

Versatile Resilient Polyester Laminating Resin

3254BQT, 3254BQTN, 3254QT, 3254QTN, 3254QN

Singapore Highpolymer
Chemical Products Pte Ltd



Description

SHCP 3254BQT is thixotropic, quick-curing unsaturated polyester resin of Iso-phthalic grade for general laminating purposes. It is waxed and preaccelerated, specially for gun spray-up. Other variants of this general-purpose resin are also available. These include 3254BQTN (unwaxed), 3254QT (unaccelerated), 3254QTN (neither waxed nor accelerated) and 3254QN (non-waxed, non-accelerated and non-thixotropic). 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.

Applications

SHCP 3254BQT and its variants are used for making a variety of high quality glass fibre reinforced plastic products such as boats and canoes, water, oil and petroleum storage tanks, water and oil pipes, cooling towers, bus shelters, stadium seat, bath tubs, telephone booths, car body, septic tanks, safety helmets, dust bins, models, FRP molds, containers, bath unit, plant and flower pots, sporting equipments, concrete framings, tables and chairs and other household articles.

Glass fibre reinforced laminates made with this resin possess excellent mechanical strength and have good rigidity and outstanding durability.

SHCP 3254BQT and its variants have been examined in accordance with the requirements of Lloyd's Register of Shipping and is approved for use in the construction of reinforced plastic craft moulded under the society's survey.

Specifications

Liquid SHCP 3254 BQT polyester has the following characteristics:

- | | |
|------------------------------------|-----------------|
| • Appearance | Pink |
| • Viscosity at 30°C | 5 - 7 poises |
| • Gel Time at 30°C | 10 – 15 minutes |
| • Cure Time at 30°C | 14 – 25 minutes |
| • Peak Exothermic Temperature | 160°C – 175°C |
| • Stability in the Dark below 25°C | 6 months |

Above gelation characteristics determined using 1% v/w of MEKP catalyst (Butanox M-50) on 20g of resin.



Properties

SHCP 3254BQT polyester resin pure casting has the following properties:

	Result	Test Method
Water Absorption (7 days value)	0.27%	ISO-62-1980
Barcol Hardness	45	ASTM D2583-67
Heat Distortion	103 °C	ASTM D648-82(88)
Elongation at Break	4.4%	ASTM D638-72
Specific Gravity of Liquid Resin at 25 °C	1.08 kg/litre	ASTM D1475
Volume Shrinkage on Cure	10%	Specific Gravity
Volatile Content	39.6%	ASTM D3030
Flexural Strength	8.2 kgf/mm ²	ASTM 790
Flexural Modulus	435.4 kgf/mm ²	ASTM 790
Tensile Strength	3.0 kgf/mm ²	ASTM D638
Impact Strength	3.8 kgf-cm/cm	ASTM D256

Mat Laminates (34.4% glass content) cured with 3254BQT polyester resin have 0.06% water absorption for 24 hours and 0.19% 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	207.6	229.0	ASTM D790-71
Flexural Modulus	10.47	9.08	ASTM D790-71
Tensile Strength MPa	131.5	143.0	ISO 3268-1978
Tensile Modulus GPa	10.52	8.96	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 3254QT or 3254QTN. For 3254BQT or 3254BQTN, 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.

FRP Services reserves the right to change the information given herein without prior notice. We believe this information to be reliable, but do not guarantee its applicability to the user's process or assume liability for occurrence arising out of its use. The user, by accepting products described herein agrees to be responsible for thoroughly testing any application before committing to production.



FRP SERVICES & COMPANY
1-15-9 Awaza, Nishi-ku, Osaka 550-0011, Japan
TEL:+81-6-6535-1933 FAX:+81-6-6535-1675
www.frp-services.com