

POLYGLASS

Polyglass VEF

Product reference: 2/23

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Product title: Polyglass VEF

Valid from: 5th June 2007

Last reviewed: May 2019

Type

A glass flake vinyl ester acrylic co-polymer. This product is identical to VE except it is thixotroped with polyethylene fiber, giving a rougher surface finish but better hold up during application and better chemical resistance in some environments.

Suggested use

Immersion environments where superior resistance to chemical attack is required. VEF is suitable for many chemical environments within the full pH range, it has excellent resistance to demineralized water and good resistance to many solvents. It is also used in aggressive atmospheric or spillage conditions (bund areas) and potable water applications.

Health & safety

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

Chemical resistance

Refer to the chemical resistance list. Affected by some highly polar solvents and some solutions exhibiting high pH at temperatures above 122°F (50°C).

Surface preparation

Metals: Grit blast to SSPC-SP10 (ISO standard 8501-1 Sa 2½ near 3) or equivalent. (For full details refer to CorrocoatSurface PreparationSP1.)

Concrete: refer to Corrocoat 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 28 to 48thou with a 45° to 60° 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.**

Application

Dependent on intended use and site conditions, Polyglass VEF is normally applied direct to the surface wet on wet at films between 20-48 mils (500-1200 microns). **Single coat applications are acceptable.** Where logistics demand, primer PPA may be used or PPV for temperatures over 185°F (85°C). For further details see Polyglass Application Data Sheet.

Recommended DFT

20-120 mils (500-3000 microns) dependent upon service environment. This material is a barrier coating and thickness needed is dependent upon service conditions.

Mixing ratio / mixing

98:2 base to hardener. For inhibitor use and mixing instructions refer to Polyglass Application Data Sheet. **Adding inhibitor after the catalyst will ruin the product.**

Pot life

Circa 50 minutes at 68°F (20°C) but may be varied by use of inhibitor or by special manufacture. For low application temperatures, refer to Polyglass data sheet.

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Thinners

Polyglass VEF is **adversely** affected by the addition of **solvents** and their use is prohibited. Thinning can be achieved by the addition of no more than .25 gal (1 litre) of styrene monomer per 5.25 gal (20 litres) of Polyglass. It should be noted that dilution with styrene will **affect hold-up** and chemical resistance.

Packaging

1 Gallon and 5 Gallon

Storage life

Base and catalyst (Hardener) 6 months, stored at temperatures below 68°F (20°C) and away from heat sources and out of direct sunlight. Frequent temperature cycling will shorten storage life. See 'other information' in the Corrocoat 'Tech Manual' for extension of shelf life.

Color availability

Std. Off White or Translucent Brown. Other colors are available on request but the addition of dyes adversely affects chemical resistance and air inhibition suppressant is required for color stability.

Theoretical spreading rate

54 sf per gallon at 30 mils (1.33m²/litre at 750 microns).

Volume solids

This material contains volatile liquid convertible to solids. Volume solids obtained will vary dependent upon polymerization conditions. Nominally 99% of the product is convertible to solid.

Specific gravity

Polyglass base: 0.04lbs/cubic inch (1.19 gms/cc).

Hardener: .03lbs/cubic inch (1.07 gms/cc)

Catalyst type

Methyl Ethyl Ketone Peroxide type P2-45

Practical spreading rate

43sf per gallon at 30 mils (1.06m²/litre at 750 microns).

NOTE: This information is given in good faith, but **rate may vary significantly** dependent upon environmental conditions, the geometry and nature of work undertaken and the skill and care of application. Corrocoat accepts no responsibility for any deviation from these values.

Mixing ratio

98:2 base to hardener, refer to Application Data Sheet for inhibitor levels.

Flash point

82°F (28°C).

Hardness

45 Barcol after full cure.

Elongation at break

0.6%.

Tensile strength

3874 psi (26.7 N/mm²).

Thermal coefficient of linear expansion

19.7 x 10⁻⁶/°C.

Thermal conductivity

0.398 W/m²K.

Dielectric strength

18 - 25 x 10³ V/mm

Adhesion

> 10 MPa (ASTM D4541)

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Temperature limits

230°F (110°C)
immersed. 329°F
(165°C) non-
immersed. No known
lower limit.

Abrasion resistance

216 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 while still tacky. Maximum, at 68°F (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.

Curing time

With standard inhibitor level, tack free 6 hours, full cure 3-4 days at 68°F (20°C), but may be immersed in many environments after 24 hours.

Cleaning solvent

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

Reviewed 07/2011
Reviewed 04/2016
Reviewed 06/2017
Reviewed 05/2019

All values are approximate. Physical data is based on the product being in good condition before polymerization, correctly catalyzed and full cure being attained. Unless otherwise stated, physical data is based on a test temperature of 68°F (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.