

Product reference: 3/60

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Product title: Corrocoat Armagel

Valid from: 8th October 2004

Last reviewed: October 2020

Type

An abrasion resistant vinyl ester co-polymer containing glass flake and silicon carbide.

Suggested use

Immersed environments where good resistance to chemical attack combined with resistance to abrasion are required. Pipes, shutes, process tanks, etc.

Limitations

Affected by some highly polar solvents and solutions exhibiting high pH at temperatures above 50°C.

Health & safety

Before handling or using this product the material safety data sheet should be read and all precautions observed.

Surface preparation

Metals: Grit blast to ISO 8501-1 Sa 2½ near 3 standard or equivalent. For full details refer to Corrocoat Surface Specification SP1.

Concrete: See Corrocoat Surface Specification SP5.

Application equipment

Airless pump of 45:1 ratio or greater. Fit leather **and** PTFE seal combination and remove all fluid filters. 10mm diameter (3/8") nylon lined hose with 6mm whip end, large bore gun with reverse clean spray tip. Typical tip size is 0.8 to 1.25 (32 to 50 thou) with a 45° fan. Size of tip and fan angle will vary dependent upon the nature of the work. Pressure to suit hose lengths and working conditions. (circa 200bar). Brush application; is not recommended except for minor touch up and stripe coating.

NOTE: High rates of **spray tip wear will be encountered** with this product. Trials have shown that the silicon carbide

will wear tips at a rate of approximately one for every 250 litres sprayed. This value will change dependent upon spray pressure, tip size and fan angle.

Application

Dependent upon intended use and site conditions, but Polyglass VE is normally applied as a primer coat at 500 microns, Armagel is then applied at typically 750-2500 microns. See Polyglass Application Data Sheet.

Mixing ratio / mixing

98:2 base to hardener. For inhibitor use and mixing instructions refer to Poly-glass Application Data Sheet.

Pot life

Circa 50 minutes at 20°C but may be varied by use of inhibitor or special manufacture, refer to Polyglass Application Data Sheet.

Thinners

The performance of Armagel can be adversely affected by the addition of solvents and their use is prohibited. Thinning can be achieved by the addition of not more than 5% styrene monomer to Armagel by volume i.e. maximum 1 litres styrene per 20 litres Armagel. It should be noted that dilution with styrene may affect chemical resistance.

Packaging

20 Litre composites.

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Storage life

Base and hardener 6 months, stored at temperatures below 20°C and away from heat sources and direct sunlight. Frequent temperature cycling will shorten storage life. See other information for extension of shelf life.

Colour availability

Off white, speckled finish.

Recommended DFT

Between 1250 and 3000 microns dependent upon service duty.

Theoretical spreading rate

1.33m²/litre at 750 microns.

Volume solids

This material contains volatile liquid convertible to solids. Volume solids obtained will vary dependent upon polymerisation conditions. Nominally 99.05% of the contents are convertible to solid.

Practical spreading rate

1.06m²/litre at 750 microns.

Specific gravity

Base: 1.22 gms/cc

Hardener: 1.07 gms/cc.

Catalyst type

Methyl Ethyl Ketone Peroxide, type P2-45.

Mixing ratio

98:2 base to hardener. Refer to Application Data Sheet for inhibitor levels and mixing.

Flash point

Base: 28°C.

Hardness

Greater than 45 Barcol fully cured.

Thermal coefficient of linear expansion

19.7 x 10⁻⁶/°C

Dielectric strength

15 - 20 x 10³ V/mm

Adhesion

> 10 MPa (ASTM D4541)

Thermal conductivity

0.45 W/m²K

Temperature limits

100°C immersed; 185°C non-immersed. No known lower limit.

Abrasion resistance

74 mg loss/1000 cycles/1000 gm load (H18 wheel).

Overcoating

It is important to observe maximum overcoating times and note these will vary substantially with climatic conditions. Minimum, as soon as gel has occurred and whilst still tacky. Maximum, at 20°C 48 hours. Strong ultra-violet/**sunlight will substantially reduce overcoating time.** Once maximum overcoating time has been reached, adhesion values attained by any subsequent coat will reduce dramatically. Should this occur overcoating should be treated as a repair, with the coating flash blasted to provide a physical key. Styrene **cannot be used** to reactivate the surface of this product and may impair adhesion. Take care to avoid contamination before application of subsequent coats. Ensure ventilation during cure.

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Curing time

At normal inhibitor level, tack-free circa 6 hrs, full cure 3-4 days at 20°C. **Do not use in abrasion service until fully cured**, post cure will aid performance.

Cleaning fluid

Methyl Ethyl Ketone, Methyl Iso Butyl Ketone - before gel.

Reviewed 12/2004
Reviewed 02/2014 (No changes)
Reviewed 04/2016
Reviewed 05/2019
Revised 10/2020

All values are approximate. Physical data is based on the product being in good condition before polymerisation, correctly catalysed and full cure being attained. Unless otherwise stated, physical data is based on a test temperature of 20°C, test results may vary with temperature. Information regarding application of the product is available in the Corrocoat manual. Should further information be required, please consult Corrocoat Technical Services.