CRESTOMER 1152PA

Structural Adhesive

Description

Crestomer 1152PA is a two part pre-accelerated, highly thixotropic structural adhesive based on unsaturated urethane-acrylate in styrene monomer. It is used in many structural composite applications and has excellent adhesion to FRP laminates, core materials, wood and metals. Due to its excellent adhesion to a wide range of materials, 1152PA can also be used as a general purpose adhesive. It is also used to contour joints in FRP components, to build up damaged areas and can be used to bond "green" FRP.

Characteristics using 2% Butanox M50 Catalyst

Characteristics	Typical Value	Unit
Working Time/Geltime[1]	50	Minutes
Fixture Time[2]	10	Hours
Gap Filling	1 – 25	mm
Flash Point	33	°C
Colour Change (over cure)	None	-

Physical Data – Uncured

Property	Typical Value	Unit
Viscosity[3]	250,000 – 320,000	cP
Specific Gravity	1.0 -1.1	-
Volatile Content	47	%
Mix Ratio[4]	50:1	Volume
Colour/Appearance	Purple/Brown Gel	-
Stability at 20°C[5]	3	Months

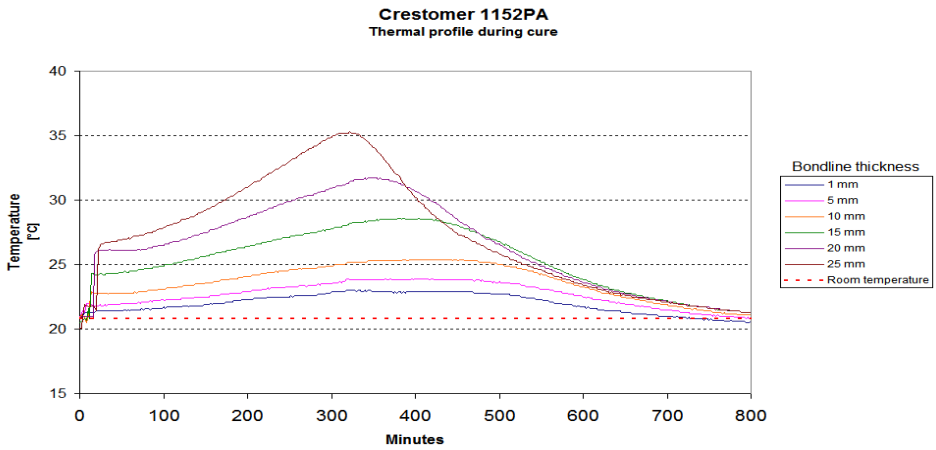
Physical Data – Cured

Property	Typical Value	Unit	Test Method
Hardness	65	Shore D	BS EN ISO 868:2003
Maximum Tensile Strength	26	MPa	BS EN ISO 527-2:1996
Tensile Modulus	1350 - 1450	MPa	BS EN ISO 527-2:1996
Elongation at Break	100	%	BS EN ISO 527-2:1996
Water Absorption	0.36	%	BS EN ISO 62:1999

Bond Joint Strength – Typical Lap Shear Strengths (MPa) BS ISO 4587:2003[6]

	FRP	Marine Ply	Aluminium	Stainless Steel	Teak
FRP	10*	-	-	-	-
Marine Ply	-	5*	-	-	-
Aluminium	-	-	15	-	-
Stainless Steel	-	-	-	12	-
Teak	-	-	-	-	5*

Values are based on substrate failure where marked by *



Approvals

Crestomer 1152PA has DNV Approval and Lloyd's Statement of Acceptance for marine craft built under their survey. After extensive testing for impact resistance it has been approved by the MOD for use under NES 166.

Surface Preparation

Crestomer 1152PA has excellent adhesion to FRP material provided that the surface has been maintained free of dust and grease. This can be guaranteed by the use of proprietary strippable cloths such as peel ply (without lubricant contaminates). If the laminate surfaces are more than 3 days old, it is recommended that they are lightly abraded and wiped with acetone or styrene on a lint-free, clean cloth prior to bonding.

Application

Crestomer 1152PA is supplied pre-accelerated. The required hardener is Butanox M50 (or other equivalent MEKP catalyst). The catalyst is added at 2% w/v. Crestomer 1152PA can be applied with a spatula or from a dispensing unit, taking care to keep air entrapment to a minimum. 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. Application should always be carried out at temperatures above 15°C. Recommended temperature range for application is between 18 and 25°C.

Storage

Crestomer 1152PA should be stored in its original container and out of direct sunlight. It is recommended that the storage temperature should be between 15 and 20°C. Ideally, containers should be opened only immediately prior to use. Products should never be frozen.

Packaging

Crestomer 1152PA is supplied in 25 kg and 200 kg containers.

Health and Safety

See separate Material Safety Data Sheet

Notes

1 Geltime measured with 100g mass of adhesive at 25°C.

2 Time taken at 23°C (ambient temperature) to achieve 1.4MPa strength in lap-shear tests according to BS ISO 4587:2003[6].

3 Measured using Brookfield Viscometer at 25°C.

4 Mix ratio based on volume and weight for both machine dispensing and hand mixing.

5 Stability defined from date of dispatch when left un-opened in the original containers and stored out of direct sunlight.

6 Surface preparation methods vary between substrates; FRP - removal of strippable cloth; Marine-ply – dust-free and degrease; Aluminium – P2 etch; Steel - degrease, abrade and degrease.

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.

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