

CRYSTIC BP 91-20PA

Bonding Paste with Glass Fibres

Introduction

Crystic BP 91-20 PA is pre-accelerated Isophthalic polyester bonding paste. It is a viscous, unfilled compound, containing short glass fibres, a low shrink additive and a flexible additive, specifically designed for the assembly and bonding of GRP mouldings. Such applications include panels, inserts, internal frames, ribs, internal core materials, hull to deck assemblies, composite constructions and car body components. The use of these bonding pastes gives high shear-strength structures.

Formulation

Crystic BP 91-20 PA should be allowed to attain workshop temperature (18°C - 20°C) before use. Crystic BP 91-20 PA requires only the addition of catalyst to start the curing reaction. The recommended catalyst is Catalyst M (or Butanox M50), which should be added at 1 to 2 % into the bonding paste. (Please consult our Technical Service Department if other catalysts are to be used). The catalyst should be thoroughly incorporated into the material with a low shear mechanical stirrer where possible.

Variants

Crystic BP 91-20 PA is available in 2 different versions:

Short geltime : 7-10 min – Reference **CRYSTIC 91-20 PA G17**

Long geltime: 30-35 min – Reference **CRYSTIC 91-20 PA G40**

Features and Benefits

Isophthalic base resin	Better mechanical properties, water resistance
Highly thixotropic	No drainage on vertical surface
Glass fibres	Better mechanical properties
Colour change system	Safety about catalyst mixing
Flexible additive	Better resistance to impact
Low shrink additive	No shrinkage, no print through

Pot Life

Catalyst Level (MEKP at 50%)	Pot Life in Minutes at 25°C
1%	17
2%	8

The bonding paste, moulding and workshop should all be at, or above, 15°C before curing is carried out.

Application

The surfaces to be bonded should be clean, dry and free from any contamination. It may be necessary to roughen the surfaces to be bonded in order to obtain the bond strength required. Each surface should be coated with the catalysed bonding paste and held together until the paste has hardened. The bond strength of Crystic BP 91-20 PA will decrease at service temperatures greater than 60°C. Structures carrying loads above this temperature should either have additional mechanical fastening, such as bolts or rivets, or be bonded with a more suitable adhesive.

Crystic BP 91-20 PA pastes can be used on surfaces other than GRP eg, timber, plasterboard, etc. However, it is recommended that trials are carried out to ensure that an adequate bond strength is obtained.

Coverage

As a rough guide, 3.5Kg of bonding paste will cover one square metre to a depth of approximately 3mm.

Additives

Crystic BP 91-20 PA is supplied ready to use. The addition of pigments or other materials can adversely affect the degree of cure and bond strength obtained.

Typical Properties

The following table gives typical properties of Crystic BP 91-20PA when tested in accordance with BS2782.

Property	Unit	Liquid Bonding Paste
Appearance		Bluish Paste
Viscosity at 25°C		Highly Thixotropic
Stability in The Dark at 20°C	Months	3
Geltime at 25°C Using 1% Catalyst M (or Butanox M50)	Minutes	17
Property*		Fully Cured
Tensile Strain	MPa	71
Tensile Modulus	MPa	3500
Elongation at Break	%	4.6

* Test Method : BS EN ISO527-2 : 1996 -
Post Curing : 24h at Room Temperature + 16h at 40°C

Post Curing

Satisfactory bonds for most applications can be obtained by curing Crystic BP 91-20 PA at workshop temperature (20°C).

Storage

Crystic BP 91-20 PA should be stored in the dark in suitable, closed containers. It is recommended that the storage temperature should be less than 20°C where practical, but should not exceed 30°C. Ideally, containers should be opened only immediately prior to use. Where they have to be stored outside, it is recommended that they are kept in a horizontal position to avoid the possible ingress of water.

Packaging

Crystic BP 91-20 PA is supplied in 25Kg and 225Kg containers.

Health and Safety

Please see separate Material Safety Data Sheets.

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