

# POLIGRAPH R

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## 1. DESCRIPTION

Poligraph R is an unsaturated polyester resin converting recycled materials into environmentally friendly products. Meanwhile, it sustainably creates a green and circular sustainable business model and meets ESG requirement.

## 2. PROPERTIES

- **Introduce higher than 20% recycled plastic.**
- **Excellent moisture resistance, good mechanical strength and application.**
- **May be applied with hand lamination and filament winding suitable for most of FRP products.**

## 3. APPLICATIONS

- Specially designed as a resin reinforcement for ceramics, marble, artificial stone, cladding materials, etc.
- Excellent adhesion and very low linear and volumetric shrinkage.
- The percentage of MEK peroxide to be added is between 0.4 % and 0.5 %, but can be increased to 2 % to reduce gel time.
- The application can be manual or by machine.
- May be used in pultrusion processes.

## 4. TECHNICAL CHARACTERISTICS

<b>Appearance</b>	Dark liquid
<b>Specific Gravity</b>	1.5 -1.6 g/cm <sup>3</sup>
<b>Gel time (25 °C)<sup>(1)</sup></b>	10 -12 min
<b>Brookfield Viscosity (SPL3V60, 25 °C)</b>	1 400 - 2 000 cPs
<b>Superior Calorific Value</b>	15.00 J/g
<b>Exothermic peak temperature (in 75 min)</b>	96 °C

<sup>\*</sup><sub>1</sub> LVT-#3-60rpm, 25oC

<sup>\*</sup><sub>2</sub> 55%MEKPO: 1.0%, 6%CoOct: 0.6%, Temperature: 25 °C

## **5. MECHANICAL CHARACTERISTICS**

<b>Flexural modulus</b>	8 500 - 10 000 MPa
<b>Flexural strength</b>	45 - 55 MPa
<b>Maximum deflection (dL)</b>	0.5 - 0.6 mm
<b>Tensile modulus</b>	5 500 - 6 500 MPa
<b>Tensile strength</b>	30 - 45 MPa
<b>Elongation at break</b>	0.6 - 0.8 %

*Mechanical properties of the catalysed resin*

\*<sup>3</sup> Cure condition for HDT : 24 hours at room temperature then 2 hours at 105 °C

## **6. STORAGE AND PACKAGING**

- The product should be **stored in a dry place** at a temperature not exceeding **25 °C**.
- The expiry date is **4 months** under these conditions.
- In general, the products will be supplied in **drum format**.
- For other quantities and/or packaging: **contact us**.

## **7. NOTICE IN USE**

1. The gel time of POLIGRAPH R is affected primarily by catalyst concentration and temperature. The variations of cure characteristics may be caused by the variations of catalyst, humidity, pigment, fillers and other additives. It is recommended that the fabricators check the cure characteristics with a small quantity resin before proceeding for bulk production.
2. POLIGRAPH R contains organic solvent (styrene). Keep away from heat, sparks and flames
3. POLIGRAPH R is a potentially reactive chemical. Please store it in dark and keep away from heat and direct sunshine.
4. Containers, not completely emptied must be closed immediately after use.

## **8. MATERIAL SAFETY AND HANDLING INFORMATION**

### **SKIN CONTACT:**

Thoroughly wash exposed area with soap and water immediately. Remove contaminated clothing. Launder contaminated clothing before re-use.

### **EYE CONTACT:**

Flush with large amount of water immediately and continuously for 20 minutes, lifting upper and lower lids occasionally. Get medical attention.

### **INGESTION:**

Do not induce vomiting. Keep person warm, quiet and get medical attention. Aspiration of material into the lungs can cause chemical pneumonitis which can be fatal.

### **INHALATION:**

If affected, remove individual to fresh air. If breathing is difficult, administer oxygen. If breathing has stopped, give artificial respiration. Keep person warm, quiet, and get medical attention.

### **PERSONAL PROTECTION:**

Do not breathe vapors. High concentration of vapor can be hazardous. Keep out of sewers. Eliminate all sources of ignition in vicinity of spill or released vapor to avoid fire or explosion. For large spills, warn public of downwind explosion hazard. Check area with explosion meter before re-entering area. Ground and bond all containers and handling equipment.

### **RESIN STORAGE:**

Keep away from ignition sources; flames, pilot lights, electrical sparks, and sparking tools. NO SMOKING. Do not store

in direct sunlight. Store separate from oxidizing materials, peroxides, and metal salts. Keep container closed when not in use. To ensure maximum stability and maintain optimum resin properties, resins should be stored in closed containers at temperatures below 25 °C (77 °F). Copper or copper containing alloys should be avoided as containers.

### **SPILLS:**

Eliminate all ignition sources (flares, flames, including pilot lights electrical sparks). Persons not wearing protective equipment should be excluded from area of spill until clean-up has been completed. Stop spill at source, dike area of spill to prevent spreading, pump liquid to salvage tank. Remaining liquid may be taken up on sand, clay, earth, floor absorbent or other absorbent material and shoveled into containers.

### **WASTE DISPOSAL:**

Destroy by liquid incineration in accordance with applicable regulation. Contaminated absorbent should be disposed in accordance to government regulations.

### **PACKAGE:**

Standard packing is 200 kg steel drum.

*The data presented herein are believed to be accurate and reliable. We require customers to inspect and test our product before use and to satisfy themselves as to contents and suitability for their specific applications. Information herein is to assist customers in determining whether our products are suitable for their applications but not to be taken as a guarantee, express warranty or implied warranty of merchantability or fitness for particular purpose, nor is any protection from any law or patent to be inferred. All patent rights are reserved. The exclusive remedy for all proven claims is limited to replacement of our material and in no event shall we be liable for special, incidental or consequential damages.*

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