

### PRODUCT CODE: C240024

POLYPLEX MP 580T is a pre-promoted, thixotropic, corrosion and high-temperature resistant unsaturated polyester resin, based on Terephthalic acid. This resin features a high molecular weight polymer which shows high crosslink density, and offers excellent solvent resistance and retention of physical properties at elevated temperatures. POLYPLEX MP 580T is intended for open mould laminating applications.

POLYPLEX MP 580T laminates show excellent chemical resistance towards standard and alcohol-containing Petrol blends. The resin is intended for fabrication of Glass fibre reinforced Composite Fuel tanks for underground storage applications.

### FEATURES

- High molecular weight, high crosslink density Terephthalic polyester/high corrosion resistance, improved toughness
- High heat distortion temperature/excellent retention of physical properties at elevated temperatures

Chemical resistance properties of POLYPLEX MP 580T were determined by testing the retention of Flexural modulus and strength following exposure to a standard reference fuel containing 15% methanol. The tests were carried out in accordance with procedures specified in the BS EN 976-1:1997 and BS EN 977 1998 standards. According to BS EN 976-1:1997, the Flexural Modulus retention should be at least 80% after 1000 hours Petrol exposure at 50°C.

Based on the test results obtained, POLYPLEX MP 580T is qualified for use in petrol tank laminates according to BS EN 976-1:1997.

### RELATED PRODUCTS

POLYPLEX EV 580N:	Non-Thixotropic variant, suitable for filament winding applications
POLYPLEX MP 580N:	Non thixotropic variant, suitable for filament winding applications
POLYPLEX EV 580T:	Thixotropic variant, suitable for spray up laminating applications

### RECOMMENDED CATALYST

Typical MEKP initiators (catalysts) that can be used with POLYPLEX MP 580T include:

Curox M200, Curox NR20, Norox MEKP 9, Butanox M50

For these catalysts, a minimum addition rate of 1.5% catalyst is recommended.

### POSTCURING

**Post curing is recommended for maximum chemical and heat resistance.**

For a service temperature below 100°C: Postcure may extend the service life. For service temperature above 100°C: Postcure in service may be sufficient, provided the resin specific minimum Barcol hardness values are reached before start up.

For service in pure and neutral salt solutions: In general postcure may not be required, provided the resin specific minimum Barcol hardness values are reached and no acetone sensitivity is shown before start up. Minimum recommended postcure conditions are 80°C for four hours.

### TYPICAL LIQUID RESIN PROPERTIES AT 25°C

PROPERTY	TYPICAL VALUE	TEST DETAILS
Appearance	Hazy Blue Liquid	TP 202.8_1
Viscosity - Cone & Plate /cP	260 - 300	TP 201.11_2
Brookfield RVT 2/12/cP	1500 - 1700	TP 201.8_0
Geltime /minutes (Winter) 1.5% Norox MEKP 9	13 - 18	TP 228.31_1
Geltime / minutes (Summer) 1.5% Norox MEKP 9	18 - 22	TP 228.31_1
Density @ 25°C g/cm <sup>3</sup>	1.10 gcm <sup>-3</sup>	TP204.3
Flashpoint °C	31	Setaflash
Volatile	48-51	TP 200.16_1
Shelflife when stored in original closed container in the shade	6 months	

### TYPICAL CAST RESIN PROPERTIES

FULLY POSTCURED CASTINGS (BASE RESIN – 40% STYRENE CONTENT)

PROPERTY	TYPICAL VALUE	TEST DETAILS
Barcol 934 Hardness	40 - 45	Barcol (GYZ 934-1) EN59
Tensile Strength MPa	69	ISO R527
Tensile Modulus MPa	4480	ISO 178
Elongation at break %	3.5 - 4.5	ISO R527
Flexural Strength MPa	105	ASTM D790
Flexural Modulus MPa	3020	ASTM D790
Heat Deflection Temperature °C	109	ISO 175 (1.8 MPa)

### STORAGE AND HANDLING

To ensure maximum stability and maintain optimum resin handling properties, polyester resins should be stored in closed containers, away from heat sources and sunlight. The resin should be stored away from all sources of ignition. Stored resin quantities should be kept to a reasonable minimum and used on a first in/first out stock rotation basis. Prolonged storage, or unfavourable storing conditions, may cause separation, therefore agitation of the resin before use is recommended.

### STANDARD PACKAGING

Mild steel drums (225kg)

Always refer to the MSDS before use