

CRYSTIC 90-78PA & CRYSTIC 90-79PA

Introduction

Crystic 90-78PA and Crystic 90-79PA are pre-accelerated polyester bonding pastes. They are viscous, filled compounds specifically designed for the assembly and bonding of GRP mouldings. Such applications include panels, inserts, internal frames, ribs, etc., and any other non structural bonding applications. The use of these bonding pastes gives high shear-strength structures without the need for mechanical fixings.

Product Characteristics

FORMULATION

Crystics 90-78PA and 90-79PA should be allowed to attain workshop temperature (18°C - 20°C) before use. Stir well by hand, or with a low shear mixer to avoid aeration, and then allow to stand to regain thixotropy. Crystics 90-78PA and 90-79PA require 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% 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.

POT LIFE

Temperature	Pot life in minutes	
	90-78PA	90-79PA
15°C	14	8
20°C	10	5
25°C	8	4

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 Crystics 90-78PA and 90-79PA 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.

Crystics 90-78PA and 90-79PA do not give a good, permanent bond to metal surfaces unless some mechanical interlocking, such as a metal mesh, is used. The bonding 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, 4kg of bonding paste will cover one square metre to a depth of approximately 3mm.

ADDITIVES

Crystics 90-78PA and 90-79PA are supplied ready to use. The addition of pigments or other materials can adversely affect the degree of cure and bond strength obtained.

POST CURING

Satisfactory bonds for most applications can be obtained by curing Crystics 90-78PA and 90-79PA at workshop temperature (20°C).

TYPICAL PROPERTIES

The following tables give typical properties of Crystics 90-78PA and 90-79PA when tested in accordance with BS2782.

Property		Liquid Bonding Paste	
		90-78PA	90-79PA
Appearance		White paste	Grey Paste
Viscosity @ 25°C		Viscous	Viscous
Stability in the dark @ 20°C	months	3	3
Geltime @ 20°C using 1% Catalyst M (or Butanox M50)	minutes	10	5

Property		Fully Cured* (unfilled casting)	
		90-78PA	90-79PA
Barcol Hardness (Model GYZJ 934-1)		47	39
Deflection Temperature under load † (1.80 MPa)	°C	52	45
Tensile Strength	MPa	28	29
Tensile Modulus	MPa	3147	3200
Elongation at Break	%	1	1.3
Single Lap Shear Strength	MPa	10.5	10.9

* Curing Schedule - 24 hrs at 20°C, 3 hrs at 80°C

† Curing Schedule - 24 hrs at 20°C, 5 hrs at 80°C, 3 hrs at 120°C

Storage

Crystics 90-78PA and 90-79PA 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

Crystics 90-78PA and 90-79PA are supplied in 25kg and 225kg containers.

Health & Safety

Please see separate Material Safety Data Sheets.

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