

CRESTOMER[®] 1152PA

Structural Adhesive

Introduction

Crestomer 1152PA is pre-accelerated, highly thixotropic material based on an unsaturated urethane acrylate in styrene monomer. It is used as a highly impact resistant structural filleting material for FRP (fibre reinforced polyester) marine applications. These fillets are usually used in an undercut to make a radius at the base of a foam former. (For reference information on bond joint design, see Technical leaflet No. 314). Crestomer 1152PA has excellent adhesion to cured FRP laminates, core materials and metals.

Approvals

Crestomer 1152PA has DNV approval and Lloyd's Statement of Acceptance for craft built under their Survey. After extensive testing for impact resistance and long term resistance to sea water, it has been approved by the MOD for use under NES 166.

Formulation

Crestomer 1152PA is fully compounded and requires only the addition of Norox KP9 to cure it. Curing should not be carried out at temperatures below 15°C. The resin and workshop should both be at, or above, this temperature. Temperatures below 15°C must be avoided since styrene evaporation from the surface may lead to cracking.

Pot Life

Temperature	Typical Pot Life in Minutes	
	2% Norox KP9	1% Norox KP9
15°C	88	90
20°C	70	80
25°C	50	55

Applications

To use as a fillet, Crestomer 1152PA can be applied with a spatula or from a cartridge gun (see Technical leaflet No. 316), taking care to keep air entrapment to a minimum. Once applied, Crestomer 1152PA can be shaped with appropriately contoured metal or plastic formers. Thicknesses greater than 25mm should be applied in multiple layers to avoid excessive exotherm. A time lapse of 1 hour from gelation should be allowed between layers. Crestomer 1152PA has excellent adhesion to fully cured material provided that the surface has been maintained free of dust and grease. This can only be guaranteed by the use of proprietary strippable cloths (without lubricant contaminates). If the fillet or laminate surfaces are more than 7 days old, it is recommended that they are lightly abraded. They should then be wiped with acetone or styrene on a fresh, clean cloth. Due to its excellent adhesion to a wide range of materials, Crestomer 1152PA can also be used as a general purpose adhesive. It is also used to contour joints in FRP components and to build up damaged areas.

Performance

A fillet is effectively a structural member in stiffener applications. It is therefore recommended that cure in production should be assessed by reference to its Shore D hardness prior to overbonding. bondline thickness will vary with the application. The following are recommended:

Structural fillets	-	25 mm
Core bedding/bonding	-	1 mm
FRP to FRP bonding	-	1 mm

The properties of cured Crestomer 1152PA will vary with temperature.

Property	-10°C	0°C	20°C	50°C
Tensile Strength MPa	40	35	25	25
Tensile Elongation %	3.5	50	100	140

Typical Properties

Test methods as in BS2782 1980

Property		Liquid Resin
Viscosity at 25°C		Non slumping
Specific gravity at 25°C		1.03
Volatile content	%	47
Appearance		Hazy gel
Stability in the dark at 20°C	months	3
Geltime at 25°C using 2% Norox KP9	minutes	50
Cured Resin (unfilled casting)		
Hardness	Shore D	65
Ultimate Tensile Strength	MPa	26
Initial Tensile Modulus	MPa	50
Elongation at Break	%	100
Water Absorption (24 hrs)	%	0.36
Gardner Impact Strength	Kg/cm	200
Yield Stress at 7% strain	MPa	17
Volume shrinkage on cure	%	5

Storage

Crestomer 1152PA 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. 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

Crestomer 1152PA is supplied in 25 kg and 225 kg containers.

Health and Safety

See separate Material Safety Data Sheet

Technical Leaflet No 102.22SA
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Before you use this information, kindly verify that this data sheet is the latest version.

All information is given in good faith but without warranty. We cannot accept responsibility or liability for any damage, loss or patent infringement resulting from the use of this information.

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