

SECTION 10

Liquid Densifiers

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TECHNICAL DATA SHEET

In the Dayton Superior line of products there are three variations of floor densifiers: Sodium silicates (J-13), Silicate/Siliconate (J-17) and Lithium (Pentra Hard). All three variations of floor densifiers react with the free lime (calcium hydroxide) in the concrete to produce the strength producing gel called calcium silicate hydrate (CSH). The development of free lime is a by-product of hydration (the chemical reaction between cement and water), therefore the more mature the concrete, the greater the amount of free lime. The more free lime available, the greater the reaction of the liquid hardener. With more of the free lime converted to CSH the surface becomes stronger and more dense and therefore will provide a higher level of performance.

Lithium-based densifiers penetrate and react similar to the Silicates and silicate/siliconates and they do not contribute to alkali-silica reaction as do the silicates.

DENSIFIER CONCENTRATE J12

- Concentrated solution with a fugitive dye
- Will not discolor
- Non-membrane forming
- Treated surface will accept most any floor finish

DENSIFIER J13

- Cost-effective
- Will not discolor
- Non-membrane forming
- Treated surface will accept most any floor finish
- USDA approved

SURE HARD DENSIFIER™ J-17

- Colorless, odorless
- Contains siliconates to impart water repellency
- USDA approved
- Quick turn around, as the floor can be used as soon as it is dry
- On new concrete surfaces, wait a minimum of 7 days before applying
- Will *not* accept most any floor finish i.e. mastic or epoxy

PENTRA-HARD DENSIFIER

- Easy application, no rinsing required
- Penetrates, no film to lift and peel off
- Does not contribute to ASR
- VOC compliant, can contribute to LEED points
- Resists stains and dusting, makes concrete easier to maintain

PENTRA-HARD FINISH

- Delivers rapid shine development with increased abrasion and stain resistance and gloss retention
- Keeps dirt and contaminants from penetrating, making cleaning faster, more effective and more economical
- No build-up periodic re-application is simple and requires no stripping
- Prolongs shine of polished concrete surfaces

Note: None of these products are membrane forming and therefore cannot meet ASTM C-309 as a curing membrane. Even if a membrane forming compound was not a prerequisite to meet C-309, the moisture retention of any of these products is much less than a membrane forming curing compound meeting ASTM C-309.

TECHNICAL DATA SHEET

DESCRIPTION

A concentrate solution of sodium orthosilicate with a fugitive dye.

USE

A concentrated material for hardening and dustproofing of interior and exterior, horizontal and vertical surfaces. Densifier Concentrate J12 does not discolor the concrete and does not produce objectionable odors. It reacts with the free lime in concrete to provide a chemically hardened surface.

FEATURES

- Will not discolor
- Does not produce objectionable odors
- Helps to dustproof concrete surface
- Breathable
- Will not scratch or peel

PROPERTIES

Drying Time: Approximately 1 hour at 70°F (21°C). Allow treated area to dry before opening to traffic. Dry time is temperature, humidity and wind dependent

VOC

"0" g/L. Compliant with all US VOC regulations for including Federal EPA, OTC, LADCO, SCAQMD & CARB.

ESTIMATING GUIDE

For estimating purposes, 1 gal (3.78 L) of Densifier Concentrate J12 will make 5 gallons (18.93 L) of useable product after proper dilution.

After dilution (1 gallon [3.78 L] of Densifier Concentrate J12 to 4 gallons [15.14 L] of water), rate of coverage:

	Sq. Ft./Gallon	Sq M/Liter
Broom Finish	200 – 400	4.9– 9.8
Trowel Finish*	500 – 600	12 – 14.8

Texture and absorption characteristics of the surface will dictate final coverage rates.

*All surfaces to receive resilient tile mastic adhesive should be treated at the Trowel Finish coverage rate.

Over application may require scrubbing or sanding to remove excess material.

PACKAGING

ITEM #	PACKAGE	SIZE	
		Gallons	Liters
69021	Pail	5	18.93
69020	Drum	55	208.2

STORAGE

Keep from freezing. Shelf life is 12 months from date of manufacture in original unopened containers.

APPLICATION

Surface Preparation: Substrate must be absorptive. Remove all oil and grease, paint and coatings to assure penetration and hardening. On older concrete floors, clean and restore surface as necessary. Apply to a completely dry surface approximately 24 hours after cleaning.

Mixing: Mix the Densifier Concentrate J12 prior to diluting with water. Dilute the Densifier Concentrate J12 by adding four (4) gallons (15.14 L) of clean, fresh water with one (1) gallon (3.78 L) of Densifier Concentrate J12. Use a clean container, stir while adding water. Mix thoroughly prior to each use.

Placement: Apply only when temperatures are above 40°F (4°C). Apply with low pressure spray, soft bristle broom, brush or squeegee. For optimum hardening, apply two coats. Remove excess material and puddles from surface after application is complete.

CLEAN UP

Tools and equipment use clean, fresh water. After the product dries, hot water scrubbing or sanding may be required for removal.

LIMITATIONS

FOR PROFESSIONAL USE ONLY

If an ACI 308 method of curing is desired or required, use water, sheet materials or a membrane forming curing compound.

Not for use on colored concrete surfaces.

Will stain glass, metal and other trim. Protect from contact. Clean accidental splash or spill immediately with water.

Always dilute to proper proportion (4 parts clean water to 1 part concentrate) before use.

For enhanced abrasion resistance and protection, use Dayton Superior Sure Hard Densifier J17.

Densifier Concentrate J12

Liquid Densifier for Concrete

PRECAUTIONS

READ MSDS PRIOR TO USING PRODUCT

- Use with adequate ventilation
- Wear protective clothing, gloves and eye protection (Goggles, Safety Glasses and/or Face Shield)
- Keep out of the reach of children
- Do not take internally
- In case of ingestion, seek medical help immediately
- May cause skin irritation upon contact, especially prolonged or repeated. If skin contact occurs, wash immediately with soap and water and seek medical help as needed
- If eye contact occurs, flush immediately with clean water and seek medical help as needed
- Dispose of waste material in accordance with federal, state and local requirements

MANUFACTURER

Dayton Superior Corporation
 1125 Byers Road
 Miamisburg, OH 45342
 Customer Service: 888-977-9600
 Technical Services: 866-329-8724
 Website: www.daytonsuperior.com

WARRANTY

Dayton Superior Corporation ("Dayton") warrants for 12 months from the date of manufacture or for the duration of the published product shelf life, whichever is less, that at the time of shipment by Dayton, the product is free of manufacturing defects and conforms to Dayton's product properties in force on the date of acceptance by Dayton of the order. Dayton shall only be liable under this warranty if the product has been applied, used, and stored in accordance with Dayton's instructions, especially surface preparation and installation, in force on the date of acceptance by Dayton of the order. The purchaser must examine the product when received and promptly notify Dayton in writing of any non-conformity before the product is used and no later than 30 days after such non-conformity is first discovered. If Dayton, in its sole discretion, determines that the product breached the above warranty, it will, in its sole discretion, replace the non-conforming product, refund the purchase price or issue a credit in the amount of the purchase price. This is the sole and exclusive remedy for breach of this warranty. Only a Dayton officer is authorized to modify this warranty. The information in this data sheet supersedes all other sales information received by the customer during the sales process. **THE FOREGOING WARRANTY SHALL BE EXCLUSIVE AND IN LIEU OF ANY OTHER WARRANTIES, EXPRESS OR IMPLIED, INCLUDING WARRANTIES OF MERCHANTABILITY AND FITNESS FOR A PARTICULAR PURPOSE, AND ALL OTHER WARRANTIES OTHERWISE ARISING BY OPERATION OF LAW, COURSE OF DEALING, CUSTOM, TRADE OR OTHERWISE.**

Dayton shall not be liable in contract or in tort (including, without limitation, negligence, strict liability or otherwise) for loss of sales, revenues or profits; cost of capital or funds; business interruption or cost of downtime, loss of use, damage to or loss of use of other property (real or personal); failure to realize expected savings; frustration of economic or business expectations; claims by third parties (other than for bodily injury), or economic losses of any kind; or for any special, incidental, indirect, consequential, punitive or exemplary damages arising in any way out of the performance of, or failure to perform, its obligations under any contract for sale of product, even if Dayton could foresee or has been advised of the possibility of such damages. The Parties expressly agree that these limitations on damages are allocations of risk constituting, in part, the consideration for this contract, and also that such limitations shall survive the determination of any court of competent jurisdiction that any remedy provided in these terms or available at law fails of its essential purpose.



TECHNICAL DATA SHEET

DESCRIPTION

Densifier J13 is a ready-to-use, water based solution of sodium orthosilicate that reacts with the free lime in the concrete to provide a chemically hardened surface

USE

The Densifier J13 is ready to use for hardening and dustproofing of interior and exterior, horizontal and vertical concrete surfaces

FEATURES

- Will not discolor
- Does not produce objectionable odors
- Helps to dustproof concrete surface
- Breathable
- Will not scratch or peel

PROPERTIES

Drying Time: Approximately 1 hour at 70°F (21°C). Allow treated area to dry before opening to traffic. Dry time is temperature, humidity and wind dependent

VOC

"0" g/L. Compliant with all US VOC regulations for including Federal EPA, OTC, LADCO, SCAQMD & CARB.

ESTIMATING GUIDE

Coverage:

	Sq. Ft./Gallon	Sq M/Liter
Broom Finish	200 – 400	4.9– 9.8
Trowel Finish*	500 – 600	12 – 14.8

Texture and absorption characteristics of the surface will dictate final coverage rates.

* All surfaces to receive flooring using an adhesive should be treated at the Trowel Finish coverage rate, however, always consult adhesive manufacturer prior to application. Over application may require scrubbing or sanding to remove excess material.

PACKAGING

ITEM #	PACKAGE	SIZE	
		Gallons	Liters
69025	Pail	5	18.93
69024	Drum	55	208.20

STORAGE

Keep from freezing. Shelf life is 12 months from date of manufacture in original unopened containers.

APPLICATION

Surface Preparation: Substrate must be absorptive. Remove all oil and grease, paint and coatings to assure penetration and hardening. On older concrete floors, clean and restore surface as necessary. Apply to a completely dry surface approximately 24 hours after cleaning.

Mixing: Mix thoroughly prior to each use.

Placement: Apply only when temperatures are above 40°F (4°C). Apply with low pressure spray, soft bristle broom, brush or squeegee. For optimum hardening, apply two coats. Remove excess material and puddles from surface after application is complete.

CLEAN UP

Tools and equipment use clean, fresh water. After the product dries, hot water scrubbing or sanding may be required for removal.

LIMITATIONS

FOR PROFESSIONAL USE ONLY

If an ACI 308 method of curing is desired or required, use water, sheet materials or a membrane forming curing compound.

Not for use on colored concrete surfaces.

Will stain glass, metal and other trim. Protect from contact. Clean accidental splash or spill immediately with water.

For enhanced abrasion resistance and protection, use Dayton Superior Sure Hard Densifier J17.

Densifier J13

Liquid Densifier for Concrete

PRECAUTIONS

READ MSDS PRIOR TO USING PRODUCT

- Use with adequate ventilation
- Wear protective clothing, gloves and eye protection (Goggles, Safety Glasses and/or Face Shield)
- Keep out of the reach of children
- Do not take internally
- In case of ingestion, seek medical help immediately
- May cause skin irritation upon contact, especially prolonged or repeated. If skin contact occurs, wash immediately with soap and water and seek medical help as needed
- If eye contact occurs, flush immediately with clean water and seek medical help as needed
- Dispose of waste material in accordance with federal, state and local requirements

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WARRANTY

Dayton Superior Corporation ("Dayton") warrants for 12 months from the date of manufacture or for the duration of the published product shelf life, whichever is less, that at the time of shipment by Dayton, the product is free of manufacturing defects and conforms to Dayton's product properties in force on the date of acceptance by Dayton of the order. Dayton shall only be liable under this warranty if the product has been applied, used, and stored in accordance with Dayton's instructions, especially surface preparation and installation, in force on the date of acceptance by Dayton of the order. The purchaser must examine the product when received and promptly notify Dayton in writing of any non-conformity before the product is used and no later than 30 days after such non-conformity is first discovered. If Dayton, in its sole discretion, determines that the product breached the above warranty, it will, in its sole discretion, replace the non-conforming product, refund the purchase price or issue a credit in the amount of the purchase price. This is the sole and exclusive remedy for breach of this warranty. Only a Dayton officer is authorized to modify this warranty. The information in this data sheet supersedes all other sales information received by the customer during the sales process. **THE FOREGOING WARRANTY SHALL BE EXCLUSIVE AND IN LIEU OF ANY OTHER WARRANTIES, EXPRESS OR IMPLIED, INCLUDING WARRANTIES OF MERCHANTABILITY AND FITNESS FOR A PARTICULAR PURPOSE, AND ALL OTHER WARRANTIES OTHERWISE ARISING BY OPERATION OF LAW, COURSE OF DEALING, CUSTOM, TRADE OR OTHERWISE.**

Dayton shall not be liable in contract or in tort (including, without limitation, negligence, strict liability or otherwise) for loss of sales, revenues or profits; cost of capital or funds; business interruption or cost of downtime, loss of use, damage to or loss of use of other property (real or personal); failure to realize expected savings; frustration of economic or business expectations; claims by third parties (other than for bodily injury), or economic losses of any kind; or for any special, incidental, indirect, consequential, punitive or exemplary damages arising in any way out of the performance of, or failure to perform, its obligations under any contract for sale of product, even if Dayton could foresee or has been advised of the possibility of such damages. The Parties expressly agree that these limitations on damages are allocations of risk constituting, in part, the consideration for this contract, and also that such limitations shall survive the determination of any court of competent jurisdiction that any remedy provided in these terms or available at law fails of its essential purpose.



TECHNICAL DATA SHEET

DESCRIPTION

PENTRA-HARD[®] DENSIFIER is advanced lithium chemistry that hardens and dustproofs new and existing concrete. This easy-to-use water-based solution requires no rinsing and is VOC compliant in all areas of the world. When sprayed on new or existing concrete, it penetrates into the concrete, where it reacts with free calcium to form insoluble calcium silica hydrate, which makes concrete more water, stain, and abrasion resistant for easier maintenance and longer life. It is also suitable for concrete polishing procedures and helps prolong the life of polished finishes.

For applications where greater shine and stain resistance is required (schools, restaurants, retail, grocery, commercial, etc.) the **DURABLE FLOOR SYSTEM™ (DFS)** is recommended. For this system, PENTRA-HARD[®] FINISH is applied directly over the top of PENTRA-HARD[®] DENSIFIER. Ask your Dayton Superior representative for more details on this product/system.

USE

New and Existing Concrete

Commercial: Grocery Stores, Office Building, Retail, Banks, Malls, Warehouses, Distribution Centers

Industrial: Food Processing Facilities, Cold Storage / Freezers, Beverage and Manufacturing Plants

Institutional: Churches, Hospitals, Universities, Schools, Museums

Theme & Leisure: Resorts, Hotels, Casinos, Restaurants, Theaters

Governmental: Federal & State Buildings, Prisons

Residential: Concrete floors and Garages

FEATURES

- Easy application, no rinsing required
- Penetrates, no film to lift or peel off
- Reduces efflorescence and surface sweating
- Does not contribute to surface ASR
- VOC Compliant, can contribute to LEED points
- Prolongs finish of polished surfaces
- Resists stains and dusting, making concrete easier to maintain

PROPERTIES

Active Ingredients: 100% of total solids

Total Solids: 8.8%

Specific Gravity: 1.05

Wt/gal: 8.79 lbs.

pH: 11

Flash Point: NA

Freeze Point: 32°F (0°C)

V.O.C.

Less than 50 g/L. Compliant with all US VOC regulations including Federal EPA, OTC, LADCO, SCAQMD & CARB.

ESTIMATING GUIDE

New Construction Steel Troweled: 500-750 sq. ft./gal.
(12.37– 18.41 sq m/L)

Existing Concrete: 400-650 sq. ft./gal. (9.82– 15.95 sq m/L)

Texture and absorption of surface will determine final coverage rates. Porous concrete surfaces may require additional material.

PACKAGING

ITEM #	PACKAGE	SIZE	
		Gallons	Liters
143610	Pail	5	18.93
143611	Drum	55	208.20
143612	Tote	275	1040.99

STORAGE

Keep from freezing. Shelf life is 36 months from date of manufacture, properly stored in original unopened containers.

APPLICATION

Surface Preparation: Precautions: Apply only when temperatures will be above 36° F (2° C) for at least 4 hours following application. In hot, windy conditions, apply in the early morning or at night. It may be necessary to spray water on hot concrete to cool the surface prior to application so PENTRA-HARD[®] DENSIFIER does not flash-dry on the surface. Clean surface to remove any dirt, laitance, curing compounds or coatings that may prevent PENTRA-HARD[®] DENSIFIER from penetrating the surface. Do not use citrus or acidic cleaners. If acid dyes or cleaners have been used, neutralize the surface using an alkali cleaner (TSP, Tide laundry detergent, etc.). Do not use high pressure sprayers as they may over atomize the material. Do not allow PENTRA-HARD[®] DENSIFIER to come into contact with glass, fabric, metal, or painted surfaces. Immediately wipe contaminated surfaces with a damp cloth, then wipe dry with a second clean cloth.

Mixing: Mildly agitate before each use.

PENTRA-HARD® DENSIFIER

Lithium Concrete Hardener, Dustproof, Sealer

Placement: Using an HVLP sprayer, or a good pump up sprayer for smaller jobs, spray PENTRA-HARD® DENSIFIER evenly on the surface. Spread out any pools with a soft bristle broom or a flat microfiber pad. If areas begin to dry out before 20 minutes (edges, high spots) spray on more material. Surface is ready for use when dry, but the complete reaction may take up to two weeks to develop depending on site temperature and conditions.

If concrete is dyed, acid stained, or integrally colored, it may be advisable to clean with scrubbing equipment once the application is complete to produce a more even finish. To enhance the color intensity, gloss and light reflectance, and to reduce efflorescence, mineral deposits and staining use PENTRA-HARD® FINISH High-gloss, Stain and Wear Protector in conjunction with PENTRA-HARD® DENSIFIER as a post-applied topical treatment.

On newly placed concrete, PENTRA-HARD® DENSIFIER may be applied immediately after the finishing, or immediately after joints have been cut and cleaned, or anytime thereafter, at the project manager's discretion. Dayton Superior approved membrane forming curing materials or bond breakers may be applied over the top of PENTRA-HARD® DENSIFIER once it is no longer wet on the surface. Contact Dayton Superior for recommendations.

CLEAN UP

Use soap and water to clean tools and equipment. Although PENTRA-HARD® DENSIFIER is non-toxic and environmentally safe, it is alkali—use up or dry out extra material and dispose of according to local regulations. Don't pour into sewer systems or storm drains.

MAINTENANCE

Clean up spills promptly. Regular aggressive scrubbing with neutral cleaners is recommended. Avoid cleaners containing citrus or butyl compounds, or cleaners with a pH below 7.

LIMITATIONS

FOR PROFESSIONAL USE ONLY

PENTRA-HARD® DENSIFIER will not bridge or fill cracks and will not salvage honeycombed or structurally unsound surfaces.

Not suitable for asphalt or non-cement surfaces or painted surfaces.

Keep from freezing.

Does not replace need for proper concrete mix design, placement and finishing techniques, proper joint installation and/or proper curing of newly placed concrete.

PRECAUTIONS

READ MSDS PRIOR TO USING PRODUCT

- KEEP OUT OF REACH OF CHILDREN.
- Although this product is non-toxic and non-hazardous, it is alkali. Do not drink. If swallowed, do not induce vomiting, call physician.
- Keep container closed tightly when not in use. Wear goggles and gloves. If splashed in eyes, rinse eyes immediately with clean water and call a physician if irritation persists.
- PENTRA-HARD® DENSIFIER will dry out and irritate the skin. Clean skin with soap and water promptly.
- Additional precautions, safety information and first aid treatments are contained in the Material Safety Data Sheet.
- PENTRA-HARD® DENSIFIER will bond to most surfaces immediately, so wash off over spray with water and mild detergent.
- CAUTION: Surfaces wet with PENTRA-HARD® DENSIFIER may be slippery.

MANUFACTURER

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WARRANTY

LIMITED WARRANTY NOTICE Every reasonable effort is made to apply Convergent Concrete exacting standards both in the manufacture of Pentra Hard products and in the information that Convergent Concrete issues concerning these products and their use. Convergent Concrete warrant our products to be of good quality and will replace or, at our election, refund the purchase price of any products proved defective. Satisfactory results depend not only upon quality products, but also upon many factors beyond Convergent Concrete control. Therefore, except for such replacement or refund, Convergent Concrete MAKES NO WARRANTY OR GUARANTEE, EXPRESS OR IMPLIED, INCLUDING WARRANTIES OF FITNESS FOR A PARTICULAR PURPOSE OR MERCHANTABILITY, RESPECTING ITS PRODUCTS, and Convergent Concrete shall have no other liability with respect thereto. Any claim regarding product defect must be received in writing within one (1) year from the date of shipment. No claim will be considered without such written notice or after the specified time interval. User shall determine the suitability of the products for the intended use and assume all risks and liability in connection therewith. Any authorized change in the printed recommendations concerning the use of Convergent Concrete products must bear the signature of the Convergent Concrete Research Director. This information and all further technical advice are based on Convergent Concrete's present knowledge and experience. However, Convergent Concrete assumes no liability for providing such information and advice including the extent to which such information and advice may relate to existing third party intellectual property rights, especially patent rights. In particular, Convergent Concrete disclaims all WARRANTIES, WHETHER EXPRESS OR IMPLIED, INCLUDING THE IMPLIED WARRANTIES OF FITNESS FOR A PARTICULAR PURPOSE OR MERCHANTABILITY. CONVERGENT CONCRETE SHALL NOT BE RESPONSIBLE FOR CONSEQUENTIAL, INDIRECT OR INCIDENTAL DAMAGES (INCLUDING LOSS OF PROFITS) OF ANY KIND. Convergent Concrete reserves the right to make any changes according to technological progress or further developments. It is the customer's (Authorized Applicator) responsibility and obligation to carefully inspect and test any incoming goods. Performance of the product(s) described herein should be verified by testing and carried out only by qualified experts. It is the sole responsibility of the customer to carry out and arrange for any such testing. Reference to trade names used by other companies is neither a recommendation, nor an endorsement of any product and does not imply that similar products could not be used.

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TECHNICAL DATA SHEET

DESCRIPTION

PENTRA-HARD® FINISH is a patented, high-gloss, stain and wear resistant finish for improving the sheen, hardness and chemical resistance of conventional concrete, hardened concrete and/or cement based floors. This water-based, lithium fortified (chemical polish) quickly dries to a clear, extremely hard, micro-coating that tenaciously bonds and reacts with the substrate forming an insoluble bond with the surface. Formulated using NANO-LITHIUM® reactive silicon hybrid polymer technology for extreme gloss, rapid shine development and excellent wear properties, this novel treatment eliminates the need for floor waxes, liquid polishes and conventional resin based coatings. Best results and coverage will be obtained by densifying the surface with PENTRA-HARD® DENSIFIER before applying PENTRA-HARD® FINISH.

Because of its unique chemistry, PENTRA-HARD® FINISH will not lift or peel from the surface. Periodic recoating requires no stripping as the material doesn't build up. PENTRA-HARD® FINISH is non-toxic, non-hazardous, and VOC compliant in all areas of the world with less than 50 grams per liter VOC content. The easy-to-use finish is tough, mark-resistant, fast drying and non-streaking. The treatment is used in conjunction with a high-speed burnisher on non-porous concrete surfaces to provide superior clarity and improved resistance against water and water-borne stains from accidental spills, oils, dirt and grime.

Ideal for standard, ground, honed or polished concrete, integrally colored, dyed and/or stained concrete. (Use PENTRA-HARD® FINISH in conjunction with PENTRA-HARD® DENSIFIER application as part of the **DURABLE FLOOR SYSTEM™ (DFS)** or on previously densified, polished or hard (power) trowelled surfaces. PENTRA-HARD® FINISH enhances the color intensity of integrally colored, dyed, or acid stained concrete, reducing efflorescence and mineral deposits and maximizes light reflectance.

USE

Interior flooring non-porous ground, honed, polished or burnished concrete surfaces.

Commercial: Grocery Stores, Office Building, Retail, Banks, Malls, Warehouses, Distribution Centers

Industrial: Food Processing Facilities, Cold Storage / Freezers, Beverage and Manufacturing Plants

Institutional: Churches, Hospitals, Universities, Schools, Museums

Theme & Leisure: Resorts, Hotels, Casinos, Restaurants, Theaters

Governmental: Federal & State Buildings, Prisons

Residential: Concrete floors and Garages

FEATURES

- Delivers rapid shine development with increased abrasion, stain resistance, and gloss retention.
- Keeps dirt and contaminants from penetrating, making cleaning faster, more effective and more economical.
- Ready to use in a few hours--rapidly cures into durable finish for facilities that require maximum protection and little-to-no downtime.
- Forms a protective "micro surface layer" that is breathable, dense, abrasion resistant, and that will not peel or flake.
- Reduces maintenance, cleaning costs and costly repairs. Simply damp mop or machine scrub.
- No build up--periodic re-application is simple and requires no stripping.
- Prolongs shine of polished concrete surfaces.
- Safe for food contact per SGS Testing (21 CFR 175.300)

PROPERTIES

Milky white, aqueous solution
 Total Solids: 23%
 Active Ingredients: 100% of total solids
 Specific Gravity: 1.09
 pH: 11.5
 Flash Point: None
 Freeze point: 32°F(0°F)
 Abrasion Resistance: excellent

V.O.C.

Less than 50 g/L. Compliant with all US VOC regulations including Federal EPA, OTC, LADCO, SCAQMD & CARB.

ESTIMATING GUIDE

1st coat: 1,500-3000 sq. ft./gal. (37 -74 sq m/L)
 2nd and subsequent coats: 3000-4000 sq. ft./gal.
 (74 – 98 sq m/L)

Texture and absorption of surface will determine final coverage rates. Porous concrete surfaces may require additional material.

PACKAGING

ITEM #	PACKAGE	SIZE	
		Gallons	Liters
143609	Jug	1	3.78
143606	Pail	5	18.93
143607	Drum	55	208.20
143608	Tote	275	1040.99

PENTRA-HARD® FINISH

High-gloss, Stain and Wear Protector

STORAGE

Keep from freezing. Shelf life is 24 months from date of manufacture, properly stored in original unopened containers.

APPLICATION

Surface Preparation: Be sure surface to be treated is clean and dry. PENTRA-HARD® FINISH will not hide stains. Aggressive scrubbing with a neutral to alkali cleaner is recommended. Avoid citrus or butyl compounds when cleaning. PENTRA-HARD® FINISH will not bond to acidic surfaces so if applying over an acid stain, neutralize thoroughly first.

Mixing: Lightly stir before each use. Do not over mix or bubbles and/or foaming can occur and make uniform application more difficult.

Placement: IMPORTANT: Do not over apply. Very thin coats are best. Apply PENTRA-HARD® FINISH using a micro fiber pad that has been pre-dampened with water. Using a pump up sprayer or HVLP sprayer, spray lightly over the top of the area to be treated, and then spread material thinly and evenly using the micro fiber pad over the rest of the area. For best results, limit the size of the area being treated at any one time to a 20 ft. x 20 ft. (6.1m x 6.1m) section. Spread at a rate of 1,500-3000 sq. ft./gal. (37 -74 sq m/L) depending on porosity of the surface. Spray another line of material when the applicator pad begins to drag. Do not work material into the surface—spread it and leave it. Allow each application to dry at least 30-60 minutes between coats or before using.

Second applications will improve sheen and stain protection. Buffing with a high-speed burnisher (1500-2100 rpm) and a hog's hair pad between coats is recommended and will speed curing and improve sheen. Second coats will usually take no more than 3000-4000 sq. ft./gal. (74 – 98 sq m/L) followed by a burnish.

Do not cover treated surfaces for at least 1 week as protective coverings may slow curing and cause some whitening by trapping moisture.

CLEAN UP

Wash equipment with soap and water. Although PENTRA-HARD® FINISH is non-toxic and environmentally friendly, it is alkali. Use the material completely, or dry it out and dispose of it properly per local regulations. Do not pour down sanitary sewers or into storm drains.

MAINTENANCE

Routine sweeping, mopping, washing and mechanical scrubbing of floors with water and neutral pH cleaners (if necessary) is recommended. Water only is sufficient for most environments. DO NOT USE cleaners that are acidic or that have citrus (de-limonene) or Butyl compounds. Although PENTRA-HARD® FINISH is chemically resistant and helps reduce staining, some compounds, especially acids, may damage the surface, and therefore it may not be suitable for some applications. If unsure, check with a Dayton Superior technical representative. Regular maintenance and cleaning will help prolong surface shine. Wipe up any chemical spills as soon as possible.

LIMITATIONS FOR PROFESSIONAL USE ONLY

Use on interior surfaces only. New concrete must be at least 28 days old. Protect from freezing. Agitate before use. Do not allow standing water to dwell on surface for 7 days following application. Do not allow traffic on surface until it is dry—typically 30-60 minutes. PENTRA-HARD® FINISH will not bridge or fill cracks, and will not salvage honeycombed or structurally unsound surfaces. PENTRA-HARD® FINISH quickly bonds to most surfaces including metal, wood, glass, and paint. Protect adjacent surfaces. Remove overspray quickly with a damp cloth and soap. Always do a test patch before beginning the job to verify coverage, appearance, and concrete variations

PRECAUTIONS READ MSDS PRIOR TO USING PRODUCT

- Dispose of waste material in accordance with federal, state and local requirements
- KEEP OUT OF THE REACH OF CHILDREN.
- Although the material is non-toxic and non-hazardous, the treatment is alkaline and may cause eye and skin irritation. Wear eye protection and gloves. If splashed in eyes, rinse with water and consult a doctor if irritation persists. Wash promptly from skin.
- Do not take internally—if swallowed, do not induce vomiting—drink water and call a physician.
- Avoid contact with eyes. Protective clothing is recommended.
- Surfaces may be slippery when wet with product.
- Additional precautions, safety information and first aid treatments are contained in the Material Safety Data Sheet (MSDS).

TECHNICAL DATA SHEET

MANUFACTURER

Distributed by:
Dayton Superior Corporation
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Miamisburg, OH 45342
Customer Service: 888-977-9600
Technical Services: 866-329-8724
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TECHNICAL DATA SHEET

DESCRIPTION

Sure Hard™ Densifier J17 is a colorless, odorless solution of specialized reactive chemicals that penetrate concrete surfaces to seal, densify and harden the material. Sure Hard™ Densifier J17 is a water based product and as a result is V.O.C. compliant in every area of the country and environmentally safe to use. Sure Hard™ Densifier J17 penetrates the concrete surface and undergoes a chemical reaction that turns the concrete substrate into a hardened, densified mass.

USE

Sure Hard™ Densifier J17 is a premium product for hardening, dustproofing and sealing of concrete. It is excellent for concrete floor applications where long term resistance to dusting, black rubber tire marks and water is important. Sure Hard™ Densifier J17 leaves no surface film to wear off or abrade because it penetrates the surface and becomes an integral part of the substrate. Ideal applications include, but are not limited to, industrial plants, warehouses, schools, factories, hospitals, malls, food processing plants, textile mills, freezers, water and sewage treatment plants, parking decks, airports and stadiums.

FEATURES

- Seals, hardens and dustproofs
- Resists black rubber tire marks on floors
- Lasts longer than topical floor coatings
- Will not scratch or peel
- Environmentally safe
- Water Based, V.O.C. compliant
- No odor, no fumes
- USDA approved for incidental food contact
- Develops a more polished look with age

PROPERTIES

Specific Gravity: 1.2
Flash Point: None
Skid Resistance: Good
Depth of Penetration: as much as 5mm into concrete

Water Absorption: ASTM C-642
3.4% in 24 hours
Leading Competitor – 4.25% in 24 hrs

Compressive Strength: ASTM C-140
Concrete treated with J-17 – 3,910 psi (27MPa) average
Untreated concrete – 3,461 psi (23.9 MPa) average

Water Vapor Transmission Rate –
217 grams/sq. ft. – 24 hours

Drying Time: Approximately 2-4 hrs. at 70°F (21°C) with good air circulation. Allow treated area to dry before opening to traffic. Dry time is temperature, humidity and wind dependent

V.O.C.

0 gm/liter Compliant with all US VOC regulations for including Federal EPA, OTC, LADCO, SCAQMD & CARB.

ESTIMATING GUIDE

First Coat 200 sq. ft./gal. (4.9 sq m/L)
Second Coat 300 - 400 sq. ft./gal. (7.4 - 9.8 sq m/L) (if necessary)

Texture and absorption of surface will determine final coverage rates. Porous concrete surfaces may require additional material.

PACKAGING

ITEM #	PACKAGE	SIZE	
		Gallons	Liters
68086	Jug	1	3.79
68084	Pail	5	18.93
68082	Drum	55	208.20

STORAGE

Keep from freezing. Shelf life is 12 months from date of manufacture in original unopened containers

APPLICATION

Surface Preparation: All surfaces to be treated must be clean, sound and absorptive. Remove all membrane forming curing compounds, sealers, oil, grease, dirt and other contaminants. Remove any concrete laitance and patch or fix all cracks and damaged areas. New concrete should be properly cured a minimum of 7 days in accord with ACI 302 by one of the following methods: water, plastic sheeting, reinforced paper or membrane-forming cure. If a membrane-forming cure is used it will require removal prior to the application of the J-17.

Mixing: Mix thoroughly prior to each use.

Placement: Apply Sure Hard™ Densifier J17 to point of rejection (by spray, roller, brush or pouring), then scrub the product using a soft bristle broom or mechanical scrubber. Work in this manner until the product begins to thicken, usually in 15-30 minutes, depending on the surface and ambient temperatures, then rewet with water and work for another 5-10 minutes. Do not allow the product to dry, apply additional product if needed to keep wet while working. Thoroughly rinse and then squeegee or brush off excess material until dry. On

Sure Hard™ Densifier J17

Liquid Densifier for Concrete

porous or rough surfaces, a second application may be required. If a second coat is required, immediately apply it in a similar manner as the first coat. Do not allow the treated surfaces to dry between applications.

The use of a mechanical scrubber will increase the effectiveness of the application. The treated surface will develop a "polished" appearance over time.

CLEAN UP

Immediate and thorough flushing with clean water while material is still wet. Dried material may require sanding or grinding for removal.

MAINTENANCE

Mop or use mechanical scrubbing with detergents or water. Mopping or scrubbing the floor will prolong the life of the floor, as well as increase the "polished" look. Wipe up chemical spills as soon as possible.

LIMITATIONS

FOR PROFESSIONAL USE ONLY

Ponded or puddled material must be removed by squeegee or brush, otherwise white residue will appear on the surface. If white residue starts to appear on the surface during drying, immediately remove with hot water and scrubbing.

Floors are slippery during application.

Porous, low quality concrete substrates or floors with a rough surface may not develop a "polished" appearance over time.

Apply only when temperatures are above 40°F (4°C).

Avoid contact with glass, aluminum and polished metal surfaces. Protect from contact. If contact occurs, wash immediately with water to prevent etching.

For colored concrete, contact Dayton Superior. A test installation is recommended.

PRECAUTIONS

READ MSDS PRIOR TO USING PRODUCT

- Use with adequate ventilation
- Wear protective clothing, gloves and eye protection (Goggles, Safety Glasses and/or Face Shield)
- Keep out of the reach of children
- Do not take internally
- In case of ingestion, seek medical help immediately
- May cause skin irritation upon contact, especially prolonged or repeated. If skin contact occurs, wash immediately with soap and water and seek medical help as needed
- If eye contact occurs, flush immediately with clean water and seek medical help as needed
- Dispose of waste material in accordance with federal, state and local requirements

MANUFACTURER

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 Miamisburg, OH 45342
 Customer Service: 888-977-9600
 Technical Services: 866-329-8724
 Website: www.daytonsuperior.com

WARRANTY

Dayton Superior Corporation ("Dayton") warrants for 12 months from the date of manufacture or for the duration of the published product shelf life, whichever is less, that at the time of shipment by Dayton, the product is free of manufacturing defects and conforms to Dayton's product properties in force on the date of acceptance by Dayton of the order. Dayton shall only be liable under this warranty if the product has been applied, used, and stored in accordance with Dayton's instructions, especially surface preparation and installation, in force on the date of acceptance by Dayton of the order. The purchaser must examine the product when received and promptly notify Dayton in writing of any non-conformity before the product is used and no later than 30 days after such non-conformity is first discovered. If Dayton, in its sole discretion, determines that the product breached the above warranty, it will, in its sole discretion, replace the non-conforming product, refund the purchase price or issue a credit in the amount of the purchase price. This is the sole and exclusive remedy for breach of this warranty. Only a Dayton officer is authorized to modify this warranty. The information in this data sheet supersedes all other sales information received by the customer during the sales process. THE FOREGOING WARRANTY SHALL BE EXCLUSIVE AND IN LIEU OF ANY OTHER WARRANTIES, EXPRESS OR IMPLIED, INCLUDING WARRANTIES OF MERCHANTABILITY AND FITNESS FOR A PARTICULAR PURPOSE, AND ALL OTHER WARRANTIES OTHERWISE ARISING BY OPERATION OF LAW, COURSE OF DEALING, CUSTOM, TRADE OR OTHERWISE.

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