

Technical Information

POLYLITE 32032-20

PDS 1212/149rev2

CLEAR CASTING POLYESTER RESIN

DESCRIPTION

POLYLITE 32032-20 is a clear casting resin designed for applications in which extreme clarity and absence of colour are required. Castings made with POLYLITE 32032-20 have the same refractive index as glass. Suggested applications include decorative castings, table tops, objects d'art and biological encapsulations.

POLYLITE 32032-20 is preaccelerated, orthophthalic and has low viscosity and low reactivity.

Polylite 32032-20 contains methyl methacrylate and UV stabiliser to enhance weather resistance.

FEATURES	BENEFITS
UV-stabilised	Improved weather resistance, ensuring long term appearance
Acrylic-modified	Refractive Index of glass
Specially promoted	Short gel and cure times Clear, water white cured castings
Low viscosity	Outstanding air release

TYPICAL LIQUID PROPERTIES

PROPERTY	SPECIFICATION	NCS TEST METHOD
Viscosity @ 25°C, mPa.s	300 - 400	5.3
Volatile content, %	36 - 40	7B
Density, g/cm ³	1.10	14
Flash point, °C	31.5	
Geltime @ 25°C, 1,25 phr* BUTANOX M50, minutes	18 - 30	8
Cure time, minutes	50-80	
Peak exotherm, °C	115-150	
Liquid appearance	Faint Blue-green	2
Stability in the dark @ 25°C, months	3 minimum	4.1
*phr = parts per hundred resin, by mass		

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CURING CHARACTERISTICS

POLYLITE 32032-20 needs only the addition of catalyst to start the curing reaction. The resin should be allowed to attain workshop temperature (23°C) before being formulated for use.

The correct amount of catalyst is therefore added and thoroughly stirred into the resin shortly before use. The ambient temperature, the amount of catalyst and the size of the casting control the geltime of the resin formulation. Curing should not be carried out at temperatures below 15°C. Ideally the catalyst level should be between 1 & 2 phr.

MECHANICAL DATA IN CURED STATE

Fully post cured

PROPERTIES	UNIT	VALUE	TEST METHOD
Tensile strength	MPa	69	ASTM D-638
Flexural strength	MPa	90	ASTM D-790
Compressive strength	MPa	138	ASTM D-785
HDT	°C	74	ASTM D-648
Barcol hardness	934-1	35-40	ASTM D-2583

MOULDS

Moulds in which to produce castings, can be made from many different materials. Rigid moulds with a high gloss surface, such as glass or steel, are preferred and should be polished with a non-silicone wax parting agent in order to achieve easy removal of the finished casting. Moulds can also be made, for the production of complex castings with textured surfaces, from flexible materials such as polyethylene, silicone rubber, PVC, Cellulose acetate, and plastisols. Consult the suppliers of these materials for advice on the manufacture and conditioning of moulds before using them with POLYLITE 32032-20

PIGMENTS AND FILLERS

POLYLITE 32032-20 can be pigmented by the addition of up to 5% NCS POLYCHROME PIGMENT PASTE, but lower quantities consistent with achieving adequate hiding power are preferred if the physical properties of the cured casting are to be maintained.

The addition of fillers to POLYLITE 32032-20 is likely to change the hardening characteristics of the resin and will affect the properties of the casting. Fillers should be accurately checked for moisture content and affect on geltime and cure rate before use.

STORAGE AND HANDLING

To ensure maximum stability and maintain optimum properties, polyester resin should be stored in closed containers, maintained below 25°C and away from heat sources and sunlight. All storage should conform to local fire and building codes. Drum stock should be kept to a reasonable minimum with first-in, first-out stock rotation.

Where bung-in-head containers are stored outside, it is recommended that these be stored in a horizontal position to avoid the ingress of water.

STANDARD PACKAGE

Non-returnable metal drums.
Bulk supplies can be delivered by road tanker.

MATERIAL SAFETY DATA SHEET

A Material Safety Data Sheet is available from your NCS Resins' representative. Make certain that you obtain a copy of this guide to the safe handling of unsaturated polyester resins and resin systems.

**PLEASE READ AND UNDERSTAND THE MATERIAL SAFETY
DATA SHEET BEFORE WORKING WITH THIS PRODUCT**

WARNING: CARE MUST BE TAKEN TO AVOID DIRECT MIXING OF ANY ORGANIC PEROXIDE (CATALYST) WITH METAL SOAPS, AMINE OR ANY OTHER POLYMERISATION ACCELERATOR OR PROMOTER, AS VIOLENT DECOMPOSITION WILL RESULT!

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