Technical Data Sheet

PES-CHEM 507 DWPU – chemical & corrosion resistant coating

PES-Chem 507 DWPU is a high build solvent-free polyurethane coating designed for the long-term protection of steel and concrete structures against corrosion and chemical attack. The coating meets the requirements of BS6920-1:2014 by the Water Research Centre for contact and immersion conditions in drinking water.

- Apply to mechanical or abrasive blast cleaned surfaces
- Flexible and durable finish once cured
- Ideal for protection against corrosion, low concentration chemicals and chlorination agents
- Approved for contact and immersion conditions in drinking water (BS6920-1:2014).

Typical applications

Internal & external tank surfaces	Structural Steel	Chemical intake areas
Process equipment	Sumps	Chemical containment and bund areas

Surface Preparation

Metallic Substrates – Mechanical abrasion

1. All oil and grease must be removed from the surface using an appropriate cleaner such as MEK.
2. All surfaces must be mechanically abraded using handheld grinders to ***SSPC SP3 ST3***.
3. Once abraded, the surface must be degreased and cleaned using MEK or similar type material.
4. All surfaces must be coated before gingering or oxidation occurs.

Metallic Substrates – Abrasive blast cleaning

1. All oil and grease must be removed from the surface using an appropriate cleaner such as MEK.
2. All surfaces must be abrasive blasted to ***SSPC SP10/ NACE 2*** minimum blast profile of 3mil using an angular abrasive.
3. Once blast cleaned, the surface must be degreased and cleaned using MEK or similar type material.
4. All surfaces must be coated before gingering or oxidation occurs.

PLEASE NOTE: *For salt contaminated surfaces the substrate must be pressure washed with clean water and checked for salt contamination, please refer to the surface preparation and pre-application guide for further information.*

Existing Concrete

1. If the concrete surface is contaminated, pressure wash using clean water.
2. Once the concrete is dry, lightly abrasive blast or scarify taking care not to expose the aggregate.
3. Clean all dust and debris from the surface and prime with PES-Chem 503 SPEP (low viscosity epoxy primer).
4. Apply 503 SPEP at 6mil WFT, leave to cure for 3 hours (68°F) before overcoating.

New Concrete

1. Allow new concrete to cure for a minimum of 21 days and treat to remove any surface laitance.
2. Check the moisture content of the concrete prior to coating (8% moisture content or below).
3. Lightly scarify the surface taking care not to expose the aggregate.
4. Clean all dust and debris from the surface and prime with PES-Chem 503 SPEP (low viscosity epoxy primer).
5. Apply 503 SPEP at 6mil WFT, leave to cure for 3 hours (68°F) before overcoating.

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Mixing

Prior to mixing please ensure the following:

1. The base component is at a temperature between 60-77°F.
2. The ambient & surface temperature is above 50°F.
3. The ambient & surface temperatures are not less than 6°F above the dew point.

Once these 3 checks have been met, please proceed with mixing the product.

1. Transfer the contents of the Activator unit into the Base container.
2. Using an electric paddle mixer, mix the 2 components until a uniform material free of any streaks is achieved.
3. From the commencement of mixing the whole of the material should be used within 20 minutes at 68°F.

Application

Brush or roller applications

1. Pour the mixed material into a paint kettle or paint tray (this will maximise the usable life)
2. Using a 2" wide synthetic brush, stripe coat all edges, joints, corners and equipment with the mixed material. The stripe coat must be approximately 4" wide, at 14mil wet film thickness.
3. Once the stripe coat has cured sufficiently and is capable of being overcoated, apply the 1st coat of mixed product to all surfaces at 14mil wet film thickness.
4. Once the 1st coat of material has cured sufficiently, approximately 6 hours at 68°F, apply a 2nd coat of material to all surfaces at 14mil wet film thickness

Coverage Rates

0.2 US gallon (1ltr) of fully mixed product will give the following coverage rates –
30ft² at 14mil (2.85m² at 350 microns)
1.2 US gallon (4ltrs) of fully mixed product will give the following coverage rates –
122ft² at 14mil (11.4m² at 350 microns)

Please note that the coverage rates quoted are theoretical and do not take into consideration the profile or condition of the surface being repaired.

Cure Times

At 68°F the applied materials should be allowed to harden for the times indicated below before being subjected to the conditions indicated. These times will be extended at lower temperatures and reduced at higher temperatures:

Usable life	20 minutes
Minimum overcoating time	6 hours
Maximum overcoating time	24 hours
Water/ sea water immersion	3 days
Chemical immersion	5 days

Pack Sizes

This product is available in the following pack sizes –
0.2 US Gallon (1ltrs), 1.2 US Gallons (4ltrs).

Colour

Base component – Light Grey or Blue
Activator component – Amber

Over-coating times

Minimum - the material can be over-coated as soon as it is touch dry, approximately 6 hours at 68°F.
Maximum - the over-coating time should not exceed 24 hours.
Where the maximum over-coating time is exceeded, the material should be allowed to harden before being abraded or flash blasted to remove surface contamination.

Storage Life

5 years if unopened and store in normal dry conditions (60-86F°)

Other Technical Documents

Quick Application Guide	-	Brush or roller applications
Safety Data Sheets	-	Base & Activator components
Product Specification Sheet	-	Technical Performance Information

Health and Safety

Please ensure good practice is observed at all times. Protective gloves, goggles & a disposable coverall must be worn during the mixing and application of this product. Before mixing and applying the material ensure you have read the fully detailed Safety Data Sheet.

Legal Notice:

The data contained within this Technical Data Sheet is furnished for information only and is believed to be reliable at the time of issue. We cannot assume responsibility for results obtained by others over whose methods we have no control. It is the responsibility of the customer to determine if the product is suitable for use. PES accepts no liability arising out of the use of this information or the product described herein.