

# Synolite™ 8388-P-1

## Multi-purpose Hand lay-up/ spray-up resin with low shrinkage and Low Styrene Emission capability

Synolite™ 8388-P-1 is a versatile DCPD resin for Hand lay-up and Spray-up processes with Low Styrene Emission (LSE) system. The resin allows manufacturing components with great surface quality because of its inherent low shrinkage.

The Synolite™ 8388-P-1 resin is particularly suited for Marine applications and is DNV approved.

### Benefits

- Components with great surface quality
- Excellent wet out of powder-bond CSM mats
- Manufacturing of both thin and thick laminates
- Easy trimming capability independent of thickness
- Better workshop conditions through low Styrene emission

## Major Applications

Synolite™ 8388-P-1 has been especially developed for Hand lay-up and Spray-up applications to produce high performance constructional laminates.

Synolite™ 8388-P-1 combines good mechanical properties with optimal processability. The resin shows very good fiber wetting and impregnation properties. Thick laminates can be made in one go due to the low exothermic heat development, good through Cure and relatively low shrinkage.

An optimized LSE system has been developed to get excellent Low Styrene Emission. A color change system is present for the benefit of spray-up applications. Synolite™ 8388-P-1 can be used both with powder and emulsion bound mats.

## Certifications and Approvals

Synolite™ 8388-P-1 is found to comply with "Det Norske Veritas' (DNV) Tentative Rules for Classification and Classification of Boats 1997, Grade 2; Det Norske Veritas' Rules for Classification of High Speed and Light Craft, Grade 2. Certificate No.: K-1720

### Product Specifications

Property	Value	Unit	TM
Appearance	Hazy		TM 2265
Solids content	61 - 63	%	TM 2033
Viscosity 23 °C, 2 s <sup>-1</sup>	900 - 1200	mPa.s	TM 2313
Viscosity 23 °C, 20 s <sup>-1</sup>	320 - 390	mPa.s	TM 2313
Viscosity 23 °C, 250 s <sup>-1</sup>	200 - 230	mPa.s	TM 2313
Acid value	165 - 235	mg KOH/g	TM 2401
Gel time 25 until 35 °C	22 - 26	min	TM 2625
Peak time	40 - 50	min	TM 2625
Peak temperature	95 - 125	°C	TM 2625

Viscosity measurement: TM 2313: spindle Z2, 23°C. Curing conditions at 25°C, TM 2625: 2.0 g Medium reactive MEKP in 100 g resin.

## Liquid resin typical properties

Property	Value	Unit	TM
Density 23 °C	1100	kg/m <sup>3</sup>	TM 2160
Stability (no initiator, dark, 25°C)	6	month	
Color	Blue	-	

## Unfilled castings typical properties

Property	Value	Unit	TM
Density 23 °C	1170	kg/m <sup>3</sup>	DIN 53479
Tensile strength	70	MPa	ISO 527-2
Tensile modulus	3.7	GPa	ISO 527-2
Elongation at break	2.2	%	ISO 527-2
Flexural strength	125	MPa	ISO 178
Flexural E-Modulus	3.7	GPa	ISO 178
HDT	85	°C	ASTM D648
Metric volume shrinkage	6	%	
Impact strength	18	kJ/m <sup>2</sup>	ISO 179

Cured with 1% Medium reactive MEKP. Post cured 24 h. at RT followed by 24 h. at 70°C.

## Application Guidelines

Due to the special accelerator system, the final through cure of Synolite™ 8388-P-1 resin is good both in thick and thin laminates. In both cases the Barcol hardness after 24 hours reaches the leaflets value. Of course, the cure speed is related to the added amount of peroxide and the laminate thickness; this also defines the trimming time within broad ranges. Glass mat CSM 450 g/m<sup>2</sup>.

Synolite™ 8388-P-1 contains barrier forming agents to reduce emission of styrene. These agents may reduce the bonding strength of over laminates. Good strength can be obtained with over laminating of the base laminate after delayed lay-up if the surface is not too resin rich. In other cases the surface might need sanding.

The resin should be conditioned at 15°C minimum before use to obtain a sufficient cure when MEKP is used as a curing system. Stir the resin mechanically before use. Do not use air bubbles to stir the resin.

## 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

AOC is the leading global supplier of resins and specialty materials which enable customers to create robust, durable and versatile products and components. With strong capabilities around the world in manufacturing and science, the company works closely with customers to deliver unrivaled quality, service and reliability for today, and create innovative solutions for tomorrow. Partner with AOC and we will work together to find the right solutions for your business.

### Contact us for more information

We will help you to choose the right resin solution.

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