

Technical Data Sheet

Description

Smartshield is a single component, 100% solids, solvent free coating which contains no VOC's (volatile organic content). It forms an extremely smooth and highly durable abrasion and impact resistant surface. It is very UV stable and resistant to aggressive chemicals and solvents. Provides excellent corrosion protection to metal surfaces.

Smartshield creates optimal conditions to resist the growth and accumulation of bacteria on the easy to clean surface of the coating. Also, the ability to apply the product at low temperatures is setting new standards for this application.

In corners and junctions **Smartshield** used in conjunction with **Smarttech Fabric** creates a monolithic surface, leaving no crevices for the formation of bacteria.

Resists acid attack on concrete and metal in waste water systems and can be coated over new concrete.

Uses

Smartshield is successfully used in applications such as:

- Direct to metal corrosion protection on structures, pipelines, vehicles, storage tanks etc.
- Protection of concrete against chemical spills
- Lining of concrete tanks or reservoirs
- Repairs and protection of waste water systems and facilities
- Coating OEM machine parts

Substrates

- Metal,
- Concrete & Masonry
- Glass, Ceramic & Ceramic tiles
- GRP Panels(Glass Reinforced Polyester)
- Wood *
- Gypsum*

* These surfaces may need priming since they are usually quite porous.

Advantages

Smartshield offers the following advantages:

- 1-component
- Ready to use
- Solvent free
- Containers can be resealed for future use
- Can be applied to damp surfaces
- No 28 day wait on new concrete & masonry surfaces
- seamless, monolithic surface
- No joints, seamless monolithic surface
- No locations for bacteria or germs to lodge
- Odorless – allowing application in close proximity to food products
- Fast curing from +23°F
- After curing it is resistant to animal fats, blood and aggressive cleaning chemicals with 160°F plus hot water pressure rinsing.
- Contains no VOC's
- Contains no isocyanates, reducing health concerns
- Adheres to most building surfaces without priming

Colors

White, Grey, OSHA approved Yellow, Red, Blue and Green Safety colors and Clear
Other colors available upon request.

Application

Surface Preparation

Surfaces must be sound, clean, free of dust and loosely adhering particles, oil, fats, mildew and algae.

Concrete and masonry surfaces should ideally not have a moisture content above 8%. Surfaces should be free of laitance and efflorescence as well as any other deposits that may interfere with the bond to the concrete or masonry.

Before applying **Smartshield**, surfaces must be wiped down with a cleaning fluid such as denatured alcohol or other appropriate cleaning method ensuring that no residue remains.

The product must be gently stirred before use, taking care not to entrain air as this will create air bubbles in the

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coating which may form small craters on curing. Should this occur allow the product to stand with the lid in place for between 5 and 10 minutes to allow air to escape.

Priming

Metal, Concrete and Masonry, Glass or Ceramic require no priming.

On wood or gypsum surfaces prime surface with **Smarttech Primer**. This will prevent any tannin bleed from the wood and will also preseal the porous nature of the surface. For other substrates not mentioned above contact the customer service line.

Application Instructions

At all junctions between panels, dissimilar substrates, pipe or conduit penetrations and at plane junctions, apply **Smarttech Fabric** to reinforce these locations.

Apply a moderate coat of **Smartshield** by brush or roller symmetrically over the joints covering approximately 2" each side of the junctions (e.g. corners, panel joints, floor to wall and wall to ceiling junctions). Lay in the 4" wide fabric symmetrically over the joint and imbed using a brush or roller. Make sure that no bubbles or creases appear in the fabric. At the same time apply a moderate coat of **Smartshield** over the entire area to be treated. Allow to become touch dry (about 2 hours at 38°F).

Once touch dry apply a second moderate coat over the entire area. Do not over apply coating to avoid runs on the surface. This will complete the monolithic lining of the treated surfaces.

Wall surfaces will be serviceable in 6 hours and floors walkable in 12 hours. The coverage of **Smartshield** will be approximately 80ft²/gal. total for the entire application. This will, however, depend upon porosity and smoothness of the substrate. (see "Coverage" below)

Note:

In some applications the owner or applicator may elect to produce a

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thicker coating. This will result in greater consumption of **Smartshield**.

Application Conditions:

Ambient Temperature: 23°F to 110°F

Surface Temperature: 23°F to 95°F

Note:

Do not apply over frozen matter!

Coverage:

Complete System:

Smooth surfaces 85ft²/gal.

This includes total coverage for both coats.

Curing Times:

Touch dry after 2 hours at 38°F and 50% RH

Trafficable after 12 hours at 38°F and 50% RH

Fully cured after 14days.

Resistance to Chemicals

Chemical resistance tests show that cured **Smartshield** is resistant to many solvents, acids and alkalis like
-Diesel and Gasoline

- Acetone
- Butanol
- MEK (methyl ethyl ketone)
- White spirits
- Sulfuric Acid 5%
- Hydrochloric Acid
- Sodium hydroxide 5%
- Animal Fats and Blood
- Hydraulic fluid

It is advisable to allow 48 hours cure before subjecting surfaces to aggressive chemicals.

Cleaning

Uncured **Smartshield** can be removed with White Spirits. Cured **Smartshield** can only be removed mechanically.

Storage

Unopened containers:

12 months from manufacture date.

Opened unused Material:

Replace lid on container firmly. When reopening for further use, remove any skin that might have developed on the surface and mix gently to create a homogeneous liquid without entraining air bubbles.

Technical Data:

Type	Solvent Free 1 component Synthetic Polymer
Shelf life and Storage conditions	unopened 12 Months, Storage Temp. +40 - 90°F
Application Temperature	23 - 110°F (Ambient) 23 - 95°F (Surface)
Total Thickness (Smooth Surface)	20 mils
Total weight	12.5lb/gal
Drying Time (touch dry)	2 hours at 38°F and 50% rel. humidity
Trafficable	after 8 hours at 38°F and 50% RH
Full Cure	after 14 days
Coverage	Spread Rate Per Coat: 10 mils Wet 10 mils Dry Coverage Per Coat: 160 ft ² /gal Minimum Thickness required: 20mils Minimum coats required: 2 Surface Roughness, unevenness and high absorbency will consume more product to achieve desired thickness.
Vapor Transmission ASTM E96	4.2 Perms @ 20mils
Corrosion Resistance	ASTM B117 1000hr. salt spray - Excellent
Container Size / Article	Packaging
Smartshield	1 gallon Bucket White, Grey, Safety Yellow, Clear (Special Colors possible upon request)
Smarttech Fabric	4" x 300ft Roll

Caution:

Carefully read the Safety Data Sheet for **Smartshield** before use. Avoid contact with eyes and skin as this may cause irritation. Should contact with eyes occur rinse for 15 minutes under running water. If swallowed do not induce vomiting and seek the advice of a physician.

Important Notice:

Please always consult our website at www.smarttechcoatings.com to check that you are reading the most up to date data on this product.

Note:

The information contained in this technical data sheet is based upon our experience and is therefore not binding. All data are laboratory values, which may differ in practice. Therefore, these represent no assurance of characteristics. This data is given in order to allow compliance with respective local specifications. The variety of possibilities and the specific project details in combination with the products cannot be handled within the framework of this data sheet. If you have questions, please contact us. It is the user's responsibility to be informed about the characteristics of the products as well as the technical information and proper processing. Please take careful note of all manufacturers' specifications, e.g. information on surface pretreatment. A specific result cannot be guaranteed due to differing prevailing individual conditions, which can lead to differing result. Preliminary tests are advised to test for the desired result.