

# Polijel F-272 (Non-accelerated)

High performance vinyl ester tooling gelcoat

## Product Description

Polijel F-272 is a special vinyl ester based, thixotropic, non-accelerated gelcoat with high performance and easy application characteristics. Polijel F-272 is used for the production of corrosion resistant FRP parts. Chemical resistant tanks, pipes, and mold production are the major application areas, where high resistance to heat, chemicals, and other corrosives is needed. Polijel F-272 is an advanced formula with good air release properties, but as vinyl esters still have some tendency to foaming, instead of a classical MEK-P, the use of a less foaming MEK-P like Butanox LPT or Butanox M-50 can be used.

## Highlights

- Excellent mechanical properties and high HDT
- Excellent chemical resistance
- Excellent hydrolytic resistance
- High gloss
- Resistant to styrene monomer and solvents

## Key Features

Base	Vinylester
Appearance	Transparent yellowish
Versions	Brush (F-272) applications, limited color available
Accelerator	No

## Typical Liquid Properties

Specification	Value	Unit	Test Method
Viscosity <sup>1</sup>	4500-7000	cp	ISO 2555
Thixotropy	Thixotropic	-	-
Gel Time <sup>2</sup>	25-30	min	ISO 2535
Shelf life <sup>3</sup>	4	months	-

### Remarks

<sup>1</sup> Viscosity measured at 23°C with Brookfield DV3T Rheometer (spindle 6, 50/5 rpm).

<sup>2</sup> Gel time measured at 23°C with 2 ml. Cobalt solution (1% Co concn.) and 2 ml. Mek-P (Butanox M 60 - 9,9 % Active oxygen) added to 100 gr. gelcoat.

<sup>3</sup> Please read the storage conditions.

Customer Support  
<http://www.poliya.com/en/>  
 Firuzköy Bulvarı, No: 46 Avclar 34325  
 İstanbul, Turkey  
 T + 90(212) 509 31 90  
 F +90 (212) 509 31 94

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### Application and Use

- Polijel F-272 is not suitable for outdoor applications with aesthetical requirements, because vinyl ester nature of the gelcoat is prone to yellowing faster, compared to polyester gelcoats. Polijel F-272 is an advanced formula with good air release properties, but as vinyl esters have still some tendency to foaming, instead of a classical mek-p, the use of a less foaming mek-p such as Butanox LPT can also be used.
- Vinyl ester gelcoats gives surface cure faster compared to polyester gelcoat. User is advised to follow the surface cure carefully. Mix the gelcoat in bucket gently before use, avoid excessive high shear rates and avoid air entrapment during mixing.
- Ideal application temperature should be between 18-25°C and humidity less than 80%. Mold should be polished and clean before gelcoat application.
- Add 20 ml of Mek-p (peroxide) into 1 kg of gelcoat.
- Apply spray type gelcoat with a spray gun of 2,5-3,5 mm nozzle diameter at 3-5 bar spray gun pressure at a distance of 30-55 cm. Use appropriate pressure (3-4 bar) and nozzle for airless systems. Avoid high application pressures to prevent pinholes.
- Total gelcoat film thickness should be between 600-800 µm. It is recommended to apply 100-150 µm in the first pass and wait for 2 minutes before application of following layers.
- Obtain total gelcoat thickness in 2-4 layers with 700-800 gr/m gelcoat. Check gelcoat thickness with gelcoat thickness gauge.
- Correct application pressure for spray type gelcoats and film thickness is very important to prevent sagging of wet gelcoat film.
- Minimum 2 maximum of 4 layers of gelcoat application is recommended for brush type gelcoats.
- Clean all the equipment after application.
- Check gelcoat cure degree before starting lamination layers. Press your finger for 30 seconds on gel coat film to check cure degree. When you do not see gelcoat residue on your finger but gelcoat to remain sticky on the film, you can continue with lamination layers.

### Mechanical Properties

#### Cured Resin Values

Property	Value	Unit	Test Method
Heat Deflection Temperature HDT	110	°C	ISO 75-A
Heat Deflection Temperature HDT	115	°C	ISO 75-B
Water Absorption	0,15	%	ISO 0062
Barcol Hardness (Barcol 934-1)	40	-	ASTM-D 2583
Flexural Strength	150	MPa	ISO 0178
Elongation at Break, Flexural	5	%	ISO 0178
Tensile Strength	75	MPa	ISO 0527
Elongation at Break, Tensile	3,8	%	ISO 0527

#### Remarks

As mentioned above data is valid base resin.

Before the mechanical tests, the cured resin is post - cured.

### Handling and Storage Conditions

The product should be stored indoors in the original, unopened, damage free packaging, in a dry place at temperatures under 23°C. If the resin temperature falls below 18°C it should be warmed up to a minimum of 18°C before use. Storage and handling of flammable liquids is subject to national or local regulations so always ensure that storage complies with those regulations. Shelf life is reduced at higher temperatures and the properties of the resin might change with increased time of storage.

The shelf life of styrene containing unsaturated polyesters will be significantly reduced when exposed to light. Store in dark and in 100 % light tight containers only.

Avoid contact with food or drinks. Avoid conditions that could cause static electric discharge. Use only in well-ventilated areas. Keep away from open heat, flame and sparks. Avoid contact with eyes, skin or clothing. Do not spill on the environment. Dispose of contents and container according to local, regional and national regulations. Use personal protective equipment during use. Always keep the container closed. Prevent contact with vapors by providing sufficient ventilation of the working area, and by using approved respiratory protection. Ensure that dust from finishing operations is kept under control by collection devices and by effective ventilation.

Empty packagings are subject to same classification as the product.

A Material Safety Data Sheet of this product is available on request.

### Legal Disclaimer

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### Warning

This product can expose you to styrene, which is known to the state of California to cause cancer. For more information, visit [www.p65warnings.ca.gov](http://www.p65warnings.ca.gov)

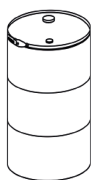
### Packaging



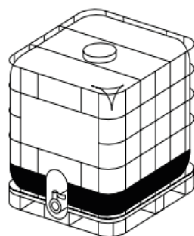
5 kg  
**Mini Bucket**  
Ø16x25cm



20 kg  
**Bucket**  
Ø30x38cm



220 kg  
**Openhead Barrel**  
Ø60x88cm



1.000 kg  
**IBC**  
121x101x117cm