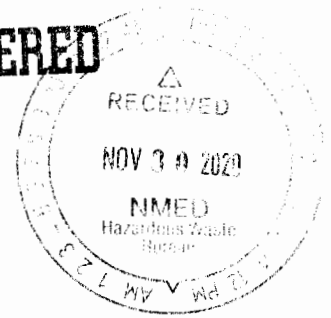




ENTERED



CERTIFIED MAIL RETURN RECEIPT REQUESTED

November 13, 2020

Chief
New Mexico Environment Department
Hazardous Waste Bureau
2905 Rodeo Park Drive East, Building 1
Santa Fe, New Mexico 87505-6313

And:

New Mexico Environment Department
Hazardous Waste Bureau
121 Tijeras Avenue NE
Suite 1000
Albuquerque NM 87102

RE: Tank Farm Containment Epoxy Certification 4.5
Safety-Kleen Systems, Inc.- Farmington Branch
EPA ID # NMD980698849

Dear Chief:

Permit Section 4, Condition 4.5 Tank Systems Secondary Containment of the facility's RCRA Part B Permit requires:

The Permittees shall ensure that the secondary containment system comprised in part by floor, wall, or joint sealants, is installed and maintained in accordance with the sealant manufacturer's recommendations and shall maintain documentation of this fact in the Facility Operating Record. This documentation shall include a copy of the manufacturer's recommendations and a certification from a registered engineer stating that the Permittees' installation and maintenance procedures were performed in accordance with the recommendations.

Safety-Kleen Systems, Inc.- Farmington had the tank farm recoated in May of 2020 by Stonhard which manufactures and installs their material. Enclosed you will find the following documents:

- A letter dated 10-20-20 from Jordan Engineering, LLC of Albuquerque, NM certifying the installation was conducted in conformance with the applicable NMED regulations and manufacturer's recommendations. The letter includes the engineers Registered Professional Engineers stamp from New Mexico.
- A 9-30-20 letter from Stonhard detailing the work and products they used in epoxy coating the tank farm.

Tank Farm Containment Epoxy Certification 4.5

November 13, 2020

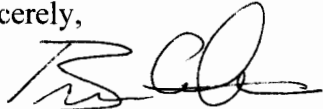
Page 2 of 2

- A 9-30-20 letter from Stonhard to be used if repairs are to be made to the area.
- Spec sheets for STONCHEM 555 and 556 epoxies from Stonhard used in the project.

In addition, a copy of the report has been saved to the enclosed flash drive as required.

If you have any questions, feel free to contact Nick Culian, Sr. Environmental Compliance Manager at 530-363-2632, or by email at nick.culian@safety-kleen.com.

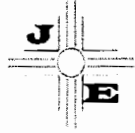
Sincerely,



Brian Cochran
Branch Manager

Enclosures:

File 2020



Jordan Engineering, LLC
P.O. Box 92584
Albuquerque, New Mexico 87199
505.280.2823

October 20, 2020

Submitted by e-mail

Mr. Leonard Butler, P.E., BCEE, CSP
Senior Project Engineer
Clean Harbors/Safety-Kleen
4845 Forest St
Commerce City, Co 80022

Re: Existing Safety-Kleen Premium Solvent and Used Oil Containment Area Epoxy Coating Project
4210 Hawkins Rd, Farmington, New Mexico 87401

Dear Mr. Butler

Pursuant to the above referenced project and your instructions concerning certification of proper application of the Stonhard product Stonchem 556/555 (used oil containment area) and Stonhard 556 products (solvent containment area) Jordan Engineering, LLC (JE) has completed the review and has the following comments:

It is Jordan Engineering, LLC's opinion that the above referenced Application has been prepared in general conformance with the regulatory requirements of New Mexico Petroleum Storage Tank Bureau (PSTB) 20.5.109 NMAC, NMED permit conditions and Stonhard manufacture's recommendations.

JE has reviewed:

Installation photos/videos received October 9, 2020 and October 19, 2020 of the used oil containment and solvent areas from Ben Marsh-Stonhard Territory Manager and Brian Cochran-Safety Kleen Branch Manager.

In addition, JE has reviewed two letters concerning product literature and installation procedures of the Stonhard-Stonchem 555/556 epoxy coating products and the Stonflex MP7 crack and joint filler. This documentation is dated September 30, 2020.

JE conducted interviews concerning actual field installation procedures with the Stonhard Group, on-site field representative Ben Marsh, Reed Goodman, National Manager Linings Group, The Stonhard Group, David Paquette, Director Engineering, Clean Harbors/Safety-Kleen, and yourself on October 9, 2020. The items discussed and summarized were:

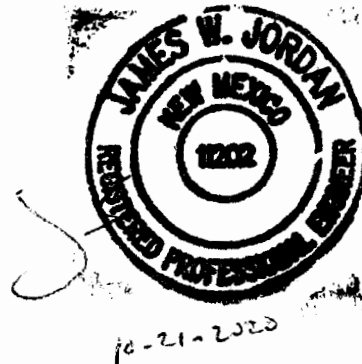
- Preparation including crack repair using Stonflex MP7 on both vertical and horizontal surfaces,
- Temperature/weather limitations on prime coat, base coat engineered fabric, motor coat, and top coat,
- Cure time for each application,
- Chemical resistance of 500 series products.

Based upon the information provided and evidence presented, the installation was conducted in general conformance with applicable NMED regulations and manufacture's recommendations.

Contact me with your questions or comments.

Sincerely,

James W. Jordan, P.E.
Managing Member





Jordan Engineering, LLC

P.O. Box 92584

Albuquerque, New Mexico 87199

505.280.2823

Attachments:

STONHARD

1000 East Park Avenue
Maple Shade, NJ 08052
P: 856.779.7500
F: 856.321.7635
www.stonhard.com

September 30, 2020

To whom it may concern:

Re: Stonhard turnkey installation of Solvent Tank Farm and Oil Tank Farm at Safety-Kleen/CleanHarbors Farmington, NM
Stonhard Project #644817

Executive Summary:

Stonhard as a turnkey manufacturer and installer of high-performance concrete protection and lining systems has enjoyed a long relationship with SK/CH. Being a preferred vendor of secondary containment lining systems for decades, Stonhard has installed many of these exact lining systems across the US and Canada providing long term containment protection. Stonhard, acting as both manufacturer and installer on this project installed our Stonchem 556 fiberglass reinforced lining and Stonchem 555 fiberglass reinforced lining on both the Solvent tank farm and Oil tank farm at Safety-Kleen/CleanHarbors in Farmington, NM. The needs of the containment linings were analyzed many months before the quote and installation. Stonhard linings manager made a site visit to analyze the concrete and CMU condition, engineering details, and confirm chemical exposure list of each containment. Based on the survey, Stonhard chose to quote and install our Stonchem 556 lining system on the horizontal surfaces of the Solvent containment and Stonchem 556V vertical formulation lining system on vertical surfaces of the Solvent containment. Stonhard installed Stonchem 556 lining system on the horizontal surfaces of the Oil tank farm and Stonchem 555 lining system on the vertical surfaces of the Oil tank farm. These systems were installed by a 6-man crew from May 30th 2020 to June 2nd 2020 and supervised by a Stonhard Territory Manager. All of these fiberglass reinforced lining systems were installed per our own manufacturer specifications and product data sheets. As with other high-quality fiberglass turnkey linings provided at SK/CH different locations, we know these linings will provide all necessary protection and exceed expectations regarding long term performance. Product data sheets and Chemical Resistance Guide for the 500 series lining is attached.

Scope of Work:

Solvent Tank Farm- 38'x22' with 3' high CMU walls. Total of 1,196 sq.ft. Stonhard prepared concrete and CMU and installed Stonchem 556 fiberglass reinforced lining system at 60 mils DFT on all accessible surfaces. Crack and joint filling sealant is Stonflex MP7

Oil Tank Farm- 51'x24' with 3'4" concrete perimeter wall and 20" high interior knee wall. Total of 1,792 sq.ft. Stonhard prepared concrete and installed Stonchem 556 fiberglass reinforced lining system at 60 mils DFT on all horizontal accessible surfaces and Stonchem 555 at 40 mils DFT on all vertical accessible surfaces. Crack and joint filling sealant is Stonflex MP7.

Chemical Resistance:

Stonhard carefully analyzes chemical resistance requirements for all areas requiring protection. Stonhard has reviewed and confirmed the use of our 500 series protection for these solvents, solvent wastes and oils. Please see attached 500 series chemical resistance guide whose ratings are based on a minimum of 7 days immersion service. For joint and crack pre-sealant, see Stonflex MP7 product data with embedded chemical resistance guide.

Inspection and Maintenance

The Stonhard Stonchem 556 and 555 fiberglass reinforced exterior linings are specifically designed for exterior concrete chemical protection. They are long term solutions designed for chemical service and exterior thermal cycling. They do not require maintenance for at least 10-15 years. After that, a new 500 series topcoat is recommended to refresh the surface of the lining. SAFETY-KLEEN employees perform daily inspections to ensure performance. If the lining show deficiencies, SK employees will perform restoration or employ Stonhard to perform restoration work.

If you have any questions or require further information, please do not hesitate to contact me or technical service at 800.854.0310 or directly on my cell phone at 678.642.7555.

Sincerely,
Stonhard, Division of StonCor Group, Inc.

Reed W. Goodwin

Reed W. Goodwin
National Manager Linings Group



FLOORS FOR EVERY ENVIRONMENT

ISO 9001:2008 Registered Company
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STONHARD

1000 East Park Avenue
Maple Shade, NJ 08052
P: 856.779.7500
F: 856.321.7635
www.stonhard.com

September 30, 2020

To: David D. Paquette
Director Engineering
Safety-Kleen CleanHarbors

Re: Containment Lining/Sealant restoration procedures for containments at Safety-Kleen/CleanHarbors Farmington, NM

Summary of Work:

Based on the photos provided, Stonhard has the following recommendation and procedure for treating the two areas identified that were not in the original installation plan for the Stonhard lining. Both type areas will use our most chemical resistant self-priming elastomeric sealant Stonflex MP7 as the finish. There is an option to fill the small trench below the manway prior to coating with the MP7. If this option is chosen, after cleaning out of the concrete recess, quick cure non-shrink grout can be poured and finished into the hole. Ensure the grout achieves 4,000 psi strength in 24 hours or less so the MP7 can be applied over it the next day. Feel free and send us a cut sheet on grout choices.

Materials Needed:

1) 1 box of Stonflex MP7 Pewter (#6554PO). This is the self-priming chemical resistant polyurethane sealant. It can be easily brush-applied. A mix is 1 A and 1 B and it is drilled for 2 minutes using a regular drill and jiffy mixing paddle and using a 5-gallon bucket.

Tools Needed:

- 1) Tape (Masking or Duct)
- 2) Grinder (4 1/2") with v notch blade or diamond cup wheel and masonry wheel
- 3) Sandpaper (40 or 60 grit)
- 4) Clean rags
- 5) Denatured alcohol or ketone solvent (acetone, MEK...etc)
- 6) 5 gallon buckets (2)
- 7) Drill
- 8) Jiffy mixing paddle
- 9) Extension cord for drill
- 10) Small buckets (quart or gallon) 2 of them
- 11) Brushes 2 or so
- 12) Nitrile gloves
- 13) 5 in 1
- 14) Razor knife for opening bags
- 14) Paint stick or margin trowel

Procedure: (recessed concrete area under manway):

- 1) Tape off around perimeter of areas to be coated
 - 2) Grind all accessible areas within the tape with angle grinder and cup wheel. Sand areas that are coated with Stonchem 556 within the tape
 - 3) Vacuum clean and pull tape and wipe areas within the tape liberally with alcohol or solvent on a rag
 - 4) Re-tape around perimeter of areas to be coated along same exact line of previous tape
 - 5) Open 1 mix of Stonflex MP7 and pour into a 5-gallon bucket
 - 7) Mix material with drill and jiffy paddle for 2 minutes
 - 8) Pour mixed material from 5-gallon bucket into smaller bucket for ease of application, use and cure time.
 - 9) Brush coating on all surfaces within the taped areas
 - 10) Pull tape immediately after brushing
 - 11) Inspect for uniformity of gray sealant coverage
- Repeat with another coat if necessary.**

Procedure (crack filling at tank support grid):

- 1) Route out cracks with angle grinder and edge of diamond cup wheel. Masonry wheel can also be used.
- 2) Grind concrete 1" wide on either side of crack with angle grinder and cup when on its edge.
- 3) Vacuum clean areas and liberally wipe with alcohol or solvent on a rag.
- 4) Tape around perimeter of areas to be coated (routed crack plus 1" on each side)
- 5) Open 1 mix of Stonflex MP7 and pour into a 5-gallon bucket
- 7) Mix material with drill and Jiffy paddle for 2 minutes
- 8) Pour mixed material from 5-gallon bucket into smaller bucket for ease of application, use and cure time.
- 9) Brush coating on all surfaces within the taped areas and allow MP7 to flow into routed crack
- 10) Pull tape immediately after brushing
- 11) Inspect for uniformity of gray sealant coverage

Repeat with another coat if necessary.

Please call me directly on my cell phone at 678.642.7555 anytime before, during or after.

Sincerely,

Stonhard, Division of StonCor Group, Inc.

Reed W. Goodwin

Reed W. Goodwin

National Manager Linings Group



ISO 9001:2008 Registered Company
© 2017 StonCor Group, Inc.

PRODUCT DESCRIPTION

Stonchem 555 is a high-performance, epoxy hybrid lining system applied at a nominal thickness of 40 mil/1 mm. The resin, engineering fabric, mineral composite topcoat sequencing provides a light-duty, reinforced chemical barrier for occasional foot traffic which is resistant to small static cracks and moderate thermal shock. The Stonchem 555 system has excellent resistance to caustics and moderate concentrations of acids.

USES, APPLICATIONS

- Secondary containment areas
- Concrete sumps, vaults and trenches
- Pump pads and pedestals
- Storage tanks
- Neutralization pits

PRODUCT ADVANTAGES

- Excellent chemical resistance to caustics and moderate concentrations of acids
- Engineering fabric aids in crack resistance
- Mineral composite topcoat for increased impermeability
- Factory proportioned units for easy application

CHEMICAL RESISTANCE

Stonchem 555 is formulated to resist a variety of chemical solutions. (Refer to the Stonchem 500 Series Chemical Resistance Guide for lists of reagent concentrations and temperature recommendations.)

PACKAGING

Stonchem 555 is packaged in units for easy handling. Each unit consists of:

Saturant

1.25 cartons of Stonchem 500 Series Liquids

A carton contains:

- 4 foil bags of Amine
- 4 poly bags of Resin

Engineering Fabric

1 roll of Engineering Fabric 200 sq. ft./18.58 sq. m roll

Topcoat

1 carton of Stonchem 500 Series Topcoat

A carton contains:

- 4 foil bags of Amine
- 4 poly bags of Resin

COVERAGE

Each unit of Stonchem 555 will cover approximately 180 sq. ft./16.72 sq. m at an application thickness of 40 mil/1 mm.

Note: Coverage rates shown are theoretical. Actual coverage rates may vary. Make necessary allowances for the condition of the surface to be coated, working conditions, waste, spillage, experience level and skill of the installers, etc.

STORAGE CONDITIONS

Store all components between 50 to 75°F/10 to 24°C in a dry area. Keep out of direct sunlight. Avoid excessive heat and do not freeze. The shelf life is 3 years in the original, unopened container. Store all engineering fabric in a clean and dry area.

SUBSTRATE

Stonchem 555, with appropriate primer, is suitable for application over concrete and the following uncoated newly applied Stonhard mortars and grouts: GS, HT, UR, UT, TG6, TG8, CR5 and PM5. For questions regarding other possible substrates or an appropriate primer, contact your local Stonhard representative or Technical Service.

SUBSTRATE PREPARATION

Proper preparation is critical to ensure an adequate bond and system performance. The substrate must be dry and properly prepared utilizing mechanical methods. Questions regarding substrate preparation should be directed to your local Stonhard representative or Technical Service.

PHYSICAL CHARACTERISTICS

Tensile Strength.....	7,200 psi
(ASTM D-638)	
Flexural Strength.....	9,300 psi
(ASTM C-580)	
Flexural Modulus of Elasticity	6 x 10 ⁵ psi
(ASTM C-580)	
Hardness.....	85 to 90
(ASTM D-2240, Shore D)	
(100% concrete failure)	
Abrasion Resistance	0.07 gm max. weight loss
(ASTM D-4060, CS-17)	
Thermal Coefficient	
of Linear Expansion	1.2 x 10 ⁻⁵ in./in.*F
(ASTM C-531)	
Color	Gray
Cure Rate.....	4 to 6 hours tack-free
(@70F/21°C).....	24 hours chemical service
VOC	Stonchem 500 Topcoat 55 g/l
(ASTM D-2369, Method E)	Stonchem 500 Liquids 45 g/l

Note: The above physical properties were measured in accordance with the referenced standards. Samples of the actual system, including binder and filler, were used as test specimens.

APPLICATION GUIDELINES

For optimal working conditions, substrate temperature must be between 60 to 80°F/15 to 27°C. Cold areas must be heated until the slab temperature is above 55°F/13°C to ensure the material achieves a proper cure. A cold substrate will make the material stiff and difficult to apply. Warm areas or areas in direct sunlight must be shaded or arrangements made to work during evenings or at night. A warm substrate (60 to 80°F/15 to 27°C) will aid in the material's workability; however, a hot substrate (80 to 100°F/27 to 37°C) or a substrate directly in the sun will shorten the material's working time and can cause other phenomenon such as pinholing and bubbling. Substrate temperature must be greater than 5°F/3°C above dew point during application and curing period.

Application and curing times are dependent upon ambient and surface conditions. Consult Stonhard's Technical Service Department if conditions are not within recommended guidelines.

APPLYING

Priming

Vacuum the surface before priming and make sure the substrate is dry. The use of Stonchem Epoxy Primer is necessary in all applications of Stonchem 555. This ensures maximum product performance. (See the Stonchem Epoxy Primer product sheet for details.)

Note: Stonchem Epoxy Primer must be tack-free prior to application of the Saturant – Base Coat.

Saturant – Base Coat

Mix amine and resin in a 5-gallon bucket using a heavy-duty, slow-speed drill (400 to 600 rpm) with a Jiffy Mixer for one minute. Pour the saturant onto the substrate and spread out with a 15 mil notched squeegee. The saturant should be spread out in a sequence to allow application of the engineering fabric. Do not leave any puddling during this squeegee step. Puddling will lead to over saturation of the engineering fabric.

Engineering Fabric

Place the engineering fabric on the saturant immediately after it is applied. This is important to achieve maximum wetting. Press the fabric into the saturant with a dry, medium nap roller. Overlap adjacent fabric 1/2 in./13 mm. Immediately apply the next saturant step.

Saturant

Mix the amine and resin in a 5-gallon mixing container using a heavy-duty, slow-speed drill (400 to 500 rpm) with a Jiffy Mixer for one minute. Apply the saturant to the engineering fabric with a saturated medium nap roller. To wet the roller, dip it into the mixing bucket. Always work from the bucket. Do not pour the saturant directly onto the engineering fabric; this will decrease the saturant's coverage.

Note: If working in warmer conditions, the use of plastic mixing buckets will increase the pot life of the material.

The engineering fabric is completely saturated when white strands are no longer present. When the engineering fabric is completely saturated, roll with a ribbed roller to release air pockets in the reinforcement. To saturate the overlaps, roll several times over the length of the overlap with a saturated roller, then roll with a ribbed roller several times until the overlap is no longer visible. Allow the fabric and saturant to cure (approximately 4 to 6 hours) before proceeding.

Topcoat

Lightly sand the saturant and engineering fabric in areas where protrusions exist. Vacuum the area completely. Mix the amine and resin in a 5 gallon mixing container using a heavy-duty, slow-speed drill (400 to 500 rpm) with a Jiffy Mixer for 2 minutes.

Pour the material onto the floor and spread out with a 15 mil notched squeegee. Backroll the area with a medium nap roller to remove squeegee lines, using long roll strokes to decrease the visibility of roller lines. For vertical surfaces, pour a bead of material along the base of the wall and, using a medium nap roller, roll the material onto the vertical surface. The wet film thickness of the coating is 10 to 12 mil/250 to 300 microns. Check the thickness with a wet film gauge.

CURING

The surface of Stonchem 555 will be tack-free in 4 to 6 hours at 70°F/21°C. The coated area may be put back in service in 24 hours at 70°F/21°C. Ultimate physical characteristics will be achieved in 7 days.

PRECAUTIONS

- Avoid contact with Stonchem 500 amine and resin, as they may cause skin, respiratory and eye irritation.
- Acetone is recommended for cleanup of Stonchem 500 amine and resin material spills. Use this material only in strict accordance with the manufacturer's recommended safety procedures. Dispose of waste materials in accordance with government regulations.
- The use of NIOSH/MSHA approved respirators using an organic vapor/acid gas cartridge is recommended.
- The selection of proper protective clothing and equipment will significantly reduce the risk of injury. Body covering apparel, safety goggles and impermeable nitrile gloves are highly recommended.
- In case of contact, flush the area with copious amounts of water for 15 minutes and seek medical attention. Wash skin with soap and water.
- If material is ingested, immediately contact a physician. DO NOT INDUCE VOMITING.
- Use only with adequate ventilation.

NOTES

- Safety Data Sheets for Stonchem 555 are available online at www.stonhard.com under Products or upon request.
- Specific information regarding chemical resistance is available in the Stonchem 500 Series Chemical Resistance Guide.
- A staff of technical service engineers is available to assist with product application or to answer questions related to Stonhard products.

- Requests for technical literature or service can be made through local sales representatives and offices, or corporate offices located worldwide.
- The appearance of all floor, wall and lining systems will change over time due to normal wear, abrasion, traffic and cleaning. Generally, high-gloss coatings are subject to a reduction in gloss, while matte-finish coatings can increase in gloss level under normal operating conditions.
- Surface texture of resinous flooring surfaces can change over time as a result of wear and surface contaminants. Surfaces should be cleaned regularly and deep cleaned periodically to ensure no contaminant buildup occurs. Surfaces should be periodically inspected to ensure they are performing as expected and may require traction-enhancing maintenance to ensure they continue to meet expectations for the particular area and conditions of use.

IMPORTANT:

Stonhard believes the information contained here to be true and accurate as of the date of publication. Stonhard makes no warranty, expressed or implied, based on this literature and assumes no responsibility for consequential or incidental damages in the use of the systems described, including any warranty of merchantability or fitness. Information contained here is for evaluation only. We further reserve the right to modify and change products or literature at any time and without prior notice.

06/19
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STONHARD

USA HQ	(800) 257 7953	Mexico	+ (52) 55 9140 4500	Belgium	+ (32) 67 49 37 10	South Africa	+ (27) 11 254 5500	Australia	+ (61) 3 9587 7433
Canada	(800) 263 3112	Argentina	+ (54) 11 5032 3113	Dubai, UAE	+ (971) 4 3470460	China	+ (86) 21 61838698	India	+ (91) 22 28500321

PRODUCT DESCRIPTION

Stonchem 556 is a high-performance, epoxy hybrid lining system applied at a nominal 60 mil/1.5 mm. The resin, engineering fabric, mortarcoat, mineral composite topcoat sequencing provides a smooth, heavy-duty chemical barrier which is resistant to small static cracks and moderate thermal shock. The Stonchem 556 system has excellent resistance to caustics and moderate concentrations of acids.

USES, APPLICATIONS

- Secondary containment areas
- Concrete sumps, vaults and trenches
- Pump pads and pedestals
- Storage tanks
- Neutralization pits

PRODUCT ADVANTAGES

- Excellent chemical resistance to caustics and moderate concentrations of acids
- Engineering fabric aids in crack resistance
- Mortarcoat for added abrasion resistance
- Mineral composite topcoat for increased impermeability
- Factory proportioned units for easy application

CHEMICAL RESISTANCE

Stonchem 556 is formulated to resist a variety of chemical solutions. (Refer to the Stonchem 500 Series Chemical Resistance Guide for lists of reagent concentrations and temperature recommendations.)

PACKAGING

Stonchem 556 is packaged in units for easy handling. A unit of Stonchem 556 consists of:

Saturant

1.25 cartons of Stonchem 500 Series Liquids

A carton contains:

- 4 foil bags of Amine
- 4 poly bags of Resin

Engineering Fabric

(1) roll of Engineering Fabric 200 sq. ft./18.58 sq. m roll

Mortarcoat

0.5 carton of Stonchem 500 Series Liquids

A carton contains:

- 4 foil bags of Amine
- 4 poly bags of Resin

2 bags of Mortarcoat aggregate

Topcoat

1 carton of Stonchem 500 Series Topcoat

A carton contains:

- 4 foil bags of Amine
- 4 poly bags of Resin

COVERAGE

Each unit of Stonchem 556 will cover approximately 180 sq. ft./16.72 sq. m at an application thickness of 60 mil/1.5 mm.

Note: Coverage rates shown are theoretical. Actual coverage rates may vary. Make necessary allowances for the condition of the surface to be coated, working conditions, waste, spillage, experience level and skill of the installers, etc.

STORAGE CONDITIONS

Store all components between 50 to 75°F/10 to 24°C in a dry area. Keep out of direct sunlight. When stored in the unopened containers at the proper temperatures, the shelf life is 3 years. Store all engineering fabric in a clean and dry area.

PHYSICAL CHARACTERISTICS

Tensile Strength.....	5,600 psi
(ASTM D-638)	
Flexural Strength	6,600 psi
(ASTM C-580)	
Flexural Modulus of Elasticity	5 x 10 ⁵ psi
(ASTM C-580)	
Hardness	85 to 90
(ASTM D-2240, Shore D)	
Abrasion Resistance.....	0.07 gm max. weight loss
(ASTM D-4060, CS-17)	
Thermal Coefficient	
of Linear Expansion	1.2 x 10 ⁻⁵ in./in.*F
(ASTM C-531)	
Color	Gray
Cure Rate	4 to 6 hours tack-free
(@70F/21°C).....	24 hours chemical service
VOC	Stonchem 500 Topcoat 55 g/l
(ASTM D-2369, Method E)	Stonchem 500 Liquids 45 g/l

Note: The above physical properties were measured in accordance with the referenced standards. Samples of the actual system, including binder and filler, were used as test specimens.

SUBSTRATE PREPARATION

Stonchem 556, with appropriate primer, is suitable for application over concrete and the following uncoated newly applied Stonhard mortars and grouts: GS, HT, UR, UT, TG6, TG8, CR5 and PM5. For questions regarding other possible substrates or an appropriate primer, contact your local Stonhard representative or Technical Service.

SUBSTRATE PREPARATION

Proper preparation is critical to ensure an adequate bond and system performance. The substrate must be dry and properly prepared utilizing mechanical methods. Questions regarding substrate preparation should be directed to your local Stonhard representative or Technical Service.

APPLICATION GUIDELINES

For optimal working conditions, substrate temperature must be between 60 to 80°F/15 to 27°C. Cold areas must be heated until the slab temperature is above 55°F/13°C to ensure the material achieves a proper cure. A cold substrate will make the material stiff and difficult to apply. Warm areas or areas in direct sunlight must be shaded or arrangements made to work during evenings or at night. A warm substrate (60 to 80°F/15 to 27°C) will aid in the material's workability; however, a hot substrate (80 to 100°F/27 to 37°C) or a substrate directly in the sun will shorten the material's working time and can cause other phenomenon such as pinholing and bubbling. Substrate temperature must be greater than 5°F/3°C above dew point during application and curing period. Application and curing times are dependent upon ambient and surface conditions. Consult Stonhard's Technical Service Department if conditions are not within recommended guidelines.

APPLYING

Priming

Vacuum the substrate before priming and make sure the surface is dry. The use of Stonchem Epoxy Primer is necessary in all applications of Stonchem 556. This ensures maximum product performance. (See the Stonchem Epoxy Primer product sheet for details.)

Note: Stonchem Epoxy Primer must be tack-free prior to application of the Saturant – Base Coat.

Saturant – Base Coat

Mix amine and resin in a 5-gallon bucket using a heavy-duty, slow-speed drill (400 to 600 rpm) with a Jiffy Mixer for one minute. Pour the saturant onto the substrate and spread out with a 15 mil notched squeegee. The saturant should be spread out in a sequence to allow application of the engineering fabric. Do not leave any puddling during this squeegee step. Puddling will lead to over saturation of the engineering fabric.

Engineering Fabric

Place the engineering fabric on the saturant immediately after the saturant is applied. This is important to achieve maximum wetting. Press the engineering fabric into the saturant with a dry, medium nap roller. Overlap adjacent fabric 1/2 in./13 mm. Immediately apply the next saturant step.

Saturant

Mix the amine and resin in a 5 gallon mixing container using a heavy-duty, slow-speed drill (400 to 500 rpm) with a Jiffy Mixer for one minute. Apply the saturant to the engineering fabric with a saturated medium nap roller. To wet the roller, dip it into the mixing bucket. Always work from the bucket. Do not pour the saturant directly onto the engineering fabric; this will decrease the saturant's coverage.

Note: If working in warmer conditions, the use of plastic mixing buckets will increase the pot life of the material.

The engineering fabric is completely saturated when white strands are no longer present. When the engineering fabric is completely saturated, roll with a ribbed roller to release air pockets in the reinforcement and to embed the fabric into the mortar. To saturate the overlaps, roll several times over the length of the overlap with a saturated roller, then roll with a ribbed roller several times until the overlap is no longer visible. Allow the fabric and saturant to cure (approximately 4 to 6 hours) before proceeding.

Mortarcoat

Lightly sand the engineering fabric/saturant layer with a sanding disc attachment in areas with protruding fibers. Pre-mix the amine and resin in a 5 gallon mixing bucket with a heavy-duty, slow-speed drill (400 to 500 rpm) with a mixing blade for one minute. Next, gradually add the Mortarcoat aggregate while mixing for an additional two minutes. For vertical applications, use Vertical Mortarcoat aggregate. Mixing is complete when no dry clumps of material exist. Pour the material onto the floor and spread out with a 15 mil notched squeegee. Backroll the area with a medium nap roller to remove squeegee lines. The material may appear rough at first but will level out to a smooth finish. For vertical applications, use a large steel trowel or knife to pull an initial coat of vertical material onto the wall, then finish smooth with a flat rubber squeegee.

Topcoat

Lightly sand the mortarcoat in areas where protrusions exist. Vacuum the area completely. Mix amine and resin in a 5 gallon mixing container using a heavy-duty, slow-speed drill (400 to 600 rpm) with a Jiffy Mixer for 2 minutes. Pour the material onto the floor and spread out with a 15 mil notched squeegee. Backroll the area with a medium nap roller to remove squeegee lines, using long roll strokes to decrease the visibility of roller lines. For vertical surfaces, pour a bead of material along the base of the wall and, using a medium nap roller, roll the material onto the vertical surface. The wet film thickness of the coating is 10 to 12 mil/250 to 300 microns. Check the thickness with a wet film gauge.

CURING

The surface of Stonchem 556 will be tack-free in 4 to 6 hours at 70°F/21°C. The coated area may be put back in service in 24 hours at

70°F/21°C. Ultimate physical characteristics will be achieved in 7 days.

PRECAUTIONS

- Avoid contact with Stonchem 500 amine and resin, as they may cause skin, respiratory and eye irritation.
- Acetone is recommended for cleanup of Stonchem 500 amine and resin material spills. Use this material only in strict accordance with the manufacturer's recommended safety procedures. Dispose of waste materials in accordance with government regulations.
- The use of NIOSH/MSHA approved respirators using an organic vapor/acid gas cartridge is recommended.
- The selection of proper protective clothing and equipment will significantly reduce the risk of injury. Body covering apparel, safety goggles and impermeable nitrile gloves are highly recommended.
- In case of contact, flush the area with copious amounts of water for 15 minutes and seek medical attention. Wash skin with soap and water.
- If material is ingested, immediately contact a physician. DO NOT INDUCE VOMITING.
- Use only with adequate ventilation.

NOTES

- Safety Data Sheets for Stonchem 556 are available online at www.stonhard.com under Products or upon request.
- Specific information regarding chemical resistance is available in the Stonchem 500 Series Chemical Resistance Guide.
- A staff of technical service engineers is available to assist with product application or to answer questions related to Stonhard products.
- Requests for technical literature or service can be made through local sales representatives and offices, or corporate offices located worldwide.
- The appearance of all floor, wall and lining systems will change over time due to normal wear, abrasion, traffic and cleaning. Generally, high-gloss coatings are subject to a reduction in gloss, while matte-finish coatings can increase in gloss level under normal operating conditions.
- Surface texture of resinous flooring surfaces can change over time as a result of wear and surface contaminants. Surfaces should be cleaned regularly and deep cleaned periodically to ensure no contaminant buildup occurs. Surfaces should be periodically inspected to ensure they are performing as expected and may require traction-enhancing maintenance to ensure they continue to meet expectations for the particular area and conditions of use.

IMPORTANT:

Stonhard believes the information contained here to be true and accurate as of the date of publication. Stonhard makes no warranty, expressed or implied, based on this literature and assumes no responsibility for consequential or incidental damages in the use of the systems described, including any warranty of merchantability or fitness. Information contained here is for evaluation only. We further reserve the right to modify and change products or literature at any time and without prior notice.

06/19

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