

General Purpose Polyester Laminating Resin

268BQT, 268BQTN, 268QT, 268QTN

Extra Low Styrene Emission

268BQT-LSE, 268BQTN-LSE, 268QT-LSE, 268QTN-LSE

Singapore Highpolymer
Chemical Products Pte Ltd



Description

SHCP 268 BQT is thixotropic, quick-curing unsaturated polyester resin of orthophthalic grade for general purpose laminating purposes. It is waxed and preaccelerated, suitable for both hand lay-up and gun spray-up. Other variants of this general-purpose resin are also available. These include 268 BQTN (unwaxed), 268 QT (unaccelerated), and 268 QTN (neither waxed nor accelerated). A non-wax type is needed for laminating between top and bottom. For an unaccelerated resin, accelerator must be added by users in accordance with their requirements.

SHCP 268 LSE series resins basically are the same as SHCP 268 NORMAL series resins but with one very special characteristic, i.e. very low styrene emission (15 ± 5 G/M² at 23°C for 30 minutes), resulting in lower styrene level in workshop atmosphere.

Applications

This resin is used for making a variety of glass fibre reinforced plastic products such as boats and canoes, bus shelters, telephone booths, stadium seat, bath tubs, water and storage tanks, cooling towers, plant and flower pots, bath unit, models, containers, dustbins, safety helmets, water and oil pipes, ash trays, septic tanks, car body, sporting equipment, concrete framings, chairs and tables, and other household articles. Glass fibre reinforced laminates made with this resin possess excellent mechanical strength and have good rigidity and outstanding durability. Our SHCP 268 BQT and its variants polyester resin are approved by Lloyd's Register of shipping for boat construction.

Specifications

Liquid SHCP 268 BQT polyester has the following characteristics:

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| • Appearance | Pink |
| • Viscosity at 30°C (Brookfield LVT, spindle 3, 60rpm) | 400 – 600 mPas |
| • Gel Time at 30°C | 8 – 15 minutes |
| • Cure Time at 30°C | 14 – 25 minutes |
| • Peak Exothermic Temperature | 135°C – 155°C |
| • Stability in the Dark below 25°C | 6 months |
| • Thixotropic Index | ≥ 2 Ratio |
| • Acid Value | 20 – 24mgK ^o H/g (Styrenated resin) |

Above gelation characteristics determined using 1% v/w of MEKP catalyst (Butanox M-50) on 40g of resin.



Properties

Pure Resin Casting of SHCP 268 BQTN polyester resin

	Result	Test Method
Water Absorption (7 days value)	0.35%	ISO-62-1980
Barcol Hardness	48 BHC	ASTM D2583-67
Heat Distortion Temperature	67.3°C	ASTM D648-72
Elongation at Break	3.2%	ASTM D638-72
Specific Gravity of Liquid Resin at 25 °C	1.13 kg/litre	ASTM D1475
Volume Shrinkage on Cure	9%	Specific Gravity
Volatile Content	40 - 43%	ASTM D3030
Flexural Strength	82.4 MPa	ASTM 790
Flexural Modulus	5257.3 MPa	ASTM 790
Tensile Strength	29.4MPa	ASTM D638

Mat laminates (34.4% glass content) cured with 268BQT polyester resin have 0.192% water absorption for 24 hours and 0.28% for 7 days according to ISO-62-1980 Test Method and exhibit the following physical properties:

	In Dry Laminates	In Wet Laminated	Test Method
Flexural Strength MPa	190.3	214.3	ASTM D790-71
Flexural Modulus MPa	8700	7.07	ASTM D790-71
Tensile Strength MPa	130.4	154	ISO 3268-1978
Tensile Modulus MPa	11770	9.88	ASTM D638-72

Usage

SHCP general purpose polyester laminating resin performs best when it is completely cured. To do so, a proper combination of catalyst and accelerator must be used at room temperature for a sufficient period of time. Generally, 1 percent of catalyst (BUTONOX M-50 MEKP) together with 0.5 percent of accelerator (6% cobalt content) is used for 268QT or 268QTN. For 268BQT or 268BQTN, being pre-accelerated, only 1 percent of catalyst is needed.

Adjustments for shorter or longer geltime can be achieved by ranging the quantities of catalyst and/or accelerator used. As a rule, however, the amount of catalyst used should not be more than 2% or less than 0.5% while that of accelerator should range between 0.4% and 1%. Be sure to measure accurately.

Ensure that the accelerator must be completely mixed into the resin before catalyst is added in order to avoid a direct blending which due to a violent reaction may result in an **EXPLOSION**.

Since the viscosity increased as the storage period of resin lengthens, Styrene Monomer can be added to lower it to a desired level.

However owing to difficulties in presenting information applicable to all situations, no warranty is expressed or implied and users are recommended to carry out their own tests to determine the applicability of the above information and the suitability of SHCP resin for their particular requirements.



Storage

SHCP polyester resin will remain stable for about six months if stored in the dark and at temperatures below 25°C. Their stability however deteriorates markedly at higher temperatures, especially when they are directly exposed to sunlight. Hence they should be kept in a cool, dark place. It is advisable to finish it within three months.

Packing

SHCP polyester resin is packed in steel drums of standard size, containing 220 kilos in net weight.

Enquiries

SHCP is specialized in manufacture of different types of unsaturated polyester resin for a wide range of applications. It can make in accordance with customers' specifications to meet their needs. Technical services are also provided to its customers. For any inquiries, please contact us.

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