

SuperFlow

Product Summary

- Ultra smooth, hydrophobic, 2 component, 100% solids coating. Provides efficiency enhancement of pumps, infrastructure and equipment where flow resistance must be minimised. New and old equipment can be treated.
- Prevents fouling and sludge build up.
- Self priming bonding tenaciously to rubber, urethane, steel, stainless steel, cast iron, copper, bronze, aluminium, alloys and concrete
- Very high sliding abrasion resistance
- Excellent resistance to impact from impinging particles either dry or within fluid.
- Can be used as a surface coat after repairing with DuraPol MetalBuild and SuperAlloy.
- Can be used as a surface coat after full anticorrosion treatment with DuraPol HTW.

DuraPol SuperFlow is the ultimate energy efficiency and life extender for critical equipment. Specifically designed to provide an ultra smooth, frictionless surface that increases fluid flow and prevents cavitation, erosion, fouling and sludge build up. Used as a surface coat in combination with other DuraPol repair products you can prolong equipment life and increase its initial engineering performance specification. It will reduce the equipment maintenance budget as well as energy consumption thereby reducing overall running cost.

Application Areas

Impellers, pumps, filter, strainers, turbine runners, multi stage pumps, marine equipment, valves, bow thrust channels. Critical sections of pipes that carry hydrocarbons, water and gas.

Physical Properties

Abrasion Resistance: ASTM D 4060
8 mg weight loss (Tabor CS-17/1kg/1000 cycles)

Barcol Hardness: ASTM D-2583
45

Adhesive Strength: ASTM D4541
250 kg cm⁻² (cohesive failure)

Elongation to break: BS 6319 Part 7 1985
50%

Impact resistance: ASTM G14
Forward: 25 Joules
Reverse: 15 Joules

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Temperature Resistance: NACE TM0174
60°C Immersed
120°C Non Immersed

Typical Chemical Resistance (full immersion)

- Crude Oil and Gas (Sweet or Sour)
- Kerosene
- Sulphuric Acid (10%)
- Hydrochloric Acid (10%)
- Nitric Acid (5%)
- Sodium Hydroxide (50%)
- Sodium Hypochlorite (15%)
- Methanol
- Demineralised Water
- Sea Water

Coating Data

Finish: Smooth and Glossy

Colours: White, Black, Red

Solids Content: 100%

Mixed Viscosity: 40,000 +/- 5000 cPoise

Typical Wet Film thickness: 250 microns

Number of Coats: 2

Coverage of 1kg kit @ 250 micron DFT: 2.4 m²

Pot Life / Working Life at 20°C: 25 minutes

Initial Set / Drying Time at 20°C: 240 minutes

Dry Service Time at 20°C: 3 days

Immersion Service Time at 20°C: 7 days

Storage Life: 72 months minimum in unopened containers when maintained between 5 and 35°C

Packaging: 1 and 5 kg composite kit

Specific Gravity: 1.45 gms/cm³ (Base + Hardener)

Surface Preparation

Remove all loose rust and dirt using a metal scraper. Remove oil or greases from surface using cleaning solvents that leave no residue once evaporated such as methyl ethyl ketone (MEK) or acetone. Surface should be roughened using a needle gun, angle grinder or ideally grit blasted using angular grit to give a surface profile greater than 50 microns (SA 2.5). Remove residual dirt and grit using a vacuum. If surface has been immersed in salt water then surface needs to be washed with fresh water before blasting. Once the surface is prepared it should be coated immediately to avoid surface oxidation and contamination, and contamination.

Mixing of DuraPol ElastoPol

Ensure that the base and hardener temperature is around 20°C before mixing. The base is mixed continuously as the hardener is added. Allow further 1 minute mixing time after addition of hardener. Scrape inside surface of the container with a pallet knife so that all material receives a good mixing. Do not mix more material than can be used within the pot life period.

Application Equipment

Stiff bristle brush

Application of DuraPol ElastoPol

If the surface to be treated is heavily pitted repair with MetalBuild or SuperAlloy. Allow to dry and then apply DuraPol SuperFlow within 4 hours of carrying out repairs. Stripe coat corners and edges. Press the coating into the substrate so that it is completely wetted and then apply to specified DFT. Ensure coating is flush with the original surface of component. If a second coat is needed this should be applied the same day otherwise lightly abrade the cured coating surface before applying the second layer. After coating the brush / trowel should be immediately cleaned with MEK or acetone based thinners. See above Coating Data for details of time required for type of service envisaged.

Dry Coating QC

24 hours after application check the continuity of the applied coating using a holiday detector set at a DC operating voltage of 100 V/mil. A quantitative measure of the dry coating thickness can be obtained using an inductance type electronic dry film thickness tester. Pinholes, misses and thin areas of coating should be identified for repair using a distinctive marker pen. Repair by spot blasting the defect and additionally sweep blasting a 2 inch radius of sound coating surrounding the defect for overlap of the repair. The prepared area is cleaned with xylene before application of the repair.

Cure Schedule

Coating is touch dry after ~ 240 minutes at 20°C. Allow minimum period of 7 days at 20°C to reach full cure before exposing to a full chemical load.

Recommended System

- For long term protection of pump internals in turbulent flow sea water service at temperatures below 60°C.

First coat: DuraPol HTW @ 800 microns DFT Second coat: DuraPol ElastoPol @ 400 microns DFT.

- Energy efficiency improving system in seawater service.

First coat: DuraPol SuperFlow@ 250 microns DFT Second coat: DuraPol SuperFlow @ 250 microns DFT.

- Flow enhancement in pipes.

First coat: DuraPol SuperFlow@ 250 microns DFT