

# Polarcoat System

Specialty Hard Wearing Coating for Walls and Ceilings of Refrigerated Rooms, Cleanrooms and Medical Facilities



## Technical Data Sheet

Effective: September, 2016

### Description

**Polarcoat** is a single component, 100% solids, solvent free coating. It forms an extremely smooth and highly durable abrasion, impact and chemical resistant surface. **Polarcoat** is also UV resistant. The properties of **Polarcoat** create 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.

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

### Uses

**Polarcoat** is successfully used on the interior surface **walls, ceilings and floors** of:

- Cold Rooms
- Cold Storage warehouses
- In food handling and food processing rooms, e.g. Abattoirs, Bakeries, Supermarket Prep. Areas, Restaurants and Commercial Kitchens
- Clean rooms and medical facilities

### Substrates

- Metal ( including Stainless Steel)
- 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

**Polarcoat** offers the following advantages:

- 1-component
- ready to use
- solvent free
- Containers can be resealed for future use
- can be applied to wet surfaces

- No 28 day wait on new concrete & masonry surfaces
- Seamless, monolithic surface
- No joints
- No locations for bacteria or germs to lodge
- Odourless – allowing application in close proximity to food products
- Fast curing well below 0°C
- After curing it is resistant to animal fats, blood and aggressive cleaning chemicals with 70°C plus, hot water pressure rinsing.
- Contains no isocyanates, reducing health concerns
- Adheres to most building surfaces without priming

### Colours

White

Other colours available upon request.

**Note:** *Slight variations in colour can occur between batches.*

### Application

#### **Surface Preparation**

Surfaces must be sound, clean, free of dust and loosely adhering particles, all traces of corrosion, oil, fats. Mildew and algae must be removed with bleach solution.

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 **Polarcoat**, surfaces must be lightly abraded and wiped down with a cleaning fluid such as denatured alcohol or other appropriate cleaning method ensuring that no oils, fats or other residue remain.

**Polarcoat** must be gently stirred before use, taking care not to entrain air as this will create air bubbles in the 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 generally require no priming. On wooden surfaces only where tannin bleed may be expected or on concrete or other surfaces where contamination might cause staining, prime surface with **SMART Block**. This will prevent any staining from the existing surface. For previously painted surfaces or other substrates not mentioned above contact customer service.

### 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 **Polarcoat** by brush or roller symmetrically over the joints covering approximately 50mm each side of the junctions (e.g. corners, panel joints, floor to wall and wall to ceiling junctions). Lay in the 100mm 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 **Polarcoat** at **0.25l/m<sup>2</sup>** over the entire area to be treated. Allow to become touch dry (about 1 hours at 0°C). At this stage any unacceptable surface imperfections related to the fabric application maybe lightly sanded before commencing with the final coat.

Once touch dry apply a second moderate coat of **Polarcoat** at 0.25l/m<sup>2</sup> 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 2 hours and floors lightly walkable in 2 hours.

The coverage of **Polarcoat** will be approximately 0.5l/m<sup>2</sup> total for the entire application. This will, however, depend upon porosity and smoothness of the substrate. (see "Coverage" below)

# Polarcoat System

Specialty Hard Wearing Coating for Walls and Ceilings of Refrigerated Rooms, Cleanrooms and Medical Facilities



## Technical Data Sheet

Effective: September, 2016

### Note:

For flooring applications refer to the **Smarttech Surefloor** Technical Data Sheet.

### Application Conditions:

Ambient Temperature: -10°C to 45°C  
Surface Temperature: -10°C to 50°C

### Note:

**Do not apply over frozen matter! Polarcoat can be applied at temperatures as low as -23°C.** Contact our technical department for specific instructions.

### Coverage:

Complete System:

Smooth surfaces minimum 0.5l/m<sup>2</sup>

This includes total coverage for both coats.

### Curing Times:

Touch dry after 2 hours at 0°C and 50% RH

Fully cured after 14 days.

### Resistance to Chemicals

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

- Acetone
- Butanol
- Methyl Ethyl Ketone
- White spirits
- Sulfuric Acid 5%
- Sodium hydroxide 5%
- Hydrochloric Acid 5%
- Animal Fats and Blood
- Commercial cleaning chemicals

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

### Cleaning

Uncured **Polarcoat** can be removed with Denatured Alcohol. Cured **Polarcoat** can only be removed mechanically.

### Technical Data:

Type	Solvent Free 1-component Synthetic Polymer
Shelf life and Storage conditions	unopened 12 Months, Storage Temp. +5°C to 32°C
Application Temperature	-10°C - 45°C (Ambient) -10°C - 50°C (Surface) Application possible at -23°C with special conditions. Contact technical department.
Total Thickness (Smooth Surface)	0.5mm
Total weight	1.5kg/l
Drying Time (touch dry)	1 hour at 0°C and 50% rel. humidity
Trafficable	Lightly walkable 2 hours at 0°C and 50% RH
Taber Abrasion ASTM D-4060-14	Wear Index I=58 @1000cycles
Full Cure	after 14 days
Food Contact Safe: InS R1	InS Services, Registration No 1796973
Water vapour Permeability ASTM E-96	24x10 <sup>-8</sup> g.s <sup>-1</sup> .m <sup>-2</sup> .Pa <sup>-1</sup> ( 4.2 perms) @ 0.5mm thick
Spread of Flame BS476-7:1997	Class 1
Coverage	On smooth even surfaces: 0.5l/m <sup>2</sup> Surface Roughness, unevenness and high absorbency will consume more product to achieve desired thickness
Container Size / Article	Packaging
<b>Polarcoat</b>	Bucket 3.5litre White ( Special Colours possible upon request)
<b>Smarttech Fabric</b>	Roll 100mm x 90m
SMART Block Matt Sealer	2 comp.Kit 3kg Clear Matt

### Storage

#### Unopened containers:

12 months from manufacture date.

#### Containers:

##### Opened Containers:

To lengthen storage time, fill head-space above Surefloor with nitrogen gas and immediately replace lid securely. Shake closed container gently before storing

### Caution:

Carefully read the Safety Data Sheet for **Polarcoat** 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. In confined areas of application ensure good airflow with fans or similar

### Important Notice:

Please always consult our website at [www.smarttechcoatings.co.uk](http://www.smarttechcoatings.co.uk) 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 specificities. 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