



## Guide to Liquid Densifiers

A concrete densifier is a chemical applied to a concrete surface in order to fill pores, increasing surface density.

Chemical densifiers are used on polished and non-polished concrete to reduce dusting and wear; on polished concrete surfaces densifiers help concrete take a better polish and make the surface less permeable to liquids so the slab does not require sealing.

### Dayton Superior's Three Variations of Densifiers

#### Sodium silicates

- Densifier Concentrate J12
- Densifier J13

#### Silicate/Siliconate

- Sure Hard J17

#### Lithium

- Pentra-Hard Densifier

### Densifier Overview

Silicates 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). Sodium Silicates and Silicate/Siliconates are primarily designed and will provide a higher level of performance when applied to concrete that has aged a minimum of 7 days.

Pentra-Hard Densifier because of its unique nano-lithium chemistry can be applied to new or older concrete.

### Polished Concrete

“Polished concrete is an architectural finish that combines diamond grinding, honing, and

polishing to produce a smooth surface that is durable, light reflective, and easy to maintain.”

#### **CPC Position Statement #1**

### Standards and Specifications

**ACI 310.1:** Specification for Polished Concrete Slab Finishes

#### **Concrete Polishing Council**

##### Polished Concrete Aggregate Exposure Chart

<b>Class A</b>	Cement Fines
<b>Class B</b>	Fine Aggregate
<b>Class C</b>	Coarse Aggregate

#### **Concrete Polishing Council**

##### Polished Concrete Appearance Chart

<b>Level</b>	<b>Name</b>	<b>Clarity</b>
<b>1</b>	Flat (Ground)	0-9%
<b>2</b>	Satin (Honed)	10-39%
<b>3</b>	Polished	40-69%
<b>4</b>	High Polish	70-100%

#### Note:

*\*These products are not membrane forming and therefore cannot meet the requirements of ASTM C309 or ACI 308 as a curing membrane. Even if a membrane forming compound was not a prerequisite to meet ASTM C309, the moisture retention of any of these products is much less than a membrane forming curing compound meeting the ASTM C309 standard.*

### DURABLE FLOOR SYSTEM™

The Durable Floor System is a combination of high performance, quality, innovative products, and premier technical support.

- Deliver a long-lasting satin gloss finish
- Easy to apply and easy to maintain
- Decrease life cycle maintenance costs
- Slip, abrasion, and spill resistant
- Suitable for concrete polishing procedures
- No rinsing required
- V.O.C. compliant



## Guide to Liquid Densifiers

### **LEVEL I: Protecting New Concrete**

#### **Pentra-Hard® Densifier**

Protect your investment and reduce maintenance worries by sealing, hardening, dustproofing, and increasing the stain-resistance of your concrete floor.

### **LEVEL II: Increase Shine, Protection & Durability**

#### **Pentra-Hard® Guard**

Your concrete floor is exposed to dirt, grime and other harmful elements everyday. Eliminate the need for waxes, polishes and cleaning chemicals.

## **Dayton Superior Densifiers**

### **Densifier Concentrate J12**

- Concentrated solution with a fugitive dye
- Will not discolor
- Non-membrane forming
- Treated surface will accept most any floor finish
- Compliant per CDPH V1.2
- **MAS Certified Green**

### **Densifier J13**

- Cost-effective
- Will not discolor
- Non-membrane forming
- Treated surface will accept most any floor finish
- Compliant per CDPH V1.2
- **MAS Certified Green**
- Certified to conform to NSF/ANSI Standard 61 by WQA

### **Sure Hard J17**

- Can be used in the polishing process
- Colorless, odorless
- Contains siliconates to impart water repellency

- Quick turnaround, 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
- Compliant per CDPH V1.2
- **MAS Certified Green**

### **Pentra-Hard Densifier**

- Can be used in the polishing process
- Easy application, no rinsing required
- Can be applied to new or old concrete
- Does not contribute to surface ASR
- Resists stains and dusting
- Colorless & odorless

## **Finish, Stain and Wear Protectors**

### **Pentra-Hard Guard**

- High Performance Finish, Stain and Wear Protector
- Forms a protective “micro surface layer” that is breathable, dense, abrasion resistant, and that will not peel or flake
- Easy reapplication

### **Pentra-Hard Finish**

- High-Gloss, Stain and Wear Protector
- Forms a protective “micro surface layer” that is breathable, dense, abrasion resistant, and that will not peel or flake
- Easy reapplication