

Synolite™ 0288-I-2

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

Synolite™ 0288-I-2 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 Lloyd's 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-I-2 is suitable for hand lay-up and spray-up applications.

Synolite™ 0288-I-2 exhibits excellent wetting of the glass fiber reinforcement and its thixotropic nature allows good workability (also on vertical laminates). Its good glass fiber wetting properties allow to obtain laminates with high content of glass fiber.

Synolite™ 0288-I-2 exhibits low peak exotherm that allows wet on wet construction of very thick laminates, without shrinkage or strain problems. Synolite™ 0288-I-2 is supplied with a color indicator additive that changes color as the Cure proceeds and provides a peroxide presence evidence.

Synolite™ 0288-I-2 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-I-2 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	17 - 19	min	TM 2625
Peak time	37 - 45	min	TM 2625
Peak temperature	90 - 110	°C	TM 2625
Stability 120 °C	120	min	TM2300C

Viscosity measurement: Physica, Z2 / 100 s⁻¹/ 23°C Reactivity: 2,5 g Medium reactive Methyl Ethyl Ketone Peroxide (MEKP) to 100 g resin.

Liquid resin typical properties

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

Unfilled castings typical properties

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

The mechanical characteristics are obtained curing the resin with 2 % Medium reactive Methyl Ethyl Ketone peroxide (MEKP). Cured for 24 h at RT and post cured for 3 h at 80 °C.

Cured reinforced resin typical properties

Property	Value	Unit	TM
Glass content	30	%	ASTM D2584
Tensile strength	98	MPa	ASTM D638
Tensile modulus	9	GPa	ASTM D638
Tensile elongation	1.3	%	ASTM D638

Application Guidelines

It is recommended to cure at temperature between 15 and 30 °C with medium reactivity Methyl Ethyl Ketone Peroxide (MEKP). 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 Safety Data Sheet (SDS) 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.

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Contact us for more information

We will help you to choose the right resin solution.

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