

ShieldPoly HCR

Aromatic Fast Set Pure Polyurea – Hydrocarbon Resistant

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Product Description

ShieldPoly HCR is a two-component system, based on aromatic isocyanates and special flexible amines for the protection of metal and cementitious surfaces.

The product is pure polyurea with 100% solids. According with EN 13823: 2010 belongs to the class E fire reaction. The system further has a temperature resistance from -30°C to + 170°C.

Application Areas

- ✓ Water containment
- ✓ Roof covering
- ✓ Floors and garages
- ✓ Bridges, stadiums, airports and railways
- ✓ Industrial maintenance and production facilities
- ✓ Sound attenuation
- ✓ Protecting surfaces with chemical resistance functions
- ✓ Finishing and protecting wood and EPS items for sculptures and set design
- ✓ Walkways, balconies and swimming pools
- ✓ Tank covering
- ✓ Use in maritime area
- ✓ Oil and gas pipelines and refineries
- ✓ Primary and secondary containment

Physical Properties

Mix Ratio by Volume	1:1
Gel Time (Seconds) ASTM D1640	4 – 6
Tack-Free Time (Seconds) ASTM D1640	50 - 60
VOC Content	0
Solids Content	100
Shore D Hardness ASTM D2240	55 – 60
Shore A Hardness ASTM D2240	NA
Elongation % ASTM D638, Type IV	100 - 130
Tensile Strength (psi) ASTM D638, Type IV	2175 - 2900
Tear Strength (lb./in.) ASTM D624, Die C	343 - 457
Adhesion to Concrete (psi) ASTM D7234	>200
Taber Abrasion mg wt loss, ASTM D4060 (1000g, H-22 Wheel, 1000 Cycles)	<3000
Water Vapor Transmission ASTM E96, Proc A permeability (80mils), grams/Pa*s*m	5.46E-11

Features

- ✓ Does not contain VOC
- ✓ No weight loss
- ✓ No generation of secondary reaction products
- ✓ Resistant to atmospheric agents
- ✓ Low permeability values
- ✓ Application temperatures between -15°C to +70°C
- ✓ High chemical resistance
- ✓ Excellent properties of bridging

Limitations

Cannot be used in situations of extremely high or low pH, coupled with high temperature immersion. Contact ShieldCrete® International for a more suitable system.

Coverage Rates

Mils	10	15	50	60	80
Sq. Ft.	160	107	32	27	20

The above figures are estimated coverage rates and can vary on the substrate condition and texture.

Mixing

Must be installed using a 1:1 ratio plural high-pressure, heated pump, fitted with high-pressure impingement mix spray gun. The proper necessary equipment can vary by the individual application.

Preparation and Installation

Coating performance and adhesion are directly related to surface preparation. Many surface-coating failures can be attributed to improper surface preparation.

Coatings are partially dependent on the integrity and structure strength of the substrate. A properly prepared substrate is free of contaminants, including but not limited to dust, dirt, oil, grease, rust, and corrosion. In certain applications, priming the substrate will be required prior to applying ShieldPoly HCR.

For additional information, please review the material processing and handling guide or contact a member of ShieldCrete® International technical support team.

Colors

ShieldPoly HC comes in 3 standard colors: Tan, Black, and Gray. If you need a special color for a specific application, please contact ShieldCrete® International for more information.

Packaging

106 Gallon Kit

53 Gallon Part-A (Isocyanate) and 53 Gallon Part-B (Resin)

Products are packaged by weight, so final package volume is a close estimation.

Shelf Life

A properly stored product in original, unopened factory containers, kept at a temperature above freezing should have a shelf life of 12 months from the date of shipment.

Proper storage temperature is 60°F to 110°F (16°C to 45°C).

Packaging

Standard 400L kits, 2x200L Drums per kit. Other sizes may be available on request.

Chemical Resistance

CHEMICAL	TEST CONDITION	CONTACT	IMMERSION
Diesel Fuel	7D/25°C	A	A
Dimethylformamide	7D/25°C	B	C
Methanol	7D/25°C	A	B
Propylene Carbonate	7D/25°C	B	B
Brake Fluid	7D/25°C	A	A
Acetone	28D/25°C	A	A
Hydraulic oil	28D/25°C	A	A
Water	28D/25°C	A	A
Hexane	28D/25°C	A	A
Acetic Acid 10%	28D/25°C	A	A
Sodium Hydroxide 25%	28D/25°C	A	A
Sulfuric Acid 5%	28D/25°C	A	A
Sulfuric Acid 5%	28D/25°C	A	A
Group 1 (EN13529)	28D/25°C	A	
Group 5 a) (EN13529)	28D/25°C	A	
Group 9 (EN13529)	28D/25°C	A	
Group 10 (EN13529)	28D/25°C	A	
Group 11 (EN13529)	28D/25°C	A	
Water	28D/90°C	A	A
Diesel Fuel	28D/40°C	A	A
Hydrogen Peroxide 30%	28D/40°C	A	A
Sulfuric Acid 50%	28D/40°C	A	B
Nitric Acid 30%	28D/40°C	A	C
Sodium Hydroxide 50%	28D/40°C	A	A

A Excellent resistance. Possible color change, without loss of protection features.

B Good resistance. Color change with moderate reduction of protection features.

C Poor resistance. Color change and loss of protection features.

The simple color loss of the material is not considered a defect.

Safety

For in-depth information on product safety and precautions, please review the product SDS sheets. Prior to using the product, ensure that you have the proper personal protection equipment (PPE) available.

This includes but is not limited to the following items:

- Safety Glasses with a splash shield
- Minimum Organic Cartridge Respirator
- Rubber or Nitrile Gloves
- Disposable or Reusable Long Sleeve Overalls
- Rubber or leather boots

Always be sure to follow the precautions listed below when using the material:

- Do Not use near high heat or open flame
- Do Not take internally
- Keep out of reach of children

Maintenance

No Information Provided

Clean-Up / Disposal

Excess material can be mixed together at the proper ratio and disposed of without restriction once cured. Product containers may be disposed of according to local, state and federal laws.

Warranty

At its sole election, ShieldCrete® International will refund the price of or replace product it finds to be defective provided the product has been used properly and installed by a certified ShieldCrete® International applicator. Except as expressly stated above, the company makes no warranty of merchantability and no warranty of fitness for any particular purpose; nor does it make any warranty, express or implied, of any nature whatsoever with respect to the product or its use. In no event shall the company be liable for delay caused by defects, loss of use, indirect, special or consequential damages, or for any charges or expenses of any nature incurred without its written consent.

Technical Support

For technical support, please you may send an email to mail@shieldcreteinternational.com.

DISCLAIMER

The information provided herein, especially recommendations for the usage and the application of our products, is based upon our knowledge and experience. Due to different materials and equipment used, as well as varying working conditions and environments beyond our control we strictly recommend carrying out intensive trials to test the suitability of our products regarding the required processes and applications. This data sheet is provided free of charge, and we do not accept any liability regarding the above information or regarding any verbal recommendation, except for cases where we are liable of gross negligence or false intention.