

Technical Data Sheet

PolyPol-1015

Preaccelerated, Thixotropic, Orthophthalic Polyester Resin

Resin Type : **Orthophthalic polyester resin, Pre-accelerated, Thixotropic**
 Special Features : **Good toughness, water resistant, WRAS & Lloyds approved.**

The raw materials used in the manufacture of Polypol-1015 resin are listed as acceptable in FDA regulation Title 21 CFR 177.2420 for repeated use in contact with food subject to user's compliance with the prescribed limitations of that regulations. This resin is also approved by Water Regulations Advisory Scheme (WRAS), UK for effect on water quality up to 50°C as per BS-6920. Polypol-1015 is most suitable for moulding of high performance FRP articles such as fume handling systems, Out door equipments where weathering is of paramount importance, pollution control equipments, water-sports such as FRP flumes for slides, paddle boats, mould making, flap gates and anticorrosive, chemical resistant linings, floorings etc. Polypol-1015 and its variants have been examined in accordance with the requirements of Lloyd's Register of Shipping and is approved for use in the construction of reinforced plastic craft moulded under the society's survey

Specification & Physical Properties of Resin PolyPol-1015 in liquid state

Properties	Test Method	Unit	Typical Value
Appearance	PCTM/FP/02		Bluish viscous liquid
Colour			
Specific Gravity at 25 °C	ASTM D 1475		1.10 -1.11
Viscosity by Brookfield viscometer-LV at 25 °C , spl=3, rpm=6/60 ,	ISO 2555	cP	650 - 750
Viscosity by Brookfield viscometer-LV at 25 °C , spl=3, rpm=6/60/6 ,	ISO 2555	cP	2.5 - 3.5
NonVolatile Content(1gm/110°C/30 min - Foil method)	ASTM D 1644-88	%	54 -58
Gel time determination at 25 °C -100gm resin+1.25gm KP 9(Active O2=9.1%)			
Gel Time	ASTM D 2471	Minutes	18 - 23
Total Time	ASTM D 2471	Minutes	27 -36
Peak Exotherm Temperature	ASTM D 2471	°C	165 - 185
Storage Stability:-PolyPol-1015 can be stable from date of production, when this product stored in original containers away from sunlight and heat at no more than 25°C.	PCTM/FP/16	Months	3

Properties of Cured, Un-reinforced Resin PolyPol-1015

Casting Preparation	150 ppm HQ		
Initiator Type and Amount	1.5 % MEKP(Butanox M-50, Active O ₂ 8.9 %)		
Accelerator Type and Amount	0.25 % Cobalt Octoate (6%)		
	24 Hrs at 25 °C + 3 Hrs at 85°C + 24 Hrs at 25 °C		
Curing cycle	* 24 Hrs at 25 °C + 6 Hrs at 85°C + 24 Hrs at 25 °C		
Properties	Test Method	Unit	Typical Value
Tensile Strength	ISO 527-1993	MPa	75 -79
Tensile Modulus	ISO 527-1993	MPa	3500-3650
Elongation at Break	ISO 527-1993	%	3 - 4
Flexural Strength	ISO 178-1993	MPa	130
Flexural Modulus	ISO 178-1993	MPa	3600 - 3800
Heat Deflection Temperature *	ISO 75/A	°C	> 75
Barcol Hardness at 25 °C	ASTM D 2583-1987	Unit	43

PCTM refers to Polychem Test methods for finished goods.

(Above mechanical properties are determined and reported on basis of evaluations carried out on UTM at Polychem Resins Int. Ind. LLC)

Do not mix Catalyst and Accelerator directly to avoid explosive mixture.

Never add Metal Salts (Accelerators/Promoters) or Promoted resins to a Peroxide. Never add organic peroxides to a hot diluent or process. Avoid contamination of any foreign materials including accelerators, promoters , metal salts , strong acids or sanding dust.

CURE CONDITIONS FOR UNFILLED CASTINGS AND MECHANICAL PROPERTIES

Curing of Polypol-1015 can be initiated with 2 % of MEKP and 150 ppm HQ per 100 gm of resin. Casting is allowed to cure for 24 hours at 25°C, then post-cured at 85 °C for 3 hours and again cure for 24 hours at 25 °C. Cure should not be carried below 15°C and the resin must be allowed to attain ambient temperature(above 15°C) before being formulated for use.

Mouldings which are coming in contact with water or foodstuff must be cured at 25 °C for 24 hours and post cured 3 hours at 100 °C. After achieving its mechanical properties, mouldings must thoroughly wet steam cleaned for at least 2 hour before being put in to use. Steam cleaning for four hours is preferred. When wet steam cleaning is not practical, then the vessel shaped mouldings should be filled with hot water (60°C-80°C) containing non-perfumed detergent and allow to stand for 4 hours. It should be then emptied and thoroughly washed several times in repeated clean hot water to avoid smell of Styrene and change in properties of stored water . Above precautions are essential to avoid the tainting of water.

Disclaimer :

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*Polypol-1015 and its variants can be supplied as per customer's specific requirement of Gel time and viscosity.

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