

**Technic data sheet:**

# **ECOGUARD HS POTASSIUM SILICATE**

## **HIGH SOLIDS POTASSIUM SILICATE DENSIFIER & HARDENER FOR POLISHED CONCRETE**

**PRODUCT DESCRIPTION:** isi GmbH Germany **ECOGUARD HS POTASSIUM SILICATE (EHSP)** is a specially formulated potassium silicate concentrate based solution which is used as a hardening and densifying sealer in polished concrete applications. It is mixed at a ratio of 1:9 with clean, potable water, colorless, odorless, penetrating, protective concrete sealer.

**EHSP** reacts with free lime (calcium hydroxide) which is present in the normal cement hydration process. EHSP produces a denser concrete surface which reflects light more evenly, increasing the gloss of the concrete surface.

**EHSP** densified surfaces demonstrate excellent abrasion resistance.

**USES:** Typical diamond polishing applications include warehouse floors, schools, retail, lobbies, hospitals, airports, showrooms, as well as decorative precast concrete polishing such as counter or table tops.

### **BENEFITS:**

- 1. Enhances polished concrete surfaces**
- 2. Promotes greater gloss**
- 3. Decreases permeability of the surface**
- 4. Floors are easier to clean and maintain**
- 5. Reactive silicate densifier becomes part of the concrete: cannot chip, lift or peel**
- 6. EHSP treated floors meet ADA slip resistance testing requirements**
- 7. Odorless, non-yellowing, V.O.C. compliant water based formulation**

**COMPOSITION:** Water based potassium silicate dispersions with added penetrating agents.

<b>PHYSICAL DATA:</b>	<b>APPROXIMATE VALUES @ 70 °F (21.1°C):</b>
Color:	Clear light blue solution
Weight/gallon:	8.70 lb.
pH:	10.0 +/- 0.50 (Alkaline)
V.O.C. levels	Contains no VOC's
Viscosity (Brookfield):	10 cps
% Solids (Potassium):	>12%
% Actives (Total):	>24%

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### **SURFACE PREPARATION:**

**EXISTING CONCRETE:** Surfaces to be treated must be structurally sound, clean and free of all contaminants, resins, or previously applied sealants, and porous. During the first grinding pass, you may use ECOGUARD Pre-Grind for an easier first cut and to break down grease or oil contaminants on the concrete surface, if any. It is important to grind wet and to auto-scrub the surface after the first grinding pass. Repair all cracks, and surface depressions prior to applying **EHSP**, using ECOGUARD Crack Repair and/or Surface Repair products.

**NEWLY POURED CONCRETE:** Recommended concrete mix designs should be 3500 psi minimum with no air entrainment and a maximum of 20% fly ash. Newly placed concrete should be cured a minimum of 7 days, but preferably 28 days old to allow excess moisture (which inhibits **EHSP** penetration) to evaporate and/or fully hydrate with the cement. Surfaces should be cured by water spray, damp burlap, or visqueen methods only (no resins or curing compounds that inhibit penetration of the **EHSP**). If resin based curing compounds were used, these have be ground off completely prior to applying **EHSP**.

**DIRECTIONS:** The successful application of **EHSP** depends upon the grinding and polishing process used by the contractor. Experience in the use of silicate hardening materials, and grinding and polishing requirements are a must. Concrete hardness, flatness, and polishing processes are all factors that affect final surface gloss. In most cases, the surface is initially ground with a diamond grinding tool at a lower grit to level and open the floor surface. After the initial grinding, the floor should be cleaned and allowed to dry.

**APPLICATION: EHSP** is typically applied by low pressure sprayers. Coverage is typically 15 – 22 m<sup>2</sup>, depending on substrate porosity. Completely saturate the floor. After 15-20 minutes, spread any puddling material in low spots, using a micro-fiber od defibrillated broom. It is important to keep the floor completely wet for at least 30-45 minutes, Excess material in low spots must be re-wetted if gelling, and working into the concrete or removed by squeegee.

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The polishing sequence can then continue, using consecutive, progressively higher grit tooling until the level of gloss/reflectivity and DOI is achieved, In the later polishing steps (1500-3000 grit), to produce an even higher gloss, a "light spray" of EHSP can be applied (30 – 40 m<sup>2</sup> per Liter using Material ).

Allow at least 1 hour of curing, which increases CSH production at the surface, before continuing the polishing sequence to higher grit sizes.

After final polishing and drying, floors can be open to traffic and do not need additional treatments. Allow the surface to dry 12 hours before exposing to foot traffic, 24 hours for vehicles.

To maintain gloss, cleaning should be done on a regular basis to reduce abrasive sand or dirt contaminates

**CAUTIONS:** Do not dilute or thin. EHSP is a penetrating hardener and is not a film forming type sealer. When EHSP is applied excessively (puddled) and allowed to dry in this condition without being rinsed down or whisked away, a white residue may remain on the surface of the treated substrate. This white residue consists primarily of excessive potassium carbonate salts that are difficult to remove at the latter stages of polishing. Do not apply in temperatures below 3° or over 35° . Do not apply to frozen or frost filled surfaces. The treated surface will be slippery during application and until dry. Surfaces treated with Diamond Seal Hardener or other silicate based sealers are not compatible with vinyl floor adhesives, or many other floor covering adhesives as the final substrate is rendered water impermeable, but still breathable. Keep from freezing.

**WARNINGS:** Avoid contact with skin and eyes. Wear protective clothing and safety glasses during application. Keep away from food and drink. Do not take internally. Refer to product M.S.D.S. (Material Safety Data Sheet) for further health and safety information. **FOR INDUSTRIAL USE ONLY. KEEP OUT OF REACH OF CHILDREN. For medical emergencies only, call Infotrac 800-535-5053**

### **H.M.I.S. CODES:**

HEALTH = 1, FLAMMABILITY= 0, REACTIVITY = 0, PERSONAL PROTECTION = C  
(GLOVES, GOGGLES, APRON)

**SHIPPING NAME:** Concrete Sealer -Water base

**SHIPPING CLASS:** ITEM 33880, SUB 2, LTL 55

**PACKAGING:** 5 – 25 – 120 – 1000 Liter

**SHELF LIFE:** 1 year properly stored by 15- 30 °Celsius

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