

PRODUCT DESCRIPTION

Stonchem 830 is a highly cross-linked, vinyl ester lining system applied on horizontal surfaces at thicknesses of 1.5 mm, 3 mm and 6.25 mm. The broadcast, vinyl ester, composite topcoat sequencing provides a heavy-duty barrier against chemical attack and abrasion. The Stonchem 830 system has excellent resistance to a broad range of acids, alkalis and solvents, including superior resistance to strong organics and moderate resistance to a wide range of inorganic acids

USES, APPLICATIONS

- Drum storage
- Chemical processing
- Chemical storage rooms
- Secondary containment

PRODUCT ADVANTAGES

- Excellent chemical resistance to a broad range of acids, bases and solvents
- Mineral composite topcoat for increased impermeability
- Factory proportioned units for easy application

CHEMICAL RESISTANCE

Stonchem 830 is formulated to resist a variety of chemical solutions. Refer to the Stonchem 800 Series Chemical Resistance Guide for lists of reagent concentration and temperature recommendations.

PACKAGING

Stonchem 830 is packaged in units for easy handling. Each unit consists of:

Stonchem 800 Series Broadcast – 60 mil

- 5 cartons of resin
 - A carton contains 2 cans
- 5 cartons of peroxide
 - A carton contains 2 jars
- 9 bags of broadcast aggregate

Stonchem 800 Series Broadcast – 125 mil

- 5 cartons of resin
 - A carton contains 2 cans
- 5 cartons of peroxide
 - A carton contains 2 jars
- 7 bags of broadcast aggregate

PHYSICAL CHARACTERISTICS

Compressive Strength (ASTM C-579)	121 N/mm ²
Tensile Strength (ASTM D-638)	40 N/mm ²
Flexural Strength (ASTM C-580)	57 N/mm ²
Flexural Modulus of Elasticity (ASTM C-580)	6.8 x 10 ³ N/mm ²
Hardness (ASTM D-2240, Shore D)	80
Abrasion Resistance (ASTM D-4080, CS-17)	0.049 gm max. weight loss
Thermal Coefficient of Linear Expansion (ASTM C-531)	3.6 x 10 ⁻⁵ mm/m°C
Color	Gray

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.

Stonchem 800 Series Broadcast – 250 mil

- (3) 5 gallon buckets of resin
- 3 cartons of cobalt
- 3 cartons of peroxide
- 4 bags of 250 mil base aggregate

- 3 cartons of resin
 - A carton contains 2 cans
- 3 cartons of peroxide
 - A carton contains 2 jars
- 4 bags of broadcast aggregate

COVERAGE

Stonchem 830 at 1.5 mm will cover 37.2 m² per unit. Stonchem 830 at 3 mm will cover 22.7 m² per unit. Stonchem 830 at 6 mm will cover 16.72 m² per unit.

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 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 months in the original, unopened container.

SUBSTRATE PREPARATION

General

Proper preparation is critical to ensure an adequate bond. The substrate must be dry and free of all wax, grease, oils, fats, soil, loose or foreign materials and laitance. Laitance and unbonded cement particles must be removed by mechanical methods, i.e., abrasive blasting or scarifying. Other contaminants may be removed by scrubbing with a heavy-duty industrial detergent and rinsing with clean water. For recommendations or additional information regarding substrate preparation, contact Stonhard's Technical Service Department.

APPLICATION GUIDELINES

Before mixing and applying any material, make sure environmental conditions are satisfactory for application. For optimal working conditions, the substrate temperature must be between 15 to 27°C. Measure the surface temperature with a surface thermometer. Cold areas must be heated until the slab temperature is above 10°C. This will allow the material to achieve a proper cure. Also, 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 (15 to 27°C) will aid in the material's workability; however, a hot substrate (32 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 should be greater than 3°C above dewpoint.

APPLYING

Priming

All surfaces to which Stonchem 830 will be applied must be primed. Use only Stonchem 800 Series Primer. Mix and apply Stonchem 800 Series Primer in accordance with the corresponding product data sheet. Avoid puddling. Allow the primer to cure.

Stonchem 830 – 60 mil system

Mix peroxide and resin components of Stonchem 830 thoroughly. A drill and Jiffy Mixer are recommended. Apply a 1.25 mm basecoat of Stonchem 830 liquids by roller or squeegee, making sure that proper coverage is obtained.

While wet, immediately broadcast the aggregate. Do not allow the aggregate to be broadcast ahead of the applicator. Broadcast the aggregate until a dry layer is achieved. Allow the layer to cure. Remove the excess aggregate.

Note: When broadcasting in a large or congested area, it may be desirable for workers to wear spiked shoes (e.g., golf shoes) to enable them to walk out onto the coating without disturbing it.

Apply a 375 micron topcoat to the surface, or apply enough material to achieve the desired non-skid surface.

Stonchem 830 – 125 mil system

Mix peroxide and resin components of Stonchem 830 thoroughly. A drill and Jiffy Mixer are recommended.

Apply a 1.25 mm basecoat of Stonchem 830 liquids by roller or squeegee, making sure that proper coverage is obtained. While wet, immediately broadcast the aggregate. Do not allow the aggregate to be broadcast ahead of the applicator. Broadcast the aggregate until a dry layer is achieved. Allow the layer to cure. Remove the excess aggregate.

Note: When broadcasting in a large or congested area, it may be desirable for workers to wear spiked shoes (e.g., golf shoes) to enable them to walk out onto the coating without disturbing it.

Apply a 375 micron topcoat to the surface, or apply enough material to achieve the desired non-skid surface.

Stonchem 830 – 250 mil system

Priming

Mix one container of peroxide and resin per the mixing instructions. Pour the entire resin mixture onto the floor in a ribbon close to the starting edge or wall. Using a squeegee or roller, spread the resin mixture at a nominal 5 mil/0.13 mm, working it away from the starting edge or wall. A roller may be used for application to edges and walls, or to remove lap marks created by the squeegee.

While wet, immediately broadcast the base aggregate into the resin layer at a rate of approximately 1.2 kg/m².

Do not allow the aggregate to be broadcast ahead of the applicator. Allow the primer to cure.

Take care to ensure that no contamination of the surface occurs between coats from spillage, moisture or traffic.

First Coat – Base Aggregate

IMPORTANT!! Always mix cobalt and resin thoroughly before adding peroxide. **CAUTION! DO NOT MIX COLBALT AND PEROXIDE TOGETHER. A VIOLENT REACTION MAY OCCUR.**

Thoroughly mix the cobalt and resin in a five gallon bucket. Once the two components are mixed, add the peroxide and continue mixing for 60 seconds. Apply a basecoat layer using a roller or squeegee. While wet immediately broadcast the aggregate at a rate of approximately 4.8 kg/m²)

Second Coat – Base Aggregate

Repeat as with first aggregate coat.

Third Coat – Topcoat Aggregate

Repeat as with second coat using small aggregate. Using the pigmented broadcast liquids, apply a liquid layer. Broadcast the smaller aggregate into this liquid layer.

Topcoat

The Topcoat thickness determines the degree of non-skid for the finished floor. A roller applied topcoat will provide a very pronounced non-skid surface, while a squeegee applied topcoat will result in a moderate non-skid surface texture. Apply a 375 micron topcoat to the surface, or enough material to achieve the desired non-skid surface texture.

Vertical Surfaces

Consult your local Stonhard representative or Stonhard's Technical Service Department for a recommendation.

CURING

The surface of Stonchem 830 will be tack-free in 4 to 6 hours at 21°C. The coated area may be put back into service in 24 hours at 21°C. Ultimate physical characteristics will be achieved in 7 days.

RECOMMENDATIONS

- Apply only on clean, sound, dry and properly prepared substrates.
- Minimum ambient and surface temperature is 13°C at the time of application.
- Maximum surface temperature should not exceed 32°C during application. Substrate temperatures above 38°C will drastically affect the working time of the product.
- Substrate temperature should be greater than 3°C above dew point.
- Material should not be applied if humidity is above 85%.
- Application and curing times are dependent upon ambient and surface conditions. Consult Stonhard's Technical Service Department if conditions are not within recommended guidelines.

PRECAUTIONS

- Toluene or Xylene solvents are recommended for clean up of Stonchem 830 resin (vinyl ester resin and styrene monomer) and peroxide (catalyst/organic peroxide) material spills. Use these materials only in strict accordance with the manufacturers' recommended safety procedures. Dispose of waste materials in accordance with government regulations.
- Avoid contact with Stonchem 830 resin (vinyl ester resin and styrene monomer) and peroxide (catalyst/organic peroxide), as they may cause skin, respiratory and eye irritation.

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.

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- The use of NIOSH/MSHA approved respirators using an organic vapor/acid gas cartridge is mandatory.
- 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 the event of accidental eye contact, rinse eyes immediately with copious amounts of water and seek medical attention.
- If material is ingested, immediately contact a physician and reference MSDS.
- Use only with adequate ventilation. Inhalation of vapors may cause severe headaches, nausea, and possibly unconsciousness.

NOTES

- Material Safety Data Sheets for Stonchem 830 are available on line at www.stonhard.com under Tech Info or upon request.
- Specific information regarding chemical resistance of Stonchem 830 is available in the Stonchem 800 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.