

SYNOLITE™ 2155-N-1

CHEMICAL/PHYSICAL NATURE

Synolite™ 2155-N-1 is despite its low styrene content, a very low viscous, highly reactive unsaturated polyester (UP) resin.

MAJOR APPLICATIONS

Synolite™ 2155-N-1 is particularly suitable for the continuous manufacture of polyester mortar and concrete, for hot press moulding with glass, synthetic and natural fibers and conversion by the injection process to thin-walled components (e.g. manufacture of large surface area press moldings such as car interior panels/trims).

PRINCIPAL PROPERTIES

Synolite™ 2155-N-1 meets the requirements of type 1140 as defined in DIN 16946 for mechanical and thermal properties.

PRODUCT SPECIFICATIONS UPON DELIVERY

| Property | Range | Unit | TM |
|-----------------------------|-----------|----------|-------|
| Viscosity, 23°C | 260 - 290 | mPa.s | 2013 |
| Color, APHA | max. 150 | - | 2017 |
| Solids content, IR | 60 - 63 | % | 2033 |
| Appearance | clear | - | 2265 |
| Acid value, as such | 25 - 29 | mg KOH/g | 2401 |
| Stability 120°C | > 60 | Minute | 2300C |
| Gel time from 25 to 35°C | 4 - 6 | Minute | 2625 |
| Cure time from 25°C to peak | 9 - 13 | Minute | 2625 |
| Peak temperature | 180 - 210 | °C | 2625 |

REMARKS

TM 2013: Z2/100/23°C.

TM 2625: 100 g + 0.5 g NL49P + 2.0 g Butanox M 50.

PROPERTIES OF THE LIQUID RESIN (TYPICAL VALUES)

| Property | Value | Unit | TM |
|---------------------------------|------------|-------------------|------|
| Stability, no init., dark, 25°C | 6 | Month | - |
| Density, 20°C | appr. 1100 | kg/m ³ | 2160 |
| Flash point | appr. 33 | °C | 2800 |

PROPERTIES OF CAST UNFILLED RESIN (TYPICAL VALUES)

| Property | Value | Unit | TM/ISO/DIN |
|------------------------------|--------------------|------------------|------------|
| Barcol hardness (GYZJ 934-1) | | 47 | DIN EN 59 |
| Tensile strength | MPa | 60 | ISO R527-2 |
| Flexural strength | MPa | 120 | ISO 178 |
| E-modulus in flexion | GPa | 4 | ISO 178 |
| Elongation at break | % | 2 | ISO R527-2 |
| Heat deflection temperature | °C | 110 | ISO 75A |
| Martens temperature | °C | 85 | DIN 53458 |
| Volume shrinkage | % | 8.9 | -- |
| Outer fiber strain | | 4 | ISO 178 |
| Impact strength | KJ/jm ² | 10 | ISO 179 |
| Thermal conductivity | W/m.K | 0.18 | DIN 52612 |
| Specific heat | kJ/kg.K | 1.30 | -- |
| Compressive strength | MPa | 115 ⁺ | ISO 604 |
| Density, 23°C | kg/m ² | ± 1220 | ISO R 1183 |

GUIDELINES BEFORE USE

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

STORAGE GUIDELINES

The resin should be stored indoors in the original, unopened and undamaged packaging, in a dry place at temperatures between 5°C and 30°C and the properties might change during storage. Shelf life is reduced at higher temperatures and the properties of the resin might change during storage. The shelf life of monomer containing unsaturated polyesters will be significantly reduced when exposed to light. Store in dark and in 100% light tight containers only.

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.

Aliancys is a leading global company active in the sales of Quality Resins for composite applications. Together with its customers, Aliancys is pushing the limits of both composite part manufacturing and performance. Taking an integral approach to new product development, Aliancys is using its full expertise in resin chemistry, material science, and component manufacturing for shaping new applications in composites. So let's talk and increase our mutual business success, both today and tomorrow. More information on www.aliancys.com

PRODUCT INQUIRY? PLEASE CLICK HERE

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