

TECHNICAL DATA SHEET

COMPOGRAPH 90 LV

Edition date: 26/02/2019

VERSIÓN: REV00

Product range:



DESCRIPTION

COMPOGRAPH 90 LV is an orthophthalic unsaturated polyester resin of last generation modified with Graphene nanotechnology, for use in the manufacture of nano-hybrid Composites that considerably increases the mechanical, physical and biological properties. The resin is semi flexible type and of medium reactivity.

COMPOGRAPH 90 LV is not pre-accelerated, it is formulated with DCPD characterized by its low styrene content.

MAIN PROPERTIES

COMPOGRAPH 90 LV is characterized by the excellent mechanical characteristics of the laminates manufactured with it, clearly superior to those obtained with other resins of general use. Also, its chemical resistance against diluted acids and alkalis is good. In general, its use is recommended in those cases in which good mechanical and/or chemical properties are required.

APPLICATION

COMPOGRAPH 90 LV is developed for injection use in its many variants. It is characterized by its low viscosity and its fast curing cycle, which allows a short time of demoulding. In addition, it stands out for its low styrene content that provides a significant reduction of emissions, improving working conditions. Its field of application is wide, being able to use it for the manufacture of components through the processes of vacuum infusion, RTM, press moulding, etc. For large components it is recommended the use of inhibitors.

PHISICAL DATA IN LIQUID STATE

Properties	Value	Unit	Test method
Appearance	Dark Liquid		Visual
Volatile content	37-41	%	ASTM D-1644
Acid value, maximum	30 MAX	Mg KOH/gr	ASTM D-1639
Peak Temperature	155-135	°C	MA-001
Time to maximum	13-23	Min	MA-001
Geltime at 25° (100/0.3 Co/1.5 PMEK)	6-12	Min	MA-001
Viscosity Brookfield @25°/H2V30	100-150	CPS	ASTM D-2196

TYPICAL CLEAR CASTING PROPERTIES

Unfilled resin

Properties	Value	Unit	Test method
Tensile Strength	50	Mpa	ISO 527-1
Tensile Modulus	3700	Mpa	ISO 527-1
Tensile Elongation	1.4	%	ISO 527-1
Flexural Strength	76	Mpa	ISO 178
Flexural Modulus	3400	Mpa	ISO 178
Maximum Flexural dL	4.0	mm	ISO 178
Hardness	>45	Barcol	ASTM-2583
Heat Distortion Temperature	70	°C	ASTM-648

Make of specimens: Simple pouring, manual grinding.

Curing condition: BUTANOX M50 at 1.5%. 2 hours at 40° + 2 hours at 50°

PROPERTIES OF THE RESIN REINFORCED WITH DISCONTINUOUS GLASS FIBRE AT 71%.Laminate building up: 2 x QUADRIAXIAL 1200 gr/m².

Properties	Value	Unit	Test method
Tensile Strength	366	Mpa	ISO 527-4
Tensile Modulus	18000	Mpa	ISO 527-4
Tensile Elongation	4,6	%	ISO 527-4
Flexural Strength	407	Mpa	ISO 14125
Flexural Modulus	11500	Mpa	ISO 14125
Maximum Flexural dL	5.8	mm	ISO 14125
Hardness	>75	Barcol	ASTM-2583

Make of specimens: Vacuum infusion laminate. CNC milling.

Curing condition: BUTANOX M50 at 1.5%. 2 hours at 40 °C + 2 hours at 50°C.

PROPERTIES OF THE RESIN REINFORCED WITH CONTINUOUS GLASS FIBRE AT 80%

Laminate building up: 2 x UNIDIRECTIONAL 1000 g/m².

Properties	Value	Unit	Test method
Tensile Strength	735*	Mpa	ISO 527-5
Tensile Modulus	39400*	Mpa	ISO 527-5
Tensile Elongation	4.2	%	ISO 527-5
Flexural Strength	1145	Mpa	ISO 14125
Flexural Modulus	27100	Mpa	ISO 14125
Maximum Flexural dL	4.4	mm	ISO 14125
Hardness	>75	Barcol	ASTM-2583

Make of specimens: Vacuum infusion laminate. CNC milling. *No tabs

Curing condition: BUTANOX M50 at 1.5%. 2 hours at 40 °C + 2 hours at 50 °C.

STORAGE

COMPOGRAPH 70 -TA is chemically stable when storage in closed drum at 20°C up to three months. If the stored resin has a large lag, it has to be homogenized before use.

INSTRUCTIONS FOR USE

It is important to perform a correct agitation of the product each time a transfer is made from the supplier drum. To homogenize and avoid the precipitation of graphene particles it is advisable to use pneumatic mixers. The drum packaging of the entire COMPOGRAPH range are equipped with a locking ring closing.

The correct dosage of the curing system is essential to achieve the maximum benefits of the resin. Any product other than the one indicated in this TDS will alters its performance.

COMPOGRAPH 70 is designed for use between 15 °C and 30 °C. At lower temperatures the resin thickens and may become impractical. At higher temperatures, gel times will be significantly reduced. The maximum relative humidity for its use is 70%

HEALTH AND SAFETY

For the handling of this resin should take the usual precautions regarding safety (gloves, mask, good ventilation, away from any flame, etc.), since it contains volatile and flammable products.

Organic peroxides used as catalysts should never be mixed directly with accelerators or other reducing substances, as they can react violently.

Please consult the Material Safety Data Sheet, available separately, for complete information on preventing and risks during handling and use.

