

CRYSTIC 489PA 35

Polyester resin for Shipbuilding

Introduction

CRYSTIC 489 PA 35 is a thixotropic, pre accelerated, isophthalic, unsaturated polyester resin. It has very good osmosis and hydrolysis resistance under marine environment.

Application

CRYSTIC 489 PA 35 can be used in contact (hand lay-up) or by spraying in all applications in the marine environment such as recreational or professional shipbuilding or offshore structures.

Features and Benefits

Features

Increased wettability
Low exotherm
Long polymer chain
Great flexibility

Benefits

Rapid impregnation of the reinforcement
Possibility of very thick laminates
Excellent resistance to hydrolysis
Excellent impact resistance

Certification

CRYSTIC 489 PA 35 and variants are approved by Lloyd's Register of Shipping.

Formulation

The following formulation is recommended for curing at room temperature:

CRYSTIC 489 PA 35: 100 parts
Catalyseur M: 1 to 2 parts

Catalyst M is a Methyl Ethyl Ketone peroxide at 50% such as Butanox M 50 from AKZO or Luperox K 1S from Arkema.

Additives

Certain pigments ou additives can modify the behaviour of the resin, so it is advisable to evaluate their effects before use.

Test before production

We advise users to conduct their own tests before any serial work to ensure that the final appearance is suitable for their needs.

Gel time

The room temperature, the amount and the type of catalyst will control the gel time of the resin. Curing should not be carried out at a temperature below 15°C. The resin must be able to reach room temperature before being processed.

Properties

On liquid resin

Viscosity at 20°C	dPas	3.7 – 5.0
Density at 25°C		1.10
Acid Index	mg KOH/g	15 - 21
Volatil Content		41 - 45
Aspect		Thixo, pink
Stability under the recommended storage conditions	months (from production date)	3
Gel time at 25°C for 100 g of resin + 2 ml de cata. M	min	33 - 37

*On fully cured resin **

Barcol Hardness (GYZJ 934-1)		42
Water Absortion (24h at 23°C)	mg	18
Heat Deflection Temperature (1,8 MPa)	°C	75
Density at 20°C		1,2
Elongation at break	%	3,5
Tensile Strength	MPa	75
Tensile Modulus	MPa	3500

Test according to ISO 527 and ISO 75

1MPa = 1MN/m² = 1N/mm² or approximately 10,2 kgf/cm²

* cured 24 h at 20°C then 3 h at 80°C except for the HDT for which the steps are 24 h at 20°C then 5 h at 80°C then 3h at 120°C.

Post-Curing

Laminates of satisfactory quality can be obtained by curing at room temperature (20°C). When optimum properties and long term performance are desired, laminates should undergo postcuring. The laminate must then undergo maturation at room temperature (20°C) and then a post-curing of 16 h at 40°C.

Packaging

CRYSTIC 489 PA 35 is supplied in non-returnable drums of 225Kg, containers of 1100 kg or in bulk by road tanker.

Storage

La **CRYSTIC 489 PA 35** in liquid state should be kept away from flames. It should be stored in its original container, protected from light at a temperature of 20-25°C, never exceeding 28°C. Prolonged storage above 28°C will modify the properties of the product and will reduce its shelf life. Avoid the proximity of a heat source and the risk of water infiltration.

Health and Safety

Please refer to the specific MSDS of the product.

ENG 489PA35 - R50515 - May 2015

All information on this data sheet is based on laboratory testing and is not intended for design purposes. Scott Bader makes no representations or warranties of any kind concerning this data. Due to variance of storage, handling and application of these materials, Scott Bader cannot accept liability for results obtained.



Scott Bader SA
65 rue Sully, 80044 Amiens Cedex 1 – France
Telephone: +33 (0)322 662 766
Fax: +33 (0)322 662 780
E-mail: composites@scottbader.fr

Castro Composites
Polígono Ind. A Granxa, C/Cíes 190
O Porriño-Pontevedra, 36400
Teléfono : +34 986 342 953
Email: shop@castrocomposites.com