Designates that a specific chemical identity and/or percentage of composition has been withheld as a trade secret.

4. FIRST-AID MEASURES

Inhalation: Move to fresh air. Call a physician if symptoms develop or persist.
Skin contact: Wash off with soap and water. Get medical attention if irritation develops and persists.
Eye contact: Rinse with water. Get medical attention if irritation develops and persists.
Ingestion: Rinse mount. Get medical attention if symptoms occur.
Most important symptoms/effects, acute and delayed: Direct contact with eyes may cause temporary irritation.
Indication of immediate medical attention and special treatment needed: Treat symptomatically.
General information: Ensure that medical personnel are aware of the material(s) involved, and take precautions to protect themselves.

5. FIRE-FIGHTING MEASURES

Suitable extinguishing media: Water fog. Foam. Dry chemical powder. Carbon dioxide (CO2).
Unsuitable extinguishing media: Do not use water jet as an extinguisher, as this will spread the fire.
Specific hazards arising from the chemical: During fire, gases hazardous to health may be formed.
Special protective equipment and precautions for firefighters: Self-contained breathing apparatus and full protective clothing must be worn in case of fire.
Firefighting equipment/instructions: Move containers from fire area if you can do so with risk.
Specific methods: Use standard firefighting procedures and consider the hazards of other involved materials.
General fire hazards: No unusual fire or explosion hazards noted.

6. ACCIDENTAL RELEASE MEASURES

Personal precautions, protective equipment and emergency procedures: Keep unnecessary personnel away. For personal protection, see section 8 of the SDS.
Methods and materials for containment and cleaning up:
- Large spills: Stop the flow of material, if this is without risk. Dike the spilled material, where this is possible. Cover with plastic sheet to prevent spreading. Absorb in vermiculite, dry sand or earth and place into containers. Following product recovery, flush area with water.
- Small spills: Wipe up with absorbent material (e.g. cloth, fleece). Clean surface thoroughly to remove residual contamination.
- Never return spills to original containers for re-use.

Environmental precautions: Avoid discharge into drains, water courses or onto the ground.

7. HANDLING AND STORAGE

Precautions for safe handling: Observe good industrial hygiene practices.
Conditions for safe storage, including any incompatibilities: Keep container tightly closed in a cool, well-ventilated place. Protect from freezing. Store between 5°C (41°F) and 38°C (100°F). Use care in handling/storage.

8. EXPOSURE CONTROLS/PERSONAL PROTECTION

Occupational exposure limits: This mixture has no ingredients that have PEL, TLV, or other recommended exposure limit.
Biological limit values: No biological exposure limits noted for the ingredient(s).
Appropriate engineering controls: Provide adequate ventilation, including appropriate local extraction, to ensure that the defined occupational exposure limit is not exceeded.

Individual protection measures, such as personal protective equipment
Eye/face protection: Wear safety glasses with side shields (or goggles) and a face shield.
Skin protection: Hand protection: Rubber gloves are recommended. Other: Wear appropriate thermal protective clothing when necessary.
Respiratory protection: In case of insufficient ventilation, wear suitable respiratory equipment.
Thermal hazards: Wear appropriate thermal protective clothing when necessary.

General hygiene considerations: Always observe good personal hygiene measures, such as washing after handling the material and before eating, drinking, and/or smoking. Routinely wash work clothing and protective equipment to remove contaminants.

9. PHYSICAL AND CHEMICAL PROPERTIES

Appearance: Milky
Color: Red
pH: 4 – 6
Melting point/freezing point: 32°F (0°C)
Flash point: >300.0°F (>148.9°C)
Flammability (solid, gas): Not available
Flammability limit-upper (%): Not available
Explosive limit-upper (%): Not available
Vapor density: Not available
Solubility (water): Not available
Auto-ignition temperature: Not available
Decomposition temperature: Not available
Density: 8.00 – 9.20 lb/gal

Physical state/Form: Liquid
Odor: Slight odor
Odor threshold: Not available
Initial boiling point: 212°F (100°C)
Evaporation rate: Not available
Flammability limit-lower (%): Not available
Explosive limit-lower (%): Not available
Vapor pressure: Not available
Relative density: Not available
Partition coefficient (n-octanol/water): Not available
Decomposition temperature: Not available
Viscosity: Not available
Specific gravity: 1.02

10. STABILITY AND REACTIVITY

Reactivity: The product is stable and non-reactive under normal conditions of use, storage and transport.
Chemical stability: Material is stable under normal conditions.
Possibility of hazardous reactions: No dangerous reaction known under conditions of normal use.
Conditions to avoid: Contact with incompatible materials.
Incompatible materials: Strong oxidizing agents.
Hazardous decomposition products: No hazardous decomposition products are known.

11. TOXICOLOGICAL INFORMATION

Information on likely routes of exposure

Inhalation: Prolonged inhalation may be harmful. However, this product does not currently meet the criteria for classification.

Skin contact: Irritating to skin.

Eye contact: Direct contact with eyes may cause temporary irritation.

Ingestion: Expected to be a log ingestion hazard.

Symptoms related to the physical, chemical and toxicological characteristics: Direct contact with eyes may cause temporary irritation.

Information on toxicological effects

Acute toxicity: Not available

Skin corrosion/irritation: Causes mild skin irritation

Serious eye damage/eye irritation: Causes eye irritation

Respiratory or skin sensitization

Respiratory sensitization: Not available

Skin sensitization: This product is not expected to cause skin sensitization.

Germ cell mutagenicity: No data available to indicate product or any components present at greater than 0.1% are mutagenic or genotoxic.

Carcinogenicity: Suspected of causing cancer.

IARC Monographs. Overall Evaluation of Carcinogenicity: Not listed

OSHA Specifically Regulated Substances (29 CFR 1910.1001-1052): Not regulated

US. National Toxicology Program (NTP) Report on Carcinogens: Not listed

Reproductive toxicity: This product is not expected to cause reproductive or developmental effects.

Specific target organ toxicity – single exposure: Not classified

Specific target organ toxicity – repeated exposure: Not classified

Aspiration hazard: Not available

12. ECOLOGICAL INFORMATION (non-mandatory)

Ecotoxicity: The product is not classified as environmentally hazardous. However, this does not exclude the possibility that large or frequent spills can have a harmful or damaging effect on the environment.

Persistence and degradability: No data is available on the degradability of this product.

Bioaccumulative potential: No data available.

Mobility in soil: No data available.

Other adverse effects: No other adverse environmental effects (e.g. ozone depletion, photochemical ozone creation potential, endocrine disruption, global warming potential) are expected from this component.

13. DISPOSAL CONSIDERATIONS (non-mandatory)

Disposal instructions: Collect and reclaim or dispose in sealed containers at licensed waste disposal site.

Local disposal regulations: Dispose in accordance with all applicable regulations.

Hazardous waste code: The waste code should be assigned in discussion between the user, the producer, and the waste disposal company.

Waste from residues / unused products: Dispose of in accordance with local regulations. Empty containers or liners may retain some product residues. This material and its container must be disposed of in a safe manner (see: Disposal instruction).

Contaminated packaging: Empty containers should be taken to an approved waste handling site for recycling or disposal. Since emptied containers may retain product residue, follow label warnings even after container is emptied.

14. TRANSPORT INFORMATION (non-mandatory)

DOT: Not regulated as dangerous goods.

IATA: Not regulated as dangerous goods.

IMDG: Not regulated as dangerous goods.

Transport in bulk according to Annex II of MARPOL 73/78 and the IBC Code: Not available.

15. REGULATORY INFORMATION (non-mandatory)

US federal regulations: All components are on the U>S> EPA TSCA Inventory List.

TSCA Section 12(b) Export Notification (40 CFR 707, Subpt. D): Not regulated.

CERCLA Hazardous Substance List (40 CFR 302.4): Not listed.

SARA 304 Emergency release notification: Not regulated.

OSHA Specifically Regulated Substances (29 CFR 1910.1001-1052): Not regulated.

Superfund Amendments and Reauthorization Act of 1986 (SARA)

SARA 302 Extremely hazardous substance: Not listed.

Classified hazard categories: Skin corrosion or irritation. Serious eye damage or eye irritation. Carcinogenicity.

SARA 303 (TRI reporting): Not regulated.

Other federal regulations

Clean Air Act (CAA) Section 112 Hazardous Air Pollutants (HAPs) List: Not regulated.

Clean Air Act (CAA) Section 112® Accidental Release Prevention (40 CFR 68.130): Not regulated.

Safe Drinking Water Act (SDWA): Not regulated.

US state regulations

California Proposition 65: California Safe Drinking Water and Toxic Enforcement Act of 1986 (Proposition 65): This material is not known to contain any chemicals currently listed as carcinogens or reproductive toxins.

International Inventories

Country(s) or region	Inventory name	On Inventory (yes/no)*
Australia	Australian Inventory of Chemical Substances (AICS)	No
Canada	Domestic Substances List (DSL)	No
Canada	Non-Domestic Substances List (NDSL)	No
China	Inventory of Existing Chemical Substances in China (IECSC)	No
Europe	European Inventory of Existing Commercial Chemical Substances (EINECS)	No
Europe	European List of Notified Chemical Substances (ELINCS)	No
Japan	Inventory of Existing and New Chemical Substances (ENCS)	No
Korea	Existing Chemicals List (ECL)	No
New Zealand	New Zealand Inventory	No
Philippines	Philippine Inventory of Chemicals and Chemical Substances (PICCS)	No
Taiwan	Taiwan Chemical Substance Inventory (TCSI)	No
US & Puerto Rico	Toxic Substances Control Act (TSCA) Inventory	No

*A "yes" indicates that all components of this product comply with the inventory requirements administered by the governing country(s). A "no" indicates that one or more components of the product are not listed or exempt from listing on the inventory administered by the governing country(s).

16. OTHER INFORMATION

NFPA ratings: Health: 1
Flammability: 1
Instability: 0

This information provided on this Safety Data Sheet is correct to the best of our knowledge, information, and belief at the date of its publication. The information given is designated only as a guide for safe handling, use, processing, storage, transportation, disposal, and release and is not to be considered as a warranty or quality specification. The information relates only to the specific material designated and may not be valid for such material used in combination with any other material or in any process, unless specified in the text.

EPRO Services, Inc.
(800) 882-1896
eproinc.com

7/1/20

SAFETY DATA SHEET

According to Regulation (EC) No 1907/2006 (REACH)

1. PRODUCT IDENTIFICATION

Trade Name(s): e.catalyst
Product Description: liquid calcium chloride
Synonyms: Liquid Calcium Chloride, Food Grade Liquid Calcium Chloride
CAS No: 10043-52-4

Supplier:
EPRO Services, Inc.
PO Box 347
Derby, KS 67037
800-882-1896 (8:00am – 5:00pm CST)

2. HAZARD(S) IDENTIFICATION

Serious Eye Damage/Eye Irritation – Category 2
Signal Word: Warning
Hazard Statements
*Causes serious eye irritation
Appearance: Colorless to amber
Physical State: Liquid
Odor: Odorless

Precautionary Statements
Prevention
*Wash face, hands, and any exposed skin thoroughly after handling
*Wear eye/face protection

Response
*If IN EYES: Rinse cautiously with water for several minutes. Remove contact lenses if present and easy to do. Continue rinsing.
*If eye irritation persists: Get medical advice/attention.

Storage: None
Disposal: None

Hazard Not Otherwise Classified (HNOC): Not applicable

3. COMPOSITION/INFORMATION ON INGREDIENTS

*The exact percentage (concentration) of composition has been withheld as a trade secret.

Chemical Name	CAS-No	Weight %	Trade Secret
Calcium Chloride	10043-52-4	20-40	*

4. FIRST-AID MEASURES

Description of necessary first-aid measures

Eye Contact: Immediately flush with plenty of water. After initial flushing, remove any contact lenses and continue flushing for at least 15 minutes. Keep eye wide open while rinsing. If symptoms persist, call a physician.

Skin Contact: Wash off immediately with soap and plenty of water removing all contaminated clothes and shoes. If symptoms persist, call a physician.

Inhalation: Move to fresh air in case of accidental inhalation of vapors. Remove from exposure, lie down. If symptoms persist, call a physician.

Ingestion: Rinse mouth. Do NOT induce vomiting. Never give anything by mouth to an unconscious person. Drink plenty of water. Consult a physician.

Most important symptoms/effects, acute and delayed

Most Important Symptoms/Effects Irritation

Indication of immediate medical attention and special treatment needed, if necessary

Notes to Physician: Treat symptomatically.

5. FIRE-FIGHTING MEASURES

Suitable Extinguishing Media

Use extinguishing measures that are appropriate to local circumstances and the surrounding environment.

Unsuitable Extinguishing Media No information available.

Specific Hazards Arising from the Chemical No information available.

Explosion Data

Sensitivity to Mechanical Impact	None.
Sensitivity to Static Discharge	None.

Protective Equipment and Precautions for Firefighters

As in any fire, wear self-contained breathing apparatus pressure-demand, MSHA/NIOSH (approved or equivalent) and full protective gear.

6. ACCIDENTAL RELEASE MEASURES

Personal precautions, protective equipment, and emergency procedures

Personal Precautions: Avoid contact with the skin and the eyes. Ensure adequate ventilation. Keep people away from and upwind of spill/leak. Do not touch or walk through spilled material.

Advice for emergency responders: Wear personal protective equipment.

Environmental Precautions

Environmental Precautions: Prevent product from entering drains. See Section 12 for additional Ecological Information.

Methods and materials for containment and cleaning up

Methods for Containment: Prevent further leakage or spillage if safe to do so. Dike far ahead of spill; use dry sand to contain the flow of material

Methods for Cleaning Up: Soak up with inert absorbent material. Pick up and transfer to properly labeled containers. After cleaning, flush away traces with water. Prevent product from entering drains.

7. HANDLING AND STORAGE

Precautions for safe handling

Handling: Handle in accordance with good industrial hygiene and safety practice. Wear personal protective equipment. Avoid contact with skin, eyes, and clothing. Do not breathe vapors or spray mist.

Conditions for safe storage, including any incompatibilities

Storage: Keep container tightly closed in a dry and well-ventilated place. Keep in properly labeled containers.

Incompatible Products: None known based on information supplied.

8. EXPOSURE CONTROLS/PERSONAL PROTECTION

Control parameters

Exposure Guidelines

Chemical Name	ACGIH TLV	OSHA PEL	NIOSH IDLH
Calcium Chloride 10043-52-4	ACGIH - (TLV-TWA) Guideline for nuisance particulate (inhalable particulate): 10 mg/m^3	OSHA (PEL-TWA) - Z-3 Mineral Dusts, Inert or Nuisance dusts, (respirable fraction): 5 mg/m$_3$	-

Appropriate engineering controls

Engineering Measures: When there is a potential for exposure, an emergency eyewash and safety shower should be provided within the immediate work area.

Individual protection measures, such as personal protective equipment

Eye/Face Protection: Wear safety glasses with non-flexible side shields or chemical goggles A face shield should be worn if a potential for splashing or spraying exists.

Skin and Body Protection: Wear appropriate protective non-leather protective gloves and boots. Wear appropriate protective, impervious clothing. Chemical protective gloves and boots such as PVC, Neoprene, or Heavy Nitrile are recommended. Leather products do not offer adequate protection and will dehydrate with resultant shrinkage and possible destruction.

Respiratory Protection: Respirator (N95 or greater) should be based on the presence of nuisance dusts.

Hygiene Measures: Handle in accordance with good industrial hygiene and safety practice.

9. PHYSICAL AND CHEMICAL PROPERTIES

Information on basic physical and chemical properties

Physical State	Liquid	**Appearance**	Colorless to amber
Odor	Odorless	**Odor Threshold**	No information available

Property	Values	Remarks/ - Method
pH	3.8 - 9.0	None known
Melting Point/Range	Not determined	None known
Boiling Point/Boiling Range	118 °C / 244 °F	for 38% liquid solution
Flash Point	Not applicable.	None known
Evaporation rate	No data available	None known
Flammability (solid, gas)	No data available	None known
Flammability Limits in Air		
upper flammability limit	No data available	
lower flammability limit	No data available	
Vapor Pressure	No data available	None known
Vapor Density	No data available	None known
Specific Gravity	1.376 @ 25 C (77 F) for 38% solution	None known
Water Solubility	Completely soluble	None known
Solubility in other solvents	No data available	None known
Partition coefficient: n-octanol/water	Not determined	None known
Autoignition Temperature	No data available	None known
Decomposition Temperature	No data available	None known
Viscosity	Not applicable	None known

Flammable Properties Not flammable

Explosive Properties No data available
Oxidizing Properties No data available

Other Information
VOC Content (%) Not applicable

10. STABILITY AND REACTIVITY

Reactivity: No data available.

Chemical stability: Stable under recommended storage conditions.

Possibility of hazardous reactions: None under normal processing.

Hazardous Polymerization: Hazardous polymerization does not occur.

Conditions to avoid: None known based on information supplied.

Incompatible materials: None known based on information supplied.

Hazardous decomposition products: None known based on information supplied.

11. TOXICOLOGICAL INFORMATION

Information on likely routes of exposure

Product Information
Inhalation: May cause irritation.
Eye Contact: Irritating to eyes.
Skin Contact: Slightly toxic by dermal absorption.
Ingestion: May cause irritation.

Chemical Name	LD50 Oral	LD50 Dermal	LC50 Inhalation
Calcium Chloride	=2301 mg/kg (Rat)	=2630 mg/kg (Rat)	

Symptoms related to the physical, chemical, and toxicological characteristics
Symptoms: No information available.

Delayed and immediate effects and chronic effects from short- and long-term exposure

Sensitization: No information available.
Mutagenic Effects: No information available.
Carcinogenicity: Contains no ingredients above reportable quantities listed as a carcinogen.
Reproductive Toxicity: No information available.
STOT - single exposure: No information available.
STOT - repeated exposure: No information available.
Aspiration Hazard: No information available.

Numerical measures of toxicity – Product: No information available.

12. ECOLOGICAL INFORMATION (non-mandatory)

Ecotoxicity
The environmental impact of this product has not been fully investigated.

Chemical Name	Toxicity to Algae	Toxicity to Fish	Toxicity to Microorganisms	Daphnia Magna (Water Flea)
Calcium Chloride 10043-52-4		LC50 96 h: = 10650 mg/L static (Lepomis macrochirus)		LC50 48 h: = 2400 mg/L (Daphnia magna)

Persistence and Degradability: No information available.

Bioaccumulation: No information available.

Other Adverse Effects: No information available.

13. DISPOSAL CONSIDERATIONS (non-mandatory)

Waste Disposal Methods: This material, as supplied, is not a hazardous waste according to Federal regulations (40 CFR 261). This material could become a hazardous waste if it is mixed with or otherwise comes in contact with a hazardous waste, if chemical additions are made to this material, or if the material is processed or otherwise altered. Consult 40 CFR 261 to determine whether the altered material is a hazardous waste. Consult the appropriate state, regional, or local regulations for additional requirements.

Contaminated Packaging: Do not re-use empty containers.

14. TRANSPORT INFORMATION (non-mandatory)

DOT: Not regulated
IATA: Not regulated
IMDG: Not regulated

15. REGULATORY INFORMATION (non-mandatory)

International Inventories

Legend
TSCA – United States Toxic Substances Control Act Section 8(b) Inventory
DLS/NDSL – Canadian Domestic Substances List/Non-Domestic Substances List

U.S. Federal Regulations

Section 313 of Title III of the Superfund Amendments and Reauthorization Act of 1986 (SARA). This product does not contain any chemicals which are subject to the reporting requirements of the Act and Title 40 of the Code of Federal Regulations, Part 372.

SARA 311/312 Hazard Categories

Acute Health Hazard	Yes
Chronic Health Hazard	No
Fire Hazard	No
Sudden Release of Pressure Hazard	No
Reactive Hazard	No

Clean Water Act

This product does not contain any substances regulated as pollutants pursuant to the Clean Water Act (40 CFR 122.21 and 40 CFR 122.42).

CERCLA

This material, as supplied, does not contain any substances regulated as hazardous substances under the Comprehensive Environmental Response Compensation and Liability Act (CERCLA) (40 CFR 302) or the Superfund Amendments and Reauthorization Act (SARA) (40 CFR 355). There may be specific reporting requirements at the local, regional, or state level pertaining to releases of this material.

U.S. State Regulations

California Proposition 65

This product does not contain any Proposition 65 chemicals.

U.S. State Right-to-Know Regulations

U.S. EPA Label Information

EPA Pesticide Registration Number: Not Applicable

16. OTHER INFORMATION

NFPA	Health Hazard 1	Flammability 0	Instability 0	
HMIS	Health Hazard 1	Flammability 0	Physical Hazard 0	Personal Protection X

This information provided on this Safety Data Sheet is correct to the best of our knowledge, information, and belief at the date of its publication. The information given is designated only as a guide for safe handling, use, processing, storage, transportation, disposal, and release and is not to be considered as a warranty or quality specification. The information relates only to the specific material designated and may not be valid for such material used in combination with any other material or in any process, unless specified in the text.

EPRO Services, Inc.
(800) 882-1896
eproinc.com

5/5/21

SAFETY DATA SHEET

According to Regulation (EC) No 1907/2006 (REACH)

1. PRODUCT IDENTIFICATION

Trade Name(s): e.cover tb

Synonyms: N/A
CAS No: N/A

Supplier:
EPRO Services, Inc.
PO Box 347
Derby, KS 67037
800-882-1896 (8:00am – 5:00pm CST)

2. HAZARD(S) IDENTIFICATION

Classification of the Substance or Mixture Classification (GHS-US)
Not Classified. Within the meaning of the OSHA Hazard Communication Standard [29 CFR 1910.1200]: this mixture is not considered a hazard when used in a manner which is consistent with the labeled directions. This mixture is considered an articlein its final form.

Label Elements – GHS-US Labeling
No additional information available.

Other Hazards
Other Hazards Not Contributing to the Classification: Exposure may aggravate those with pre-existing eye, skin, or respiratory conditions. Risk of thermal burns on contact with molten product. Temperature higher than necessary degrades quality at rates dependent on time and temperature of exposure. Cutting, sawing, grinding, or other operations that generate dust may raise nuisance particles that can cause mechanical irritation to the skin, eyes, or respiratory tract. Polyvinyl chloride, polypropylene, and polyethylene dust accumulation can present a dust explosion hazard. Take necessary measures to limit dust production and follow applicable regulations.
Unknown Acute Toxicity (GHS-US): No data available.

3. COMPOSITION/INFORMATION ON INGREDIENTS

Substances: Not applicable.
Mixtures: Within the meaning of the OSHA Hazard Communication Standard (29 CFR 1910.1200): this mixture is not considered a hazard when used in a manner which is consistent with the labeled directions.

4. FIRST-AID MEASURES

Description of First Aid Measures

First-aid Measures General: If injury occurs or if you feel unwell seek medical advice.

First-aid Measures After Inhalation: Not expected to present a significant inhalation hazard under anticipated conditions of normal use. Obtain medical attention if breathing difficulty persists.

First-aid Measures After Skin Contact: None expected under normal conditions of use. Obtain medical attention if irritation develops or persists.

First-aid Measures After Eye Contact: Adverse effects not expected from this product. Obtain medical attention if pain, blinking, or redness persist.

First-aid Measures After Ingestion: Not expected to be a primary route of exposure. Obtain emergency medical attention.

Most important symptoms and effects, both acute and delayed

Symptoms/Injuries: Not expected to present a significant hazard under anticipated conditions of normal use. Prolonged contact with large amounts of dust may cause mechanical irritation. Final product may have sharp edges.

Symptoms/Injuries After Inhalation: Not expected to present a significant inhalation hazard under anticipated conditions of normal use. Dust from this product may cause irritation to the respiratory tract.

Symptoms/Injuries After Skin Contact: Not expected to be a primary route of exposure. Risk of thermal burns on contact with molten product. Prolonged contact with large amounts of dust may cause mechanical irritation.

Symptoms/Injuries After Eye Contact: Not expected to be a primary route of exposure. Excessive dust production at the timeof cutting may cause minor eye irritation.

Symptoms/Injuries After Ingestion: Ingestion is not considered a potential route of exposure. If a large quantity has been ingested: Gastrointestinal irritation. May cause nausea, vomiting, and diarrhea.

Indication of Any Immediate Medical Attention and Special Treatment Needed: If you feel unwell, seek medical advice, and show the label where possible.

5. FIRE-FIGHTING MEASURES

Extinguishing Media

Suitable Extinguishing Media: Use extinguishing media appropriate for surrounding fire.

Unsuitable Extinguishing Media: Do not use a heavy water stream. Use of heavy stream of water may spread fire.

Special Hazards Arising from the Substance or Mixture

Fire Hazard: Not considered flammable but may burn at high temperatures.

Explosion Hazard: Accumulation and dispersion of dust with an ignition source can cause a combustible dust explosion, keep dust levels to a minimum and follow applicable regulations.

Reactivity: Hazardous reactions will not occur under normal conditions.

Advice for Firefighters

Precautionary Measures Fire: Exercise caution when fighting any chemical fire.

Firefighting Instructions: Use water spray or fog for cooling exposed containers.

Protection During Firefighting: Do not enter fire area without proper protective equipment, including respiratory protection.

Other information: Do not allow run-off from firefighting to enter drains or water courses.

6. ACCIDENTAL RELEASE MEASURES

Personal Precautions, Protective Equipment and Emergency Procedures
General Measures: Avoid breathing (dust, vapors, fumes from molten material). Final product may have sharp edges. Avoidprolonged contact with eyes, skin, and clothing. Avoid generating dust.
For Non-emergency Personnel
Protective Equipment: Use appropriate personal protection equipment (PPE).
Emergency Procedures: Evacuate unnecessary personnel.
For Emergency Responders
Protective Equipment: Equip cleanup crew with proper protection.
Emergency Procedures: Ventilate area.
Environmental Precautions
Prevent entry to sewers and public waters.
Methods and Material for Containment and Cleaning Up
For Containment: Avoid generation of dust during clean-up of spills. Sweep or vacuum the product to recover it. Where possible allow molten material to solidify naturally.
Methods for Cleaning Up: Clear up spills immediately and dispose of waste safely. Contact competent authorities after a spill.
Reference to Other Sections: See heading 8, exposure controls and personal protection.

7. HANDLING AND STORAGE

Precautions for Safe Handling
Additional Hazards When Processed: Avoid dust production. Final product may have sharp edges. Risk of thermal burns on contact with molten product. Heating of product can release toxic or irritating fumes, ensure proper ventilation, proper precautions are enforced, and applicable regulations are followed. Cutting, sawing, grinding, or other operations that generatedust may raise nuisance particles that can cause mechanical irritation to the skin, eyes, or respiratory tract. Polyvinyl chloride, polypropylene, and polyethylene dust accumulation can present a dust explosion hazard. Take necessary measures to limit dust production and follow applicable regulations.
Hygiene Measures: Handle in accordance with good industrial hygiene and safety procedures. Wash hands and other exposed areas with mild soap and water before eating, drinking, or smoking and again when leaving work. Do not eat, drink, or smoke when using this product.
Conditions for Safe Storage, Including Any Incompatibilities
Storage Conditions: Store away from incompatible materials.
Incompatible Products: Strong acids, strong bases, strong oxidizers.
Specific End Use(s): For professional use only.

8. EXPOSURE CONTROLS/PERSONAL PROTECTION

Control Parameters
The final product is considered an article and not hazardous in its final form under normal conditions of use according to 29CFR 1910.1200. The ingredients contained within this product are not expected to be bioavailable under normal conditions of use.
Exposure Controls
Appropriate Engineering Controls: Provide adequate ventilation to minimize dust concentrations. Ensure all national/local regulations are observed. Emergency eye wash fountains and safety showers should be available in the immediate vicinity of any potential exposure.

Personal Protective Equipment : Safety glasses. Gloves. Insufficient ventilation (specifically with the accumulation of dust or vapors from molten product): wear respiratory protection. Protectiveclothing.

Materials for Protective Clothing: As necessary when handling hot or molten sheet, wear protective clothing.
Hand Protection: If handling hot or molten sheet wear insulated gloves, otherwise wear work gloves.
Eye Protection: Chemical goggles or safety glasses.
Respiratory Protection: Use NIOSH-approved air-purifying or supplied-air respirator where airborne concentrations of dust or vapors from molten product are expected to exceedexposure limits.
Consumer Exposure Controls: Do not eat, drink, or smoke during use.

9. PHYSICAL AND CHEMICAL PROPERTIES

Physical State: Solid
Odor: Finished sheet
pH: No data available
Melting Point: 120-170°C (248-338°F)
Boiling Point: No data available
Auto-ignition Temperature: No data available
Flammability (solid, gas): No data available
Relative Vapor Density at 20°: No data available
Specific Gravity: ~0.9 – 1.6
Log Pow: No data available
Viscosity, Kinematic: No data available
Explosive Properties: No data available
Explosive Limits: No data available

Appearance: Finished sheet
Odor Threshold: No data available
Relative Evaporation Rate (butylacetate=1): No data
Freezing Point: No data available
Flash Point: 260-480°C (500-896°F)
Decomposition Temperature: No data available
Vapor Pressure: No data available
Relative Density: No data available
Solubility: Insoluble
Log Kow: No data available
Viscosity, Dynamic: No data available
Oxidizing Properties: No data available

10. STABILITY AND REACTIVITY

Reactivity: Hazardous reactions will not occur under normal conditions.
Chemical Stability: Stable at standard temperature and pressure.
Possibility of Hazardous Reactions: Hazardous polymerization will not occur.
Conditions to Avoid: Direct sunlight. Extremely high or low temperatures. Incompatible materials.
Incompatible Materials: Strong acids, strong bases, strong oxidizers.
Hazardous Decomposition Products: Carbon oxides (CO, CO2), metal oxides, hydrogen chloride, formaldehyde,organic vapors, nitrogen oxides.

11. TOXICOLOGICAL INFORMATION

Information on Toxicological Effects
Acute Toxicity: Not classified
The final product is considered an article and not hazardous in its final form under normal conditions of use according to 29CFR 1910.1200. The ingredients contained within this product are not expected to be bioavailable under normal conditions of use.
Skin Corrosion/Irritation: Not classified
Serious Eye Damage/Irritation: Not classified
Respiratory or Skin Sensitization: Not classified
Germ Cell Mutagenicity: Not classified

Carcinogenicity: Not classified
Reproductive Toxicity: Not classified
Specific Target Organ Toxicity (Single Exposure): Not classified
Specific Target Organ Toxicity (Repeated Exposure): Not classified
Aspiration Hazard: Not classified
Symptoms/Injuries After Inhalation: Not expected to present a significant inhalation hazard under anticipated conditions of normal use. Dust from this product may cause irritation to the respiratory tract.
Symptoms/Injuries After Skin Contact: Not expected to be a primary route of exposure. Risk of thermal burns on contact with molten product. Prolonged contact with large amounts of dust may cause mechanical irritation.
Symptoms/Injuries After Eye Contact: Not expected to be a primary route of exposure. Excessive dust production at the time of cutting may cause minor eye irritation.
Symptoms/Injuries After Ingestion: Ingestion is not considered a potential route of exposure. If a large quantity has been ingested: Gastrointestinal irritation. May cause nausea, vomiting, and diarrhea.

12. ECOLOGICAL INFORMATION (non-mandatory)

Toxicity
The final product is considered an article and not hazardous in its final form under normal conditions of use according to 29CFR 1910.1200. The ingredients contained within this product are not expected to be bioavailable under normal conditions of use.
Persistence and Degradability: No additional information available
Bioaccumulative Potential: No additional information available
Mobility in Soil: No additional information available
Other Adverse Effects: No additional information available

13. DISPOSAL CONSIDERATIONS (non-mandatory)

Waste treatment methods
Sewage Disposal Recommendations: Do not empty into drains; dispose of this material and its container in a safe way.
Waste Disposal Recommendations: Dispose of waste material in accordance with all local, regional, national, and international regulations.

14. TRANSPORT INFORMATION (non-mandatory)

In Accordance With ICAO/IATA/DOT/TDG
UN Number: Not regulated for transport
UN Proper Shipping Name: Not regulated for transport
Additional Information
Other information: Not regulated for transport
Transport by Sea: Not regulated for transport
Air Transport: Not regulated for transport

15. REGULATORY INFORMATION (non-mandatory)

US Federal Regulations

The final product is considered an article and not hazardous in its final form under normal conditions of use according to 29CFR 1910.1200. The ingredients contained within this product are not expected to be bioavailable under normal conditions of use.

US State Regulations

The final product is considered an article and not hazardous in its final form under normal conditions of use according to 29CFR 1910.1200. The ingredients contained within this product are not expected to be bioavailable under normal conditions of use.

16. OTHER INFORMATION

This information provided on this Safety Data Sheet is correct to the best of our knowledge, information, and belief at the date of its publication. The information given is designated only as a guide for safe handling, use, processing, storage, transportation, disposal, and release and is not to be considered as a warranty or quality specification. The information relates only to the specific material designated and may not be valid for such material used in combination with any other material or in any process, unless specified in the text.

EPRO Services, Inc.
(800) 882-1896
eproinc.com

7/1/20

SAFETY DATA SHEET

According to Regulation (EC) No 1907/2006 (REACH)

1. PRODUCT IDENTIFICATION

Trade Name(s): e.drain (formerly ECODRAIN-E), e.drain 6000 (formerly ECODRAIN-S6000), e.drain 6200 (formerly ECODRAIN-S6200), e.drain 9000 (formerly ECODRAIN-S9000), e.drain 990 (formerly ECORAIN-S990), e.drain ds (ECODRAIN-DS), e.drain 302
Product Description: Dimpled HDPE Sheet
Chemical Name: Polyethylene Compounds
Chemical Family: Polyolefin
CAS No: N/A

Supplier:
EPRO Services, Inc.
PO Box 347
Derby, KS 67037
800-882-1896 (8:00am – 5:00pm CST)

2. HAZARD(S) IDENTIFICATION

Based on pertinent data available, these products are considered “articles” and are not hazardous under OSHA Hazard Communication Standard (29 CFR 1910.1200). GHS Label Elements not required.

3. COMPOSITION/INFORMATION ON INGREDIENTS

This product does not meet the definition given in 29 CFR 1910.1200 for hazardous material and composition is not required.

NO	Components	CAS No.	OSHA PEL
1	Polyethylene	9002-88-4	Not established
2	Polypropylene	9003-07-0	Not established
3	Proprietary	Mixtures	Not established

4. FIRST-AID MEASURES

Inhalation: Not likely in current form
Ingestion: Not likely in current form
Eye Contact: As with any foreign object, flush with water. If pain or irritation persists, consult physician.
Skin Contact: Wash with soap and water. In case of irritation, consult physician.

5. FIRE-FIGHTING MEASURES

Extinguishing Media: Dry chemical, carbon dioxide or foam.

Special Fire Fighting Procedures: Wear NIOSH approved, positive pressure, self-contained breathing apparatus (SCBA) and full protective clothing. Extinguish fires with foam or dry chemical. Do not use water jet.
Unusual Fire and Explosion Hazards: Avoid accumulation and dispersion of dust to reduce explosion potential. Fire may produce irritating gases and dense smoke.

6. ACCIDENTAL RELEASE MEASURES

Spill is not applicable. Sold in solid form.

7. HANDLING AND STORAGE

Handling: Wear safety glasses during cutting and fabricating processes. Electrostatic charge may build up during handling. Grounding of equipment is recommended.
Handling: No special handling unless large rolls are used. Use lifting devices, as necessary.
Storage: Store in a dry place and away from direct sunlight.

8. EXPOSURE CONTROLS/PERSONAL PROTECTION

Emergency Overview: Practically nontoxic
Primary Route(s) of Exposure: Inhalation, Eye, Skin Contact

Potential Health Effects and Symptoms of Over-Exposure
Negligible hazard at room temperature under normal use.
Eye Contact: Solid flake or dust may cause transient irritation as a result of mechanical abrasion.
Skin Contact: Essentially no irritation to skin. Mechanical injury only. Hot solid may cause thermal burns.
Inhalation: Exposure to dust at high concentration may cause irritation to respiratory tract.
Ingestion: May cause choking if swallowed.
Medical Conditions Aggravated by Overexposure: Not expected. Film is generally accepted as being biologically inert. No specific antidotal treatment, symptomatic support required.
Carcinogenicity: NTP: No IARC: No OSHA: No

Eye Protection: As required by site-specific conditions. Not normally required.
Skin Protection: Gloves required when handling hot material. Not normally required.
Respiratory Protection: None required in normal use of product. NIOSH approved dust mask recommended if dust conditions exist.
Engineering Control: Ventilation Requirements — General
General ventilation should be sufficient. However, if operating conditions create high airborne concentrations of this material, special ventilation may be needed. If handling results in dust generation, special ventilation may be needed to ensure that dust exposure does not exceed the OHSA PEL for nuisance dust.
Required Work/Hygiene Procedure: Minimize contact with skin. Do not eat, drink, or smoke in work area. Wash hands thoroughly after handling, especially before eating drinking, smoking, chewing, or using restroom facility. Dusted clothing and shoes should be thoroughly cleaned before use.
Exposure guidelines

No.	Components	OSHA-PEL	ACGIH-TLV
1	Polyethylene	None	None
2	Polypropylene	None	None

9. PHYSICAL AND CHEMICAL PROPERTIES

Flash Point: Greater than 400°
Autoignition: Not applicable
Flammable Limits in Air (LEL, %): Not applicable
(UEL, %): Not applicable
Physical Form: Solid
Color: Black
Odor: Insignificant
Boiling Point: Not applicable
Melting Point: ~ 320°F
Freezing Point: Not applicable
Solubility in Water: None
Specific Gravity: Less than 1 (water = 1)
Vapor Density: Not applicable (air = 1)
Evaporation Rate: None (Butyl acetate = 1)
Vapor Pressure: Not applicable
% Volatile: None
pH: Not applicable

10. STABILITY AND REACTIVITY

Stability: Stable
Conditions to Avoid: Strong oxidizers
Hazardous Decomposition: Carbon dioxide, carbon monoxide
Hazardous Polymerization: Will not occur

11. TOXICOLOGICAL INFORMATION

Inhalation: Not likely under normal use
Injection: Not likely under normal use
Ingestion: Not likely under normal use
Skin Contact: Prolonged contact may cause irritation to some individuals

Eye Effects: Not toxic, may irritate eyes
Skin Effects: Not toxic, may irritate skin
Target Organs: None
Chronic: No known health effects from long term use or contact
Carcinogenicity: The IARC evaluation is the "Carbon black (airborne, unbound particles of respirable size) is possibly carcinogenic to humans (Group 2B)"
Mutagenicity & Reproductive Effects: Not believed to be mutagenic or a reproductive hazard
The information provided below can be subject to misinterpretation. Therefore, it is essential the following information be interpreted by individuals trained in its evaluation.

<u>Chemical</u>
Polyethylene and Polypropylene: No toxicology data available.
Polyethylene and polypropylene are not considered hazardous materials under the OHSA Hazard Communication Standard

12. ECOLOGICAL INFORMATION

Environmental Data: Not expected to be hazardous to the environment in present form.

13. DISPOSAL CONSIDERATIONS

Dispose of in accordance with Federal, State, and local environmental control regulations.

14. TRANSPORT INFORMATION

DOT Shipping Name: Not listed
DOT Label: Not regulated
DOT Hazard Class: Not applicable
UN/NA Number: Not applicable
Hazard Label(s): Not applicable
Hazard Placard(s): Not applicable
Packing Group: Not applicable
Bulk Packaging: Not applicable
RQ: Not applicable
Emergency Response Guide (ERG) No.: Not applicable

15. REGULATORY INFORMATION

FEDERAL REGULATORY INFORMATION – Polyethylene, Polypropylene
OSHA Status: None
EPA Clean Air Act Status: None
EPA Clean Water Act Status: None
TSCA Status: All ingredients are listed on TSCA Inventory (40 CFR710)
CERCLA RQ: None
USA TSCA: This product is considered an article and is exempt from TSCA requirements.
Canada Domestic Substances List (DSL): This product is not specified on the DSL or NDSL.

SARA Title III Polyethylene, Polypropylene

Section 302*	Section 313**	Section 311/312***
None	None	None

*Reportable quantity of extremely hazardous substance, Sec. 302
*Threshold planning quantity, extremely hazardous substance, Sec. 302
**Toxic chemical. Sec. 313
**Category as required by Sec 313 (40CFR372.65C). Must be used on Toxic Release Inventory form.
***Hazard category for SARA Sec311/312 reporting H1=acute health hazard, H2=chronic health hazard, P3=fire hazard, P4 sudden release of pressure hazard, P5=reactive hazard

California Proposition 65: Carbon Black (airborne, unbound particles of respirable size), CAS# 1333-86-4 is listed as a possible carcinogen.

Canada Regulations (WHMIS): Not listed

RCRA Status: If disposed of in its purchased form, this would not be a RCRA hazardous waste either by listing or by characteristic. However, under RCRA, it is the responsibility of the product used to determine at the time of disposal whether a material containing the product or derived from the product should be classified as a hazardous waste (40CFR261.20-24).

OTHER REGULATORY INFORMATION

The following chemicals are specifically listed by individual states; other product-specific health and safety data in other sections of the SDS may also be applicable for state requirements. For details on your regulatory requirements, you should contact the appropriate agency in your state.

State	Chemical	Regulation
None	Polyethylene	None
None	Polypropylene	None

International

None

16. OTHER INFORMATION

NFPA	HMIS
Fire—1	Health - 0
Health—0	Flammability - 1
Reactivity—0	Reactivity - 0
Specific Hazard—None	Personal Protection Index - E

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EPRO Services, Inc.
(800) 882-1896
eproinc.com

7/1/20

SAFETY DATA SHEET

According to Regulation (EC) No 1907/2006 (REACH)

1. PRODUCT IDENTIFICATION

Trade Name(s): GFG 16, e.shield 311 (formerly Ecoshield H11), e.base 316 (formerly Ecoshield H16), e.base 305 (formerly Ecoshield H)
Product Description: Film
Chemical Name: Polyethylene Compounds
Chemical Family: Polyolefin
CAS No: N/A

Supplier:
EPRO Services, Inc.
PO Box 347
Derby, KS 67037
800-882-1896 (8:00am – 5:00pm CST)

2. HAZARD(S) IDENTIFICATION

Physical Appearance: Firms that are natural translucent or in various colors.
Immediate Concerns: When using or handling as supplied there are very low hazards.
OSHA Hazard Category: Combustible dust.
GHS Hazard Categories: Not classified.
Signal Word: Warning! This product as shipped is not classified as a combustible dust; however, a combustible concentration of dust may occur if fine powders accumulated or suspended in an enclosed or confined area (e.g. from cutting or sanding the films.
Pictogram: There is no pictogram for a combustible dust hazard.
Rough edges of films could result in minor cuts to hands. Appropriate gloves should be worn to prevent cuts and/or scraps. Avoid contact with strong oxidizing agents. When working with film at hot temperatures, the material may begin to decompose producing fumes that can contain carbon dioxide, carbon monoxide, and other unidentified organic compounds that come from the breakdown of the materials used to make the films. Adequate ventilation should be provided to minimize exposures to vapors and fumes. When cutting, shaping, or modifying films, other hazards may exist.
Potential Health Effects

Eyes: Dust from cutting may result and mechanically irritate the eyes. If using elevated temperatures, vapors may irritate eyes.

Skin: Cuts or scraps referenced above. If using elevated temperatures to soften films exposure to molten resin may cause thermal burns.

Ingestion: May cause choking if swallowed.

Inhalation: Inhalation of dust at high concentration may cause irritation of the respiratory system. Inhalation of vapors from use of elevated temperatures may also cause irritation of the respiratory system.

3. COMPOSITION/INFORMATION ON INGREDIENTS

NO	Components	CAS No.	Percent	OSHA PEL
1	Polyethylene	9002-88-4	50 – 100%	Not established
2	Proprietary	Mixtures	0 – 50%	Not established

4. FIRST-AID MEASURES

The following applies if films are cut, sanded, or otherwise processed which generates dust, debris, or vapors.
Eye Contact: Immediately flush eyes with water for at least 15 minutes. Do not rub the eyes. If irritation or other symptoms occur, consult a physician.
Skin Contact: Get medical attention for serious burns. In case of skin contact with hot product immediately immerse in or flush with clean, cold water.
Inhalation: Remove to fresh air. Consult physician if irritation of respiratory passage occurs.
Ingestion: Consult physician.
Notes to Physician: No known delayed effects following single exposure.

5. FIRE-FIGHTING MEASURES

Extinguishing Media: Dry chemical, carbon dioxide or foam.
Hazardous Combustion Products: Carbon monoxide, carbon dioxide, and other possible toxic combustion products.
Explosion Hazard: Avoid generating dust, fine dust dispersed in air in sufficient concentrations, and in the presence of an ignition source is a potential dust explosion hazard.
Special Fire Fighting Equipment: Wear NIOSH approved, positive pressure, self-contained breathing apparatus (SCBA) and full protective clothing.
Sensitive to Static Discharge: Static discharge could be an ignition source for a combustible concentration of dust.

6. ACCIDENTAL RELEASE MEASURES

As supplied, the product presents no risk of spill or release.

7. HANDLING AND STORAGE

Precautions for Safe Handling: Wear safety glasses during cutting and fabricating processes. Electrostatic charge may build up during handling. Grounding of equipment is recommended.
Handling: If product is cut or sanded, avoid exposure to dust and debris. Provide appropriate local ventilation at machinery and at places where dust can be generated. In addition, wear suitable respiratory equipment to avoid breathing dusts containing titanium dioxide and/or carbon black.
Storage: Store in a dry place and away from direct sunlight. Keep away from heat, flame, and strong oxidizing agents.

8. EXPOSURE CONTROLS/PERSONAL PROTECTION

Occupational Exposure Limits: Not applicable.

Engineering Controls: Ventilation Requirements—General ventilation should be sufficient. However, if operating conditions create high airborne concentrations of this material, special ventilation may be needed. If handling results in dust generation, special ventilation may be needed to ensure that dust exposure does not exceed the OSHA PEL for nuisance dust.

Personal Protective Equipment
Respiratory Protection: None required in normal use of product. NIOSH approved dust mask recommended if dust conditions exist.
Eye Protection: When cutting or processing product, wear safety glasses with side shields.
Body Protection: Wear protective gloves to avoid incidental cuts or scraps that could occur when handling the edges of product.

9. PHYSICAL AND CHEMICAL PROPERTIES

Physical Form: Solid
Specific Gravity: 0.7 – 1.2 (water = 1)
Appearance: Solid film
Odor: Insignificant
Solubility in Water: Insoluble
Melting Point: 120 - 130°C
Flash Point: Not applicable
Autoignition: Not applicable

Physical data presented above are typical values and should not be construed as a specification.

10. STABILITY AND REACTIVITY

Stability: Stable
Conditions to Avoid: Do not store product near heat or flame. When cutting or sanding, minimize dust generation and accumulation. Avoid contact with strong oxidizing agents.
Hazardous Decomposition: No dangerous decomposition products known.

11. TOXICOLOGICAL INFORMATION

Acute Toxicity
Skin Irritation: Not expected to cause skin irritation.
Eye Irritation: Mechanical eye irritation.
Sensitization/Allergic Reaction: No sensitizing effects known.
Repeated dose toxicity: No known chronic health effects.

12. ECOLOGICAL INFORMATION

Ecotoxicity: No data is available on the adverse effects of this product on the environment.
Persistence and Degradability: No data available.
Bioaccumulative Potential: No data available.

13. DISPOSAL CONSIDERATIONS

Dispose of in accordance with Federal, State, and local environmental control regulations.

14. TRANSPORT INFORMATION

This product is not regulated as a hazardous material/dangerous good for transportation. This product is not regulated by US DOT, IMO, and IATA. It is not applicable for UN/NA number, hazard label, hazard placard, packing group, bulk packaging, RQ, and emergency response guide (ERG) number.

15. REGULATORY INFORMATION

United States

US Toxic Substances Control Act (TSCA): All components comprising these products are compliant with TSCA. These products have no special requirements under TSCA (e.g. consent orders, test rules, 12(b) requirements, etc.)

OSHA Hazard Communication Rule: This product is not considered a hazardous material as shipped or at temperatures below the melting point according to OSHA definitions.

SARA Title III: This product is not subject to SARA Title III requirements.

SARA Section 302 Toxic Chemical List: No components listed.

SARA Section 3313 Toxic Chemical List: No components listed.

OTHER REGULATORY INFORMATION

The following chemicals are specifically listed by individual states; other product-specific health and safety data in other sections of the SDS may also be applicable for state requirements. For details on your regulatory requirements, you should contact the appropriate agency in your state.

State	Chemical	Regulation
None	Polyethylene	None

International

None

16. OTHER INFORMATION

HMIS

Health: 0

Flammability: 1

Physical Hazard: 0

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7/1/20

SAFETY DATA SHEET

According to Regulation (EC) No 1907/2006 (REACH)

1. PRODUCT IDENTIFICATION

Trade Name(s): e.stop gu
Product Description: Hydrophilic elastic waterstop
Synonyms: N/A
CAS No: N/A

Supplier:
EPRO Services, Inc.
PO Box 347
Derby, KS 67037
800-882-1896 (8:00am – 5:00pm CST)

2. HAZARD(S) IDENTIFICATION

GHS classification
Flammable liquid: Not classified
Acute toxicity-oral: Not classifiable
Acute toxicity-dermal: Not classifiable
Acute toxicity-inhalation: Not classifiable
Skin irritation: Category 3
Eye damage/irritation: Not classifiable
Sensitization-respiratory: Category 1
Sensitization-respiratory skin: Category 1
Germ cell mutagenicity: Not classifiable
Carcinogenicity: Category 2
Toxic to reproduction: Category 1
Specific target organ systemic toxicology (single exposure): Category 1 (liver, kidney, central nerve)
Specific target organ systemic toxicology (repetitive exposure: Category 1 (nerve)
Aspiration hazard: Not classifiable
Hazardous to the aquatic environment-acute: Category 3
Hazardous to the aquatic environment-chronicity: Not classifiable

GSA Label element

Signal Word: Danger

Hazard and Toxicity Information
Causes mild skin irritation.
May cause allergy or asthma symptoms or breathing difficulties if inhaled.
May cause an allergic skin reaction.
Suspected of causing cancer.
May damage fertility or the unborn child.
May cause damage to organs.
May cause damage to organs through prolonged or repeated exposure.
Harmful to aquatic life.
Prevention
Do not handle until all safety precautions have been read and understood.
Keep away from heat/sparks/open flames/hot surfaces.
Avoid drinking or breathing.
Do not get in eyes, on skin, or on clothing.
Wear protective gloves/protective clothing/eye protection/face protections.
Wash hands and face thoroughly after handling.
Avoid release to the environment.

3. COMPOSITION/INFORMATION ON INGREDIENTS

Classification of the substance or mixture: Mixture
Chemical/common name: No name
Components, ingredients, and CAS number:

Components	Content (%)	MITI no.	CAS no.	Remarks (PRTR)
Inorganic powder	33%			
Titanium dioxide	5%	(1)-558	13463-67-7	
Silica gel	2%	(1)-548	14808-60-7	
Ethylbenzene	2.1%	(3)-28	100-41-4	(Class 1) 53
Xylene	2.5%	(3)-3	1330-20-7	(Class 1) 80
Phthalate series plasticier	15%			
Polyurethane polymer	40%			

4. FIRST-AID MEASURES

If inhalation: Move to a place with fresh air. If you feel unwell, call a doctor/physician.
If on skin: Take off contaminated clothes, shoes, etc. and flush affected area of skin with large amount of water or lukewarm water and soap. If you feel unwell, call a doctor/physician.
If in eyes: Rinse with water for several minutes. Remove contact lenses if present and easy to do. Continue rinsing. If irritation persists, get medical advice/attention.
If swallowed: Rinse mouth. Do not induce vomiting. Get medical advice/attention.

5. FIRE-FIGHTING MEASURES

Suitable extinguishing agents: Dry powder, carbon dioxide, air foam fire extinguisher, water spray.
Unsuitable extinguishing agents: A stream of water.
Specific firefighting: Keep away from near ignition source. Extinguish from windward with protective equipment.
Protective equipment: Use respiratory protective device.

6. ACCIDENTAL RELEASE MEASURES

Personal precautions: Use only non-sparking tools. Keep unprotected persons away.
Protective equipment and emergency procedures: Wear protective equipment.
Environmental precautions: Avoid release to the environment.
Methods and materials for containment and cleaning up: Absorb with liquid-binding material (sand, diatomite, acid binders, universal binders, sawdust).

7. HANDLING AND STORAGE

Handling:
Fire strict prohibition.
Use explosion-proof electrical/ventilating/lighting/equipment.
Wear protective gloves/protective clothing/eye protection/face protection. Use personal protective equipment as required.
Keep away from heat/sparks/open flames/hot surfaces.
Avoid contact with strongly oxidizing agent.
Wash hands thoroughly after handling.
Storage: Keep receptacle tightly sealed. Store in cool, dry conditions in well-sealed receptacles.

8. EXPOSURE CONTROLS/PERSONAL PROTECTION

Control parameters: 50ppm (Xylene)
Allowable parameters
Japan society for occupational health: (2005) 50ppm (Xylene)
ACGIH: (2005) TLB-TWA 100ppm (Xylene)
Equipment measures: When steam or fume and mist occur, set up a local exhaust ventilation. Set up facilities for washing eyes and physical cleaning near handling locality.
Protective equipment
Respiratory protection: Gas mask (for organic gas), an airline respirator.
Hand protection: Protective gloves.
Eye protection: Tightly fitting safety goggles.
Skin/body protection: Impervious clothing.

Sanitary requirement: Wash thoroughly after handling.

9. PHYSICAL AND CHEMICAL PROPERTIES

Appearance: Paste
pH: Not applicable
Boiling point: No data available
Evaporation rate: No data available
Vapor density: No data available
Solubility: Insoluble in water
Flammability (solid, gas): No data available
Odor: Xylene odor
Melting/freezing point: No data available
Flash point: 52°C
Vapor pressure: No data available
Specific gravity: 1.29 (20°C)
Auto-ignition temperature: No data available

10. STABILITY AND REACTIVITY

Stability and reactivity: Product is stable at normal temperature and ordinary pressure.
Possibility of hazardous reactions: This component is dangerous in response to a strongly oxidizing agent. This component can run not in response to active hydrogen workplace.
Conditions to avoid: Heating.
Incompatible materials: Oxidizing agent.

11. TOXICOLOGICAL INFORMATION

Acute toxicity-oral: Not classifiable
Acute toxicity-dermal: Not classifiable
Acute toxicity-inhalation: Not classifiable
Skin corrosion/irritation: Category 3
Eye damage/irritation: Not classifiable
Sensitization-respiratory: Category 1
Sensitization-respiratory skin: Category 1
Germ cell mutagenicity: Not classifiable
Carcinogenicity: Category 2
Toxic to reproduction: Category 1
Specific target organ systemic toxicology (single exposure): Category 1 (liver, kidney, central nerve)
Specific target organ systemic toxicology (repetitive exposure): Category 1 (nerve)
Aspiration hazard: Not classifiable

12. ECOLOGICAL INFORMATION (non-mandatory)

No information available.

13. DISPOSAL CONSIDERATIONS (non-mandatory)

Dispose of contents/container in accordance with local regulation for industrial waste disposal. Consign a qualified industrial waste disposer.

14. TRANSPORT INFORMATION (non-mandatory)

Prevent cargo from falling, damaging, or collapsing.
ERG number: 171 **UN number:** Not applicable

15. REGULATORY INFORMATION (non-mandatory)

In Japan
Industrial Safety and Health Act: Article 57-2 (Notifiable substances)
Xylene
Ethylbenzene
Titanium dioxide
Silica gel
4.4’-MDI
Poisonous and Deleterious Substances Control Act: Not applicable

Fire Service Act: Not applicable
Air Pollution Control Act: Not applicable
Pollutant Release and Transfer Register: Class 1 Designated Chemical Substances – Xylene, Ethylbenzene

16. OTHER INFORMATION

This information provided on this Safety Data Sheet is correct to the best of our knowledge, information, and belief at the date of its publication. The information given is designated only as a guide for safe handling, use, processing, storage, transportation, disposal, and release and is not to be considered as a warranty or quality specification. The information relates only to the specific material designated and may not be valid for such material used in combination with any other material or in any process, unless specified in the text.

EPRO Services, Inc.
(800) 882-1896
eproinc.com

8/24/20

SAFETY DATA SHEET

According to Regulation (EC) No 1907/2006 (REACH)

1. PRODUCT IDENTIFICATION

Trade Name(s): e.trowel (formerly ECOLINE-T)
Product Description: Polymer Modified Asphalt Emulsion
CAS No: N/A

Manufacturer / Supplier:
EPRO Services, Inc.
PO Box 347
Derby, KS 67037
800-882-1896 (8:00am – 5:00pm CST)

2. HAZARD(S) IDENTIFICATION

GHS-US Classification of the Substance or Mixture
Carc.2: H351
STOT RE 2: H373
Aquatic Chronic 3: H412
Full text of H-phrases: see Section 16

GHS-US Label Elements
Signal Word: Warning
Hazard Statements
- H351: Suspected of causing cancer
- H373: May cause damage to organs (thymus, liver, bone marrow) through prolonged or repeated exposure
- H412: Harmful to aquatic life with long lasting effects

Precautionary Statements
- P201: Obtain special instructions before use
- P202: Do not handle until all safety precautions have been read and understood
- P260: Do not breathe vapors, mist, and spray
- P273: Avoid release to the environment
- P280: Wear eye protection, protective clothing, and protective gloves
- P308+P313: If exposed or concerned, get medical advice/attention
- P314: Get medical advice/attention if you feel unwell
- P405: Store locked up
- P501: Dispose of contents/container in accordance with local, regional, national and international regulations

Other Hazards
Exposure may aggravate those with pre-existing eye, skin, or respiratory conditions. If stored under heat for extended periods or significantly agitated, this material might evolve or release hydrogen sulfide, a flammable gas, which can raise and widen this material's actual flammability limits and significantly lower its auto-ignition

temperature. Hydrogen sulfide is a toxic gas that can be fatal. It also has a rotten egg smell that causes odor fatigue very quickly and should not be used as an indicator for the presence of gas. Flammable vapors can accumulate in head space of closed system

Unknown Acute Toxicity (GHS-US)
Up to 30% of the mixture consists of ingredient(s) of unknown acute toxicity.

3. COMPOSITION/INFORMATION ON INGREDIENTS

Mixture

Name	Product Identifier	%	Classification (GHS-US)
Asphalt	(CAS No) 8052-42-4	50 - 70	Not classified
Water	(CAS No) 7732-18-5	30 - 40	Not classified
Acrysol		>1.5	Not classified
Ethanol	(CAS No) 34375-28-5	>.03	Not classified
Proprietary Polymer	Proprietary*	> 30	Not classified
Proprietary Hydrocarbon	Proprietary*	0 - 5	Flam. Liq. 3, H226 Acute Tox. 3 (Inhalation:vapor), H331 Skin Irrit. 2, H315 Carc. 2, H351 STOT RE 2, H373 Asp. Tox. 1, H304 Aquatic Acute 3, H402 Aquatic Chronic 2, H411

*The specific chemical identity and/or exact percentage of composition have been withheld as a trade secret within the meaning of the OSHA Hazard Communication Standard (29 CFR 1910.1200).
Full text of H-phrases: See Section 16

4. FIRST-AID MEASURES

Description of First Aid Measures
First-aid Measures General: Never give anything by mouth to an unconscious person. If you feel unwell, seek medical advice.
First-aid Measures after Inhalation: When symptoms occur: go into open air and ventilate suspected area. Obtain medical attention if breathing difficulty persists.
First-aid Measures after Skin Contact: Remove contaminated clothing. Drench affected area with water for at least 15 minutes. Wash contaminated clothing before reuse. Obtain medical attention if irritation develops or persists.
First-aid Measures after Eye Contact: Rinse cautiously with water for at least 5 minutes. Remove contact lenses, if present and easy to do. Continue rinsing. Obtain medical attention if redness, pain, or irritation occurs.
First-aid Measures after Ingestion: Rinse mouth. Do NOT induce vomiting. Seek medical attention.

Most important symptoms and effects, both acute and delayed
Symptoms/Injuries: There are potential chronic health effects to consider.
Symptoms/Injuries after Inhalation: May cause respiratory irritation.
Symptoms/Injuries after Skin Contact: May cause skin irritation.
Symptoms/Injuries after Eye Contact: May cause eye irritation.
Symptoms/Injuries after Ingestion: Ingestion is likely to be harmful or have adverse effects.

Chronic Symptoms: May cause damage to organs (Thymus, Liver, Bone Marrow) through prolonged or repeated exposure. Suspected of causing cancer

Indication of Any Immediate Medical Attention and Special Treatment Needed

If you feel unwell, seek medical advice.

5. FIRE-FIGHTING MEASURES

Extinguishing Media

Suitable Extinguishing Media: Dry chemical powder, alcohol-resistant foam, carbon dioxide (CO2).

Unsuitable Extinguishing Media: Do not use a heavy water stream. Use of heavy stream of water may spread fire.

Special Hazards Arising From the Substance or Mixture

Fire Hazard: Not considered flammable but will burn at high temperatures.

Explosion Hazard: Product is not explosive. Contains Sulfur. May release small amounts of hydrogen sulfide. Hydrogen sulfide is a highly flammable, explosive gas under certain conditions, is a toxic gas, and may be fatal. Gas can accumulate in the headspace of closed containers. Use caution when opening sealed containers. Heating the product or containers can cause thermal decomposition of the product and release hydrogen sulfide.

Reactivity: Hazardous reactions will not occur under normal conditions.

Advice for Firefighters

Precautionary Measures Fire: Exercise caution when fighting any chemical fire.

Firefighting Instructions: Do not allow run-off from firefighting to enter drains or water sources. Do not breathe fumes or vapors from fire. Use water spray or fog for cooling exposed containers.

Protection During firefighting: Do not enter fire area without proper protective equipment, including respiratory protection.

Other Information: Refer to Section 9 for flammability properties.

6. ACCIDENTAL RELEASE MEASURES

Personal Precautions, Protective Equipment and Emergency Procedures

General Measures: Use special care to avoid static electric charges. Keep away from heat, sparks, open flames, hot surfaces. – No smoking.

For Non-emergency Personnel

Protective Equipment: Use appropriate personal protection equipment (PPE).

Emergency Procedures: Evacuate unnecessary personnel.

For Emergency Responders

Protective Equipment: Equip cleanup crew with proper protection.

Emergency Procedures: Upon arrival at the scene, a first responder is expected to recognize the presence of dangerous goods, protect oneself and the public, secure the area, and call for the assistance of trained personnel as soon as conditions permit.

Environmental Precautions

Prevent entry to sewers and public waters.

Methods and Material for Containment and Cleaning Up

For Containment: Contain any spills with dikes or absorbents to prevent migration and entry into sewers or streams.

Methods for Cleaning Up: Clean up spills immediately and dispose of waste safely. Absorb and/or contain spill with inert material, then place in suitable container. Contact competent authorities after a spill.

Reference to Other Sections

See heading 8, Exposure Controls and Personal Protection. Concerning disposal elimination after cleaning, see item 13.

7. HANDLING AND STORAGE

Precautions for Safe Handling

Additional Hazards When Processed: Handle empty containers with care because residual vapors may be flammable.

Precautions for Safe Handling: Obtain special instructions before use. Do not handle until all safety precautions have been read and understood. Take precautionary measures against static discharge. Use only non-sparking tools. Keep away from heat, sparks, open flames, hot surfaces. – No smoking. Avoid breathing vapors, mist, spray.

Hygiene Measures: Handle in accordance with good industrial hygiene and safety procedures. Wash hands and other exposed areas with mild soap and water before eating, drinking, or smoking and again when leaving work.

Conditions for Safe Storage, Including Any Incompatibilities

Technical Measures: Proper grounding procedures to avoid static electricity should be followed. Ground/bond container and receiving equipment. Use explosion-proof electrical, lighting, ventilating equipment.

Storage Conditions: Store in a dry, cool, and well-ventilated place. Keep container closed when not in use.

Incompatible Products: Strong acids. Strong bases. Strong oxidizers.

Incompatible Materials: Heat sources.

Storage Temperature: > 0 °C (32 °F)

Storage Area: Store locked up.

Specific End Use(s): Asphalt Emulsion

8. EXPOSURE CONTROLS/PERSONAL PROTECTION

Control Parameters

For substances listed in Section 3 that are not listed here, there are no established exposure limits from the manufacturer, supplier, importer, or the appropriate advisory agency including: ACGIH (TLV, NIOSH (REL), or OSHA (PEL).

Asphalt (8052-42-4)		
USA ACGIH	ACGIH TWA (mg/m³)	0.5 mg/m³ (fume, inhalable fraction)
USA ACGIH	ACGIH chemical category	Not classifiable as a human carcinogen fume, coat tar-free
USA NIOSH	NIOSH REL (ceiling) (mg/m³)	5 mg/m³ (fume)

Proprietary Hydrocarbon		
USA ACGIH	ACGIH TWA (mg/m³)	100 mg/m³ (inhalable fraction and vapor)
USA ACGIH	ACGIH chemical category	Skin – potential significant contribution to overall exposure by the cutaneous route, Confirmed Animal Carcinogen with Unknown Relevance to Humans

Exposure Controls

Appropriate Engineering Controls: Proper grounding procedures to avoid static electricity should be followed. Use explosion-proof equipment. Take precautionary measures against static discharges. Ensure all national/local regulations are observed. Gas detectors should be used when flammable gases/vapors may be released.

Personal Protective Equipment: Protective goggles, gloves, protective clothing. Insufficient ventilation: wear respiratory protection.

Materials for Protective Clothing: Chemically resistant materials and fabrics.
Hand Protection: Wear chemically resistant protective gloves.
Eye Protection: Chemical safety goggles.
Skin and Body Protection: Wear suitable protective clothing.
Respiratory Protection: If exposure limits are exceeded or irritation is experienced, approved respiratory protection should be worn.
Thermal Hazard Protection: If material is hot, wear thermally resistant protective gloves.
Environmental Exposure Controls: Do not allow the product to be released into the environment.
Consumer Exposure Controls: Do not eat, drink, or smoke during use.
Other Information: When using, do not eat, drink, or smoke.

9. PHYSICAL AND CHEMICAL PROPERTIES

Physical State: Liquid
Odor: No data available
pH: No data available
Melting Point: Not applicable
Boiling Point: 100°C (212.00°F)
Auto-ignition Temperature: No data available
Flammability (solid, gas): No data available
Relative Vapor Density at 20°C: >1.0 (air=1)
Specific Gravity: 1.0+ / -0.2 at 60°F (15.6°C)
Viscosity: No data available

Appearance: Brown to Black
Order Threshold: No data available
Evaporation Rate: Slower (butyl acetate-1)
Freezing Point: No data available
Flash Point: No data available
Decomposition Temperature: No data available
Vapor Pressure: Not determined
Relative Density: No data available
Solubility: Water: miscible
Partition Coefficient: N-Octanol/Water: No data available

<u>Other Information</u>
VOC Content: 0
Volatiles (includes water): 30 - 50%

10. STABILITY AND REACTIVITY

Reactivity: Hazardous reactions will not occur under normal conditions.
Chemical Stability: Stable under recommended handling and storage conditions (see section 7).
Possibility of Hazardous Reactions: Hazardous polymerization will not occur.
Conditions to Avoid: Direct sunlight. Extremely high or low temperatures. Open flame. Overheating. Heat. Sparks. Do not freeze.
Incompatible Materials: Strong acids. Strong bases. Strong oxidizers.
Hazardous Decomposition Products: May release flammable gases. Thermal decomposition generates: Carbon oxides
(CO, CO2). Nitrogen oxides. Hydrogen sulfide. Sulfur dioxide. Irritating or toxic vapors.

11. TOXICOLOGICAL INFORMATION

Acute Toxicity: Not classified

Asphalt (8052-42-4	
LD50 Oral Rat	> 5000 mg/kg
LD50 Dermal Rabbit	> 2000 mg/kg

Proprietary Hydrocarbon	
LD50 Dermal Rabbit	4720 µl/kg
LD50 Inhalation Rat	4.6 mg/l/4h

Skin Corrosion/Irritation: Not classified
Serious Eye Damage/Irritation: Not classified
Respiratory or Skin Sensitization: Not classified
Germ Cell Mutagenicity: Not classified
Carcinogenicity: Suspected of causing cancer.

Asphalt (8052-42-4)	
IARC Group	2B
National Toxicology Program (NTP) Status	Twelfth Report-Items under consideration
OSHA Hazard Communication Carcinogen List	In OSHA Hazard Communication Carcinogen list

Proprietary Polymer	
IARC group	3

Reproductive Toxicity: Not classified
Specific Target Organ Toxicity (Single Exposure): Not classified
Specific Target Organ Toxicity (Repeated Exposure): May cause damage to organs through prolonged or repeated exposure.
Aspiration Hazard: Not classified
Symptoms/Injuries after Inhalation: May cause respiratory irritation.
Symptoms/Injuries after Skin Contact: May cause skin irritation.
Symptoms/Injuries after Eye Contact: May cause eye irritation.
Symptoms/Injuries after Ingestion: Ingestion is likely to be harmful or have adverse effects.
Chronic Symptoms: May cause damage to organs (Thymus, Liver, Bone Marrow) through prolonged or repeated exposure. Suspected of causing cancer.

12. ECOLOGICAL INFORMATION

Ecology – General: This material is hazardous to the aquatic environment. Keep out of sewers and waterways.
Ecology – Water: Harmful to aquatic life with long-lasting effects.

Proprietary Hydrocarbon	
LC50 Fish 1	35 mg/l (Exposure time: 96 h – Species: Pimephales promelas (flow-through))

Persistence and Degradability: Not established.
Bioaccumulative Potential: Not established

Asphalt (8052-42-4)	
BCF fish 1	(no bioaccumulation expected)
Log Pow	> 6

Mobility in Soil: No additional information available.
Other Adverse Effects: Avoid release to the environment.

13. DISPOSAL CONSIDERATIONS

Waste treatment methods
Sewage Disposal Recommendations: Do not empty into drains. Do not dispose of waste into sewer.
Waste Disposal Recommendations: Dispose of waste material in accordance with all local, regional, national, and international regulations.
Additional Information: Handle empty containers with care because residual vapors are flammable.

14. TRANSPORT INFORMATION

DOT: Not regulated for transport
IMDG: Not regulated for transport
IATA: Not regulated for transport

15. REGULATORY INFORMATION (non-mandatory)

US Federal Regulations

SARA Section 311/312 Hazard Classes: Delayed (chronic) health hazard

TSCA (Toxic Substances Control Act) Inventory – Asphalt (8052-42-4): Listed
TSCA (Toxic Substances Control Act) Inventory – Water (7732-18-5): Listed
TSCA (Toxic Substances Control Act) Inventory – Proprietary Hydrocarbon: Listed
TSCA (Toxic Substances Control Act) Inventory – Proprietary Polymer: Listed

US State Regulations

Asphalt (8052-42-4)
Massachusetts: Right to Know List
New Jersey: Right to Know Hazardous Substance List
Pennsylvania: RTK (Right to Know) List

16. OTHER INFORMATION

GHS Full Text Phrases

Acute Tox. 3 (Inhalation:vapor)	Acute toxicity (inhalation:vapor) Category 3
Aquatic Acute 3	Hazardous to the aquatic environment - Acute Hazard Category 3
Aquatic Chronic 2	Hazardous to the aquatic environment - Chronic Hazard Category 2
Aquatic Chronic 3	Hazardous to the aquatic environment - Chronic Hazard Category 3
Asp. Tox. 1	Aspiration hazard Category 1
Carc. 2	Carcinogenicity Category 2
Flam. Liq. 3	Flammable liquids Category 3
Skin Irrit. 2	Skin corrosion/irritation Category 2
STOT RE 2	Specific target organ toxicity (repeated exposure) Category 2
H226	Flammable liquid and vapor
H304	May be fatal if swallowed and enters airways
H315	Causes skin irritation
H331	Toxic if inhaled
H351	Suspected of causing cancer
H373	May cause damage to organs through prolonged or repeated exposure
H402	Harmful to aquatic life
H411	Toxic to aquatic life with long lasting effects
H412	Harmful to aquatic life with long lasting effects

NFPA Health Hazard: 1 – exposure could cause irritation but only minor residual injury even if not treatment is given.

NFPA Fire Hazard: 1 – must be preheated before ignition can occur

NFPA Reactivity: 0 – normally stable, even under fire exposure conditions, and are not reactive with water

This information provided on this Safety Data Sheet is correct to the best of our knowledge, information, and belief at the date of its publication. The information given is designated only as a guide for safe handling, use, processing, storage, transportation, disposal, and release and is not to be considered as a warranty or quality specification. The information relates only to the specific material designated and may not be valid for such material used in combination with any other material or in any process, unless specified in the text.

EPRO Services, Inc.
(800) 882-1896
eproinc.com

7/1/20

SAFETY DATA SHEET

According to Regulation (EC) No 1907/2006 (REACH)

1. PRODUCT IDENTIFICATION

Trade Name(s): Liquid Smoke
Product Description: Mixture
Synonyms: Fog fluid
CAS No: N/A

Supplier:
EPRO Services, Inc.
PO Box 347
Derby, KS 67037
800-882-1896 (8:00am – 5:00pm CST)

2. HAZARD(S) IDENTIFICATION

Classification of the Substance or Mixture: Classification (GHS-US) - Not classified.
Label Elements: GHS-US Labeling – No labeling required.
Other Hazards: Other hazards not contributing to the Classification – Exposure may aggravate those with pre-existing eye, skin, or respiratory conditions.
Unknown Acute Toxicity (GHS-US): No data available.

3. COMPOSITION/INFORMATION ON INGREDIENTS

Substance: Not applicable.

Mixture: The specific chemical identity and/or exact percentage of composition has been withheld as a trade secret. Full text of H-phrases: see Section 16.

Name	Product Identifier	%	Classification (GHS-US)
Water	CAS No 7732-18-5	Proprietary	Not classified
Triethylene glycol	CAS No 112-27-6	Proprietary	Not classified
1,2-Propylene glycol	CAS No 57-55-6	Proprietary	Not classified

4. FIRST-AID MEASURES

Description of First Aid Measures
General: Never give anything by mouth to an unconscious person. If you feel unwell, seek medical advice (show the label where possible).

After Inhalation: When symptoms occur go into open air and ventilate suspected area. Obtain medical attention if breathing difficulty persists.
After Skin Contact: Remove contaminated clothing. Drench affected area with water for at least 15 minutes. Obtain medical attention if irritation develops or persists.
After Eye Contact: Rinse cautiously with water for several minutes. Remove contact lenses if present and easy to do. Continue rinsing. Obtain medical attention if pain, blinking or redness persist.
After Ingestion: Rinse mouth. Do NOT induce vomiting. Seek medical attention.

Most Important Symptoms and Effects, Both Acute and Delayed
General: Not expected to present a significant hazard under anticipated conditions of normal use.
After Inhalation: None expected under normal conditions of use.
After Skin Contact: None expected under normal conditions of use.
After Eye Contact: None expected under normal conditions of use.
After Ingestion: None expected under normal conditions of use.

Indication of Any Immediate Medical Attention and Special Treatment Needed
If you feel unwell, seek medical advice (show the label where possible).

5. FIRE-FIGHTING MEASURES

Extinguishing Media
Suitable Extinguishing Media: Use extinguishing media appropriate for surrounding fire.
Unsuitable Extinguishing Media: Do not use a heavy water stream. Use of heavy stream of water may spread fire.

Special Hazards Arising from the Substance or Mixture
Fire Hazard: Not flammable
Explosion Hazard: Product is not explosive.
Reactivity: Hazardous reactions will not occur under normal conditions.

Advice for Firefighters
Precautionary Measures Fire: Exercise caution when fighting any chemical fire.
Firefighting Instructions: Use water spray or fog for cooling exposed containers.
Protection During Firefighting: Do not enter fire area without proper protective equipment, including respiratory protections.
Other Information: Do not allow the product to be released into the environment. Do not allow run-off from firefighting to enter drains or water courses.

6. ACCIDENTAL RELEASE MEASURES

Personal Precautions, Protective Equipment and Emergency Procedures
General Measures: Avoid prolonged contact with eyes, skin and clothing. Avoid breathing (vapors, mist, spray).
For Non-Emergency Personnel
Protective Equipment: Use appropriate personal protection equipment (PPE).
Emergency Procedures: Evacuate unnecessary personnel.
For Emergency Responders
Protective Equipment: Equip cleanup crew with proper protection.
Emergency Procedures: Ventilate area.

Environmental Precautions
Prevent entry to sewers and public waters.
Methods and Material for Containment and Cleaning Up
For Containment: Contain any spills with dikes or absorbents to prevent migration and entry into sewers or streams.
Methods for Cleaning Up: Clear up spills immediately and dispose of waste safely. Absorb and/or contain spill with inert material, then place in suitable container.
Reference to Other Sections
See Section 8: Exposure Controls and Personal Protection.

7. HANDLING AND STORAGE

Precautions for Safe Handling
Hygiene Measures: Handle in accordance with good industrial hygiene and safety procedures. Wash hands and other exposed areas with mild soap and water before eating, drinking, or smoking and again when leaving work.
Conditions for Safe Storage, Including Any Incompatibilities
Technical Measures: Comply with applicable regulations.
Storage Conditions: Store in a dry, cool and well-ventilated place. Keep container closed when not in use. Keep/store away from extremely high or low temperatures, direct sunlight, and incompatible materials.
Incompatible Products: Strong acids. Strong bases. Strong oxidizers.
Specific End Use(s)
Theatrical Fog/Haze.

8. EXPOSURE CONTROLS/PERSONAL PROTECTION

Control Parameters
No Occupational Exposure Limits (OELs) have been established for this product or its chemical components.
Exposure Controls
Appropriate Engineering Controls: Ensure adequate ventilation, especially in confined areas. Ensure all national/local regulations are observed.
Personal Protective Equipment: Not generally required. The use of personal protective equipment may be necessary as conditions warrant.
Materials for Protective Clothing: Chemically resistant materials and fabrics.
Hand Protection: Wear chemically resistant protective gloves.
Eye Protection: Chemical goggles or safety glasses.
Respiratory Protection: Use NIOSH-approved air-purifying or supplied-air respirator where airborne concentrations of vapor or mist are expected to exceed exposure limits.
Other Information: When using, do not eat, drink, or smoke.

9. PHYSICAL AND CHEMICAL PROPERTIES

Information on Basic Physical and Chemical Properties

Physical State: Liquid
Appearance: Clear
Odor: Odorless

Odor Threshold: No data available.
pH: Unknown
Relative Evaporation Rate (butylacetate=1)**:** No data available.
Melting Point: No data available.
Freezing Point: -19°C / -2.2°F
Boiling Point: 99°C / 210.2°F
Flash Point: Does not flash.
Auto-Ignition Temperature: No data available.
Decomposition Temperature: No data available.
Flammability (solid, gas): No data available.
Vapor Pressure: No data available.
Relative Vapor Density at 20°C: No data available.
Relative Density: No data available.
Specific Gravity: Not available.
Solubility: Soluble in water.
Log Pow: No data available.
Log Kow: No data available.
Viscosity, Kinematic: No data available.
Viscosity, Dynamic: No data available.
Explosive Properties: No data available.
Oxidizing Properties: No data available.
Explosive Limits: Not applicable.

10. STABILITY AND REACTIVITY

Reactivity: Hazardous reactions will not occur under normal conditions.
Chemical Stability: Stable under normal conditions.
Possibility of Hazardous Reactions: Hazardous polymerization will not occur.
Conditions to Avoid: Direct sunlight. Extremely high or low temperatures. Incompatible materials.
Incompatible Materials: Strong acids. Strong Bases. Strong oxidizers.
Hazardous Decomposition Products: Carbon oxides (CO, CO2).

11. TOXICOLOGICAL INFORMATION

Information on Toxicological Effects

Acute Toxicity		Not classified.
Water (7732-18-5)	LC50 Inhalation Rat (ppm)	100000 ppm
1,2-Propylene glycol (57-55-6)	LD50 Oral Rat	20000 mg/kg
Triethylene glycol (112-27-6)	LD50 Dermal Rabbit	20800 mg/kg
Skin Corrosion/Irritation	Not classified.	pH: unknown
Serious Eye Damage/Irritation	Not classified.	pH: unknown
Respiratory or Skin Sensitization		Not classified.
Germ Cell Mutagenicity		Not classified.
Carcinogenicity		Not classified.
Reproductive Toxicity		Not classified.
Specific Target Organ Toxicity (Single Exposure)		Not classified.
Specific Target Organ Toxicity (Repeated Exposure)		Not classified.
Aspiration Hazard		Not classified.

Symptoms/Injuries After Inhalation: None expected under normal conditions of use.
Symptoms/Injuries After Skin Contact: None expected under normal conditions of use.

Symptoms/Injuries After Eye Contact: None expected under normal conditions of use.
Symptoms/Injuries After Ingestion: None expected under normal conditions of use.

12. ECOLOGICAL INFORMATION (non-mandatory)

Toxicity	**1,2-Propylene glycol** (57-55-6)	**LC50 Fish 1**	51600 mg/l (Exposure time: 96 h. Species: Oncorhynchus mykiss [static])
		EC50 Daphnia 1	10000 mg/l (Exposure time: 24 h. Species: Daphnia magna)
		EC50 Other Aquatic Organisms 1	19000 mg/l (Exposure time: 96 h. Species: Pseudokirchneriella subcapitata)
		LC 50 Fish 2	41 (41 - 47) mg/l (Exposure time: 96 h. Species: Oncorhynchus mykiss [static])
		EC50 Daphnia 2	1000 mg/l (Exposure time: 48 h. Species: Daphnia magna [Static])
	Triethylene glycol (112-27-6)	**LC50 Fish 1**	56200 - 63700 mg/l (Exposure time: 96 h. Species: Pimephales promelas [flowthrough])
		EC50 Daphnia 1	42426 mg/l (Exposure time: 48 h. Species: Daphnia magna)
		LC 50 Fish 2	10000 mg/l (Exposure time: 96 h. Species: Lepomis macrochirus [static])
Persistence and Degradability			
Fog Fluid			Not established.
Bioaccumulative Potential			
Fog Fluid			Not established.
1,2-Propylene glycol (57-55-6)		**LC50 Fish 1**	< 1
Triethylene glycol (112-27-6)		**Log Pow**	-1.98 (at 25°C / 77°F)
Mobility in Soil			No additional information available.
Other Adverse Effects			Avoid release to the environment.

13. DISPOSAL CONSIDERATIONS (non-mandatory)

Waste Disposal Recommendations: Dispose of waste material in accordance with all local, regional, national, and international regulations.

14. TRANSPORT INFORMATION (non-mandatory)

In accordance with ICAO/IATA/IMDG/DOT
UN Number: Not regulated for transport
UN Proper Shipping Name: Not regulated for transport
Additional Information: No supplementary information available
Transport by Sea: Not regulated for transport
Air Transport: Not regulated for transport

15. REGULATORY INFORMATION (non-mandatory)

US Federal Regulations
Water (7732-18-5): Listed on the US TSCA (Toxic Substances Control Act) Inventory
1,2-Propylene glycol (57-55-6): Listed on the US TSCA (Toxic Substances Control Act) Inventory
EPA TSCA Regulatory Flag: Y2 – indicates an exempt polymer that is a polyester and is made only from reactants included in a specified list of low concern reactants that comprises one of the eligibility criteria for the exemption rule.
Triethylene glycol (112-27-6): Listed on the US TSCA (Toxic Substances Control Act) Inventory

US State Regulations

1,2-Propylene glycol (57-55-6):	Minnesota – Hazardous Substance List
	New Jersey – Right to Know Hazardous Substance List
	Pennsylvania – RTK (Right to Know) List
	Texas – Effects Screening Levels – Long Term
	Texas – Effects Screening Levels – Short Term
Triethylene glycol (112-27-6):	Pennsylvania – RTK (Right to Know) List
	Texas – Effects Screening Levels – Long Term
	Texas – Effects Screening Levels – Short Term

16. OTHER INFORMATION

This information provided on this Safety Data Sheet is correct to the best of our knowledge, information, and belief at the date of its publication. The information given is designated only as a guide for safe handling, use, processing, storage, transportation, disposal, and release and is not to be considered as a warranty or quality specification. The information relates only to the specific material designated and may not be valid for such material used in combination with any other material or in any process, unless specified in the text.

EPRO Services, Inc.
(800) 882-1896
eproinc.com

7/1/20

SAFETY DATA SHEET

According to Regulation (EC) No 1907/2006 (REACH)

1. PRODUCT IDENTIFICATION

Trade Name(s): PM Sealant
Product Description: Adhesives. Sealant.
Synonyms: N/A
CAS No: N/A

Supplier:
EPRO Services, Inc.
PO Box 347
Derby, KS 67037
800-882-1896 (8:00am – 5:00pm CST)

2. HAZARD(S) IDENTIFICATION

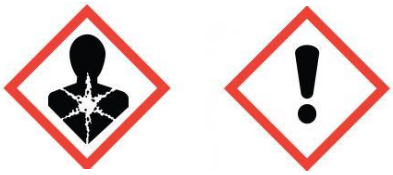
OSHA/HCS status: This material is considered hazardous by the OSHA Hazard Communication Standard (49CFR1910.1200).

Classification of the substance or mixture

Acute toxicity-Oral-Category 4
Serious Eye Damage/Eye Irritation-Category 2A
Carcinogenicity-Category 1A
Reproductive Toxicity-Category 1B
Specific target organ toxicity (single exposure)-Category 1 (central nervous system)
Specific target organ toxicity (repeated exposure)-Category 1 (respiratory system)
Specific target organ toxicity (repeated exposure)-Category 2 (bladder)

GHS label elements

Hazard pictogram



Signal word: Danger

Hazard statements

Harmful if swallowed. Causes serious eye irritation. May cause cancer. May damage fertility or the unborn child. Cause damage to organs through prolonged or repeated exposure.

Precautionary statements

Prevention: Obtain special instructions before use. Do not handle until all safety precautions have been read and understood. Wear eye and face protection. Do not breathe dust/fumes/gas/mist/vapors/spray. Wash thoroughly after handling. Do not eat, drink, or smoke when using this product.

Response: If exposed, call a POISON CENTER or physician if you feel unwell. If in eyes, rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing. If eye irritation persists, get medical attention. IF SWALLOWED, immediately call a POISON CENTER or physician. Rinse mouth. Get medical attention if you feel unwell.

Storage: Store locked up.

Disposal: Dispose of contents and container in accordance with all local, regional, national, and international regulations.

Statement of Unknown Acute Toxicity: Oral 71.91% of the mixture consists of ingredients of unknown acute toxicity.

3. COMPOSITION/INFORMATION ON INGREDIENTS

Ingredient name	%	CAS Number
Calcium Carbonate	30-60	1317-65-3
Carbonic acid, calcium salt (1:1)	15-40	471-34-1
Titanium Dioxide	1-5	13463-67-7
Organosilane	1-5	2768-02-7
Dibutyltin oxide	0.1-1	818-08-6
Diisonoyl phthalate	15-40	28553-12-0
Carbon Black	0.05 - <0.1	1333-86-4

4. FIRST-AID MEASURES

Description of necessary first aid measures

Eye contact: Immediately flush eyes with plenty of water, occasionally lifting the upper and lower eyelids. Check for and remove any contact lenses if easy to do so. Continue rinsing. If irritation persists, get medical attention.

Inhalation: If breathing is difficult, remove victim to fresh air and keep at rest in a position comfortable for breathing. Call poison center or physician if you feel unwell.

Skin contact: Wash with plenty of soap and water. If skin irritation or rash occurs, get medical attention. Remove contaminated clothing and wash before reuse.

Ingestion: If swallowed, immediately call a poison center or physician. DO NOT induce vomiting.

Most important symptoms/effects, acute and delayed

Acute

Harmful if swallowed. Causes serious eye irritation.

Delayed

May cause cancer. May damage fertility or the unborn child. Causes damage to organs. Causes damage to organs through prolonged or repeated exposure. May cause damage to organs through prolonged or repeated exposure.

5. FIRE-FIGHTING MEASURES

Extinguishing media
Suitable extinguishing media: Use dry chemical, CO2, water, or foam.
Unsuitable extinguishing media: Do not use high pressure water streams.
Specific hazards arising from the chemical: Upon decomposition, product emits carbon dioxide, carbon monoxide, and/or low molecular weight hydrocarbons.
Hazardous thermal decomposition products: Decomposition products may include carbon dioxide, carbon monoxide, and/or low molecular weight hydrocarbons.
Special protective actions for firefighters: Heating may cause an explosion. Containers may rupture or explode. Move containers from fire area if it can be done without risk. Avoid inhalation of vapors or combustion products. Dike for later disposal. Stay upwind and keep out of low areas.
Special protective equipment for firefighters: Firefighters should wear appropriate protective equipment and self-contained breathing apparatus (SCBA) with a full face-piece operated in positive pressure mode.

6. ACCIDENTAL RELEASE MEASURES

Personal precautions, protective equipment, and emergency procedures
Wear personal protective clothing and equipment. See Section 8.
Methods and materials for containment and cleaning up
Keep unnecessary people away. Isolate hazard area and deny entry. In case of spillage, stop the flow of material and block any potential routes to water systems. Only personnel trained for the hazards of this material should perform clean up and disposal.
Environmental Precautions
Do not flush into sanitary sewer systems, drains, or surface water. Avoid release to the environment.

7. HANDLING AND STORAGE

Precautions for safe handling
Protective measures: Do not handle until all safety precautions have been read and understood. Keep away from all ignition sources. Avoid contact with eyes or skin. Do not eat, drink, or smoke when using this product. Always wear recommended personal protective equipment (section 8). Take precautionary measures against static discharge. Avoid release to the environment. Empty containers retain product residue and can be hazardous. Do not reusecontainer.
Conditions for safe storage, including any incompatibilities: Store locked up and in accordance with local regulations. Store in original container in a cool dry well-ventilated area away from incompatible materials. Empty containers may contain product residue. Avoid contact with temperatures above 120°C.
Incompatible Materials: Strong oxidizer. Strong acids.

8. EXPOSURE CONTROLS/PERSONAL PROTECTION

Component Exposure Limits

Calcium carbonate 1317-65-3	NIOSH: 10 mg/m3 TWA total dust; 5 mg/m3 TWA respirable dust OSHA (US): 15 mg/m3 TWA total dust; 5 mg/m3 TWA respirable fraction Mexico: 10 mg/m3 TWA VLE-PPT 20 mg/m3 STEL (PPT-T)
Carbonic acid, calcium salt (1:1) 471-34-1	NIOSH: 10 mg/m3 TWA total dust; 5 mg/m3 TWA respirable dust
Titanium dioxide 13463-67-7	ACGIH: 10 mg/m3 TWA NIOSH: 2.4 mg/m3 TWA (CIB 63) fine; 0.3 mg/m3 TWA (CIB 63) ultrafine, including engineered nanoscale 5000 mg/m3 IDLH OSHA (US): 15 mb/m3 TWA total dust Mexico: 10 mg/m3 TWA VLE-PPT as Ti 20 mg/m3 STEEL (PPT-CT) as Ti
Carbon Black 1333-86-4	ACGIH: 3 mg/m3 TWA inhalable particulate matter NIOSH : 3.5 mg/m3 TWA ; 0.1 mb/m3 TWA (Carbon black in presence of Polycyclic aromatic hydrocarbons) as PAH 1750 mb/m3 IDLH OSHA (US): 3.5 mg/m3 TWA Mexico: 3.5 mg/m3 TWA VLE-PPT 7 mg/m3 STEL (PPT-CT)

ACGIH – Threshold Limit Values – Biological Exposure Indices (BEI): There are no biological limit values for any of this product's components.

Appropriate engineering controls: Use only with adequate ventilation. Use process enclosures, local exhaust ventilation or other engineering controls to keep worker exposure to airborne contaminants below any recommended or statutory limits. The engineering controls also need to keep gas, vapor, or dust concentrations below any lower explosive limits. Use explosion-proof ventilation equipment.

Individual protection measures

Hygiene measures: Wash hands, forearms, and face thoroughly after handling chemical products, before eating, smoking, and using the lavatory and at the end of the working period. Ensure that eyewash stations and safety showers are close to the workstationlocation.

Eye/face protection: Wear splash resistance safety goggles with a face shield.

Hand protection: Chemical-resistant, impervious gloves complying with an approved standard should be worn at all times when handling chemical products if a risk assessment indicates thisis necessary.

Body protection: Wear appropriate chemical resistant clothing.

Respiratory protection: Use a properly fitted, air-purifying or supplied air respirator complying with an approved standard if a risk assessment indicates this is necessary. Respirator selection must be based on known or anticipated exposure levels, the hazards of the product and the safe working limits of the selected respirator.

9. PHYSICAL AND CHEMICAL PROPERTIES

Physical state: Solid paste
Odor: Mild
pH: Not available
Boiling point: Not available
Flash point: 93.3°C (>200°F)
Flammability (solid, gas): Not available

Color: black, white, gray
Odor threshold: Not available
Melting point: Not available
Freezing point range: Not available
Evaporation rate: Not available
Auto-ignition temperature: Not available

Lower explosive (flammable) limit: Not available
Upper explosive (flammable) limit: Not available
Decomposition temperature: Not available
Vapor pressure: Not available
Vapor density: Not available
Specific gravity: 1.3 – 1.7
Water solubility: Slightly soluble
Partition coefficient n-octanol/water: Not available
Viscosity: Not available
Kinematic Viscosity: Not available
Solubility (Other): Not available
Density: Not available
Molecular Weight: Not available

10. STABILITY AND REACTIVITY

Reactivity: No reactivity hazard is expected.
Chemical stability: Product is stable at normal temperatures and pressure.
Possibility of hazardous reactions: Under normal conditions of storage and use hazardous will not polymerize.
Conditions to avoid: Avoid heat, flames, sparks, and other ignition sources. Avoid contact with incompatible materials and temperatures above 120°C (248°F).
Incompatible materials: Strong oxidizers and strong acids.
Hazardous decomposition products: Upon decomposition, this product emits carbon monoxide, carbon dioxide, and/or molecular weight hydrocarbons.

11. TOXICOLOGICAL INFORMATION

Information on toxicological effect
Acute toxicity

Product/ingredient name	Result	Species	Dose	Exposure
Carbonic acid, calcium salt (1:1)	Oral LD50	Rat	6450 mg/kg	
Titanium dioxide	Oral LD50	Rat	> 10000 mg/kg	
Organosilane	Oral LD50	Rat	7340 ml/kg	
Dibutyltin oxide	Oral LD50	Rat	44.9 mg/kg	
Diisononyl phthalate	Oral LD50	Rat	> 9750 mg/kg	
	Inhalation LC50	Rat	> 4.4 mg/l	4 hours
Carbon black	Oral LD50	Rat	> 15400 mg/kg	
Product toxicity- acute toxicity estimated	Oral LD50		1261.24 mg/kg	

Immediate effects: Harmful if swallowed. Causes serious eye irritation. May cause skin irritation. May be harmful if inhaled.
Acute Toxicity Estimate: Oral: 1261.241 mb/kg
Delayed effects: May cause cancer. May damage fertility or the unborn child. Causes damage to organs. Causes damage to organs through prolonged or repeated exposure.
Irritation/Corrosion: Causes serious eye irritation.
Respiratory Sensitization: No information on significant adverse effects.
Dermal Sensitization: No information on significant adverse effects.
Component Carcinogenicity

Product/ingredient name	ACGIH	IARC	OSHA	NIOSH
Titanium Dioxide	A 4	Group 2 B	Yes	Potential Occupational Carcinogen
Carbon black	A 3	Group 2 B	Yes	Potential Occupational Carcinogen

Results of a DuPont epidemiology study showed that employees who had been exposed to titanium dioxide pigments were at no greater risks of developing lung cancer than were employees who had not been exposed to titanium dioxide pigments. No pulmonary fibrosis was found in any of the employees and no associations were observed between titanium dioxide pigment exposure and chronic respiratory disease or lung

abnormalities. Based on the results of this study, DuPont has concluded that titanium dioxide pigment will not cause lung cancer or chronic respiratory disease in humans at concentrations experienced in the workplace.

Germ Cell Mutagenicity: No information on significant adverse effects.
Tumorigenic Data: No information on significant adverse effects.
Reproductive toxicity: May damage fertility or the unborn child.
Specific target organ toxicity (single exposure): Central nervous system.
Specific target organ toxicity (repeated exposure): Respiratory system, bladder.
Aspiration hazard: No information on significant adverse effects.
Medical Conditions Aggravated by Exposure: No data available.

12. ECOLOGICAL INFORMATION (non-mandatory)

Toxicity: May cause long lasting harmful effects to aquatic life.

Product/ingredient name	Result	Species	Exposure
Diisononyl phthalate	LC50 100 mg/l (semi static)	Brachydanio rerio	96 hours
	LC50 > 0.14 mg/l (flow thru)	Lepomis macrochirus	96 hours
	LC50 > 0.17 mg/l (static)	Lepomis macrochirus	96 hours
	LC50 > 0.19 mg/l (flow thru)	Pimephales promelas	96 hours
	LC50 > 0.14 mg/l (static)	Pimephales promelas	96 hours
	EC50 > 500 mg/l (IUCLID)	Desmodesmus subspicatus	72 hours
	EC50 > 1.8 mg/l static)	Pseudokirchneriella	96 hours
	EC50 > 500 mg/l (IUCLID)	Daphnia magna	48 hours
	EC50 > 0.06 mg/l (static)	Daphnia magna	48 hours

13. DISPOSAL CONSIDERATIONS (non-mandatory)

Disposal methods: Dispose of in accordance with all applicable local, state, regional, and federal regulations.
Component Waste Numbers: The US EPA has not published waste numbers for this product components.

14. TRANSPORT INFORMATION (non-mandatory)

DOT: Not regulated as a dangerous good.
IATA: Not regulated as a dangerous good.
ICAO: Not regulated as a dangerous good.
IMDG: Not regulated as a dangerous good.
International Bulk Chemical Code: This material contains one or more of the following chemicals required by the IBC Code to be identified as dangerous chemicals in bulk.

Titanium dioxide (13463-67-7): IBC Code – Category Z (slurry)

15. REGULATORY INFORMATION (non-mandatory)

US Federal regulations: None of this product's components are listed under SARA Sections 302/304 (40 CFR 355 Appendix A), SARA Section 313 (40 CRF 372.65), CERCLA (40 CRF 302.4), TSCA 12(b), or require an OSHA process safety plan.
SARA 311/312: Carcinogenicity. Acute Toxicity. Reproductive Toxicity. Serious Eye damage/Eye irritation. Specific Target Organ Toxicity.

State regulations
California: The following components are listed: Carbon Black

Massachusetts: The following components are listed: Calcium carbonate, Titanium dioxide & Carbon Black
Minnesota: The following components are listed: Calcium carbonate, Titanium dioxide & Carbon Black
New Jersey: The following components are listed: Calcium carbonate, Titanium dioxide & Carbon Black
Pennsylvania: The following components are listed: Calcium carbonate, Titanium dioxide & Carbon Black

California Prop. 65
WARNING: This product can expose you to chemicals including Titanium dioxide, Diisononyl phthalate, and carbon black, which are known to the State of California to cause cancer.
Titanium dioxide: carcinogen, 9/2/2011 (airborne, unbound particles of respirable size)
Diisononyl phthalate: carcinogen, 12/20/2013
Carbon black: carcinogen, 2/21/2003 (airborne, unbound particles of respirable size)

Canada Regulations
Canadian WHMIS Ingredient Disclosure List (IDL): Components of this material have been checked against the list. The List is composed of chemicals which must be identified on MSDSs if they are included in products which meet WHMIX criteria specified in the Controlled Products Regulations and are present above the threshold limits listed on the IDL.
Dibutyltin oxide (818-08-6): 1%
Carbon black (1333-86-4): 1%

Component Analysis – Inventory

	Calcium carbonate	Carbonic acid,calcium salt ((1:1)	Titanium dioxide	Organosilane	Dibutyltin oxide	Diisononyl phthalate	Carbon black
	1317-65-3	471-34-1	13463-67-7	2768-02-7	818-08-6	28553-12-0	1333-86-4
US	Yes	Yes	Yes	Yes	Yes	Yes	Yes
CA	NSL	DSL	DSL	DSL	DSL	DSL	DSL
EU	EIN	EIN	EIN	EIN	EIN	EIN	EIN
AU	Yes	Yes	Yes	Yes	Yes	Yes	Yes
PH	Yes	Yes	Yes	Yes	Yes	Yes	Yes
JP-ENCS	Yes	Yes	Yes	Yes	Yes	Yes	Yes
JP-ISHL	Yes	Yes	Yes	Yes	Yes	Yes	Yes
KR KECI Annex 1	Yes	Yes	Yes	Yes	Yes	Yes	Yes
KR KECI Annex 2	No	No	No	No	No	No	No
KR-REACH CCA	No	No	No	No	No	No	No
CN	Yes	Yes	Yes	Yes	Yes	Yes	Yes
NZ	Yes	Yes	Yes	Yes	Yes	Yes	Yes
MX	Yes	Yes	Yes	Yes	No	Yes	Yes
TW	Yes	Yes	Yes	Yes	Yes	Yes	Yes
VN (draft)	Yes	Yes	Yes	Yes	Yes	Yes	Yes

16. OTHER INFORMATION

This information provided on this Safety Data Sheet is correct to the best of our knowledge, information, and belief at the date of its publication. The information given is designated only as a guide for safe handling, use, processing, storage, transportation, disposal, and release and is not to be considered as a warranty or quality specification. The information relates only to the specific material designated and may not be valid for such material used in combination with any other material or in any process, unless specified in the text.

EPRO Services, Inc.
(800) 882-1896
eproinc.com

7/1/20

SAFETY DATA SHEET

According to Regulation (EC) No 1907/2006 (REACH)

1. PRODUCT IDENTIFICATION

Trade Name(s): e.poly (formerly Polyester)
Product Description: polyester fabric
Synonyms: N/A
CAS No: N/A

Supplier:
EPRO Services, Inc.
PO Box 347
Derby, KS 67037
800-882-1896 (8:00am – 5:00pm CST)

2. HAZARD(S) IDENTIFICATION

Classification

OSHA Regulatory Status
This chemical is not considered hazardous by the 2012 OSHA Hazard Communication Standard (29 CFR 1910.1200)

Acute toxicity - Oral	Not classified
Acute toxicity - Dermal	Not classified
Acute toxicity - Inhalation (Gases)	Not classified
Acute toxicity - Inhalation (Vapors)	Not classified
Acute toxicity - Inhalation (Dusts/Mists)	Not classified
Skin corrosion/irritation	Not classified
Serious eye damage/eye irritation	Not classified
Respiratory sensitization	Not classified
Skin sensitization	Not classified
Germ cell mutagenicity	Not classified
Carcinogenicity	Not classified
Reproductive toxicity	Not classified
Specific target organ toxicity (single exposure)	Not classified
Specific target organ toxicity (repeated exposure)	Not classified
Aspiration toxicity	Not classified

Label elements

Hazard Statements: None
Appearance: Reinforced fabric/sheet
Physical state: Solid
Order: Slight/None
Precautionary Statements–Prevention: Not applicable
Precautionary Statements-Storage: Not applicable
Precautionary Statements-Disposal: Not applicable
Hazards not otherwise classified (HNOC): N/A
Other Information: 100% of mixture consists of ingredient(s) of unknown toxicity

3. COMPOSITION/INFORMATION ON INGREDIENTS

Substance
The product contains no substances which at their given concentration, are considered to be hazardous to health.

Chemical Name	Cas No	Weight-%	Trade Secret
Polyester Fabric	NA - Mixture	60 - 100	*

*The exact percentage (concentration) of composition has been withheld as a trade secret.

4. FIRST-AID MEASURES

Description of first aid measures
Eye Contact: Rinse thoroughly with plenty of water for at least 15 minutes. Consult a physician.
Skin contact: Wash with soap and water.
Inhalation: Remove to fresh air.
Ingestion: Clean mouth with water and drink afterwards plenty of water.

Most important symptoms and effects, both acute and delayed
Symptoms: No information available.

Indication of any immediate medical attention and special treatment needed
Note to physicians: Treat symptomatically.

5. FIRE-FIGHTING MEASURES

Suitable extinguishing media
Use extinguishing measures that are appropriate to local circumstances and the surrounding environment.
Unsuitable extinguishing media CAUTION: Use of water spray when fighting fire may be inefficient.

Specific hazards arising from the chemical
No information available.

Explosion data
Sensitivity to Mechanical Impact: None.
Sensitivity to Static Discharge: None.

Protective equipment and precautions for firefighters
As in any fire, wear self-contained breathing apparatus pressure-demand, MSHA/NIOSH (approved or equivalent) and full protective gear.

6. ACCIDENTAL RELEASE MEASURES

Personal precautions, protective equipment and emergency procedures
Personal precautions: Ensure adequate ventilation, especially in confined areas.

Environmental precautions
See section 12 for additional ecological information.

Methods and material for containment and cleaning up
Methods for containment: Prevent further leakage or spillage if safe to do so.
Methods for cleaning up: Pick up and transfer to properly labeled containers.

7. HANDLING AND STORAGE

Precautions for safe handling
Handle in accordance with good industrial hygiene and safety practice.

Conditions for safe storage, including any incompatibilities
Storage Conditions: Keep containers tightly closed in a dry, cool and well-ventilated place.
Incompatible materials: None known based on information supplied.

8. EXPOSURE CONTROLS/PERSONAL PROTECTION

Control parameters
Exposure Guidelines: This product, as supplied, does not contain any hazardous materials with occupational exposure limits established by the region specific regulatory bodies.

Appropriate engineering controls
Engineering Controls Showers, Eyewash stations, Ventilation systems

Individual protection measures, such as personal protective equipment
Eye/face protection: Wear safety glasses with side shields (or goggles).
Skin and body protection: Wear protective gloves and protective clothing.
Respiratory protection: If exposure limits are exceeded or irritation is experienced, NIOSH/MSHA approved respiratory protection should be worn. Positive-pressure supplied air respirators may be required for high airborne contaminant concentrations. Respiratory protection must be provided in accordance with current local regulations.

General Hygiene Considerations: Handle in accordance with good industrial hygiene and safety practice.

9. PHYSICAL AND CHEMICAL PROPERTIES

Information on basic physical and chemical properties

Physical state: Solid
Appearance: Reinforced fabric/sheet
Odor: Slight/None
Color: White
Odor threshold: No information available

Property	Values	Remarks • Method
pH	Not applicable	
Melting point / freezing point	No information available	
Boiling point / boiling range	> 100 °C	
Flash point	> 100 °C	
Evaporation rate	No information available	
Flammability (solid, gas)	No information available	
Flammability Limit in Air		
Upper flammability limit:	No information available	
Lower flammability limit:	No information available	
Vapor pressure	No information available	
Vapor density	No information available	
Relative density	>1	
Water solubility	No information available	
Solubility in other solvents	No information available	
Partition coefficient	No information available	
Auto-ignition temperature	No information available	
Decomposition temperature	No information available	
Kinematic viscosity	No information available	
Dynamic viscosity	No information available	
Explosive properties	No information available	
Oxidizing properties	No information available	

Other Information

Softening point	No information available
Molecular weight	No information available
VOC Content (%)	No information available
Density	No information available
Bulk density	No information available

10. STABILITY AND REACTIVITY

Reactivity
No data available.

Chemical stability
Stable under recommended storage conditions.

Possibility of Hazardous Reactions
None under normal processing.

Conditions to Avoid
Extremes of temperature and direct sunlight.

Incompatible materials
None known based on information supplied.

Hazardous Decomposition Products
None known based on information supplied.

11. TOXICOLOGICAL INFORMATION

Information on likely routes of exposure

Product Information: No data available
Inhalation: None known.
Eye contact: None known.
Skin contact: None known.
Ingestion: No data available.

Information on toxicological effects

Symptoms: No information available.

Delayed and immediate effects as well as chronic effects from short and long-term exposure

Sensitization: No information available.
Germ cell mutagenicity: No information available.
Carcinogenicity: No information available.
Reproductive toxicity: No information available.
STOT - single exposure: No information available.
STOT - repeated exposure: No information available.
Aspiration hazard: No information available.

Numerical measures of toxicity - Product Information

ATEmix (oral)	99,999.00
ATEmix (dermal)	99,999.00
ATEmix (inhalation-gas)	99,999.00
ATEmix (inhalation-dust/mist)	99,999.00
ATEmix (inhalation-vapor)	99,999.00

12. ECOLOGICAL INFORMATION (non-mandatory)

Ecotoxicity

None known.
100% of the mixture consists of components(s) of unknown hazards to the aquatic environment.

Persistence and degradability

No information available.

Bioaccumulation

Bioaccumulative potential.

Other Adverse effects

No information available.

Ozone

Not applicable.

13. DISPOSAL CONSIDERATIONS (non-mandatory)

Waste treatment methods

Disposal of wastes: Disposal should be in accordance with applicable regional, national and local laws and regulations.
Contaminated packaging: Do not reuse container.

14. TRANSPORT INFORMATION (non-mandatory)

DOT: Not regulated
TDG: Not regulated
IATA: Not regulated
IMDG: Not regulated

15. REGULATORY INFORMATION (non-mandatory)

International Inventories

TSCA	Complies
DSL/NDSL	Complies
EINECS/ELINCS	Complies
ENCS	Does not comply
IECSC	Complies
KECL	Complies
PICCS	Complies
AICS	Complies

Legend:
TSCA - United States Toxic Substances Control Act Section 8(b) Inventory
DSL/NDSL - Canadian Domestic Substances List/Non-Domestic Substances List
EINECS/ELINCS - European Inventory of Existing Chemical Substances/European List of Notified Chemical Substances **ENCS** - Japan Existing and New Chemical Substances
IECSC - China Inventory of Existing Chemical Substances
KECL - Korean Existing and Evaluated Chemical Substances
PICCS - Philippines Inventory of Chemicals and Chemical Substances
AICS - Australian Inventory of Chemical Substances

US Federal Regulations

SARA 313
Section 313 of Title III of the Superfund Amendments and Reauthorization Act of 1986 (SARA). This product does not contain any chemicals which are subject to the reporting requirements of the Act and Title 40 of the Code of Federal Regulations, Part 372.

Sara 311/312 Hazard Categories

Acute health hazard	No
Chronic Health Hazard	No
Fire hazard	No
Sudden release of pressure hazard	No
Reactive Hazard	No

CWA (Clean Water Act)
This product does not contain any substances regulated as pollutants pursuant to the Clean Water Act (40 CFR 122.21 and 40 CFR 122.42)

CERCLA
This material, as supplied, contains one or more substances regulated as a hazardous substance under the Comprehensive Environmental Response Compensation and Liability Act (CERCLA) (40 CFR 302)

US State Regulations

California Proposition 65
This product does not contain any Proposition 65 chemicals

U.S. State Right-to-Know Regulations

U.S. EPA Label Information
EPA Pesticide Registration Number: Not applicable.

16. OTHER INFORMATION

This information provided on this Safety Data Sheet is correct to the best of our knowledge, information and belief at the date of its publication. The information given is designated only as a guide for safe handling, use, processing, storage, transportation, disposal and release and is not to be considered as a warranty or quality specification. The information relates only to the specific material designated and may not be valid for such material used in combination with any other material or in any process, unless specified in the text.

EPRO Services, Inc.
(800) 882-1896
eproinc.com

8/24/20

SAFETY DATA SHEET

According to Regulation (EC) No 1907/2006 (REACH)

1. PRODUCT IDENTIFICATION

Trade Name(s): e.roll (formerly ECOLINE-R)
Product Description: Polymer Modified Asphalt Emulsion
CAS No: N/A

Manufacturer / Supplier:
EPRO Services, Inc.
PO Box 347
Derby, KS 67037
800-882-1896 (8:00am – 5:00pm CST)

2. HAZARD(S) IDENTIFICATION

GHS-US Classification of the Substance or Mixture
Carc.2: H351
STOT RE 2: H373
Aquatic Chronic 3: H412
Full text of H-phrases: see Section 16

GHS-US Label Elements
Signal Word: Warning
Hazard Statements
- H351: Suspected of causing cancer
- H373: May cause damage to organs (thymus, liver, bone marrow) through prolonged or repeated exposure
- H412: Harmful to aquatic life with long lasting effects

Precautionary Statements
- P201: Obtain special instructions before use
- P202: Do not handle until all safety precautions have been read and understood
- P260: Do not breathe vapors, mist, and spray
- P273: Avoid release to the environment
- P280: Wear eye protection, protective clothing, and protective gloves
- P308+P313: If exposed or concerned, get medical advice/attention
- P314: Get medical advice/attention if you feel unwell
- P405: Store locked up
- P501: Dispose of contents/container in accordance with local, regional, national and international regulations

Other Hazards
Exposure may aggravate those with pre-existing eye, skin, or respiratory conditions. If stored under heat for extended periods or significantly agitated, this material might evolve or release hydrogen sulfide, a flammable gas, which can raise and widen this material's actual flammability limits and significantly lower its auto-ignition

temperature. Hydrogen sulfide is a toxic gas that can be fatal. It also has a rotten egg smell that causes odor fatigue very quickly and should not be used as an indicator for the presence of gas. Flammable vapors can accumulate in head space of closed system

Unknown Acute Toxicity (GHS-US)
Up to 30% of the mixture consists of ingredient(s) of unknown acute toxicity.

3. COMPOSITION/INFORMATION ON INGREDIENTS

Mixture

Name	Product Identifier	%	Classification (GHS-US)
Asphalt	(CAS No) 8052-42-4	50 - 70	Not classified
Water	(CAS No) 7732-18-5	30 - 40	Not classified
Acrysol		>1.3	Not classified
Ethanol	(CAS No) 34375-28-5	>.03	Not classified
Proprietary Polymer	Proprietary*	> 30	Not classified
Proprietary Hydrocarbon	Proprietary*	0 - 5	Flam. Liq. 3, H226 Acute Tox. 3 (Inhalation:vapor), H331 Skin Irrit. 2, H315 Carc. 2, H351 STOT RE 2, H373 Asp. Tox. 1, H304 Aquatic Acute 3, H402 Aquatic Chronic 2, H411

*The specific chemical identity and/or exact percentage of composition have been withheld as a trade secret within the meaning of the OSHA Hazard Communication Standard (29 CFR 1910.1200).
Full text of H-phrases: See Section 16

4. FIRST-AID MEASURES

Description of First Aid Measures
First-aid Measures General: Never give anything by mouth to an unconscious person. If you feel unwell, seek medical advice.
First-aid Measures after Inhalation: When symptoms occur go into open air and ventilate suspected area. Obtain medical attention if breathing difficulty persists.
First-aid Measures after Skin Contact: Remove contaminated clothing. Drench affected area with water for at least 15 minutes. Wash contaminated clothing before reuse. Obtain medical attention if irritation develops or persists.
First-aid Measures after Eye Contact: Rinse cautiously with water for at least 5 minutes. Remove contact lenses, if present and easy to do. Continue rinsing. Obtain medical attention if redness, pain, or irritation occurs.
First-aid Measures after Ingestion: Rinse mouth. Do NOT induce vomiting. Seek medical attention.

Most important symptoms and effects, both acute and delayed
Symptoms/Injuries: There are potential chronic health effects to consider.
Symptoms/Injuries after Inhalation: May cause respiratory irritation.
Symptoms/Injuries after Skin Contact: May cause skin irritation.
Symptoms/Injuries after Eye Contact: May cause eye irritation.
Symptoms/Injuries after Ingestion: Ingestion is likely to be harmful or have adverse effects.

Chronic Symptoms: May cause damage to organs (Thymus, Liver, Bone Marrow) through prolonged or repeated exposure. Suspected of causing cancer

Indication of Any Immediate Medical Attention and Special Treatment Needed

If you feel unwell, seek medical advice.

5. FIRE-FIGHTING MEASURES

Extinguishing Media

Suitable Extinguishing Media: Dry chemical powder, alcohol-resistant foam, carbon dioxide (CO_2).

Unsuitable Extinguishing Media: Do not use a heavy water stream. Use of heavy stream of water may spread fire.

Special Hazards Arising From the Substance or Mixture

Fire Hazard: Not considered flammable but will burn at high temperatures.

Explosion Hazard: Product is not explosive. Contains Sulfur. May release small amounts of hydrogen sulfide. Hydrogen sulfide is a highly flammable, explosive gas under certain conditions, is a toxic gas, and may be fatal. Gas can accumulate in the headspace of closed containers. Use caution when opening sealed containers. Heating the product or containers can cause thermal decomposition of the product and release hydrogen sulfide.

Reactivity: Hazardous reactions will not occur under normal conditions.

Advice for Firefighters

Precautionary Measures Fire: Exercise caution when fighting any chemical fire.

Firefighting Instructions: Do not allow run-off from firefighting to enter drains or water sources. Do not breathe fumes or vapors from fire. Use water spray or fog for cooling exposed containers.

Protection During firefighting: Do not enter fire area without proper protective equipment, including respiratory protection.

Other Information: Refer to Section 9 for flammability properties.

6. ACCIDENTAL RELEASE MEASURES

Personal Precautions, Protective Equipment and Emergency Procedures

General Measures: Use special care to avoid static electric charges. Keep away from heat, sparks, open flames, hot surfaces. – No smoking.

For Non-emergency Personnel

Protective Equipment: Use appropriate personal protection equipment (PPE).

Emergency Procedures: Evacuate unnecessary personnel.

For Emergency Responders

Protective Equipment: Equip cleanup crew with proper protection.

Emergency Procedures: Upon arrival at the scene, a first responder is expected to recognize the presence of dangerous goods, protect oneself and the public, secure the area, and call for the assistance of trained personnel as soon as conditions permit.

Environmental Precautions

Prevent entry to sewers and public waters.

Methods and Material for Containment and Cleaning Up

For Containment: Contain any spills with dikes or absorbents to prevent migration and entry into sewers or streams.

Methods for Cleaning Up: Clean up spills immediately and dispose of waste safely. Absorb and/or contain spill with inert material, then place in suitable container. Contact competent authorities after a spill.

Reference to Other Sections

See heading 8, Exposure Controls and Personal Protection. Concerning disposal elimination after cleaning, see item 13.

7. HANDLING AND STORAGE

Precautions for Safe Handling

Additional Hazards When Processed: Handle empty containers with care because residual vapors may be flammable.

Precautions for Safe Handling: Obtain special instructions before use. Do not handle until all safety precautions have been read and understood. Take precautionary measures against static discharge. Use only non-sparking tools. Keep away from heat, sparks, open flames, hot surfaces. – No smoking. Avoid breathing vapors, mist, spray.

Hygiene Measures: Handle in accordance with good industrial hygiene and safety procedures. Wash hands and other exposed areas with mild soap and water before eating, drinking, or smoking and again when leaving work.

Conditions for Safe Storage, Including Any Incompatibilities

Technical Measures: Proper grounding procedures to avoid static electricity should be followed. Ground/bond container and receiving equipment. Use explosion-proof electrical, lighting, ventilating equipment.

Storage Conditions: Store in a dry, cool, and well-ventilated place. Keep container closed when not in use.

Incompatible Products: Strong acids. Strong bases. Strong oxidizers.

Incompatible Materials: Heat sources.

Storage Temperature: > 0 °C (32 °F)

Storage Area: Store locked up.

Specific End Use(s): Asphalt Emulsion

8. EXPOSURE CONTROLS/PERSONAL PROTECTION

Control Parameters

For substances listed in Section 3 that are not listed here, there are no established exposure limits from the manufacturer, supplier, importer, or the appropriate advisory agency including: ACGIH (TLV, NIOSH (REL), or OSHA (PEL).

Asphalt (8052-42-4)		
USA ACGIH	ACGIH TWA (mg/m³)	0.5 mg/m³ (fume, inhalable fraction)
USA ACGIH	ACGIH chemical category	Not classifiable as a human carcinogen fume, coat tar-free
USA NIOSH	NIOSH REL (ceiling) (mg/m³)	5 mg/m³ (fume)

Proprietary Hydrocarbon		
USA ACGIH	ACGIH TWA (mg/m³)	100 mg/m³ (inhalable fraction and vapor)
USA ACGIH	ACGIH chemical category	Skin – potential significant contribution to overall exposure by the cutaneous route, Confirmed Animal Carcinogen with Unknown Relevance to Humans

Exposure Controls

Appropriate Engineering Controls: Proper grounding procedures to avoid static electricity should be followed. Use explosion-proof equipment. Take precautionary measures against static discharges. Ensure all national/local regulations are observed. Gas detectors should be used when flammable gases/vapors may be released.

Personal Protective Equipment: Protective goggles, gloves, protective clothing. Insufficient ventilation: wear respiratory protection.

Materials for Protective Clothing: Chemically resistant materials and fabrics.
Hand Protection: Wear chemically resistant protective gloves.
Eye Protection: Chemical safety goggles.
Skin and Body Protection: Wear suitable protective clothing.
Respiratory Protection: If exposure limits are exceeded or irritation is experienced, approved respiratory protection should be worn.
Thermal Hazard Protection: If material is hot, wear thermally resistant protective gloves.
Environmental Exposure Controls: Do not allow the product to be released into the environment.
Consumer Exposure Controls: Do not eat, drink, or smoke during use.
Other Information: When using, do not eat, drink, or smoke.

9. PHYSICAL AND CHEMICAL PROPERTIES

Physical State: Liquid
Odor: No data available
pH: No data available
Melting Point: Not applicable
Boiling Point: 100°C (212.00°F)
Auto-ignition Temperature: No data available
Flammability (solid, gas): No data available
Relative Vapor Density at 20°C: >1.0 (air=1)
Specific Gravity: 1.0+ / -0.2 at 60°F (15.6°C)
Viscosity: No data available

Appearance: Brown to Black
Order Threshold: No data available
Evaporation Rate: Slower (butyl acetate-1)
Freezing Point: No data available
Flash Point: No data available
Decomposition Temperature: No data available
Vapor Pressure: Not determined
Relative Density: No data available
Solubility: Water: miscible
Partition Coefficient: N-Octanol/Water: No data available

<u>Other Information</u>
VOC Content: 0
Volatiles (includes water): 30 - 50%

10. STABILITY AND REACTIVITY

Reactivity: Hazardous reactions will not occur under normal conditions.
Chemical Stability: Stable under recommended handling and storage conditions (see section 7).
Possibility of Hazardous Reactions: Hazardous polymerization will not occur.
Conditions to Avoid: Direct sunlight. Extremely high or low temperatures. Open flame. Overheating. Heat. Sparks. Do not freeze.
Incompatible Materials: Strong acids. Strong bases. Strong oxidizers.
Hazardous Decomposition Products: May release flammable gases. Thermal decomposition generates: Carbon oxides
(CO, CO2). Nitrogen oxides. Hydrogen sulfide. Sulfur dioxide. Irritating or toxic vapors.

11. TOXICOLOGICAL INFORMATION

Acute Toxicity: Not classified

Asphalt (8052-42-4	
LD50 Oral Rat	> 5000 mg/kg
LD50 Dermal Rabbit	> 2000 mg/kg

Proprietary Hydrocarbon	
LD50 Dermal Rabbit	4720 µl/kg
LD50 Inhalation Rat	4.6 mg/l/4h

Skin Corrosion/Irritation: Not classified
Serious Eye Damage/Irritation: Not classified
Respiratory or Skin Sensitization: Not classified
Germ Cell Mutagenicity: Not classified
Carcinogenicity: Suspected of causing cancer.

Asphalt (8052-42-4)	
IARC Group	2B
National Toxicology Program (NTP) Status	Twelfth Report-Items under consideration
OSHA Hazard Communication Carcinogen List	In OSHA Hazard Communication Carcinogen list

Proprietary Polymer	
IARC group	3

Reproductive Toxicity: Not classified
Specific Target Organ Toxicity (Single Exposure): Not classified
Specific Target Organ Toxicity (Repeated Exposure): May cause damage to organs through prolonged or repeated exposure.
Aspiration Hazard: Not classified
Symptoms/Injuries after Inhalation: May cause respiratory irritation.
Symptoms/Injuries after Skin Contact: May cause skin irritation.
Symptoms/Injuries after Eye Contact: May cause eye irritation.
Symptoms/Injuries after Ingestion: Ingestion is likely to be harmful or have adverse effects.
Chronic Symptoms: May cause damage to organs (Thymus, Liver, Bone Marrow) through prolonged or repeated exposure. Suspected of causing cancer.

12. ECOLOGICAL INFORMATION

Ecology – General: This material is hazardous to the aquatic environment. Keep out of sewers and waterways.
Ecology – Water: Harmful to aquatic life with long-lasting effects.

Proprietary Hydrocarbon	
LC50 Fish 1	35 mg/l (Exposure time: 96 h – Species: Pimephales promelas (flow-through))

Persistence and Degradability: Not established.
Bioaccumulative Potential: Not established

Asphalt (8052-42-4)	
BCF fish 1	(no bioaccumulation expected)
Log Pow	> 6

Mobility in Soil: No additional information available.
Other Adverse Effects: Avoid release to the environment.

13. DISPOSAL CONSIDERATIONS

Waste treatment methods
Sewage Disposal Recommendations: Do not empty into drains. Do not dispose of waste into sewer.
Waste Disposal Recommendations: Dispose of waste material in accordance with all local, regional, national, and international regulations.
Additional Information: Handle empty containers with care because residual vapors are flammable.

14. TRANSPORT INFORMATION

DOT: Not regulated for transport
IMDG: Not regulated for transport
IATA: Not regulated for transport

15. REGULATORY INFORMATION (non-mandatory)

US Federal Regulations

SARA Section 311/312 Hazard Classes: Delayed (chronic) health hazard

TSCA (Toxic Substances Control Act) Inventory – Asphalt (8052-42-4): Listed
TSCA (Toxic Substances Control Act) Inventory – Water (7732-18-5): Listed
TSCA (Toxic Substances Control Act) Inventory – Proprietary Hydrocarbon: Listed
TSCA (Toxic Substances Control Act) Inventory – Proprietary Polymer: Listed

US State Regulations

Asphalt (8052-42-4)
Massachusetts: Right to Know List
New Jersey: Right to Know Hazardous Substance List
Pennsylvania: RTK (Right to Know) List

16. OTHER INFORMATION

GHS Full Text Phrases

Acute Tox. 3 (Inhalation:vapor)	Acute toxicity (inhalation:vapor) Category 3
Aquatic Acute 3	Hazardous to the aquatic environment - Acute Hazard Category 3
Aquatic Chronic 2	Hazardous to the aquatic environment - Chronic Hazard Category 2
Aquatic Chronic 3	Hazardous to the aquatic environment - Chronic Hazard Category 3
Asp. Tox. 1	Aspiration hazard Category 1
Carc. 2	Carcinogenicity Category 2
Flam. Liq. 3	Flammable liquids Category 3
Skin Irrit. 2	Skin corrosion/irritation Category 2
STOT RE 2	Specific target organ toxicity (repeated exposure) Category 2
H226	Flammable liquid and vapor
H304	May be fatal if swallowed and enters airways
H315	Causes skin irritation
H331	Toxic if inhaled
H351	Suspected of causing cancer
H373	May cause damage to organs through prolonged or repeated exposure
H402	Harmful to aquatic life
H411	Toxic to aquatic life with long lasting effects
H412	Harmful to aquatic life with long lasting effects

NFPA Health Hazard: 1 – exposure could cause irritation but only minor residual injury even if not treatment is given.

NFPA Fire Hazard: 1 – must be preheated before ignition can occur

NFPA Reactivity: 0 – normally stable, even under fire exposure conditions, and are not reactive with water

This information provided on this Safety Data Sheet is correct to the best of our knowledge, information, and belief at the date of its publication. The information given is designated only as a guide for safe handling, use, processing, storage, transportation, disposal, and release and is not to be considered as a warranty or quality specification. The information relates only to the specific material designated and may not be valid for such material used in combination with any other material or in any process, unless specified in the text.

EPRO Services, Inc.
(800) 882-1896
eproinc.com

8/24/20

SAFETY DATA SHEET

According to Regulation (EC) No 1907/2006 (REACH)

1. PRODUCT IDENTIFICATION

Trade Name(s): e.spray (formerly ECOLINE-S), ECOBASE, ECODAMP
Product Description: Polymer Modified Asphalt Emulsion
CAS No: N/A

Manufacturer / Supplier:
EPRO Services, Inc.
PO Box 347
Derby, KS 67037
800-882-1896 (8:00am – 5:00pm CST)

2. HAZARD(S) IDENTIFICATION

GHS-US Classification of the Substance or Mixture
Carc.2: H351
STOT RE 2: H373
Aquatic Chronic 3: H412
Full text of H-phrases: see Section 16

GHS-US Label Elements
Signal Word: Warning
Hazard Statements
- H351: Suspected of causing cancer
- H373: May cause damage to organs (thymus, liver, bone marrow) through prolonged or repeated exposure
- H412: Harmful to aquatic life with long lasting effects

Precautionary Statements
- P201: Obtain special instructions before use
- P202: Do not handle until all safety precautions have been read and understood
- P260: Do not breathe vapors, mist, and spray
- P273: Avoid release to the environment
- P280: Wear eye protection, protective clothing, and protective gloves
- P308+P313: If exposed or concerned, get medical advice/attention
- P314: Get medical advice/attention if you feel unwell
- P405: Store locked up
- P501: Dispose of contents/container in accordance with local, regional, national, and international regulations

Other Hazards
Exposure may aggravate those with pre-existing eye, skin, or respiratory conditions. If stored under heat for extended periods or significantly agitated, this material might evolve or release hydrogen sulfide, a flammable gas, which can raise and widen this material's actual flammability limits and significantly lower its auto-ignition

temperature. Hydrogen sulfide is a toxic gas that can be fatal. It also has a rotten egg smell that causes odor fatigue very quickly and should not be used as an indicator for the presence of gas. Flammable vapors can accumulate in head space of closed system

Unknown Acute Toxicity (GHS-US)
Up to 30% of the mixture consists of ingredient(s) of unknown acute toxicity.

3. COMPOSITION/INFORMATION ON INGREDIENTS

Mixture

Name	Product Identifier	%	Classification (GHS-US)
Asphalt	(CAS No) 8052-42-4	50 - 70	Not classified
Water	(CAS No) 7732-18-5	30 - 40	Not classified
Proprietary Polymer	Proprietary*	< 30	Not classified
Proprietary Hydrocarbon	Proprietary*	0 - 5	Flam. Liq. 3, H226 Acute Tox. 3 (Inhalation:vapor), H331 Skin Irrit. 2, H315 Carc. 2, H351 STOT RE 2, H373 Asp. Tox. 1, H304 Aquatic Acute 3, H402 Aquatic Chronic 2, H411

*The specific chemical identity and/or exact percentage of composition have been withheld as a trade secret within the meaning of the OSHA Hazard Communication Standard (29 CFR 1910.1200).
Full text of H-phrases: See Section 16

4. FIRST-AID MEASURES

Description of First Aid Measures
First-aid Measures General: Never give anything by mouth to an unconscious person. If you feel unwell, seek medical advice.
First-aid Measures after Inhalation: When symptoms occur go into open air and ventilate suspected area. Obtain medical attention if breathing difficulty persists.
First-aid Measures after Skin Contact: Remove contaminated clothing. Drench affected area with water for at least 15 minutes. Wash contaminated clothing before reuse. Obtain medical attention if irritation develops or persists.
First-aid Measures after Eye Contact: Rinse cautiously with water for at least 5 minutes. Remove contact lenses, if present and easy to do. Continue rinsing. Obtain medical attention if redness, pain, or irritation occurs.
First-aid Measures after Ingestion: Rinse mouth. Do NOT induce vomiting. Seek medical attention.

Most important symptoms and effects, both acute and delayed
Symptoms/Injuries: There are potential chronic health effects to consider.
Symptoms/Injuries after Inhalation: May cause respiratory irritation.
Symptoms/Injuries after Skin Contact: May cause skin irritation.
Symptoms/Injuries after Eye Contact: May cause eye irritation.
Symptoms/Injuries after Ingestion: Ingestion is likely to be harmful or have adverse effects.
Chronic Symptoms: May cause damage to organs (Thymus, Liver, Bone Marrow) through prolonged or repeated exposure. Suspected of causing cancer

Indication of Any Immediate Medical Attention and Special Treatment Needed
If you feel unwell, seek medical advice.

5. FIRE-FIGHTING MEASURES

Extinguishing Media
Suitable Extinguishing Media: Dry chemical powder, alcohol-resistant foam, carbon dioxide (CO_2).
Unsuitable Extinguishing Media: Do not use a heavy water stream. Use of heavy stream of water may spread fire. Application of water stream to hot product may cause frothing and increase fire intensity.

Special Hazards Arising from the Substance or Mixture
Fire Hazard: Will not support combustion unless the water has evaporated.
Explosion Hazard: Product is not explosive. Contains Sulfur, may release small amounts of hydrogen sulfide. Hydrogen sulfide is a highly flammable, explosive gas under certain conditions, is a toxic gas, and may be fatal. Gas can accumulate in the headspace of closed containers, use caution when opening sealed containers. Heating the product or containers can cause thermal decomposition of the product and release hydrogen sulfide.
Reactivity: Hazardous reactions will not occur under normal conditions.

Advice for Firefighters
Precautionary Measures Fire: Exercise caution when fighting any chemical fire.
Firefighting Instructions: Do not allow run-off from firefighting to enter drains or water sources. Do not breathe fumes or vapors from fire. Use water spray or fog for cooling exposed containers.
Protection During firefighting: Do not enter fire area without proper protective equipment, including respiratory protection.
Other Information: Refer to Section 9 for flammability properties.

6. ACCIDENTAL RELEASE MEASURES

Personal Precautions, Protective Equipment and Emergency Procedures
General Measures: Use special care to avoid static electric charges. Keep away from heat, sparks, open flames, hot surfaces. – No smoking.

For Non-emergency Personnel
Protective Equipment: Use appropriate personal protection equipment (PPE).
Emergency Procedures: Evacuate unnecessary personnel.

For Emergency Responders
Protective Equipment: Equip cleanup crew with proper protection.
Emergency Procedures: Upon arrival at the scene, a first responder is expected to recognize the presence of dangerous goods, protect oneself and the public, secure the area, and call for the assistance of trained personnel as soon as conditions permit.

Environmental Precautions
Prevent entry to sewers and public waters.

Methods and Material for Containment and Cleaning Up
For Containment: Contain any spills with dikes or absorbents to prevent migration and entry into sewers or streams.

Methods for Cleaning Up: Clean up spills immediately and dispose of waste safely. Absorb and/or contain spill with inert material, then place in suitable container. Contact competent authorities after a spill.

Reference to Other Sections

See heading 8, Exposure Controls and Personal Protection. Concerning disposal elimination after cleaning, see item 13.

7. HANDLING AND STORAGE

Precautions for Safe Handling

Additional Hazards When Processed: Handle empty, enclosed containers with care because residual vapors may be flammable.

Precautions for Safe Handling: Obtain special instructions before use. Do not handle until all safety precautions have been read and understood. Take precautionary measures against static discharge. Use only non-sparking tools. Keep away from heat, sparks, open flames, hot surfaces. – No smoking. Avoid breathing vapors, mist, spray.

Hygiene Measures: Handle in accordance with good industrial hygiene and safety procedures. Wash hands and other exposed areas with mild soap and water before eating, drinking, or smoking and again when leaving work.

Conditions for Safe Storage, Including Any Incompatibilities

Technical Measures: Proper grounding procedures to avoid static electricity should be followed. Ground/bond container and receiving equipment. Use explosion-proof electrical, lighting, ventilating equipment.

Storage Conditions: Store in a dry, cool, and well-ventilated place. Keep container closed when not in use.

Incompatible Products: Strong acids. Strong bases. Strong oxidizers.

Incompatible Materials: Heat sources.

Storage Temperature: > 0 °C (32 °F)

Storage Area: Store locked up.

Specific End Use(s): Asphalt Emulsion

8. EXPOSURE CONTROLS/PERSONAL PROTECTION

Control Parameters

For substances listed in Section 3 that are not listed here, there are no established exposure limits from the manufacturer, supplier, importer, or the appropriate advisory agency including: ACGIH (TLV, NIOSH (REL), or OSHA (PEL).

Asphalt (8052-42-4)		
USA ACGIH	ACGIH TWA (mg/m³)	0.5 mg/m³ (fume, inhalable fraction)
USA ACGIH	ACGIH chemical category	Not classifiable as a human carcinogen fume, coat tar-free
USA NIOSH	NIOSH REL (ceiling) (mg/m³)	5 mg/m³ (fume)

Proprietary Hydrocarbon		
USA ACGIH	ACGIH TWA (mg/m³)	100 mg/m³ (inhalable fraction and vapor)
USA ACGIH	ACGIH chemical category	Skin – potential significant contribution to overall exposure by the cutaneous route, Confirmed Animal Carcinogen with Unknown Relevance to Humans

Exposure Controls

Appropriate Engineering Controls: Proper grounding procedures to avoid static electricity should be followed. Use explosion-proof equipment. Take precautionary measures against static discharges. Ensure all national/local regulations are observed. Gas detectors should be used when flammable gases/vapors may be released.

Personal Protective Equipment: Protective goggles, gloves, protective clothing. Insufficient ventilation: wear respiratory protection.

Materials for Protective Clothing: Chemically resistant materials and fabrics.
Hand Protection: Wear chemically resistant protective gloves.
Eye Protection: Chemical safety goggles.
Skin and Body Protection: Wear suitable protective clothing.
Respiratory Protection: If exposure limits are exceeded or irritation is experienced, approved respiratory protection should be worn.
Thermal Hazard Protection: If material is hot, wear thermally resistant protective gloves.
Environmental Exposure Controls: Do not allow the product to be released into the environment.
Consumer Exposure Controls: Do not eat, drink, or smoke during use.
Other Information: When using, do not eat, drink, or smoke.

9. PHYSICAL AND CHEMICAL PROPERTIES

Physical State: Liquid
Odor: No data available
pH: No data available
Melting Point: Not applicable
Boiling Point: 100°C (212.00°F)
Auto-ignition Temperature: No data available
Flammability (solid, gas): No data available
Relative Vapor Density at 20°C: >1.0 (air=1)
Specific Gravity: 1.0+ / -0.2 at 60°F (15.6°C)
Viscosity: No data available

Appearance: Brown to Black
Order Threshold: No data available
Evaporation Rate: Slower (butyl acetate-1)
Freezing Point: No data available
Flash Point: No data available
Decomposition Temperature: No data available
Vapor Pressure: Not determined
Relative Density: No data available
Solubility: Water: miscible
Partition Coefficient: N-Octanol/Water: No data available

Other Information

VOC Content: 0%
Volitales (includes water): 30 - 50%

10. STABILITY AND REACTIVITY

Reactivity: Hazardous reactions will not occur under normal conditions.
Chemical Stability: Stable under recommended handling and storage conditions (see section 7).
Possibility of Hazardous Reactions: Hazardous polymerization will not occur.
Conditions to Avoid: Direct sunlight. Extremely high or low temperatures. Open flame. Overheating. Heat. Sparks. Do not freeze.
Incompatible Materials: Strong acids. Strong bases. Strong oxidizers.
Hazardous Decomposition Products: May release flammable gases. Thermal decomposition generates: Carbon oxides
(CO, CO2). Nitrogen oxides. Hydrogen sulfide. Sulfur dioxide. Irritating or toxic vapors.

11. TOXICOLOGICAL INFORMATION

Acute Toxicity: Not classified

Asphalt (8052-42-4	
LD50 Oral Rat	> 5000 mg/kg
LD50 Dermal Rabbit	> 2000 mg/kg

Proprietary Hydrocarbon	
LD50 Dermal Rabbit	4720 µl/kg
LD50 Inhalation Rat	4.6 mg/l/4h

Skin Corrosion/Irritation: Not classified
Serious Eye Damage/Irritation: Not classified
Respiratory or Skin Sensitization: Not classified
Germ Cell Mutagenicity: Not classified
Carcinogenicity: Suspected of causing cancer.

Asphalt (8052-42-4)	
IARC Group	2B
National Toxicology Program (NTP) Status	Twelfth Report-Items under consideration
OSHA Hazard Communication Carcinogen List	In OSHA Hazard Communication Carcinogen list

Proprietary Polymer	
IARC group	3

Reproductive Toxicity: Not classified
Specific Target Organ Toxicity (Single Exposure): Not classified
Specific Target Organ Toxicity (Repeated Exposure): May cause damage to organs through prolonged or repeated exposure.
Aspiration Hazard: Not classified
Symptoms/Injuries after Inhalation: May cause respiratory irritation.
Symptoms/Injuries after Skin Contact: May cause skin irritation.
Symptoms/Injuries after Eye Contact: May cause eye irritation.
Symptoms/Injuries after Ingestion: Ingestion is likely to be harmful or have adverse effects.
Chronic Symptoms: May cause damage to organs (Thymus, Liver, Bone Marrow) through prolonged or repeated exposure. Suspected of causing cancer.

12. ECOLOGICAL INFORMATION

Ecology – General: This material is hazardous to the aquatic environment. Keep out of sewers and waterways.
Ecology – Water: Harmful to aquatic life with long-lasting effects.

Proprietary Hydrocarbon	
LC50 Fish 1	35 mg/l (Exposure time: 96 h – Species: Pimephales promelas (flow-through))

Persistence and Degradability: Not established.
Bioaccumulative Potential: Not established

Asphalt (8052-42-4)	
BCF fish 1	(no bioaccumulation expected)
Log Pow	> 6

Mobility in Soil: No additional information available.
Other Adverse Effects: Avoid release to the environment.

13. DISPOSAL CONSIDERATIONS

Waste treatment methods
Sewage Disposal Recommendations: Do not empty into drains. Do not dispose of waste into sewer.
Waste Disposal Recommendations: Dispose of waste material in accordance with all local, regional, national, and international regulations.
Additional Information: Handle empty containers with care because residual vapors are flammable.

14. TRANSPORT INFORMATION

DOT: Not regulated for transport
IMDG: Not regulated for transport
IATA: Not regulated for transport

15. REGULATORY INFORMATION (non-mandatory)

US Federal Regulations

SARA Section 311/312 Hazard Classes: Delayed (chronic) health hazard

TSCA (Toxic Substances Control Act) Inventory – Asphalt (8052-42-4): Listed
TSCA (Toxic Substances Control Act) Inventory – Water (7732-18-5): Listed
TSCA (Toxic Substances Control Act) Inventory – Proprietary Hydrocarbon: Listed
TSCA (Toxic Substances Control Act) Inventory – Proprietary Polymer: Listed

US State Regulations

Asphalt (8052-42-4)
Massachusetts: Right to Know List
New Jersey: Right to Know Hazardous Substance List
Pennsylvania: RTK (Right to Know) List

16. OTHER INFORMATION

GHS Full Text Phrases

Acute Tox. 3 (Inhalation:vapor)	Acute toxicity (inhalation:vapor) Category 3
Aquatic Acute 3	Hazardous to the aquatic environment - Acute Hazard Category 3
Aquatic Chronic 2	Hazardous to the aquatic environment - Chronic Hazard Category 2
Aquatic Chronic 3	Hazardous to the aquatic environment - Chronic Hazard Category 3
Asp. Tox. 1	Aspiration hazard Category 1
Carc. 2	Carcinogenicity Category 2
Flam. Liq. 3	Flammable liquids Category 3
Skin Irrit. 2	Skin corrosion/irritation Category 2
STOT RE 2	Specific target organ toxicity (repeated exposure) Category 2
H226	Flammable liquid and vapor
H304	May be fatal if swallowed and enters airways
H315	Causes skin irritation
H331	Toxic if inhaled
H351	Suspected of causing cancer
H373	May cause damage to organs through prolonged or repeated exposure
H402	Harmful to aquatic life
H411	Toxic to aquatic life with long lasting effects
H412	Harmful to aquatic life with long lasting effects

NFPA Health Hazard: 1 – exposure could cause irritation but only minor residual injury even if not treatment is given.

NFPA Fire Hazard: 1 – must be preheated before ignition can occur

NFPA Reactivity: 0 – normally stable, even under fire exposure conditions, and are not reactive with water

This information provided on this Safety Data Sheet is correct to the best of our knowledge, information, and belief at the date of its publication. The information given is designated only as a guide for safe handling, use, processing, storage, transportation, disposal, and release and is not to be considered as a warranty or quality specification. The information relates only to the specific material designated and may not be valid for such material used in combination with any other material or in any process, unless specified in the text.

E.PROFORMANCE SLIPSHEET FOR NON-HYDROSTATIC BLINDSIDE WATERPROOFING

SECTION 07 14 16 – COLD FLUID-APPLIED WATERPROOFING

PART 1 - GENERAL

1.1 RELATED DOCUMENTS

A. Drawings and general provisions of the contract, including general and supplementary conditions, and Division 1 specification section, apply to this section.

1.2 SECTION INCLUDES

A. The installation of materials designed to provide below grade waterproofing and vapor intrusion protection when installed per project specification, this section covers the waterproofing and vapor intrusion membrane, along with the following:

1. Surface preparation and substrate treatment
2. Auxiliary materials
3. Prefabricated drainage mat
4. Foundation drain

1.3 RELATED SECTIONS

A. Section 02 24 00: Environmental Assessment

B. Section 02 32 00: Geotechnical Investigation

C. Section 03 15 00: Concrete Accessories

D. Section 03 30 00: Cast-in-Place Concrete

E. Section 03 40 00: Precast Concrete

F. Section 07 90 00: Joint Protection

G. Section 31 30 00: Earthwork Methods

H. Section 33 41 00: Subdrainage

1.4 PERFORMANCE REQUIREMENTS

A. General: Provide a waterproofing system that prevents the passage of water under non-hydrostatic conditions, methane gas, contaminant vapor, and complies with the physical requirements as demonstrated by testing performed by an independent testing agency.

1.5 SUBMITTALS

A. Product Data: For each type of waterproofing specified submit manufacturer's printed technical data, tested physical and performance properties, instructions for evaluating, preparing, and treating substrates, and installation instructions.

B. Shop Drawings: Project specific drawings showing locations and extent of waterproofing, details for substrate joints and cracks, sheet flashing, penetrations, transitions, and termination conditions.

C. Samples: Submit two standard size samples of each of the following:

1. Individual components of the specified composite membrane system.

D. Applicator Certification: Submit written confirmation at the time of bid that applicator is currently approved by the membrane manufacturer.

1.6 QUALITY ASSURANCE

A. Applicator Qualifications: Waterproofing applicator shall be an EPRO Authorized Applicator who is trained and performs work that in accordance with EPRO standards and policies. For project requiring a no-dollar-limit labor and material warranty, the waterproofing applicator must be E.Assurance Certified at the time of bid.

B. Third Party Inspection: Independent inspection of the composite system installation may be required based on project conditions and desired warranty coverage. Inspection reports shall be submitted directly to the composite waterproofing manufacturer and made available to other parties per the owners' direction. For projects requiring a no-dollar-limit labor and material warranty, an independent inspector must be E.Assurance Certified and comply with the documentation requirements.

C. Pre-Construction Meeting: A meeting shall be held prior to application of the waterproofing system to assure proper substrate preparation, confirm installation conditions, and any additional project specific requirements. Attendees of the meeting shall include, but are not limited to the following:

1. EPRO representative
2. EPRO certified applicator
3. Third party inspector
4. General contractor
5. Owners representative
6. Concrete/Shotcrete contractor
7. Rebar contractor
8. Project design team
9. All appropriate related trades

D. Field Sample: Apply waterproofing system field sample to 100 ft^2 (9.3 m^2) of each assembly to demonstrate proper application techniques and standard of workmanship.

1. Notify composite membrane system manufacturer representative, architect, certified inspector, and other appropriate parties one week in advance of the dates and times when field sample will be prepared.

2. If architect and certified inspector determine that field sample does not meet requirements; reapply composite membrane system until field sample is approved.

3. Retain and maintain approved field sample during construction in an undisturbed condition as a standard for judging the completed composite membrane system. An undamaged field sample may become part of the completed work.

E. Materials: Composite membrane system and auxiliary materials shall be single sourced.

1.7 MATERIAL DELIVERY, STORAGE AND DISPOSAL

A. Delivery: Deliver materials to site labeled with manufacturer's name, product brand name, material type, and date of manufacture. Upon the arrival of materials to the jobsite, inspect materials to confirm material has not been damaged during transit.

B. Storage: Proper storage of onsite materials is the responsibility of the certified applicator. Consult product data sheets to confirm storage requirements. Storage area shall be clean, dry, and protected from the elements. If ambient air temperatures are expected to fall below 40°F, precautions will need to be taken to protect any polymer modified asphalt product from near freezing temperatures. Protect stored materials from direct sunlight.

C. Disposal: Remove and replace any material that cannot be properly applied in accordance with local regulations and specification section 01 74 19.

1.8 PROJECT CONDITIONS

A. Substrate Review: Substrates shall be reviewed by the certified applicator and accepted prior to application.

B. Penetrations: All plumbing, electrical, mechanical, and structural items to be passing through the composite membrane system shall be properly spaced, positively secured in their proper positions, and appropriately protected prior to system application and throughout the construction phase. Braided grounding rods are not allowed to pass through the membrane in waterproofing applications.

C. Reinforcement Steel: Waterproof membrane shall be installed before placement of reinforcing steel. Any anchor bolts, or other methods, of securing reinforcement steel must be in place prior to the application of the polymer modified asphalt. Piano wire, shotcrete wire rods, or similar methodologies, are prohibited from penetrating the system post installation. When penetrations occur after the system is installed, it is the responsibility of the general contractor to notify the waterproofing applicator to immediately make repairs prior to the placement of overburden.

D. Clearance: Minimum clearance of 24 inches is required for application of spray applied polymer modified asphalt, ***e.spray***. For areas with less than 24-inch clearance, the product may be applied by hand using ***e.roll***.

E. Overspray: Protect all adjacent areas not receiving waterproofing. Masking is necessary to prevent unwanted overspray from adhering to, or staining, areas not receiving the membrane. Once ***e.spray*** adheres to a surface it is extremely difficult to remove.

F. Weather Limitations: Perform work only when existing and forecast weather conditions are within manufacturer's recommendations.

1. Spray Applied Polymer Modified Asphalt Membrane: Minimum ambient temperature must be 40°F (7°C) and rising. For applications temperatures below 38 degrees, but greater than +19ºF/-7ºC, special equipment and material handling is needed. Substrate shall be clean and free from standing moisture.

2. EPRO applicators reserve the right not to install product when application conditions might be within manufactures acceptance, but ambient conditions may limit a successful application.

1.9 WARRANTY

A. Special Warranty: Submit a written warranty signed by waterproofing manufacturer agreeing to replace system materials that do not conform with manufactures published specifications, or are deemed to be defective. Warranty does not include failure of waterproofing due to failure of soil substrate prepared and treated according to requirements or formation of new joints and cracks in the specially applied concrete that exceed 1/8 inch (3.175 mm) in width.

1. Warranty Period: 5 years after date of substantial completion. Longer warranty periods are available upon request.

2. Coverage: Manufacturer will guarantee that the material provided is free of defects for the warranty period.

B. Additional Warranty Options: Upgraded warranties are available by contacting the manufacturer. These warranties may have additional requirements and approval must be granted in accordance to the manufacturer's warranty requirements. Additional warranty options include:

1. Standard Labor and Material (E.Series L&M): Manufacturer will provide non-prorated coverage for the warranty term, agreeing to repair or replace material that does not meet requirements or remain watertight.

2. No-Dollar-Limit Labor and Material Warranty (E.Assurance NDL): Manufacturer will provide a non-prorated, no-dollar-limit, coverage for the warranty term, agreeing to repair or replace material that does not meet requirements or remain watertight.

PART 2 - PRODUCTS

2.1 MANUFACTURERS

A. Acceptable Manufacturer: EPRO Services, Inc. (EPRO), P.O. Box 347; Derby, KS 67037; Tel: (800) 882-1896; Email: Info@eproinc.com; Web: www.eproinc.com

B. Shoring Walls: E.Proformance Slipsheet Shoring (70 to 75 mils) – ***e.drain 12ds***, ***e.drain***, ***e.base 205*** ***e.spray*** (60 mils),

2.2 SYSTEM PHYSICAL PROPERTIES

A. The physical properties listed in this section reflect testing on the entire composite system. Physical properties of the individual system composite can be found in Specification Section 2.3.

1. **E.Proformance Slipsheet** is designed to allow for the waterproofing to stay fully bonded as the foundation wall contracts away from the shoring. A 60 mil layer of ***e.spray*** (polymer modified asphaltic membrane) is applied directly to the geotextile side of ***e.base 205*** (geotextile reinforced HDPE sheet membrane). E.Proformance Slipsheet shoring assembly provides ideal waterproofing protection for structures without significant presence of water.

PROPERTIES	TEST METHOD	VALUE
Tensile Strength	ASTM D412	926 psi
Elongation	ASTM D412	763%
Adhesion to Concrete	ASTM D903	15.6 lbf/in
Puncture Resistance	ASTM D1709	220 lbf
Hydrostatic Head Resistance	ASTM D5385	100 psi (231 ft)
Water Vapor Transmission	ASTM E96	.021 perms

2.3 WATERPROOFING MATERIALS

A. Polymer Modified Asphalt

1. ***e.spray***: ***e.spray*** is a non-hazardous, low-viscosity, water-based, anionic asphalt emulsion modified with a blend of synthetic polymerized rubbers and proprietary additives. ***e.spray*** is highly stable during transit and proper storage, but becomes highly reactive during the spray application to form a rapidly cured membrane with exceptional bonding, elongation, and hydrophobic characteristics.

PROPERTIES	TEST METHOD	VALUE
Color		Brown to Black
Solvent Content		No Solvents
Shelf Life		6 Months
Tensile Strength	ASTM D412	32 psi
Elongation	ASTM D412	4140%
Resistance to Decay	ASTM E154 Section 13	4% Perm Loss
Accelerated Aging	ASTM G23	No Effect
Moisture Vapor Transmission	ASTM E96	0.026 g/ft²/hr
Hydrostatic Water Pressure	ASTM D751	26 psi
Perm Rating	ASTM E96	0.21 perms
Methane Transmission Rate	ASTM D1434	0
Adhesion to Concrete & Masonry	ASTM C836 & C704	20 lbf/inch
Adhesion to HDPE	ASTM C836	28.363 lbf/inch
Adhesion to Polypropylene Fabric	ASTM C836	31.19 lbf/inch
Hardness	ASTM C836	80
Crack Bridging	ASTM C836-00	No Cracking
Low Temp. Flexibility		No Cracking at -20° C
Packaging: 55 gallon drum, 275 gallon tote, 330 gallon tote		

2. ***e.roll***: ***e.roll*** is a medium viscosity water-based, polymer-modified anionic asphalt emulsion, which exhibits exceptional bonding, elongation and waterproofing characteristics.

PROPERTIES	TEST METHOD	VALUE
Color		Brown to Black
Solvent Content		No Solvents
Shelf Life		6 Months
Tensile Strength	ASTM D412	32 psi
Elongation	ASTM D412	3860%
Resistance to Decay	ASTM E154 SECTION 13	9% Perm Loss
Accelerated Aging	ASTM G23	No Effect
Moisture Vapor Transmission	ASTM E96	0.071 g/ft²/hr
Hydrostatic Water Pressure	ASTM D751	28 psi
Perm Rating	ASTM E96	0.17 perm
Methane Transmission Rate	ASTM D14334	0
Adhesion to Concrete & Masonry	ASTM C836	1 lbf/inch
sHardness	ASTM C836	85
Crack Bridging	ASTM C836	No Cracking
Low Temp. Flexibility	ASTM C836-00	No Cracking at -20° C
Packaging: 5 gallon bucket		

B. Geocomposite Base Sheet

1. **e.base 205**: **e.base 205** is a base course comprised of an HDPE film and non-woven polypropylene geotextile fabric. The film in cross laminated to a create ridges that enhance the bond between the **e.base 205** and **e.spray**.

PROPERTIES	TEST METHOD	VALUE	
Film Material			HDPE
Film Color			Gray
Fabric Material			Non-woven Polypropylene
Fabric Color			White
Film Thickness			5 Mil
Composite Thickness			18 Mil
Tensile @ ULT	ASTM D882	TD:	32.0 lbs/in
		MD:	37.3 lbs/in
Elongation @ ULT	ASTM D882	TD:	65.3%
		MD:	51.0%
Dart Impact	ASTM D1709	Method A:	>1070 grams
		Method B:	894 grams
Modulus	ASTM D882	TD:	270.6 lbs/in
		MD:	295.5 lbs/in
Elmendorf Tear	ASTM D1922	TD:	5,140 grams
		MD:	5,260 grams
Puncture-Prop Tear	ASTM D2582	TD:	13,250 grams Sled: 1-lb
		MD:	11,290 grams Sled: 1-lb
Beach Puncture Tear	ASTM D751	TD:	165 in-lbs
		MD:	160 in-lbs
Water Permeance	ASTM E96		0.11 perms
Dimensions: 12' x 150'			
Weight: 108 pounds			

C. Prefabricated Drainage

1. ***e.drain 6000***: ***e.drain 6000*** features a lightweight three-dimensional, highly flexible high density polyethylene (HDPE) core and a polypropylene geotextile filter fabric. The filter fabric is bonded to the dimples of the HDPE core.

PROPERTIES	TEST METHOD	VALUE
DIMPLED CORE		
Core Material		Polypropylene
Color		Black
Dimple Height	ASTM D1777-96	0.4" (10.16 mm)
Compressive Strength	ASTM D6364-06	16,500 psf (790 kN/m²)
Flow rate	ASTM D4716	21 gal/min/ft
FILTER FABRIC		
Grab Tensile	ASTM D4632-91	100 lbs
CBR Puncture resistance	ASTM D6241	250 lbs
Apparent Operating Size	ASTM D4751-99	70 sieve size (.0212 mm)
Water Flow Rate	ASTM D4491-99	140 gpm/ft² (5704 l/min/m²)
UV Resistance	ASTM D4355-92	70% (500 hrs)
Dimensions: 6' x 5'		
Weight: 63 pounds		

2. ***e.drain 12ds***: ***e.drain 12ds*** features a lightweight three-dimensional, highly flexible polypropylene core and a non-woven geotextile filter fabric. The filter fabric is bonded to the dimples of the polypropylene core to prevent clogging within the drain.

PROPERTIES	TEST METHOD	VALUE
DIMPLED CORE		
Core Material		Polypropylene
Color		Black
Compressive strength	ASTM D1621	9,500 PSF (455 kN/m²)
Thickness	ASTM D1777	1 Inch
Flow rate	ASTM D4716	30 gpm/ft of width
FILTER FABRIC		
CBR puncture	ASTM D6241	250 lbs
Grab tensile strength	ASTM D4632	100 lbs
AOS	ASTM D4751	70 U.S. sieve
Permitivity	ASTM D4491	2.0 sec^{-1}
Flow rate	ASTM D4491	140 gpm/ft²
UV resistance	ASTM D4355	70% (500 hrs)
Dimensions: 165' x 12" x 1"		
Weight: 65 pounds		

2.4 AUXILIARY MATERIALS

A. General: All accessory products shall be provided by the specified waterproofing manufacturer. Auxiliary products used in lieu of, or in addition to, the manufactures products must be approved in writing by EPRO prior to installation.

B. Reinforcement Fabric: Manufacturer's polyester fabric, ***e.poly*** is available in 6 inch, 12 inch, and 40 inch widths.

C. Detailing Material: ***e.roll***, a roller applied water based high viscosity polymer modified asphaltic material OR ***e.trowel***, a trowel applied water based high viscosity polymer modified asphaltic material.

D. Backer Rod: Closed cell polyethylene foam

E. Water Stop: A single row ***e.stop b*** shall be placed at all cold joints, construction joints, and steel beams in back lagged conditions. Water stop is not required at lift joints.

F. Termination Bar: ***e.term hd***, or approved alternate

G. Shot Pins: Minimum 1-inch galvanized steel pins with ¾ inch aluminum washer.

PART 3 - EXECUTION

3.1 EXAMINATION

A. Comply with project documents, manufacturer's product information, including product application and installation guidelines, pre-job punch list, as well as, manufacturer's shipping and storage recommendations.

3.1.2 SURFACE PREPARATION

A. The general contractor shall engage the certified waterproofing contractor and certified inspector to ensure surfaces are prepared in accordance with manufacturer's instructions. Unless, explicitly stated in the contract documents, the waterproofing contractor is not responsible for surface preparation.

B. Examine all substrates, areas, and conditions under which the composite membrane system will be installed, applicator and inspector must be present. Do not proceed with installation until unsatisfactory conditions have been corrected and a surface prep requirements have been met. If conditions exist that are not addressed in this section notify inspector and contact EPRO for additional clarification.

C. Wood Lagging: Wood lagging shoring should extend to the lowest level of the waterproofing installation with any voids or cavities exterior of the lagging timbers filled with compacted soil or cementitious grout. Interior surface of lagging boards should be planar, with no greater than 1-inch variance in a 12-inch plane, and fit tight together with gaps less than 2 inches (25 mm). Gaps in excess of 2 inches should be filled with cementitious grout, compacted soil, wood, extruded polystyrene (20 psi min.) or EPRO approved polyurethane spray foam. Plywood or other surface treatment may be used over large lagging gaps up to 6 inches, if soil conditions permit. All lagging board nails and other mechanical projections shall be removed or flattened. Install a protection material over all soldier piles with raised lagging hanger bolts, form tie rods, or other irregular surface; protection material should extend a minimum 6 inches (150 mm) to both sides of the steel piling. ***e.drain*** and ***e.drain 12ds*** base drain system should be connected to an operative water discharge system.

D. Shotcrete, Secant Pile, Rock Face, or Caisson Shoring Walls: Interior surface of retention walls should be planar without irregular surface conditions and a light trowel finish. Voids and sharp transitions that leave a void space to the outside of the drainage and waterproofing installation need to be filled to create a uniform and planer surface. Irregular rock and concrete, void pockets greater than 3/4 inch, cracks, sharp concave transitions should be completely filled or smoothed with cementitious grout, shotcrete, or other solid material approved by the manufacturer.

E. Sheet Piles: Minimum ½ inch plywood must be butt jointed to form a uniform substrate that spans deviations created by the piles. Voids between the plywood and shoring shall be filled with high strength grout or other suitable material.

F. Negative Side Internal Bracing: Internal shoring bracing, such as rakers, should be uniform and circular when interfacing with the shoring wall. Irregular bracing, such as soldier piles, creates problematic detailing and is not an approved material at the wall interface.

3.2 SHORING WALL INSTALLATION – E.PROFORMANCE SLIPSHEET

A. General: The composite membrane system shall be installed to the shoring system under strict accordance with the manufactures guideline and project specifications. This section describes the installation process for the system application to a shored wall condition.

B. Sequencing: The first lift of the composite membrane system shall be installed prior to the placement of any concrete at the perimeter of the excavation and prior to any transition from the underslab system to vertical system. This initial drainage and underslab barrier shall extend a minimum of 4 feet past the first lift of rebar.

3.2.1 PREFABRICATED STRIP DRAIN

A. Install ***e.drain 12ds*** horizontally against the shoring wall at specified elevation above the design water table. Allow for positive drainage flow into water discharge system. Attach to shoring using washered mechanical fasteners.

3.2.2 PREFABRICATED DRAINAGE MAT

A. General: For applications to wood lagging, ½ inch cement backer board must be centered on the soldier pile and extend laterally a minimum of 6 inches past the edge of the pile flange. The board must then extend 1 foot past the intended top elevation of the pile. Cement backer board must be installed prior to the prefabricated drainage composite.

B. Install drainage panels either horizontally or vertically with the geotextile fabric facing the soil retention system.

C. Overlap seams of the drainage composite panels 6 inches and fasten ***e.drain 6000*** to substrate with 2-inch flat washer fasteners a minimum of every 24 inches on center on seams and terminations, and a minimum of every 48 inches on center in field.

D. Place anchors or tie backs through the drainage mat by slitting vertically and sliding over the anchor as snug as possible.

3.2.3 GEOCOMPOSITE BASE COURSE

A. General: When tying into an underslab system extend the vertical base onto the horizontal and extend 1 foot past the inside face of the foundation wall.

B. Install the ***e.base 205*** over the ***e.drain 6000*** by running the ***e.base 205*** vertically from the top of the wall to the bottom of the excavation.

C. Install ***e.base 205*** with the geotextile facing away from the wall.

D. Overlap the seams of the ***e.base 205*** using a 6-inch overlap.

E. At the seam overlap peel back the top layer of ***e.base 205*** and apply 60 mils into the overlapping seam, making certain to apply ***e.spray*** to both the top of the bottom sheet and the bottom of the top sheet. Embed the top sheet into the bottom sheet.

F. Fasten ***e.base 205*** to soil retention system using ***e.fasteners***.

1. Fasten ***e.base 205*** every 12 inches on center along the seam overlap.

2. Fasten the **e.base 205** using an alternating pattern every 3 feet. The pattern shall be one **e.fastener** every 6 feet on center, and two evenly spaced fasteners every 3 feet.

3. Apply a 30 mil coat of ***e.spray*** or ***e.roll*** 6 inches onto and around ***e.fastener***. Embed a 6 inch square of ***e.poly*** reinforcement fabric, then apply a second 30-mil coat of ***e.spray*** or ***e.roll*** to saturate of previously applied ***e.poly***.

3.2.4 SEALING OF PENETRATIONS

A. Standard Pipe Penetrations: Standard penetration detailing should occur around all penetrations that are in place prior the membrane application, this includes soil nails, rock anchors, and tiebacks (non-hydrostatic).

1. Prepare membrane penetrations so they are free of any material that will inhibit a direct bond to the penetration surface: foam, insulation, protective coatings, etc.

2. Trim ***e.base 205*** to within 1/8 inch of the penetration.

3. Apply ***e.roll*** 3 inches horizontally and 3 inches vertically around the base of the penetration.

4. Embed reinforcement fabric 3 inches horizontally and 3 inches vertically around the base of the penetration.

5. 6-inch ***e.poly*** reinforcement fabric is acceptable for most penetrations, for soil nails, rock anchors, and tiebacks (non-hydrostatic) 12-inch ***e.poly*** reinforcement fabric is required.

6. Apply a second layer of ***e.roll*** 3 inches to reinforcement fabric until the reinforcement fabric is fully saturated.

B. Rebar Rods: Wire ties, steel fasteners, or anchor bolts used to secure concrete reinforcement can be detailed prior to or after the application of ***e.spray***. Any installation of wire ties, rebar rods, steel fasteners, or anchor bolts must be detailed per manufactures instruction using one of two methodologies

C. Rebar Rod Detail Option 1: Sealing with water stop.

1. Cut a 1” piece of ***e.stop b***.

2. Insert rebar rod into shoring wall through the 1” piece of ***e.stop b***.

3. Rebar rods shall be secured directly perpendicular to the vertical wall. Each rod shall be secured without the need of any additional support.

D. Rebar Rod Detail Option 2: Sealing with reinforcement detail.

1. Rebar rods shall be secured directly perpendicular to the vertical wall. Each rod shall be secured without the need of any additional support.

2. Apply ***e.roll*** 3 inches horizontally and 3 inches vertically around the base of the penetration.

3. Embed ***e.poly*** reinforcement fabric 3 inches horizontally and 3 inches vertically around the base of the penetration.

4. 6-inch ***e.poly*** reinforcement fabric is acceptable for most penetrations, for soil nails, rock anchors, and tiebacks (non-hydrostatic) 12-inch ***e.poly*** reinforcement fabric is required.

5. Apply a second layer of ***e.roll*** 3 inch to reinforcement fabric until the reinforcement fabric is fully saturated.

3.2.5 POLYMER MODIFIED ASPHALT MEMBRANE

A. Mask off adjoining surfaces where unwanted ***e.spray*** polymer modified asphalt membrane may impact other construction trades.

B. Commence application of ***e.spray*** polymer modified asphalt when ambient air temperatures are within manufacturer recommendations.

C. Surfaces that will receive the membrane must be clean and free from standing moisture.

D. Start installing ***e.spray*** in presence of approved 3rd party inspector.

E. Moving from the low point to the high point of the wall, apply one application of ***e.spray*** waterproofing in accordance to manufacturer's instructions in order to obtain a seamless membrane with a minimum dry film thickness of 60 mils (2 mm). Total composite thickness of ***e.base 205*** and ***e.spray*** shall be between 70 – 75 mils.

F. Apply ***e.spray/e.roll*** in and around penetrations and cavities to ensure the formation of monolithic seal around all penetrations.

G. Apply ***e.spray/e.roll*** to prepared wall terminations and vertical surfaces to heights indicated according to manufacturer's recommendations and details. (if applicable)

H. Verify film thickness of waterproofing every 1000 ft^2 (93 m^2).

3.2.6 TERMINATION AT TOP OF GRADE

A. The system shall extend 2 feet past the top of the wall and be temporarily secured in place.

B. When the wall is extended or a slab is placed at the top of wall, the cold joint shall be reinforced by applying 30 mils of ***e.roll*** on 3 inches of either side of the joint, embedding 6-inch ***e.poly*** reinforcement fabric, and then saturating the fabric with another application of 30 mils of ***e.roll***.

C. Trim the system to grade height and attach to the wall with a termination bar.

D. Apply a reinforcement detail or bead of low VOC acrylic caulking over the top of the termination bar and continue transition per project drawings.

3.2.7 WATERSTOP INSTALLATION

A. Place one row of ***e.stop b*** at all cold joints and concrete to steel beam connections.

3.3 FIELD QUALITY CONTROL

A. Independent inspectors and certified applicators shall document the amount of ***e.spray*** used and document quantities in the inspection report.

3.4 CURING PROTECTING AND CLEANING

A. Allow for ***e.spray*** to fully bond with the substrate, generally this occurs 24 to 48 hours after application depending on ambient weather conditions.

B. Take care to prevent contamination and damage during application stages and curing. All machinery, other trades, and general construction, shall NOT take place over the membrane until inspection is complete and concrete has been placed.

C. Prevent damage during the placement of overburden.

3.5 REPAIRS

A. Shoring:

1. Inspect damaged area to determine which system components have been damaged.

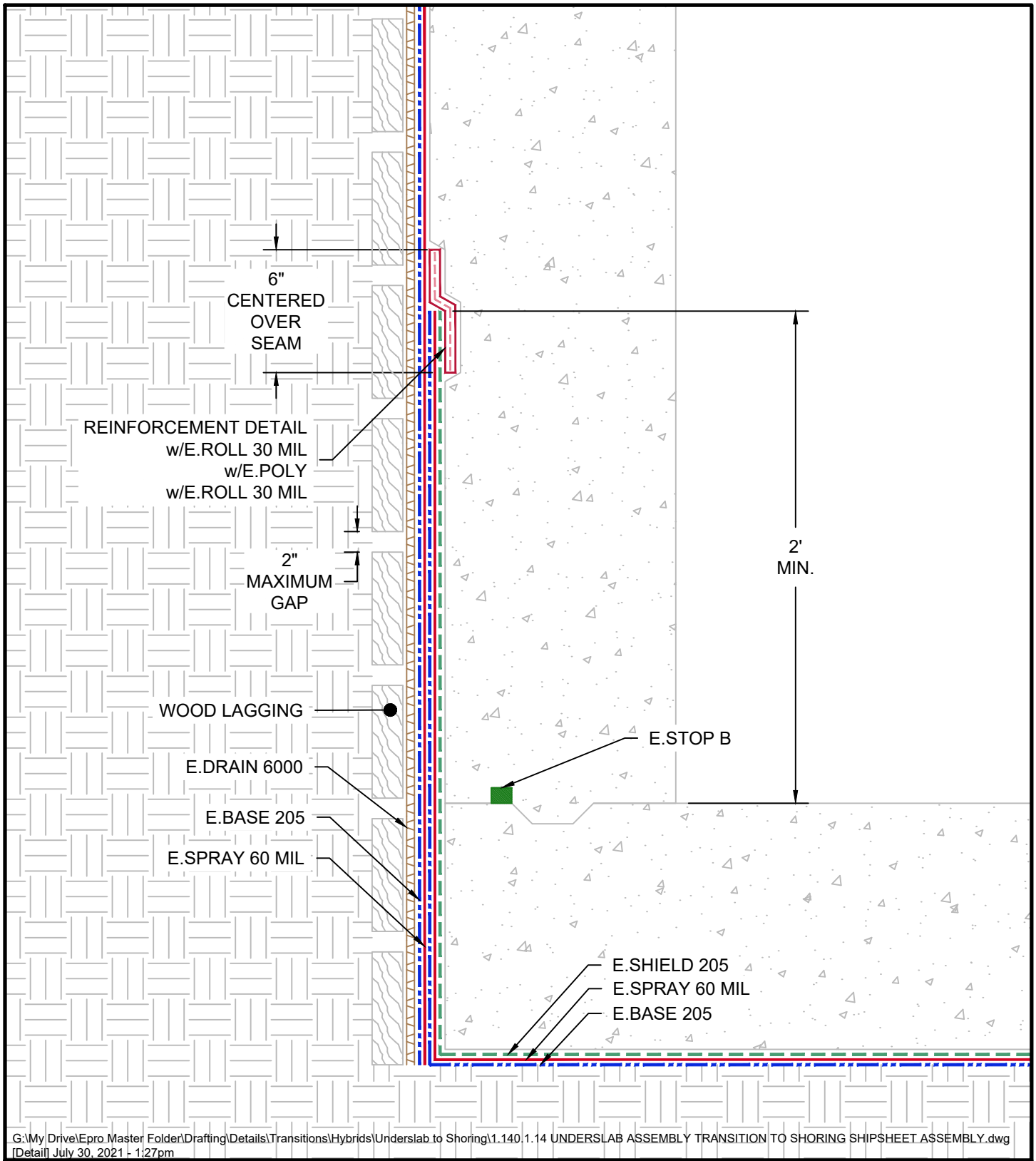
2. If the base sheet has not been compromised, patch only the areas that have been damaged by re-installing the damaged materials. The patch should extend 6 inches beyond the damaged area.

3. If the base sheet has been breached install a patch over the base sheet that extends 6 inches beyond the damaged area. Area shall be sealed using the specified method for sealing the base sheet.

4. Apply a reinforcement detail of ***e.roll*** and reinforcement fabric 6 inches beyond the edge of the repair area.

5. Apply the remaining layers as specified.

End of Section



G:\My Drive\Epro Master Folder\Drafting\Details\Transitions\Hybrids\Underslab to Shoring\1.140.1.14 UNDERSLAB ASSEMBLY TRANSITION TO SHORING SHIPSHEET ASSEMBLY.dwg
[Detail] July 30, 2021 - 1:27pm

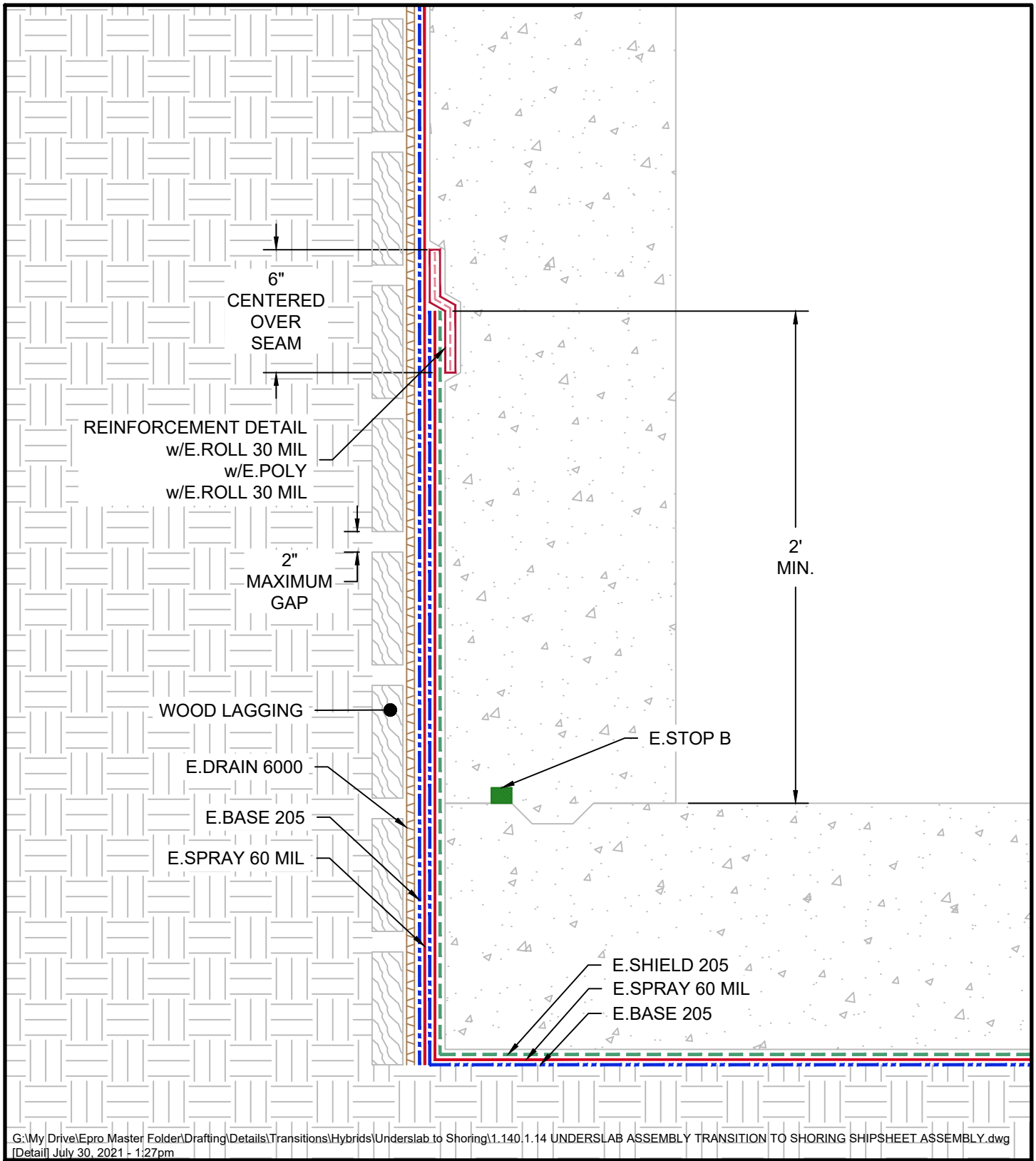
E.PROFORMANCE UNDERSLAB ASSEMBLY TRANSITION TO E.PROFORMANCE SLIPSHEET SHORING ASSEMBLY - WOOD LAGGING

epro

SYSTEM NAME	DRAWING NUMBER
E.PROFORMANCE/E.PROFORMANCE SLIPSHEET	1.140.1.1.14
DRAFTER	DATE
RJT	8/23/2021

.SERIES

NTS



G:\My Drive\Epro Master Folder\Drafting\Details\Transitions\Hybrids\Underslab to Shoring\1.140.1.14 UNDERSLAB ASSEMBLY TRANSITION TO SHORING SHIPSHEET ASSEMBLY.dwg
[Detail] July 30, 2021 - 1:27pm

E.PROFORMANCE UNDERSLAB ASSEMBLY TRANSITION TO E.PROFORMANCE SLIPSHEET SHORING ASSEMBLY - WOOD LAGGING

epro

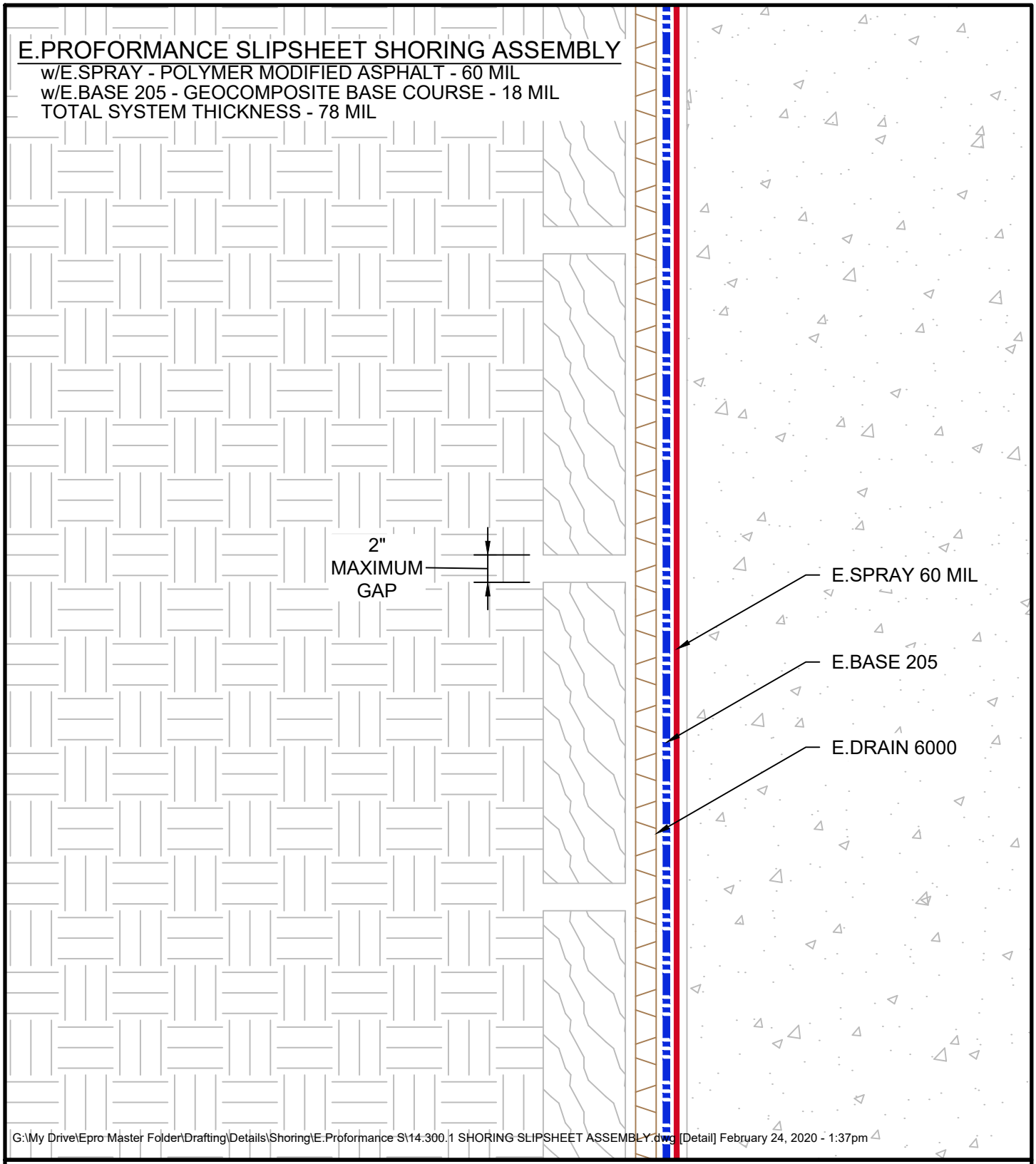
SYSTEM NAME	DRAWING NUMBER
E.PROFORMANCE/E.PROFORMANCE SLIPSHEET	1.140.1.1.14
DRAFTER	DATE
RJT	8/23/2021

.SERIES

NTS

E.PROFORMANCE SLIPSHEET SHORING ASSEMBLY

w/E.SPRAY - POLYMER MODIFIED ASPHALT - 60 MIL
w/E.BASE 205 - GEOCOMPOSITE BASE COURSE - 18 MIL
TOTAL SYSTEM THICKNESS - 78 MIL

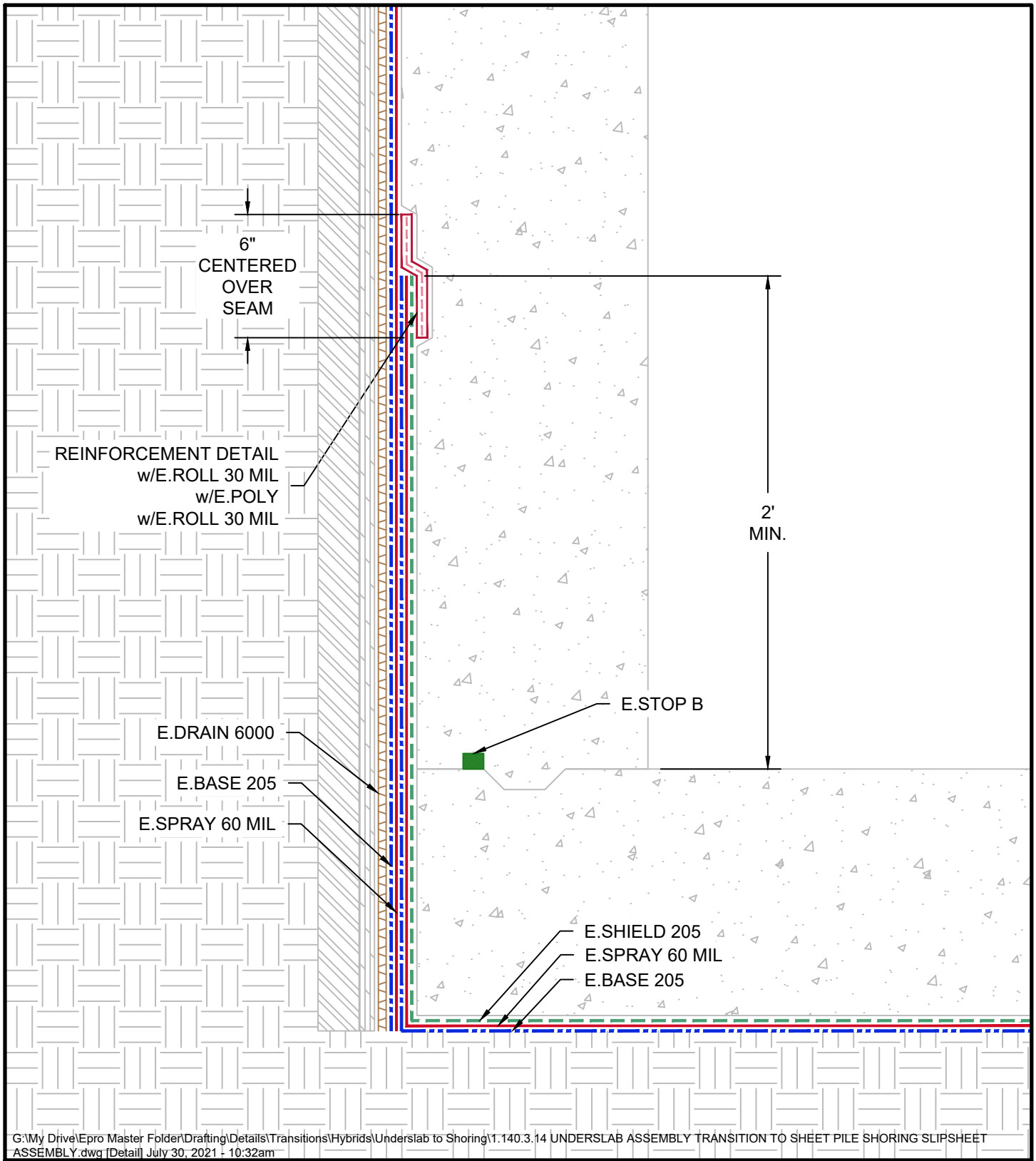


G:\My Drive\Epro Master Folder\Drafting\Details\Shoring\E.Proformance S\14.300.1 SHORING SLIPSHEET ASSEMBLY.dwg [Detail] February 24, 2020 - 1:37pm

SHORING SLIPSHEET ASSEMBLY

SYSTEM NAME	DRAWING NUMBER
E.PROFORMANCE SLIPSHEET	14.300.1
DRAFTER	DATE
RJT	2/24/2020

NTS

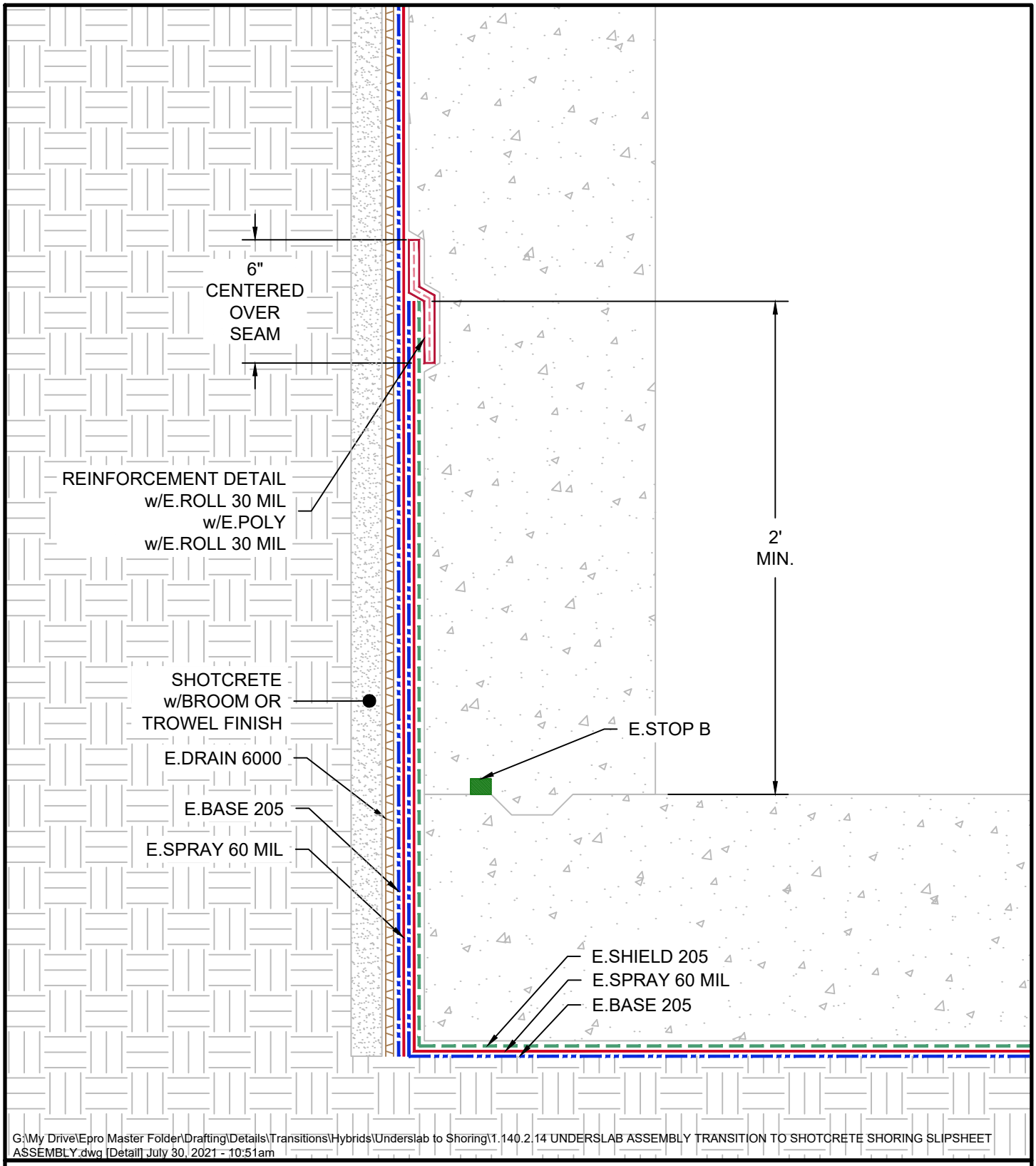


G:\My Drive\Epro Master Folder\Drafting\Details\Transitions\Hybrids\Underslab to Shoring\1.140.3.14 UNDERSLAB ASSEMBLY TRANSITION TO SHEET PILE SHORING SLIPSHEET ASSEMBLY.dwg [Detail] July 30, 2021 - 10:32am

E.PRFORMANCE UNDERSLAB ASSEMBLY TRANSITION TO E.PROFORMANCE SLIPSHEET SHORING ASSEMBLY - SHEET PILE

SYSTEM NAME	DRAWING NUMBER
E.PROFORMANCE/E.PROFORMANCE SLIPSHEET	1.140.3.1.14
DRAFTER	DATE
RJT	8/23/2021

NTS



G:\My Drive\Epro Master Folder\Drafting\Details\Transitions\Hybrids\Underslab to Shoring\1.140.2.14 UNDERSLAB ASSEMBLY TRANSITION TO SHOTCRETE SHORING SLIPSHEET ASSEMBLY.dwg [Detail] July 30, 2021 - 10:51am

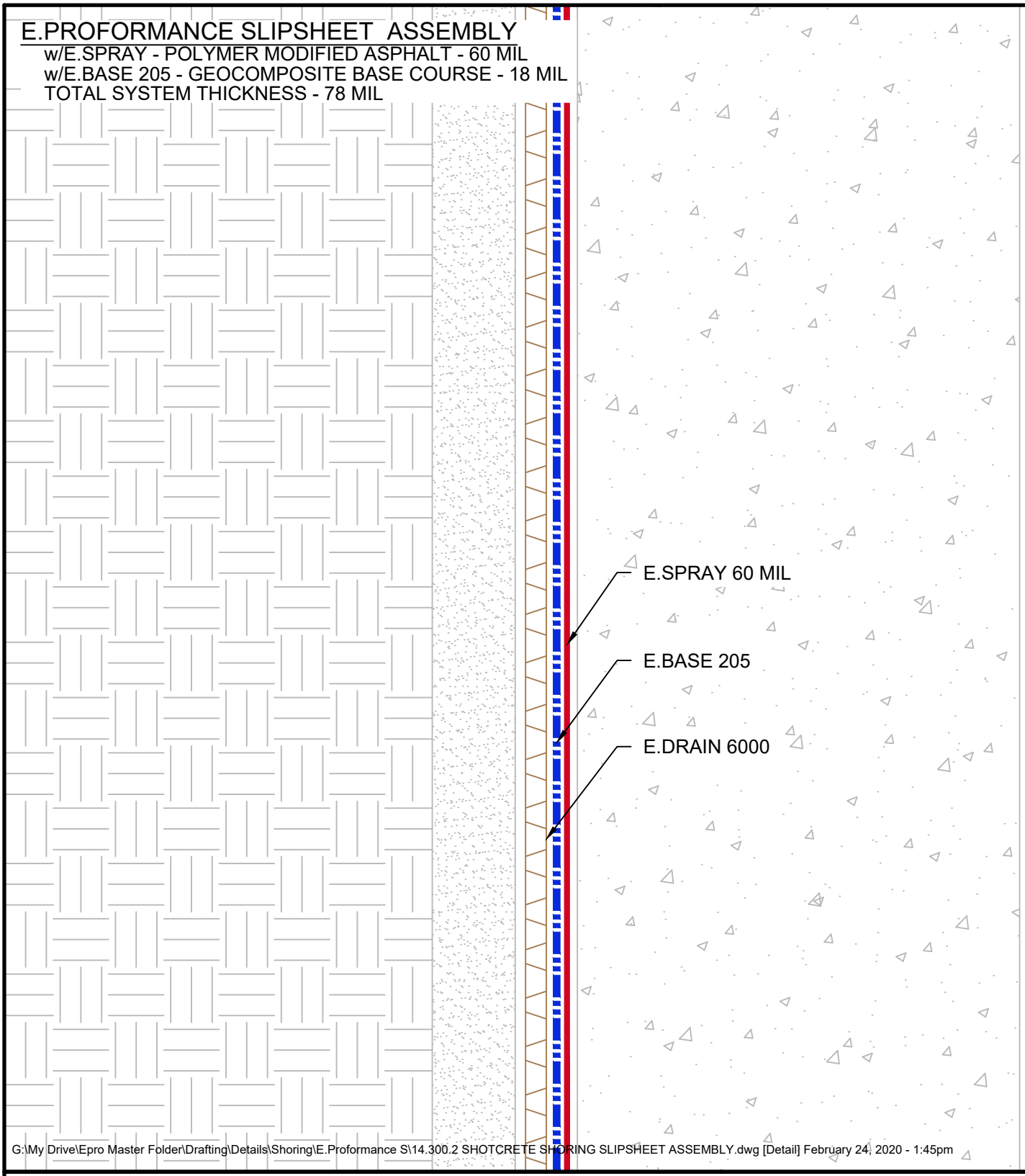
E.PROFORMANCE UNDERSLAB ASSEMBLY TRANSITION TO E.PROFORMANCE SLIPSHEET SHORING ASSEMBLY - SHOTCRETE

SYSTEM NAME	DRAWING NUMBER
E.PROFORMANCE/E.PROFORMANCE SLIPSHEET	1.140.2.1.14
DRAFTER	DATE
RJT	9/27/2021

NTS

E.PROFORMANCE SLIPSHEET ASSEMBLY

w/E.SPRAY - POLYMER MODIFIED ASPHALT - 60 MIL
w/E.BASE 205 - GEOCOMPOSITE BASE COURSE - 18 MIL
TOTAL SYSTEM THICKNESS - 78 MIL

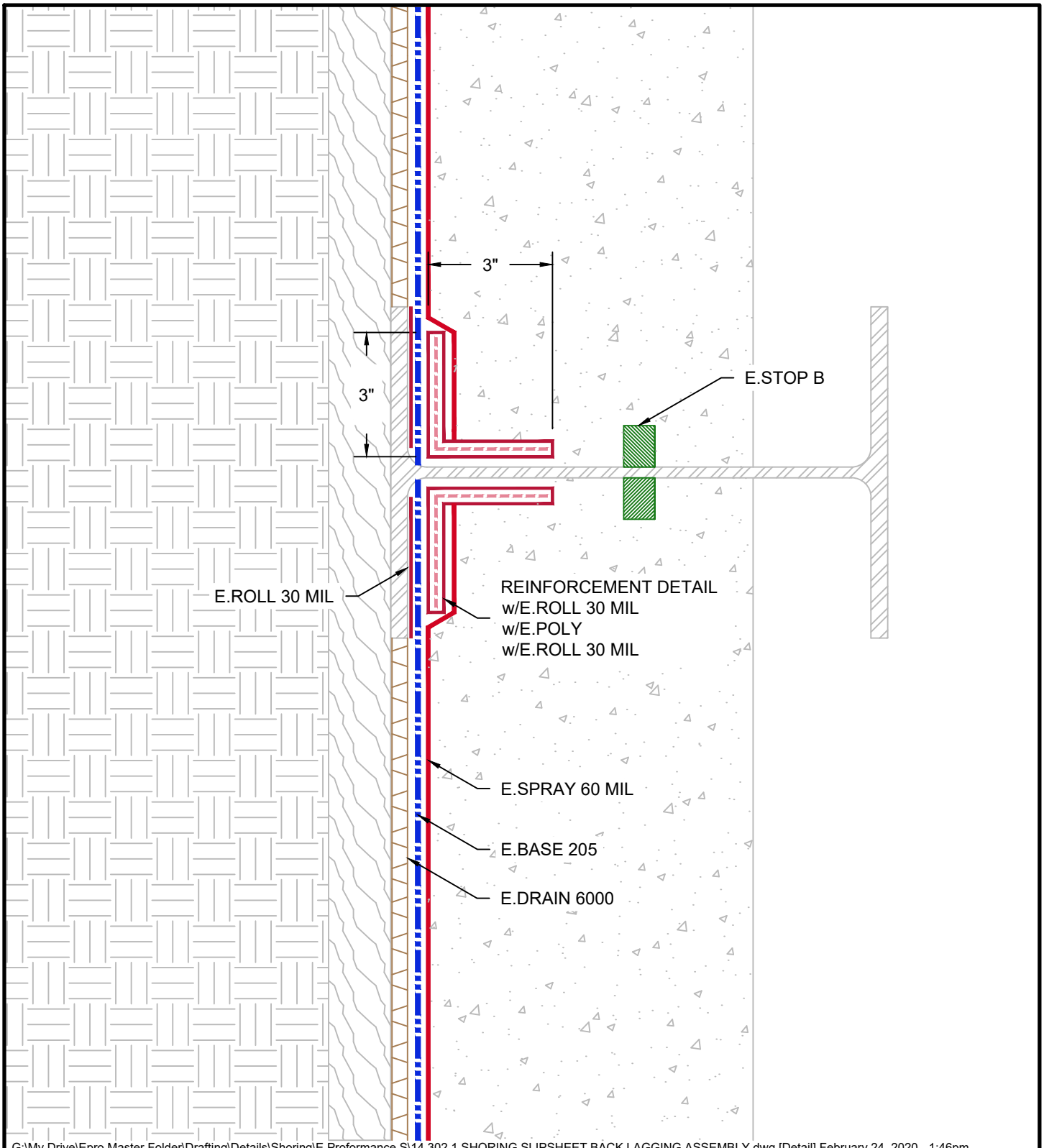


G:\My Drive\Epro Master Folder\Drafting\Details\Shoring\E.Proformance S\14.300.2 SHOTCRETE SHORING SLIPSHEET ASSEMBLY.dwg [Detail] February 24, 2020 - 1:45pm

SHOTCRETE SHORING SLIPSHEET ASSEMBLY

SYSTEM NAME	DRAWING NUMBER
E.PROFORMANCE SLIPSHEET	14.300.2
DRAFTER	DATE
RJT	2/24/2020

NTS



G:\My Drive\Epro Master Folder\Drafting\Details\Shoring\E.Proformance S\14.302.1 SHORING SLIPSHEET BACK LAGGING ASSEMBLY.dwg [Detail] February 24, 2020 - 1:46pm

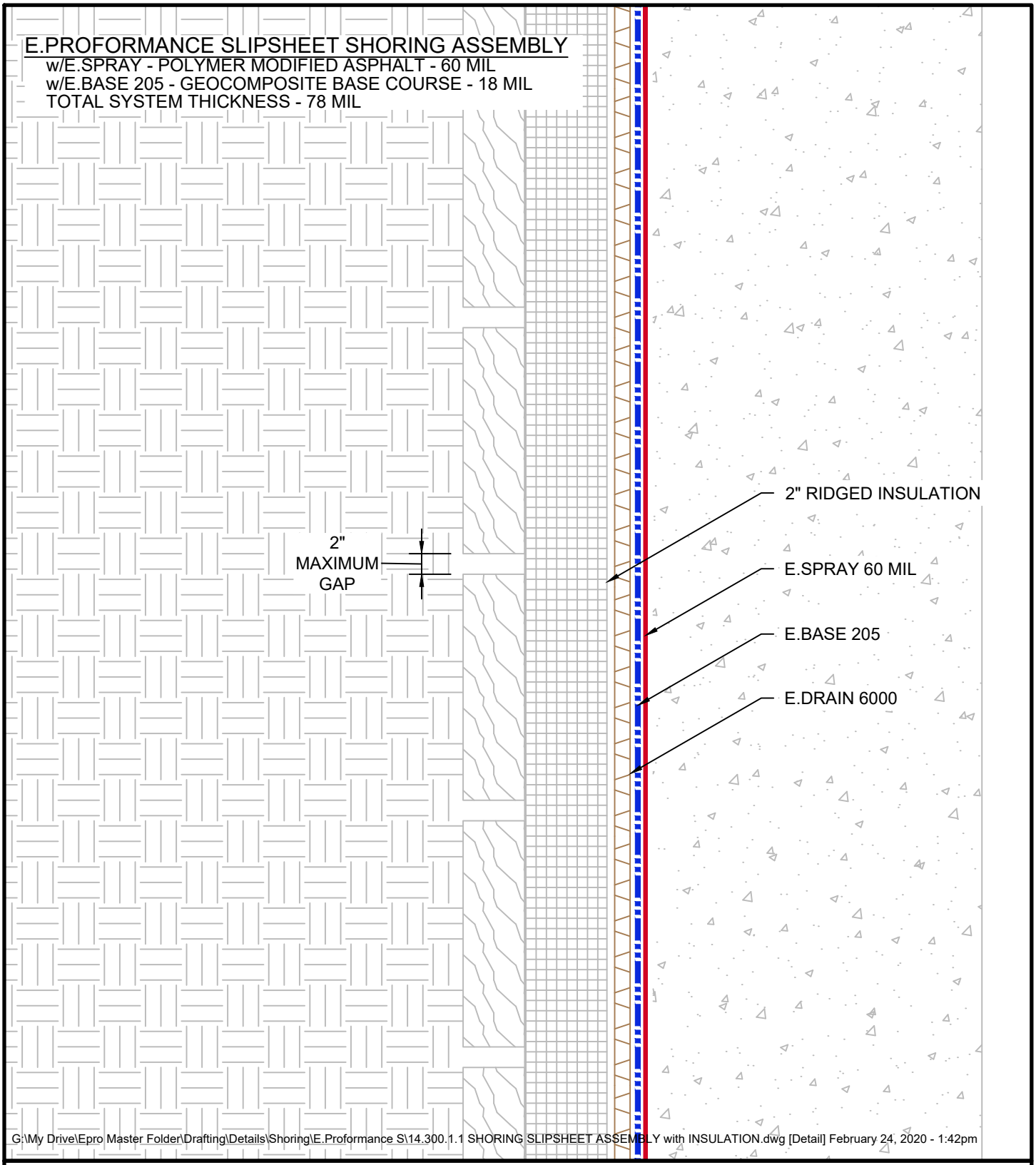
SHORING SLIPSHEET BACK LAGGING ASSEMBLY - PLAN VIEW

SYSTEM NAME	DRAWING NUMBER
E.PROFORMANCE SLIPSHEET	14.302.1
DRAFTER	DATE
RJT	2/24/2020

NTS

E.PROFORMANCE SLIPSHEET SHORING ASSEMBLY

w/E.SPRAY - POLYMER MODIFIED ASPHALT - 60 MIL
w/E.BASE 205 - GEOCOMPOSITE BASE COURSE - 18 MIL
TOTAL SYSTEM THICKNESS - 78 MIL

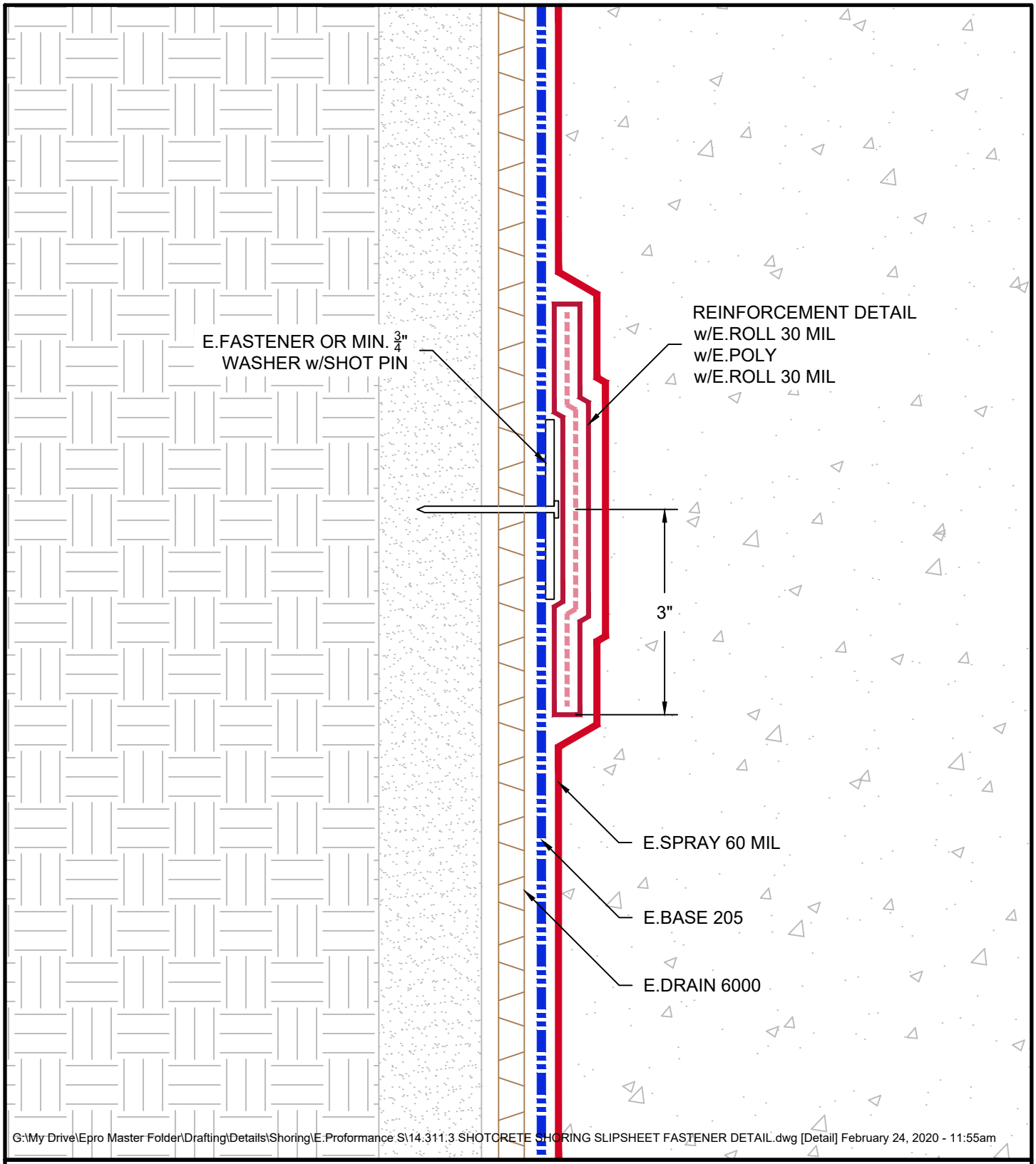


G:\My Drive\Epro Master Folder\Drafting\Details\Shoring\E.Proformance S\14.300.1.1 SHORING SLIPSHEET ASSEMBLY with INSULATION.dwg [Detail] February 24, 2020 - 1:42pm

SHORING SLIPSHEET ASSEMBLY with INSULATION

SYSTEM NAME	DRAWING NUMBER
E.PROFORMANCE SLIPSHEET	14.300.1.1
DRAFTER	DATE
RJT	2/24/2020

NTS



G:\My Drive\Epro Master Folder\Drafting\Details\Shoring\E.Proformance S\14.311.3 SHOTCRETE SHORING SLIPSHEET FASTENER DETAIL.dwg [Detail] February 24, 2020 - 11:55am

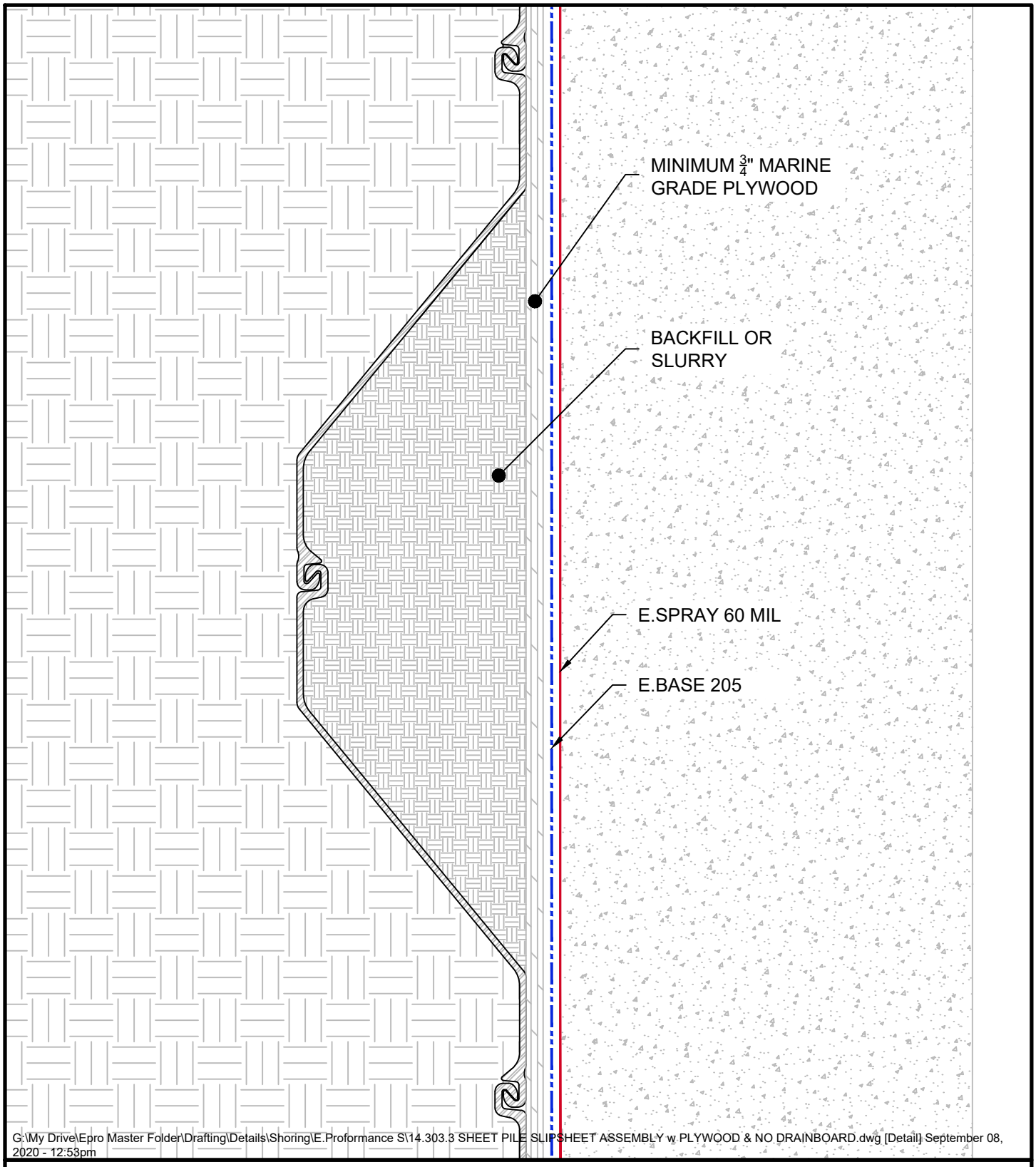
SHOTCRETE SHORING SLIPSHEET FASTENER DETAIL

SYSTEM NAME	DRAWING NUMBER
E.PROFORMANCE SLIPSHEET	14.311.3
DRAFTER	DATE
RJT	2/24/2020

epro

.SERIES

NTS

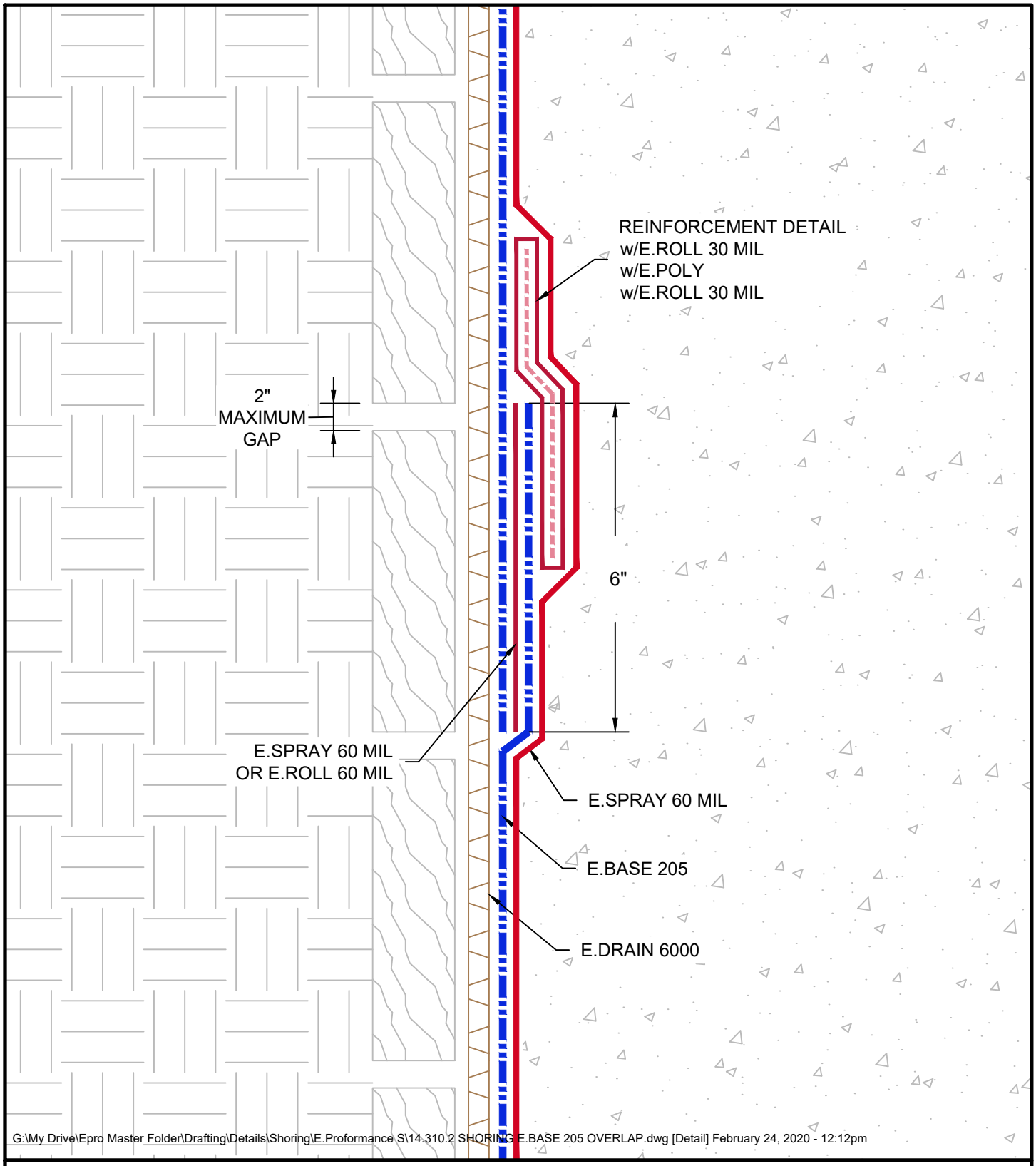


G:\My Drive\Epro Master Folder\Drafting\Details\Shoring\E.Proformance S\14.303.3 SHEET PILE SLIPSHEET ASSEMBLY w PLYWOOD & NO DRAINBOARD.dwg [Detail] September 08, 2020 - 12:53pm

SHEET PILE SLIPSHEET ASSEMBLY w/PLYWOOD & NO DRAINBOARD

SYSTEM NAME	DRAWING NUMBER
E.PROFORMANCE SLIPSHEET	14.303.3
DRAFTER	DATE
RJT	2/24/2020

NTS



G:\My Drive\Epro Master Folder\Drafting\Details\Shoring\E.Proformance S\14.310.2 SHORING E.BASE 205 OVERLAP.dwg [Detail] February 24, 2020 - 12:12pm

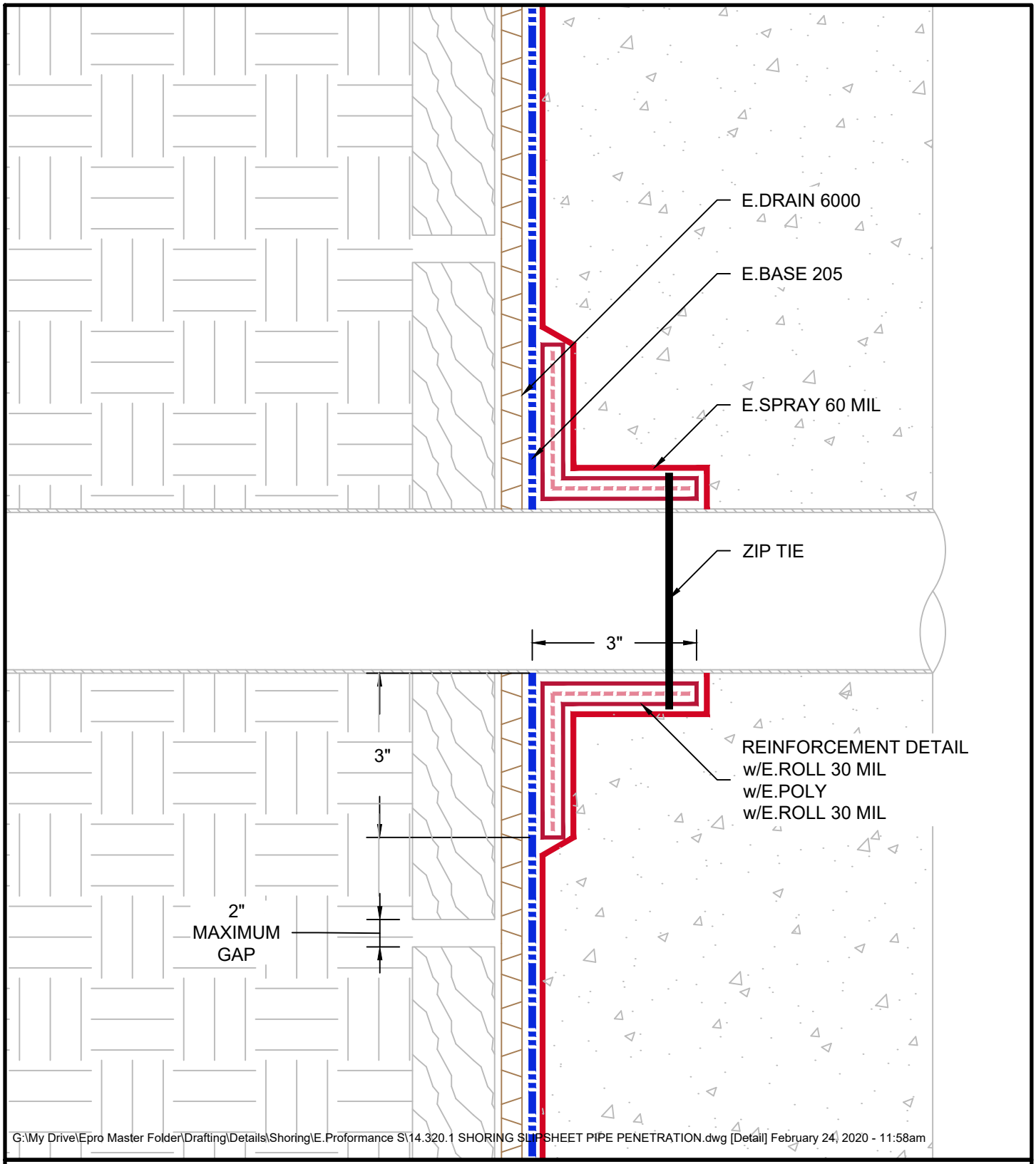
SHORING E.BASE 205 OVERLAP

SYSTEM NAME	DRAWING NUMBER
E.PROFORMANCE SLIPSHEET	14.310.2
DRAFTER	DATE
RJT	2/24/2020

epro

.SERIES

NTS

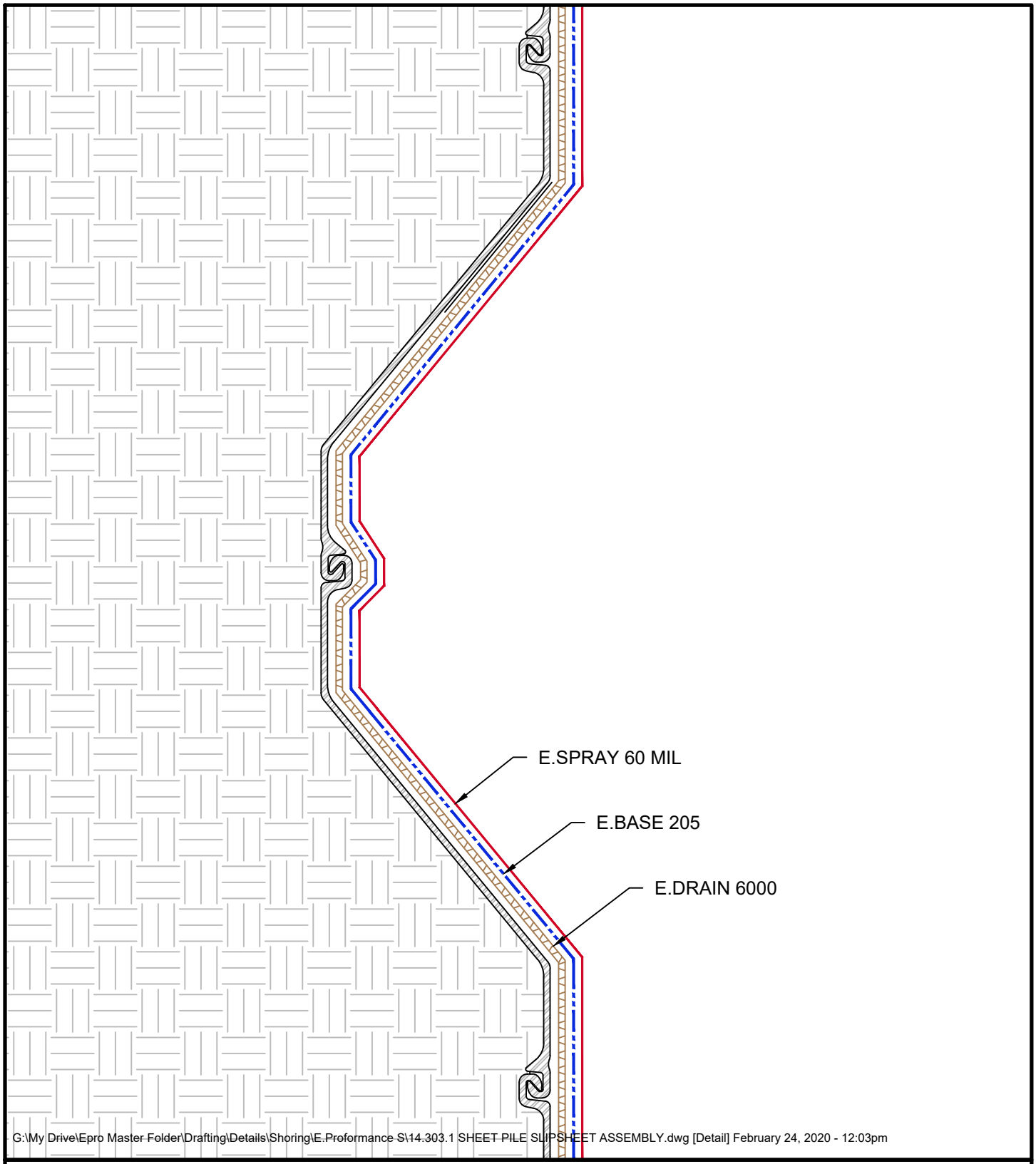


G:\My Drive\Epro Master Folder\Drafting\Details\Shoring\E.Proformance S\14.320.1 SHORING SLIPSHEET PIPE PENETRATION.dwg [Detail] February 24, 2020 - 11:58am

SHORING SLIPSHEET PIPE PENETRATION

SYSTEM NAME	DRAWING NUMBER
E.PROFORMANCE SLIPSHEET	14.320.1
DRAFTER	DATE
RJT	2/24/2020

NTS

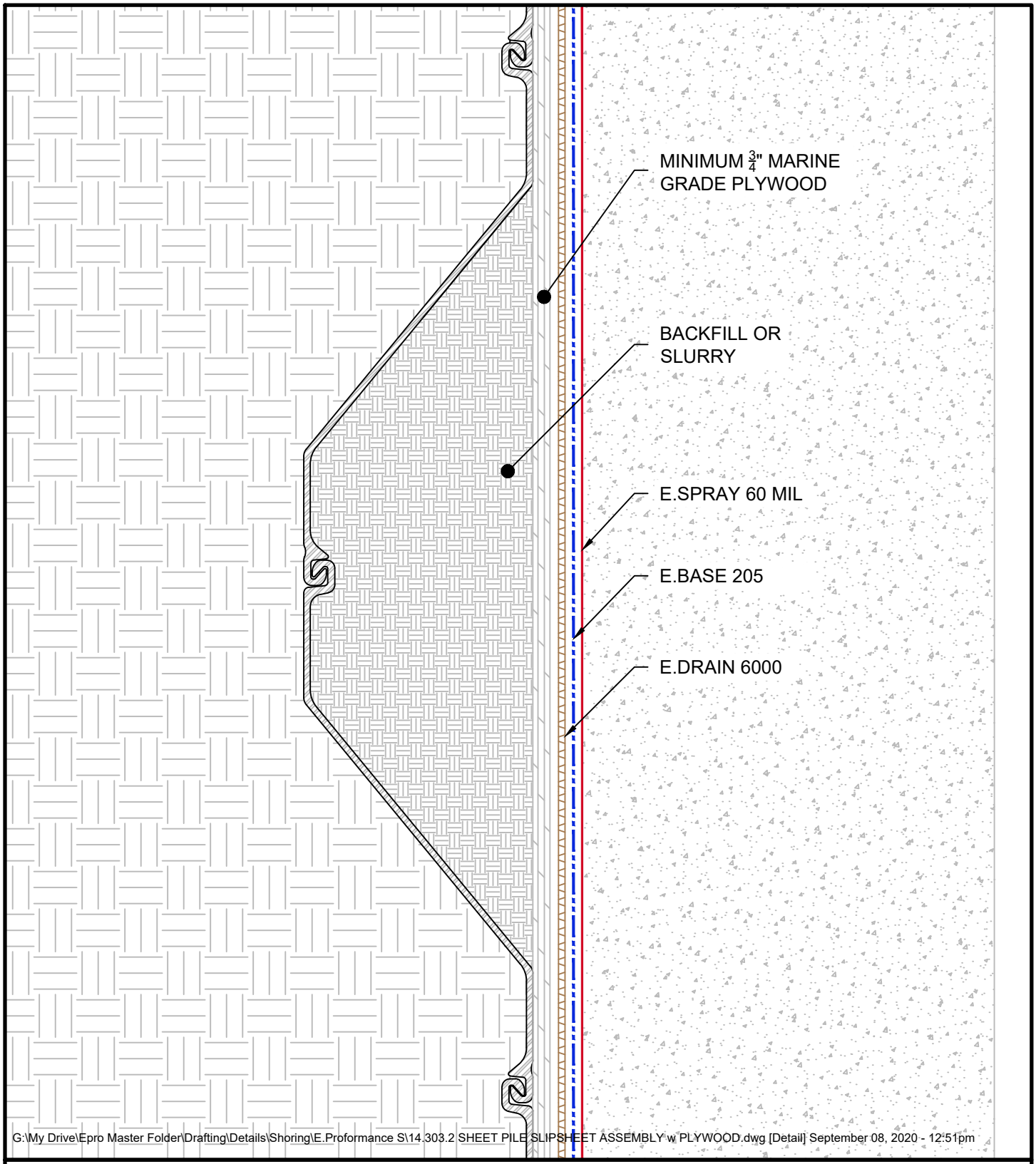


G:\My Drive\Epro Master Folder\Drafting\Details\Shoring\E.Proformance S\14.303.1 SHEET PILE SLIPSHEET ASSEMBLY.dwg [Detail] February 24, 2020 - 12:03pm

SHEET PILE SLIPSHEET ASSEMBLY

SYSTEM NAME	DRAWING NUMBER
E.PROFORMANCE SLIPSHEET	14.303.1
DRAFTER	DATE
RJT	2/24/2020

NTS



G:\My Drive\Epro Master Folder\Drafting\Details\Shoring\E.Proformance S\14.303.2 SHEET PILE SLIPSHEET ASSEMBLY w PLYWOOD.dwg [Detail] September 08, 2020 - 12:51pm

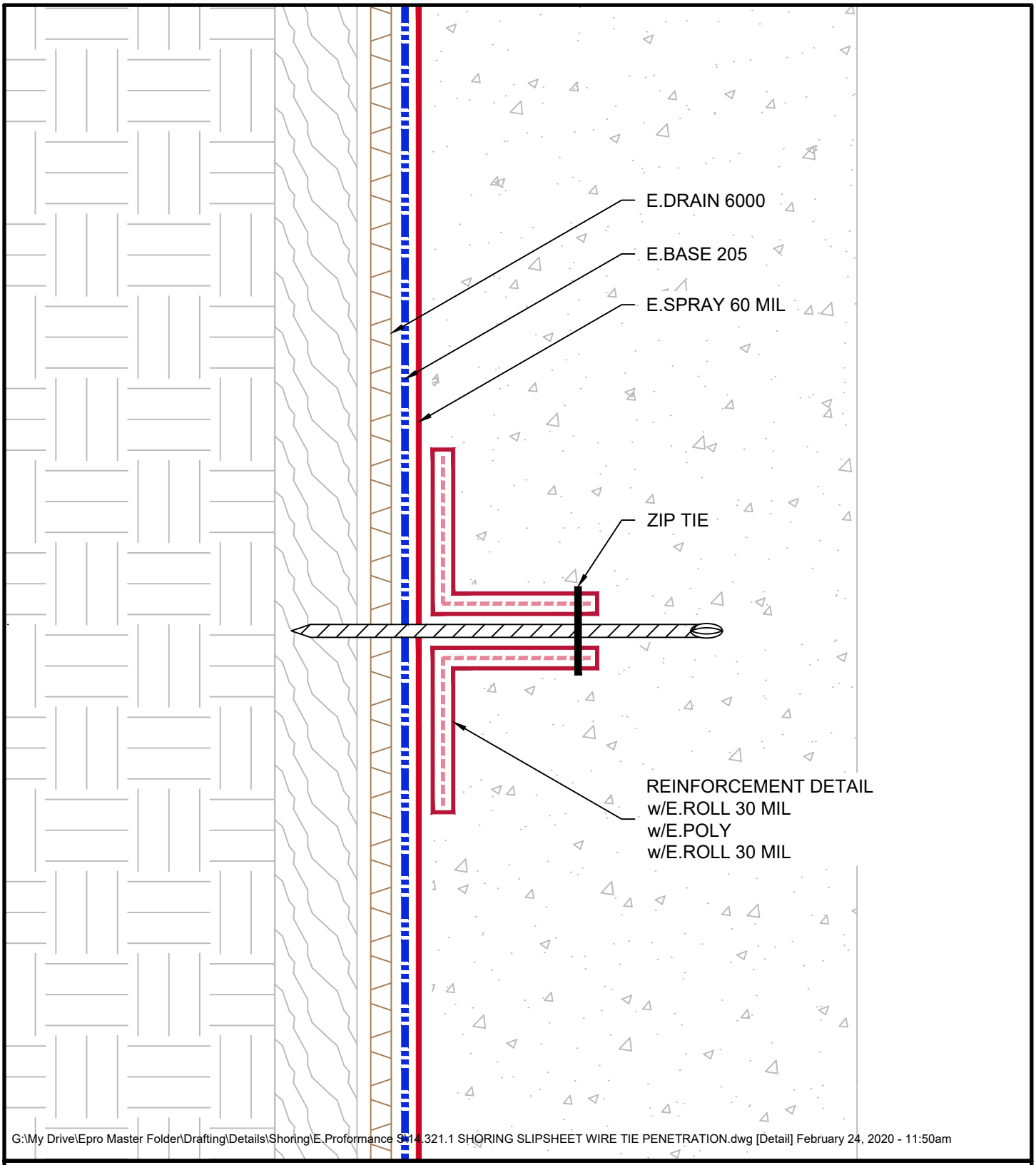
SHEET PILE SLIPSHEET ASSEMBLY w/PLYWOOD

SYSTEM NAME	DRAWING NUMBER
E.PROFORMANCE SLIPSHEET	14.303.2
DRAFTER	DATE
RJT	2/24/2020

epro

.SERIES

NTS



G:\My Drive\Epro Master Folder\Drafting\Details\Shoring\E.Proformance SH14.321.1 SHORING SLIPSHEET WIRE TIE PENETRATION.dwg [Detail] February 24, 2020 - 11:50am

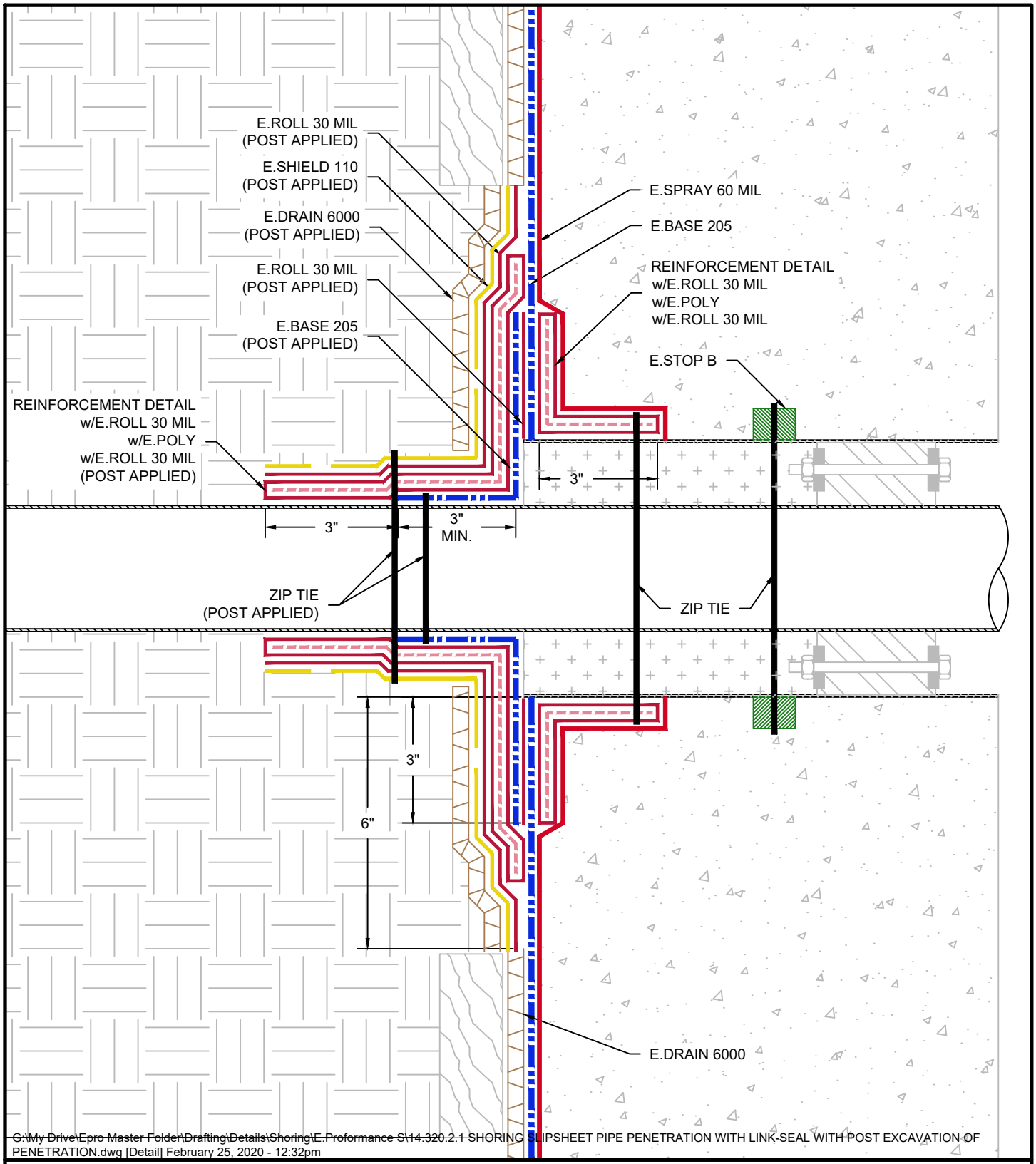
SHORING SLIPSHEET WIRE TIE PENETRATION

SYSTEM NAME	DRAWING NUMBER
E.PROFORMANCE SLIPSHEET	14.321.1
DRAFTER	DATE
RJT	2/24/2020

epro

.SERIES

NTS

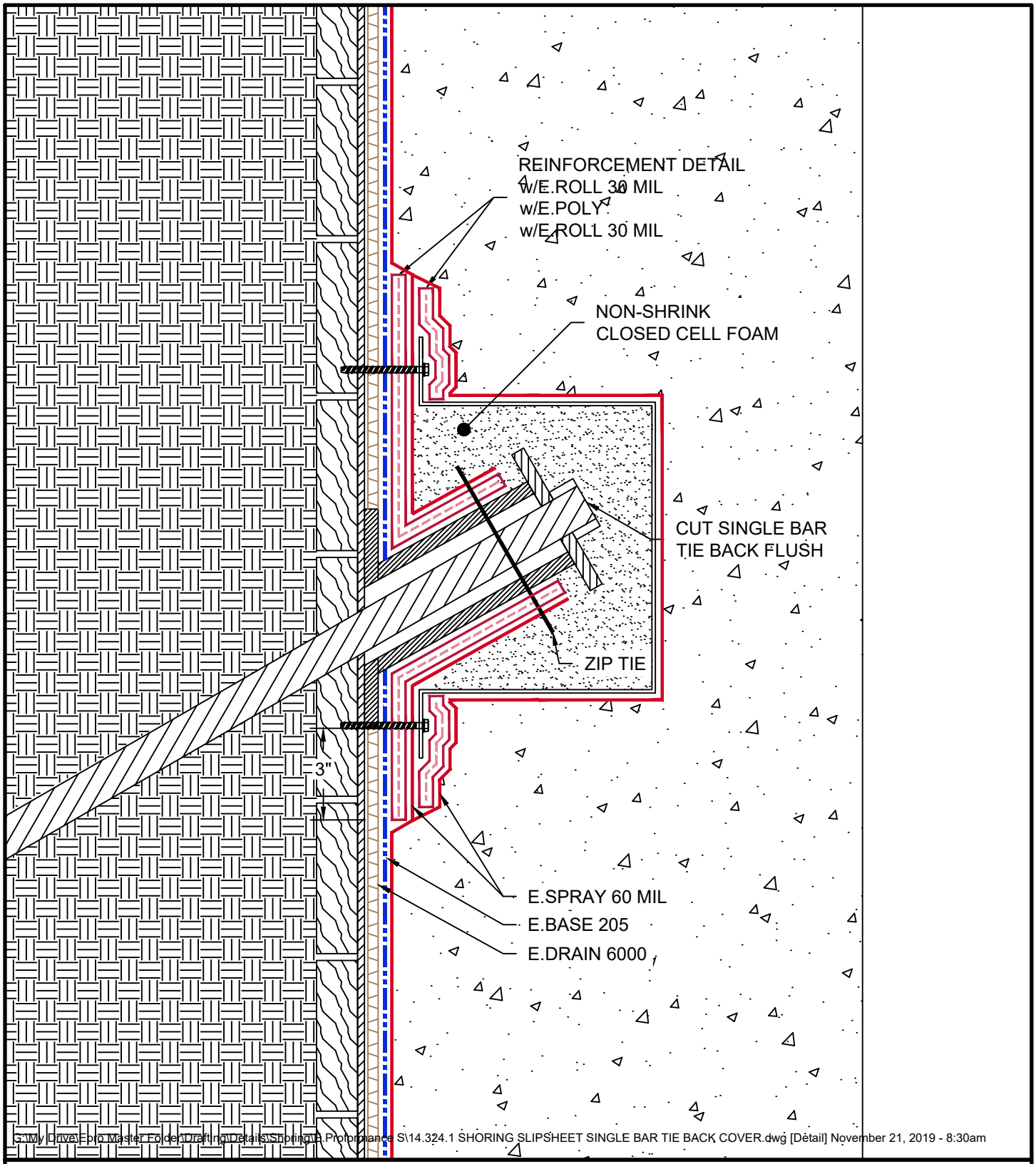


G:\My Drive\Epro Master Folder\Drafting\Details\Shoring\E.Proformance S\14.320.2.1 SHORING SLIPSHEET PIPE PENETRATION WITH LINK-SEAL WITH POST EXCAVATION OF PENETRATION.dwg [Detail] February 25, 2020 - 12:32pm

SHORING PIPE PENETRATION w/LINK-SEAL WITH POST EXCAVATION OF PENETRATION

SYSTEM NAME	DRAWING NUMBER
E.PROFORMANCE SLIPSHEET	14.320.2.1
DRAFTER	DATE
RJT	2/25/2020

NTS



G:\My Drive\Epro Master Folder\Drafting\Details\Shoring\E.Proformance S\14.324.1 SHORING SLIPSHEET SINGLE BAR TIE BACK COVER.dwg [Detail] November 21, 2019 - 8:30am

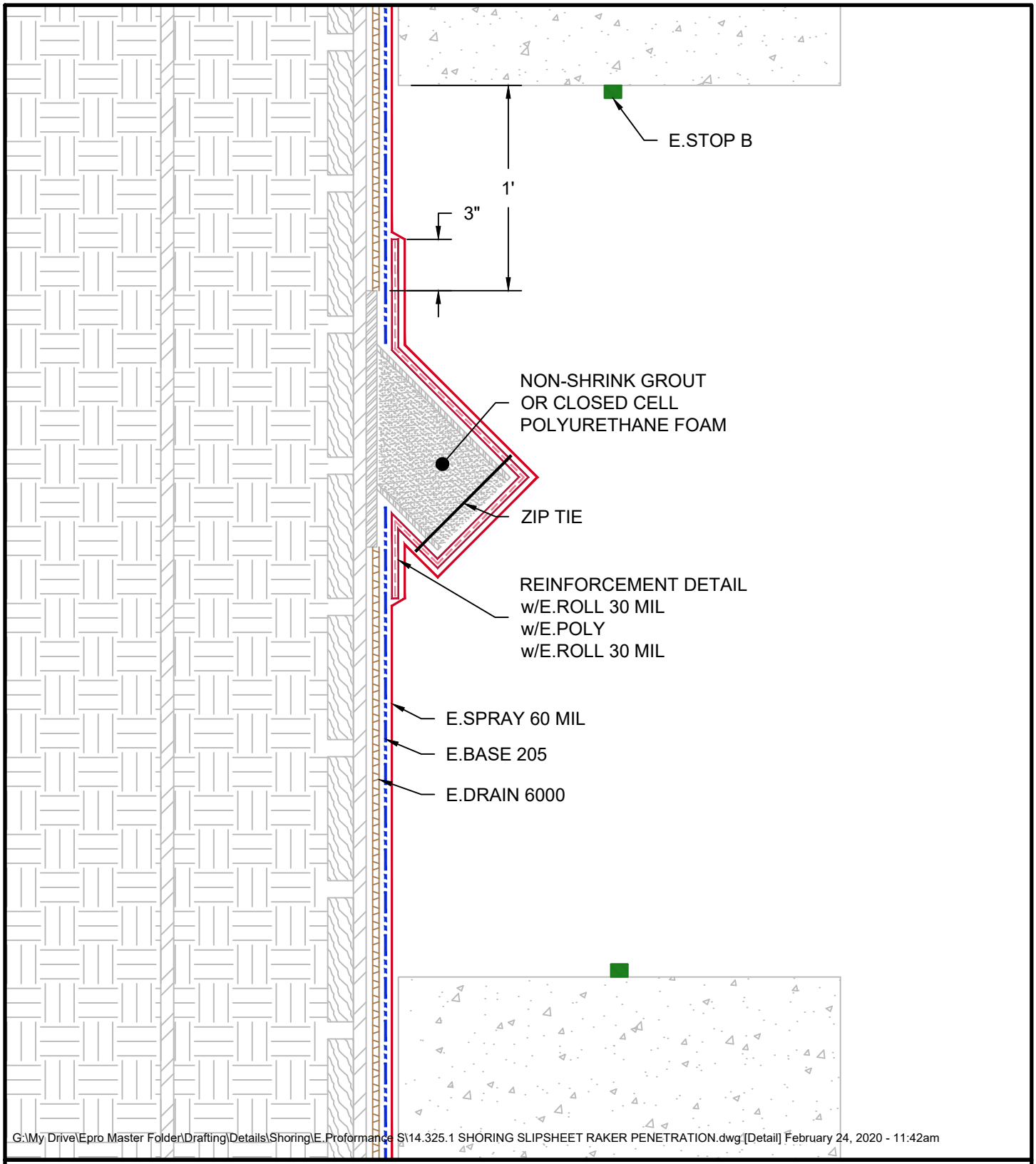
SHORING SLIPSHEET SINGLE BAR TIE BACK COVER

epro

SYSTEM NAME	DRAWING NUMBER
E.PROFORMANCE SLIPSHEET	14.324.1
DRAFTER	DATE
RJT	11/21/19

e .SERIES

NTS

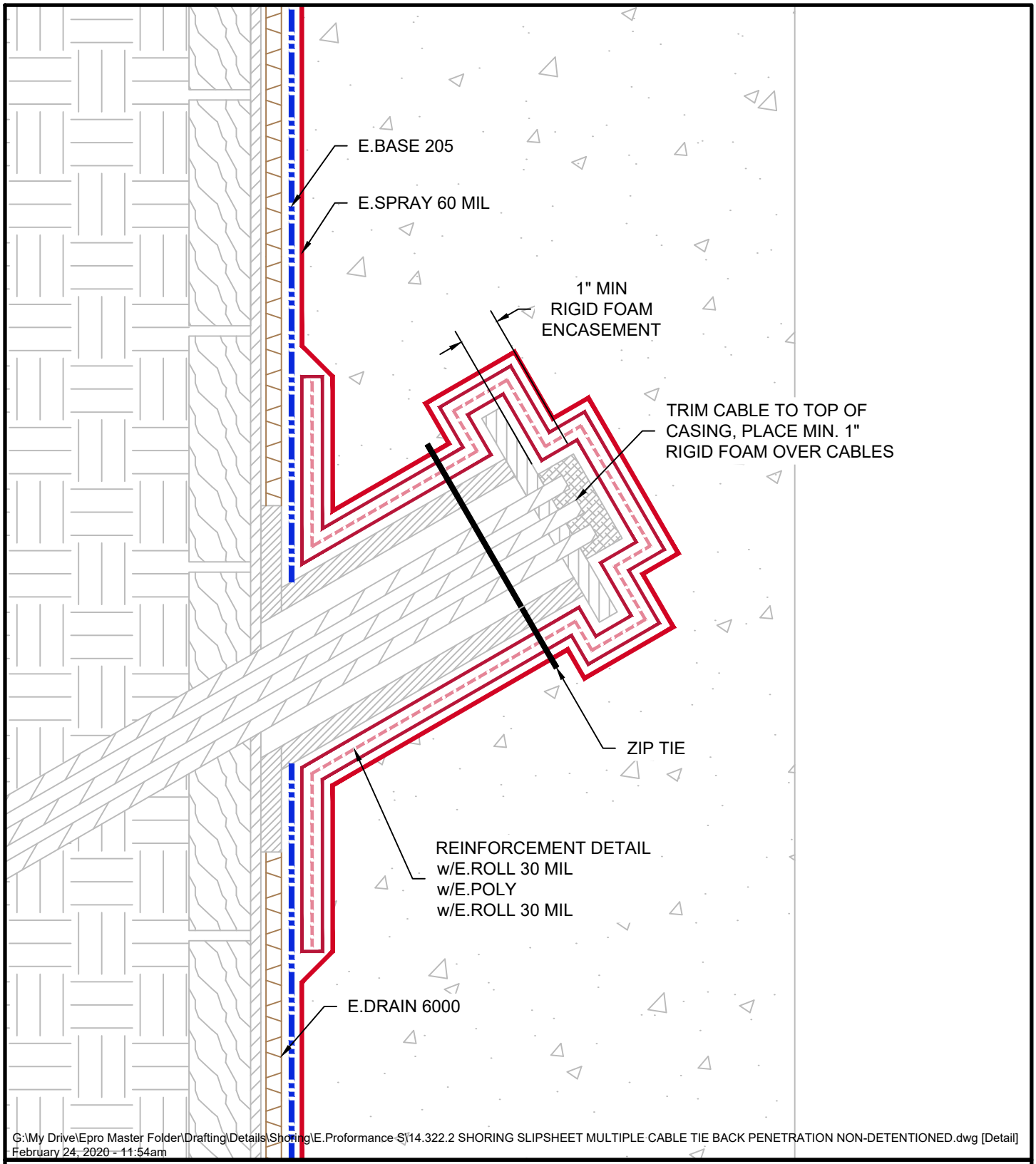


G:\My Drive\Epro Master Folder\Drafting\Details\Shoring\E.Proformance S\14.325.1 SHORING SLIPSHEET RAKER PENETRATION.dwg [Detail] February 24, 2020 - 11:42am

SHORING SLIPSHEET RAKER PENETRATION BLOCK OUT

SYSTEM NAME	DRAWING NUMBER
E.PROFORMANCE SLIPSHEET	14.325.1
DRAFTER	DATE
RJT	2/24/2020

NTS



G:\My Drive\Epro Master Folder\Drafting\Details\Shoring\E.Proformance S\14.322.2 SHORING SLIPSHEET MULTIPLE CABLE TIE BACK PENETRATION NON-DETENTIONED.dwg [Detail]
February 24, 2020 - 11:54am

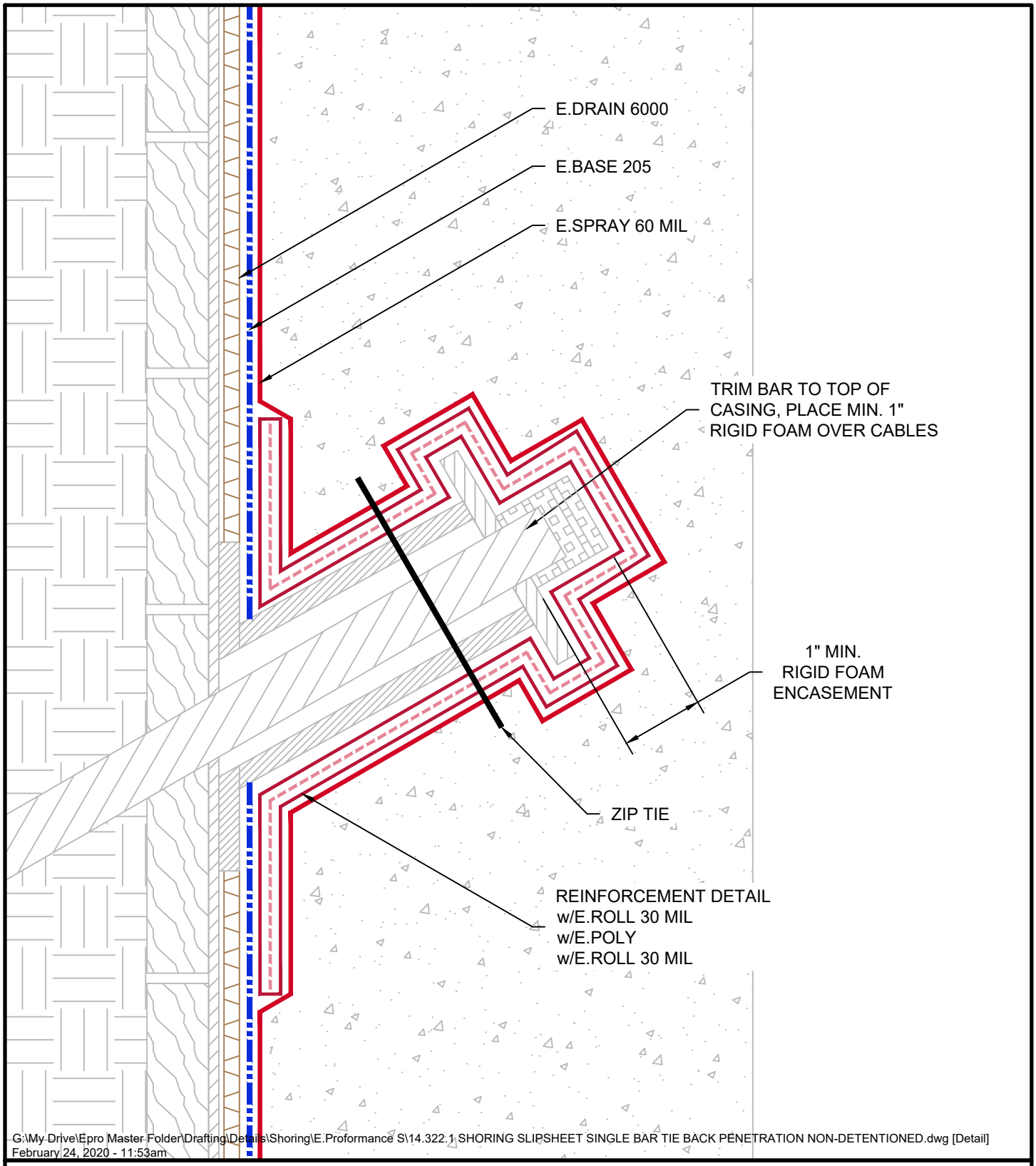
SHORING SLIPSHEET MULIPLE CABLE TIE BACK PENETRATION NON-DETENTIONED

epro

SYSTEM NAME	DRAWING NUMBER
E.PROFORMANCE SLIPSHEET	14.322.2
DRAFTER	DATE
RJT	2/24/2020

.SERIES

NTS



G:\My Drive\Epro Master Folder\Drafting\Details\Shoring\E.Proformance S\14.322.1 SHORING SLIPSHEET SINGLE BAR TIE BACK PENETRATION NON-DETENTIONED.dwg [Detail]
February 24, 2020 - 11:53am

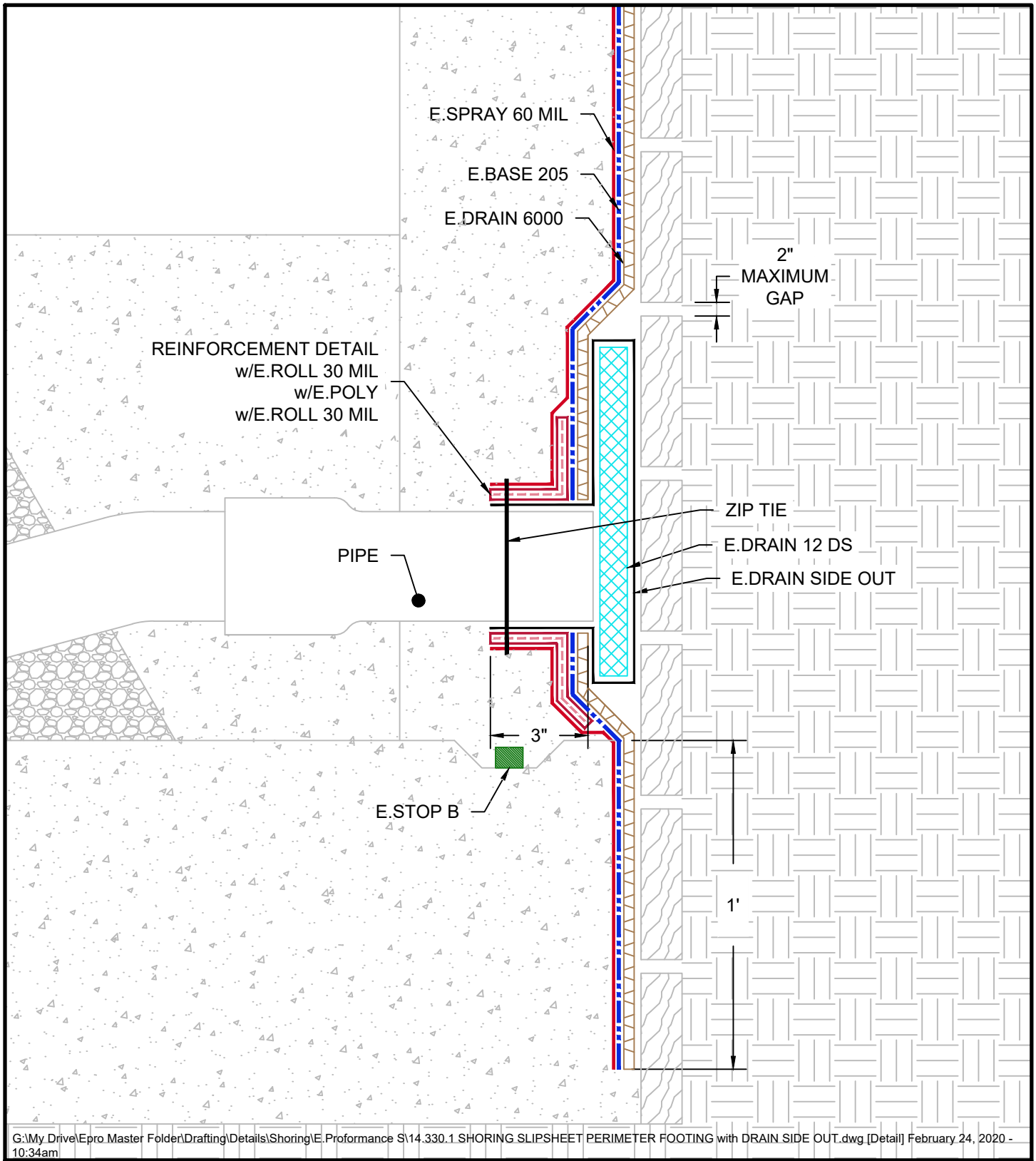
SHORING SLIPSHEET SINGLE BAR TIE BACK PENETRATION NON-DETENTIONED

epro

SYSTEM NAME	DRAWING NUMBER
E.PROFORMANCE SLIPSHEET	14.322.1
DRAFTER	DATE
RJT	2/24/2020

.SERIES

NTS



G:\My Drive\Epro Master Folder\Drafting\Details\Shoring\E.Proformance S\14.330.1 SHORING SLIPSHEET PERIMETER FOOTING with DRAIN SIDE OUT.dwg [Detail] February 24, 2020 - 10:34am

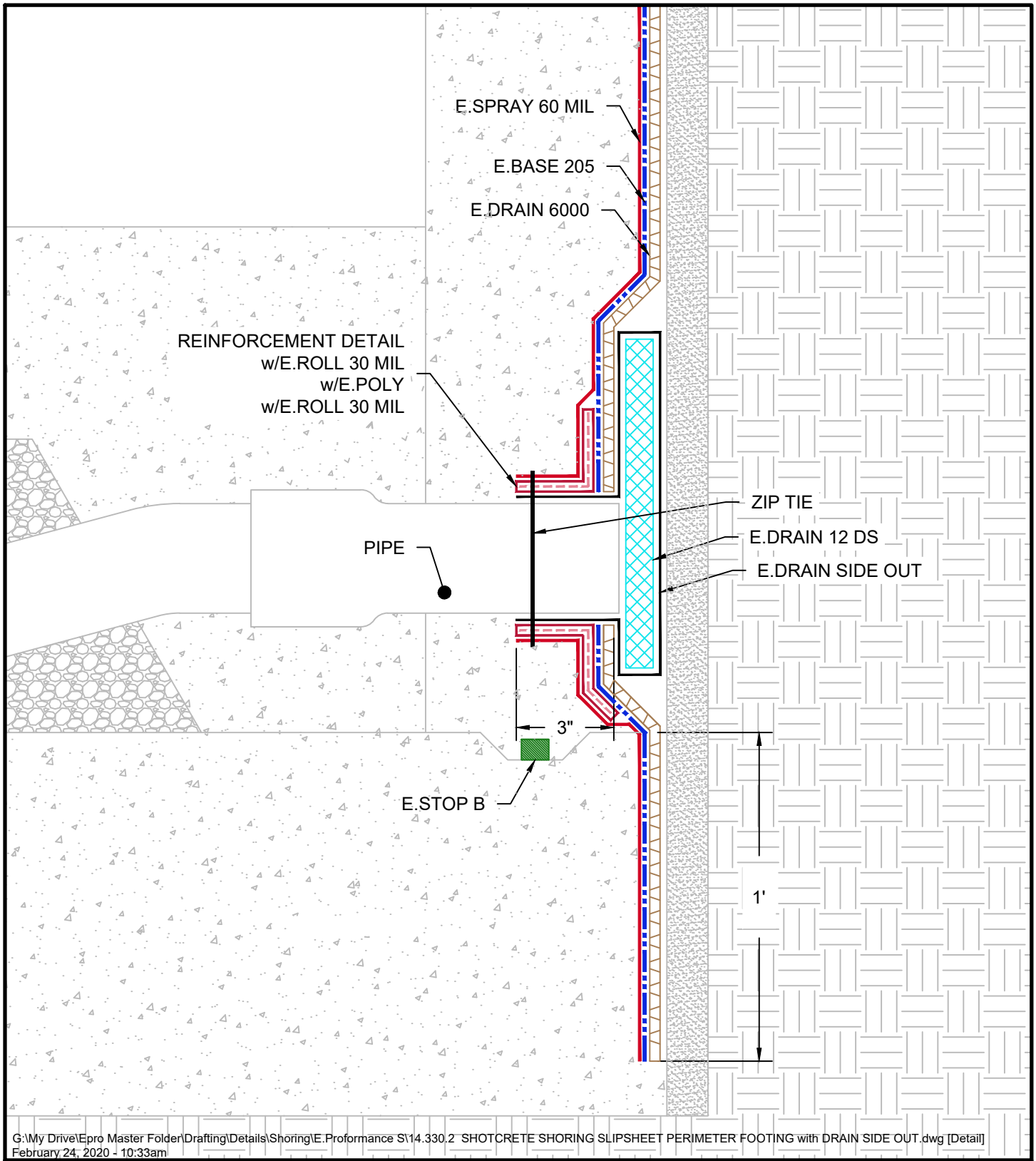
SHORING SLIPSHEET PERIMETER FOOTING with DRAIN SIDE OUT

SYSTEM NAME	DRAWING NUMBER
E.PROFORMANCE SLIPSHEET	14.330.1
DRAFTER	DATE
RJT	2/24/2020

epro

.SERIES

NTS



G:\My Drive\Epro Master Folder\Drafting\Details\Shoring\E.Proformance S\14.330.2 SHOTCRETE SHORING SLIPSHEET PERIMETER FOOTING with DRAIN SIDE OUT.dwg [Detail]
February 24, 2020 - 10:33am

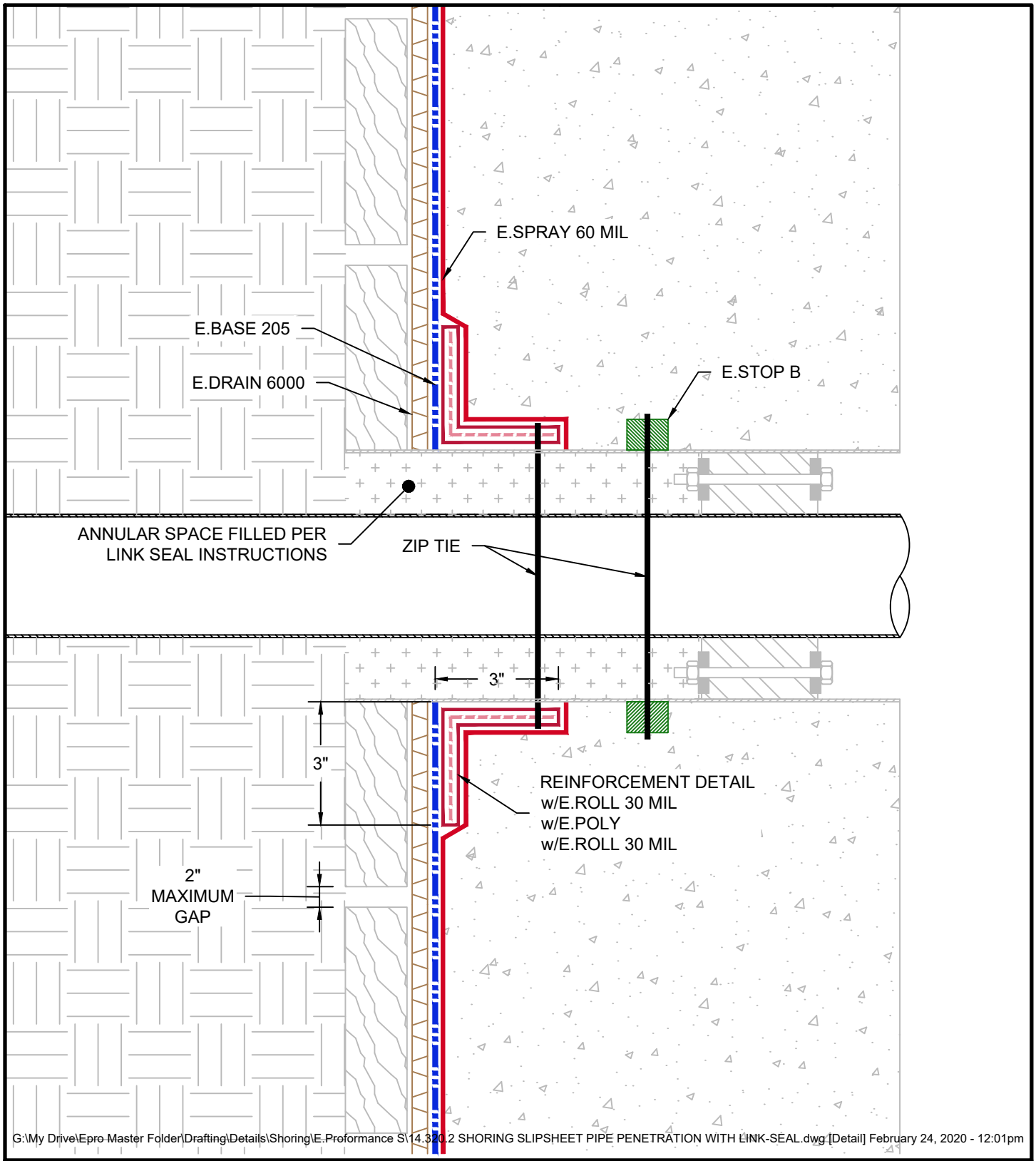
SHOTCRETE SHORING PERRIMETER FOOTING with DRAIN SIDE OUT

SYSTEM NAME	DRAWING NUMBER
E.PROFORMANCE SLIPSHEET	14.330.2
DRAFTER	DATE
RJT	2/24/2020

epro

.SERIES

NTS

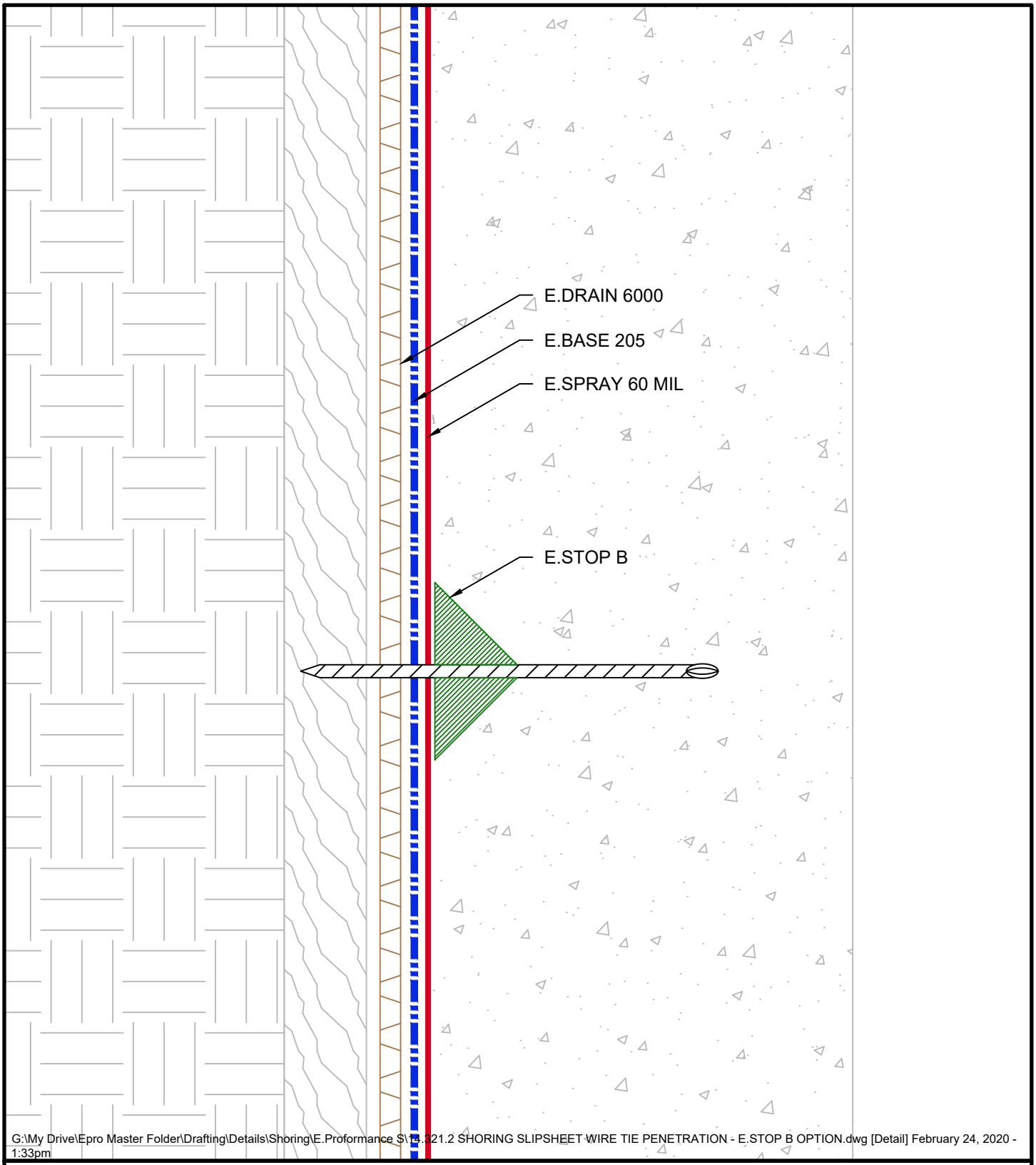


G:\My Drive\Epro Master Folder\Drafting\Details\Shoring\E.Proformance S\14.320.2 SHORING SLIPSHEET PIPE PENETRATION WITH LINK-SEAL.dwg [Detail] February 24, 2020 - 12:01pm

SHORING SLIPSHEET PIPE PENETRATION w/LINK SEAL

SYSTEM NAME	DRAWING NUMBER
E.PROFORMANCE SLIPSHEET	14.320.2
DRAFTER	DATE
RJT	2/24/2020

NTS

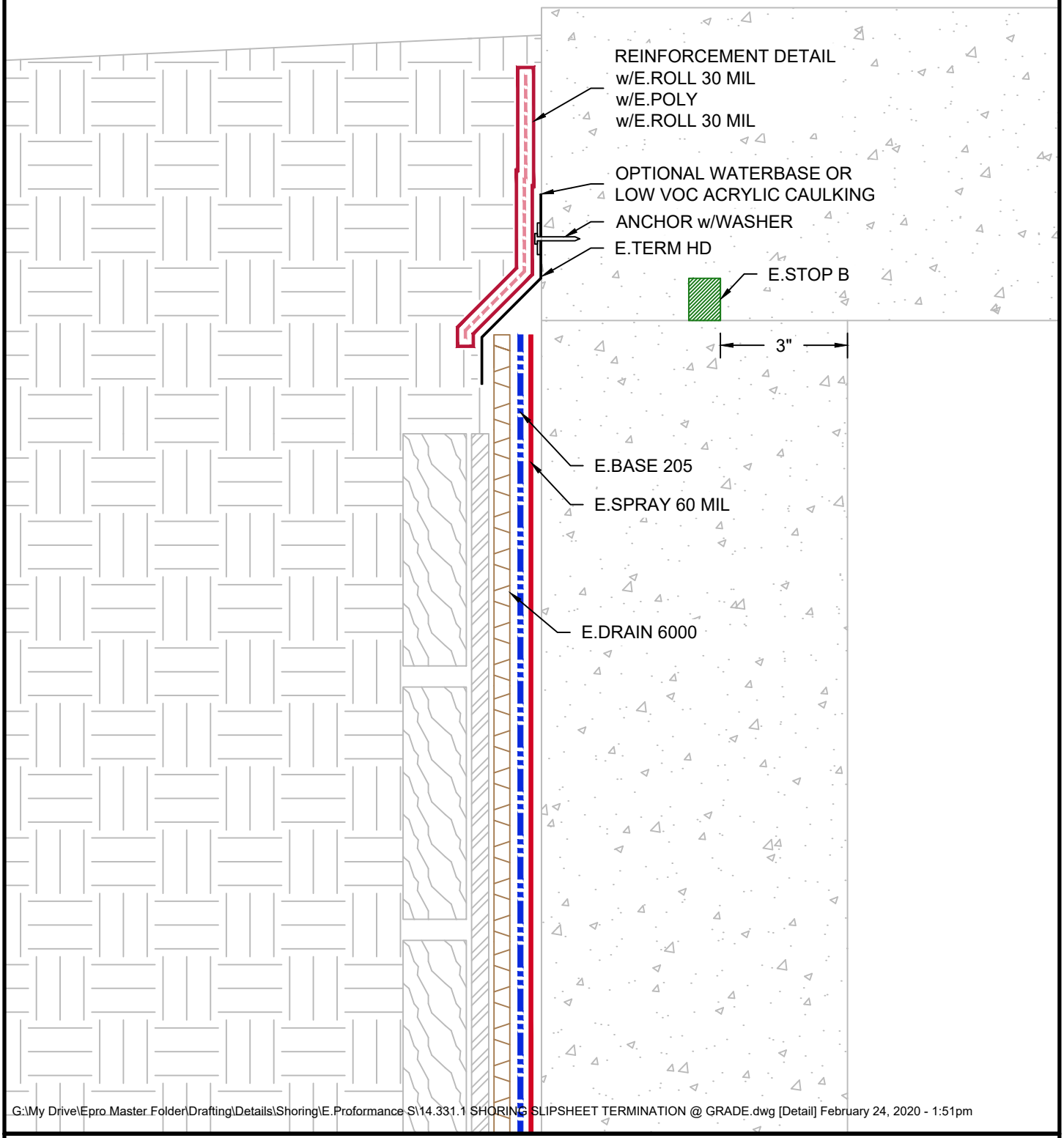


G:\My Drive\Epro Master Folder\Drafting\Details\Shoring\E.Proformance S\14.321.2 SHORING SLIPSHEET WIRE TIE PENETRATION - E.STOP B OPTION.dwg [Detail] February 24, 2020 - 1:33pm

SHORING SLIPSHEET WIRE TIE PENETRATION - E.STOP B OPTION

SYSTEM NAME	DRAWING NUMBER
E.PROFORMANCE SLIPSHEET	14.321.2
DRAFTER	DATE
RJT	2/24/2020

NTS

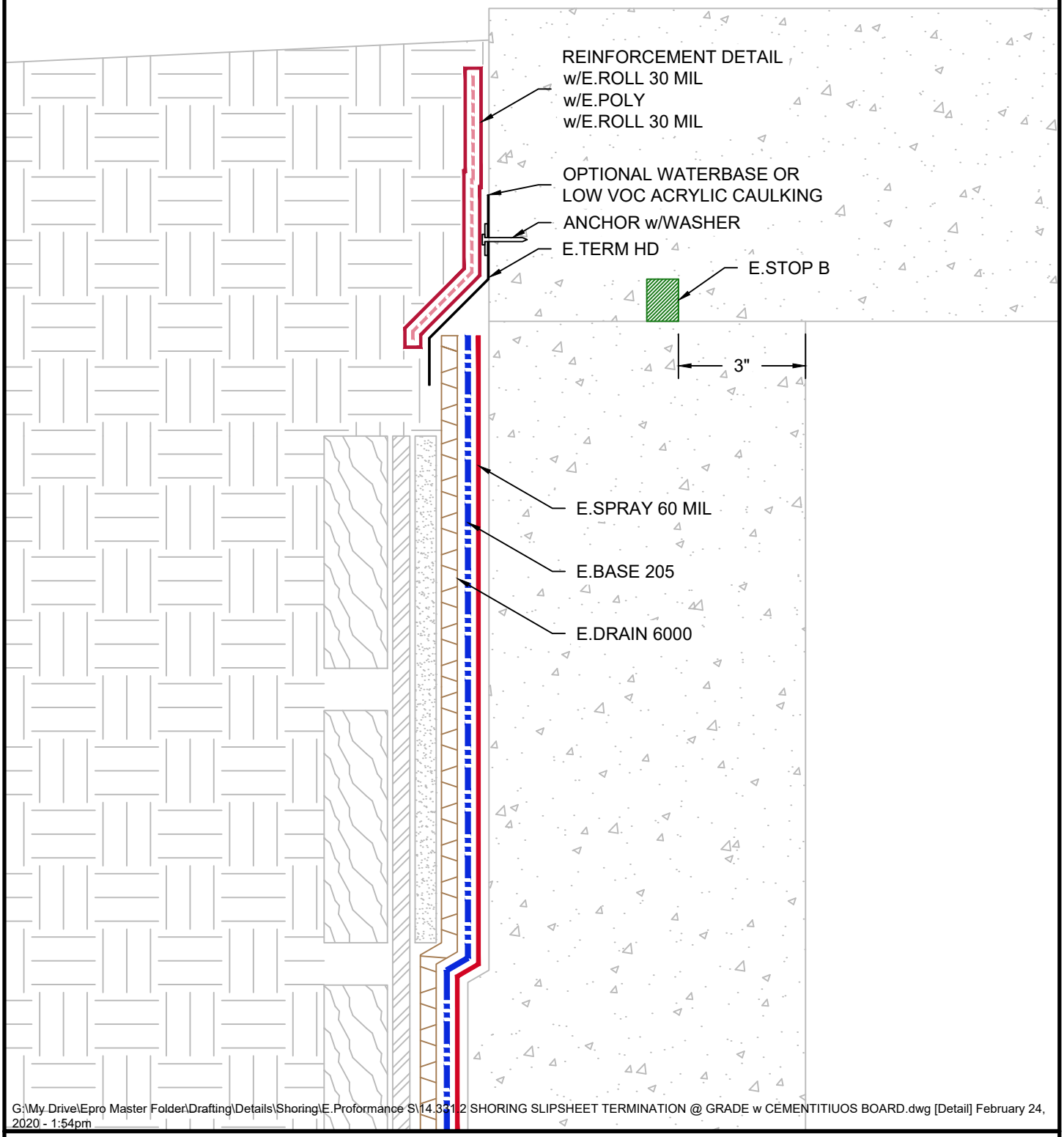


G:\My Drive\Epro Master Folder\Drafting\Details\Shoring\E.Proformance S\14.331.1 SHORING SLIPSHEET TERMINATION @ GRADE.dwg [Detail] February 24, 2020 - 1:51pm

SHORING SLIPSHEET TERMINATION @ GRADE

SYSTEM NAME	DRAWING NUMBER
E.PROFORMANCE SLIPSHEET	14.331.1
DRAFTER	DATE
RJT	2/24/2020

NTS



G:\My Drive\Epro Master Folder\Drafting\Details\Shoring\E.Proformance S\14.331.2 SHORING SLIPSHEET TERMINATION @ GRADE w CEMENTITIUOS BOARD.dwg [Detail] February 24, 2020 - 1:54pm

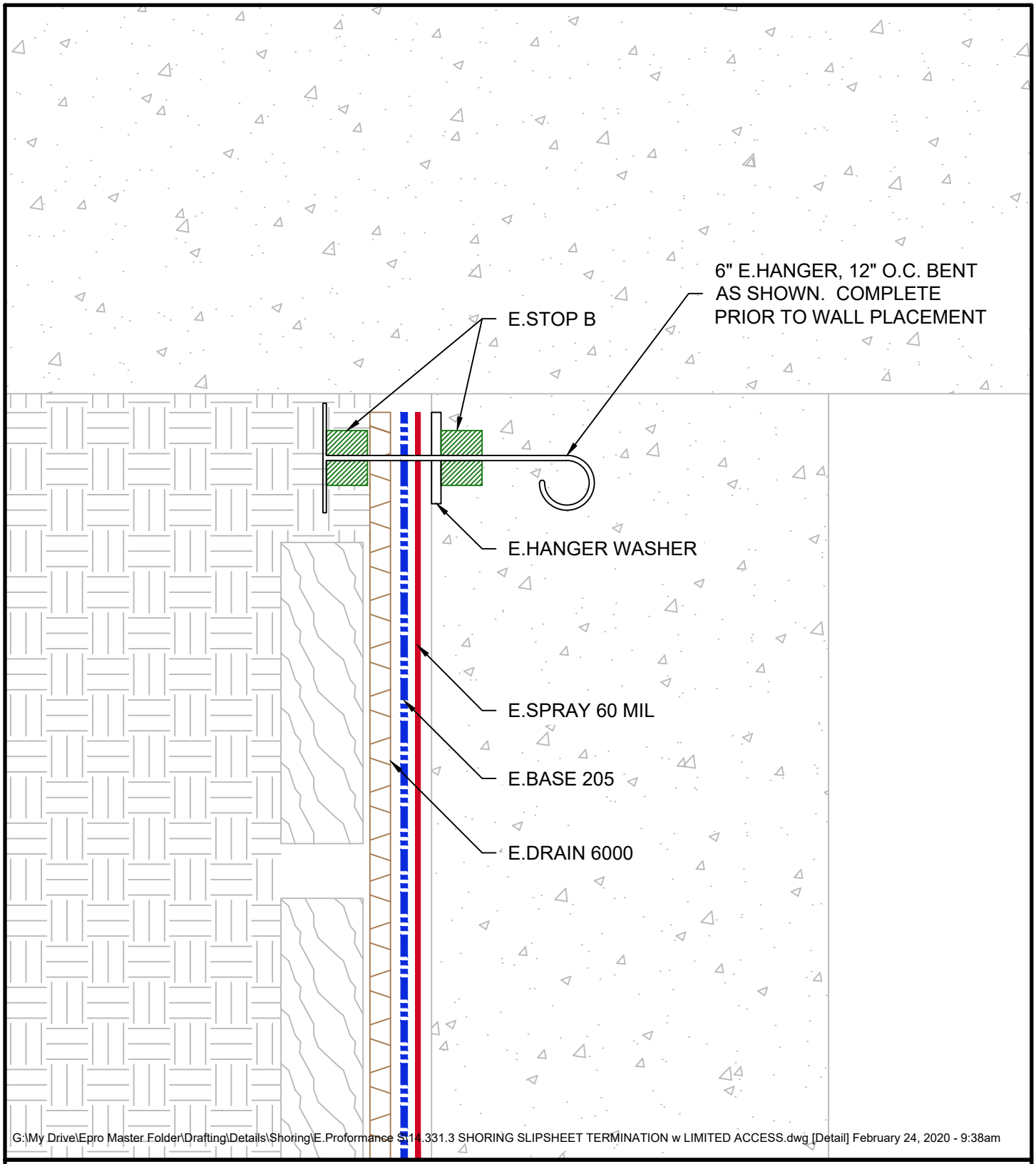
SHORING SLIPSHEET TERMINATION @ GRADE w/CEMENTITIOUS BOARD

SYSTEM NAME	DRAWING NUMBER
E.PROFORMANCE SLIPSHEET	14.331.2
DRAFTER	DATE
RJT	2/24/2020

epro

.SERIES

NTS

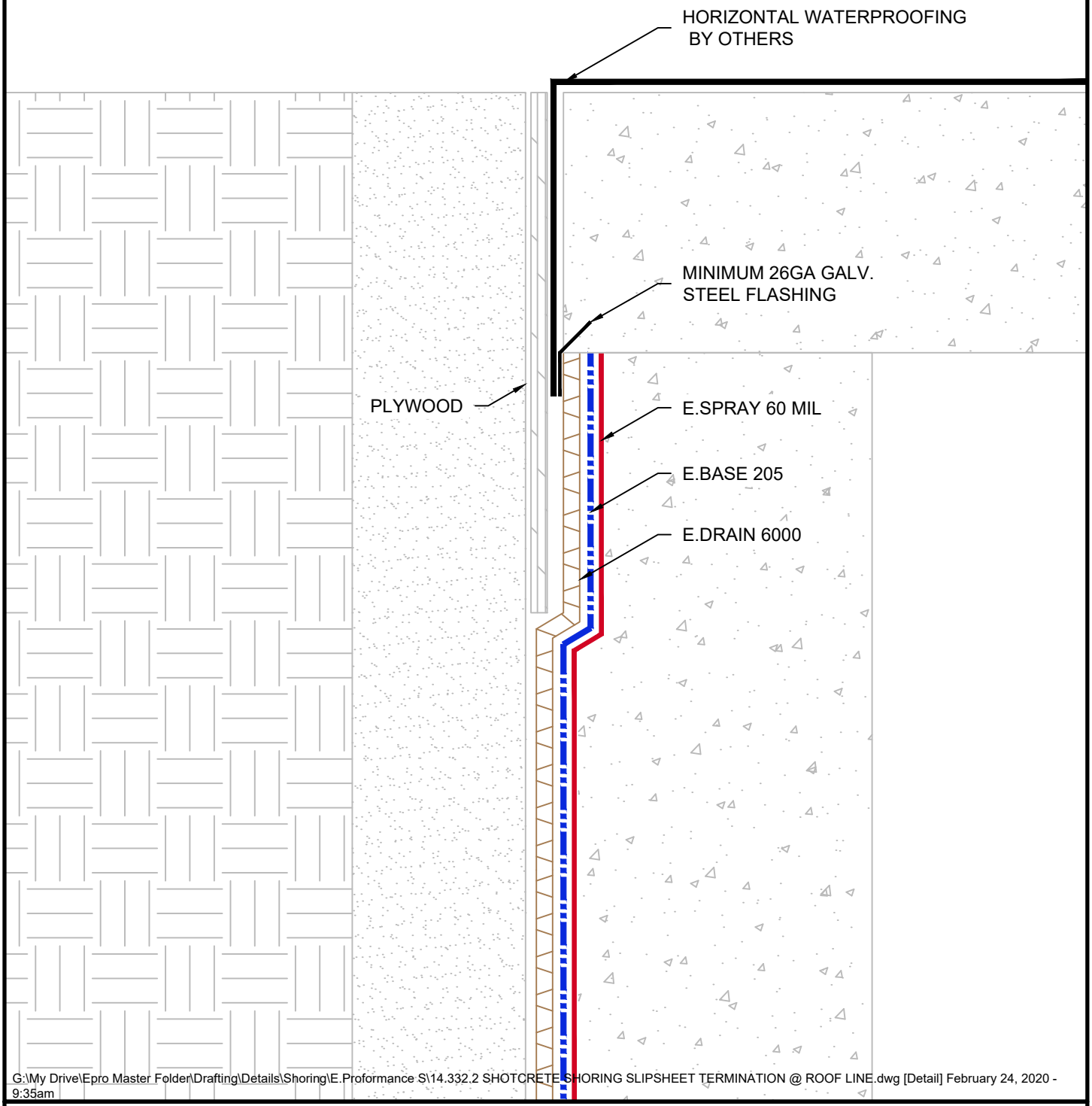


G:\My Drive\Epro Master Folder\Drafting\Details\Shoring\E.Proformance S\14.331.3 SHORING SLIPSHEET TERMINATION w LIMITED ACCESS.dwg [Detail] February 24, 2020 - 9:38am

SHORING SLIPSHEET TERMINATION w LIMITED ACCESS

SYSTEM NAME	DRAWING NUMBER
E.PROFORMANCE SLIPSHEET	14.331.3
DRAFTER	DATE
RJT	2/24/2020

NTS

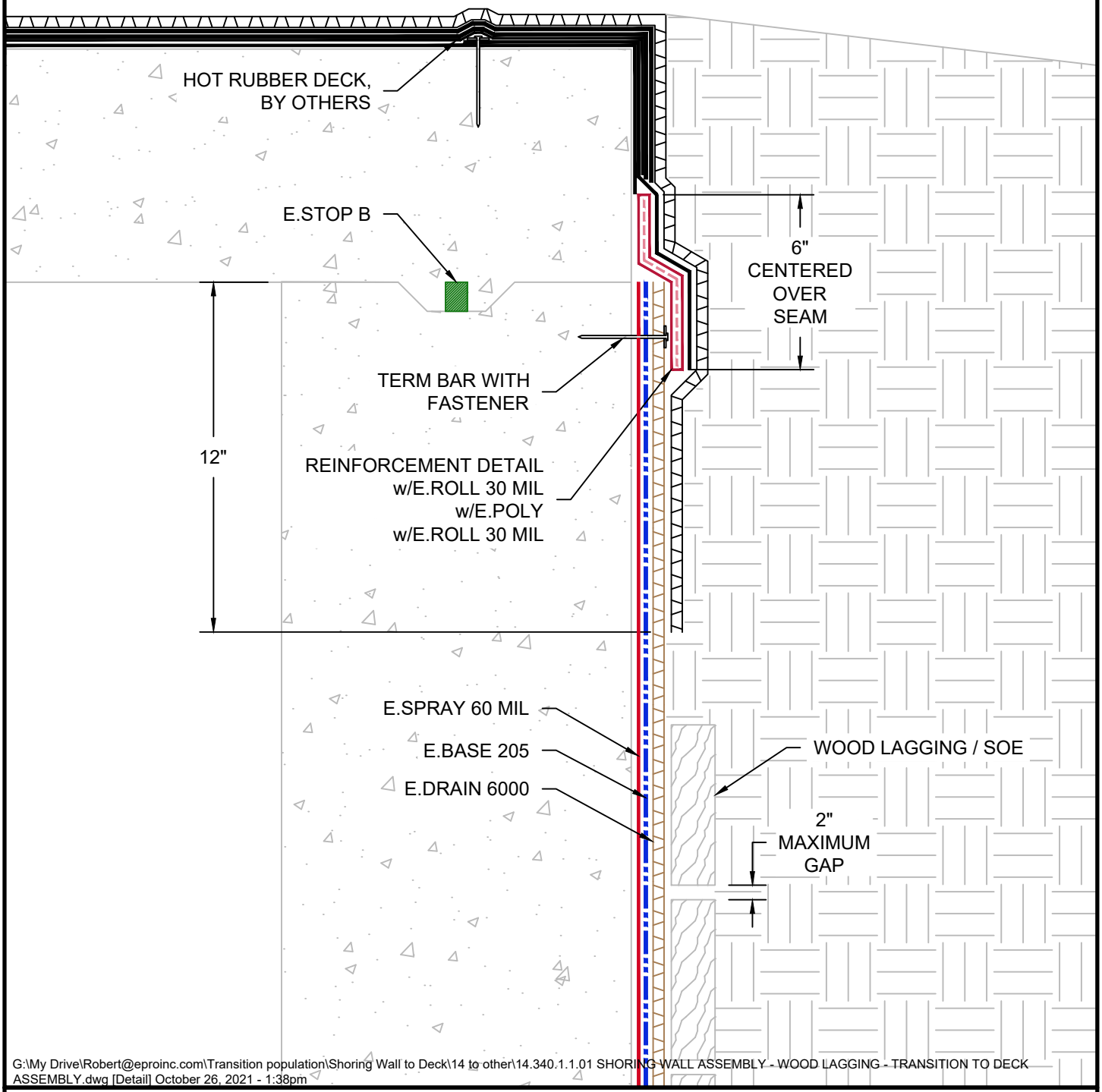


G:\My Drive\Epro Master Folder\Drafting\Details\Shoring\E.Proformance S\14.332.2 SHOTCRETE SHORING SLIPSHEET TERMINATION @ ROOF LINE.dwg [Detail] February 24, 2020 - 9:35am

SHOTCRETE SHORING SLIPSHEET TERMINATION @ ROOF LINE

SYSTEM NAME	DRAWING NUMBER
E.PROFORMANCE SLIPSHEET	14.332.2
DRAFTER	DATE
RJT	2/24/2020

NTS

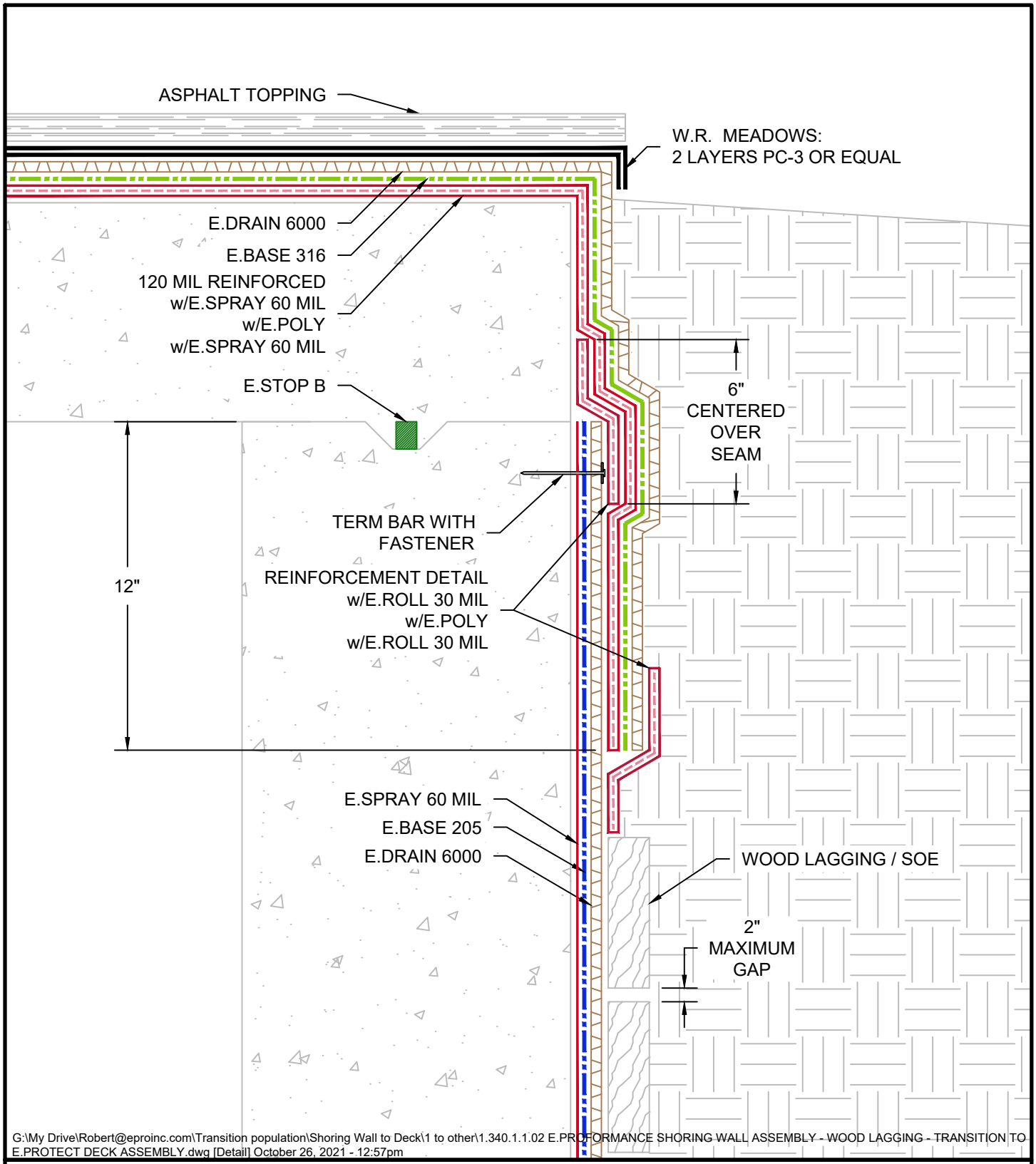


G:\My Drive\Robert@eproinc.com\Transition population\Shoring Wall to Deck\14 to other\14.340.1.1.01 SHORING WALL ASSEMBLY - WOOD LAGGING - TRANSITION TO DECK ASSEMBLY.dwg [Detail] October 26, 2021 - 1:38pm

E.PROFORMANCE SLIPSHEET SHORING WALL ASSEMBLY - WOOD LAGGING - TRANSITION TO HOT RUBBER DECK ASSEMBLY

SYSTEM NAME	DRAWING NUMBER
E.PROFORMANCE SLIPSHEET	14.340.1.1.19
DRAFTER	DATE
RJT	10/25/2021

NTS

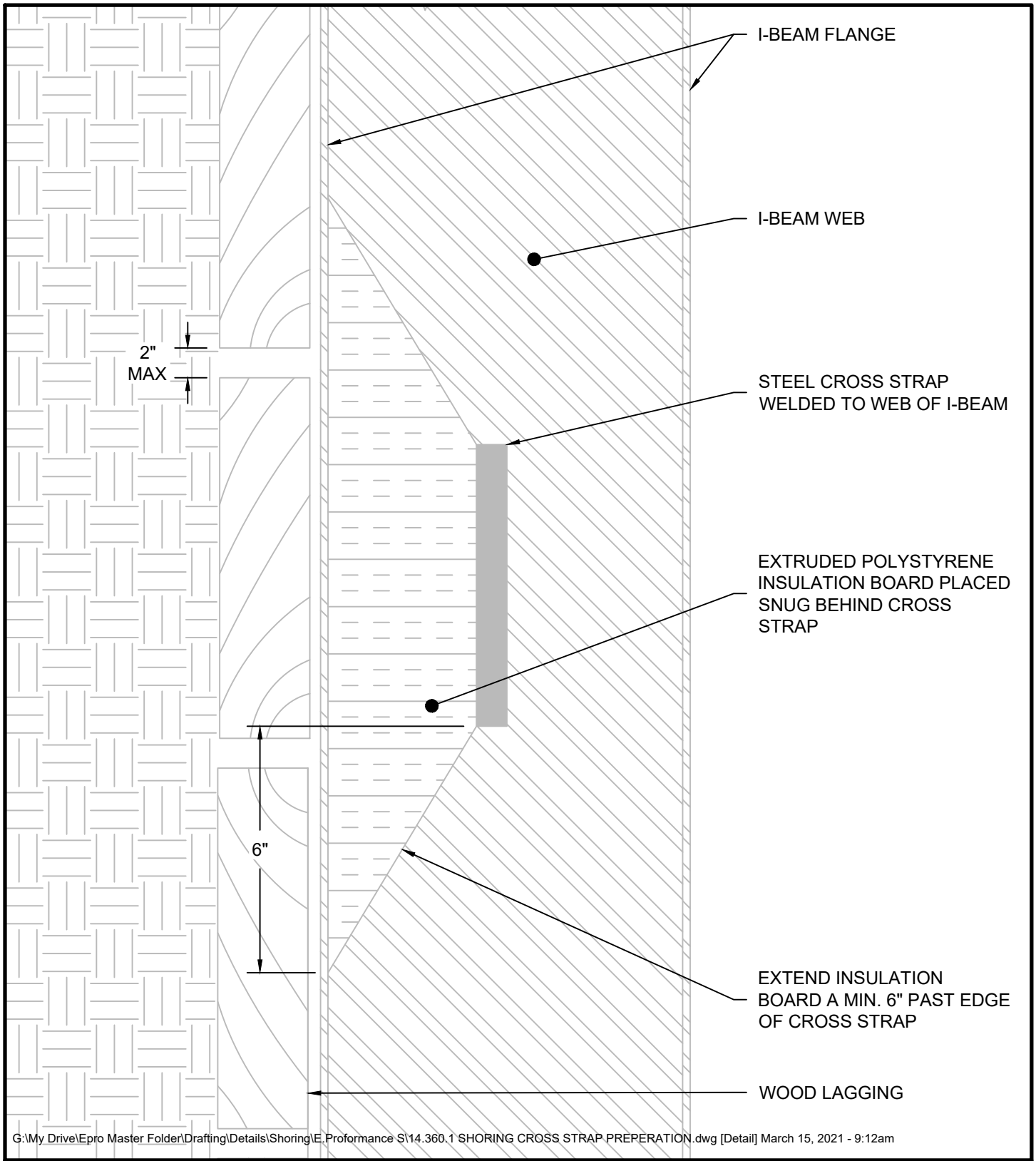


G:\My Drive\Robert@eproinc.com\Transition population\Shoring Wall to Deck\1 to other\1.340.1.1.02 E.PROFORMANCE SHORING WALL ASSEMBLY - WOOD LAGGING - TRANSITION TO E.PROTECT DECK ASSEMBLY.dwg [Detail] October 26, 2021 - 12:57pm

E.PROFORMANCE SLIPSHEET SHORING WALL ASSEMBLY - WOOD LAGGING - TRANSITION TO E.PROTECT+ DECK ASSEMBLY w/ASPHALT TOPPING

SYSTEM NAME	DRAWING NUMBER
E.PROFORMANCE SLIPSHEET / E.PROTECT+	14.340.3.1.03
DRAFTER	DATE
RJT	10/25/2021

NTS

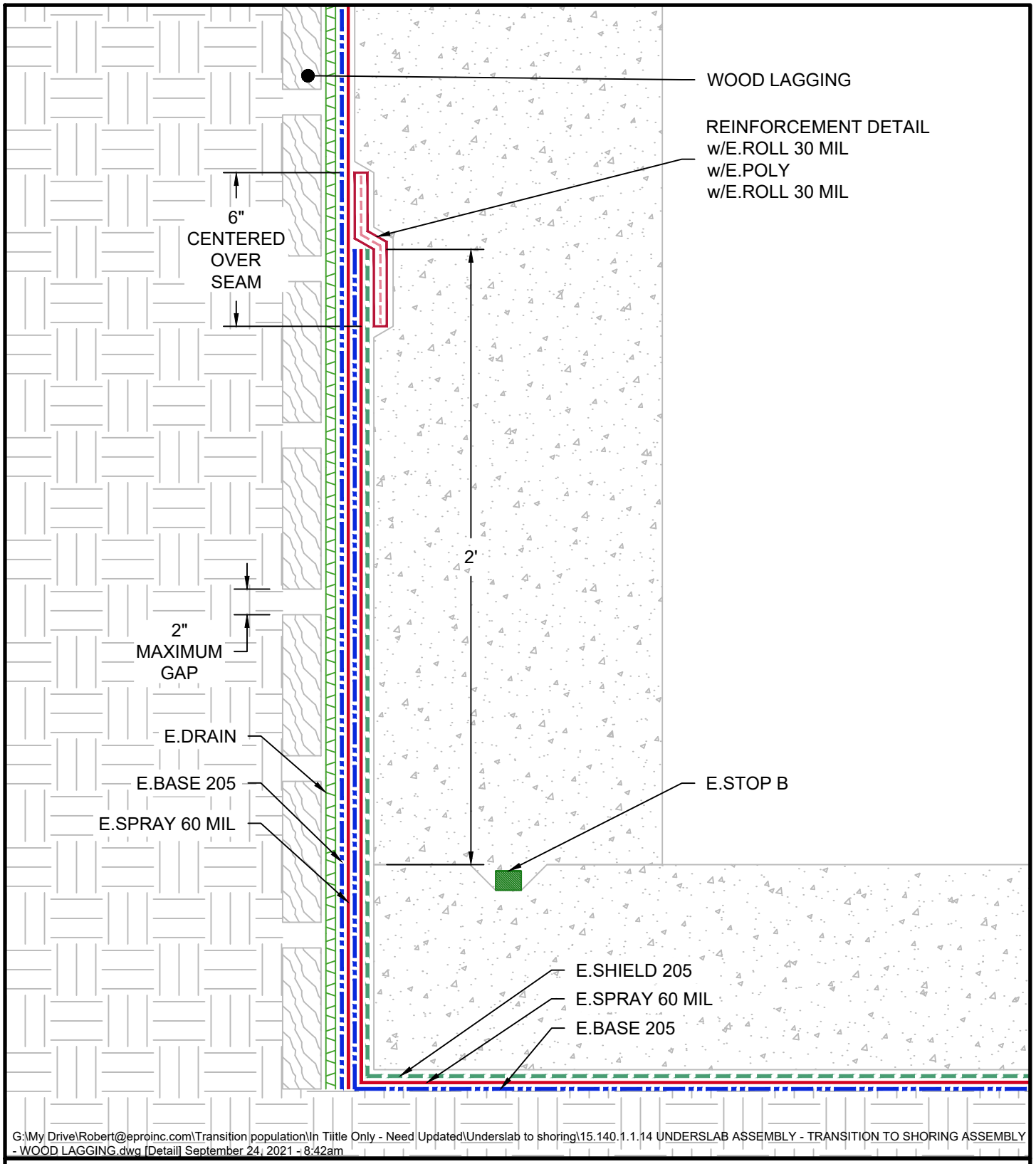


G:\My Drive\Epro Master Folder\Drafting\Details\Shoring\E.Proformance S\14.360.1 SHORING CROSS STRAP PREPERATION.dwg [Detail] March 15, 2021 - 9:12am

BACKLAGGED CROSS STRAP PREPARATION

SYSTEM NAME	DRAWING NUMBER
E.PROFORMANCE SLIPSHEET	14.360.1
DRAFTER	DATE
RJT	3/15/2021

NTS



G:\My Drive\Robert@eproinc.com\Transition population\In Tiitle Only - Need Updated\Underslab to shoring\15.140.1.1.14 UNDERSLAB ASSEMBLY - TRANSITION TO SHORING ASSEMBLY - WOOD LAGGING.dwg [Detail] September 24, 2021 - 8:42am

E.PROFORMANCE M UNDERSLAB VAPOR ASSEMBLY - TRANSITION TO E.PROFORMANCE SLIPSHEET SHORING ASSEMBLY - WOOD LAGGING

epro

SYSTEM NAME	DRAWING NUMBER
E.PROFORMANCE M/E.PROFORMANCE SLIPSHEET	15.140.1.1.14
DRAFTER	DATE
RJT	9/23/2021

e.SERIES

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epro | e.poly

Typical Physical Properties

Physical Property	Test Method	Value
Weight		3 oz.
Bursting Strength	ASTM D3786	177 lbs.
Tensile Strength	ASTM D1682	57.1 psi
Tear Strength	ASTM D1117	16.1 lbs
Elongation	ASTM D1682	62.0%
Conformability		Excellent
Ease of saturation		Excellent

Dimensions: 6" x 300', 12" x 300', and 40" x 324' rolls are available