

Description and Basic Properties

ES-1070 is a terephthalic acid based, unsaturated polyester resin that is used for casting. It is elastic with a medium reactivity. The most common usage is the production of marbles by adding up filling materials in the proportion of 70-80%. Furthermore, it can be safely used in the production of cuvettes, sinks, kitchen counters, table edges-legs, buttons, ornaments etc.

Application Methods	Chemical Structure
Hand lay-up Casting	Acid : Terephthalic Acceleration : No Reactivity : Medium

Properties of Liquid Form

	Unit	Value	Method
Appearance	-	Transparent	-
Viscosity¹	cp	350 ± 50	ISO 2555
Monomer Content	%	39 ± 3	ISO 3251
Density	g/cm ³	1.12 ± 0.02	ISO 1675
Acid Number	mg KOH/g	19 ± 3	ISO 2114
Gel Time²	min	6 ± 10	ISO 584
Peak Exotherm²	° C	175 ± 10	ISO 584
Shelf Life	month	6	-

¹Brookfield DV II, 25° C, 3 spd 10 rpm

²25° C, 0.25 ml Cobalt Octoate (6%) and 2 ml MEK-P (Butanox M60) for 100 g sample

Mechanical Properties of Cured Resin

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	Unit	Value ¹	Method
Tensile Strength	MPa	65 ± 6	ASTM D638
Tensile E-Modulus	GPa	3.3 ± 0.4	ASTM D638
Elongation at Break	%	7.0 ± 0.7	ASTM D638
Flexual Strength	MPa	120 ± 10	ASTM D790
Flexual E-Modulus	GPa	2.8 ± 0.3	ASTM D790
Heat Deflection Temperature (HDT)²	° C	70 ± 5	ISO 75 A
Barcol Hardness	Barcol	45 ± 5	ASTM D2583
Impact Strenght	Kj /m ²	11 ± 2	ISO 180
¹ For fully cured resin, curing Schedule – 24 hrs at 20° C, 4 hrs at 90° C ² Curing Schedule – 24 hrs at 20° C, 4 hrs at 20° C, 4 hrs at 90° C, 3 hrs at 120° C			

Storage Conditions

It should be stored in a dry, clean and cool place (15-25 ° C) in closed packages. The shelf life of the product is valid for this temperature range and it should not be forgotten that it will shorten at high temperatures. Products with the same charge number and date must be stored together.

Another factor that affects the life of unsaturated polyester resins containing styrene is sunlight. Styrene must be polymerized in the sunlight and products that are considered to shorten the life of the product should be avoided from direct sunlight contact.

More Information

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