

Synolite™ 0288-L-1

Isophthalic resin for Hand Lay-up/spray-up in Marine (Lloyd's, RINA approved)

Synolite™ 0288-L-1 is an unsaturated isophthalic polyester resin, used in Hand Lay-up and Spray-up application processes for the manufacturing of boats and vessels.

The resin has been approved for Marine by Lloyds and RINA.

Benefits

- Improved chemical resistance
- Good mechanical strength and resilience
- Easy application
- Thick laminates in one go because of low peak exotherm

Major Applications

Synolite™0288-L-1 is suitable for hand lay-up and spray up applications.

Synolite 0288-L-1 exhibits excellent wetting of the glass fiber reinforcement and its thixotropic nature allows good workability (also on vertical laminates). Because of this great glass fiber wetting properties allow to obtain laminates with high content of glass fiber. Synolite™ 0288-L-1 exhibits low peak exotherm that allows wet on wet construction of very thick laminates, without shrinkage or strain problems.

Synolite™ 0288-L-1 is supplied with a color indicator additive that changes color as the cure proceeds and provides a peroxide presence evidence. Synolite™ 0288-L-1 is particularly suited for boat building; its chemical nature guarantees good mechanical properties also after many years of water immersion.

Certifications and Approvals

Synolite™ 0288-L-1 is approved for the use in boat building by Registro Navale Italiano (R.I.Na.) and Lloyd's Register of Shipping.

Product Specifications

| Property | Value | Unit | TM |
|--------------------------------------|-----------|-------|---------|
| Appearance | Blue;Hazy | | TM 2265 |
| Solids content | 53 - 55 | % | TM 2033 |
| Viscosity 23 °C, 20 s ⁻¹ | 460 - 540 | mPa.s | TM 2313 |
| Viscosity 23 °C, 50 s ⁻¹ | 380 - 440 | mPa.s | TM 2313 |
| Viscosity 23 °C, 250 s ⁻¹ | 320 - 360 | mPa.s | TM 2313 |
| Gel time 25 until 35 °C | 25 - 27 | min | TM 2625 |
| Peak time | 52 - 58 | min | TM 2625 |
| Peak temperature | 85 - 105 | °C | TM 2625 |
| Stability 120 °C | 120 | min | TM2300C |

Viscosity measurement: Z2/23°C. The curing characteristics are obtained by using 2.5g of Medium reactive Methyl Ethyl Ketone peroxide (MEKP) added to 100 g of resin.

Liquid resin typical properties

| Property | Value | Unit | TM |
|--------------------------------------|-------|-------|---------|
| Flash point | 33 | °C | TM 2800 |
| Stability (no initiator, dark, 25°C) | 6 | month | |
| Color | Blue | - | |

Unfilled castings typical properties

| Property | Value | Unit | TM |
|---------------------|-------|------|-----------|
| Tensile strength | 80 | MPa | ISO 527-2 |
| Tensile modulus | 4.1 | GPa | ISO 527-2 |
| Elongation at break | 2.5 | % | ISO 527-2 |
| HDT | 75 | °C | ASTM D648 |
| Tensile strength | 80 | MPa | ASTM D638 |
| Tensile modulus | 4.1 | GPa | ASTM D638 |
| Elongation at break | 2.5 | % | ASTM D638 |
| HDT 264 psi | 65 | °C | ASTM D648 |

The mechanical characteristics are obtained curing the resin with 2.5% Medium reactive Methyl Ethyl Ketone Peroxide (MEKP) peroxide. Cured for 24 h at RT and post cured for 3 h at 80 °C.

Application Guidelines

It is recommended to cure at temperature between 15 and 30 °C with medium reactivity MEKP (methyl ethyl ketone peroxide). In order to have longer gel time at summer conditions it is suggested to use low reactivity MEKP. Using mixture of MEKP/ AAP (Acetyl acetone peroxide) allows obtaining shorter gel time with higher exotherm peak.

Before use, the resin should be conditioned at a well-defined, application dependent temperature (usually 15°C minimum for a MEKP/ Cobalt cure). Stir the product before blending.

Storage Guidelines

The resin should be stored indoors in a dry place at temperatures between 5°C and 30°C, in the original, unopened, 100% light-tight and undamaged packaging.

The properties of the resin may change slightly during storage. Shelf life is shorter at higher temperatures.

Material Safety

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

Test Methods

Test methods (TM) referred to in the table(s) are available on request.

ISO 9001:2015 Certified

The Quality Management Systems at every AOC manufacturing facility have been certified as meeting ISO 9001:2015 standards. This certification recognizes that each AOC facility has an internationally accepted model in place for managing and assuring quality. We follow the practices set forth in this model to add value to the resins we make for our customers.

AOC. Trusted Solutions

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Contact us for more information

We will help you to choose the right resin solution.

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