



Product Overview

Crestomer 1153PA is a two part pre-accelerated, highly thixotropic structural adhesive based on unsaturated urethane acrylate in a styrene monomer. It has a long open time of 90 minutes. It is used in many structural composite applications and has excellent adhesion to FRP laminates, core materials, wood and some metals. Due to its excellent adhesion to a wide range of materials, 1153PA can also be used as a general purpose adhesive. It can be used for bonding diesel tanks, contour joints in FRP components, to build up damaged areas and to bond "green" FRP.

Features and Benefits

Urethane acrylate base	▶	Improved aesthetic and better surface finish
Excellent retention of toughness	▶	Excellent adhesion and high elongation at break
Highly thixotropic	▶	Non sagging on vertical surfaces
Controlled cure and exotherm behaviour	▶	Excellent fatigue and impact resistance
Excellent fatigue and impact resistance	▶	Perfect gap filling solution

Application Properties

Working Time ¹	90 Minutes
Fixture Time ²	8.5 hours
Gap Filling	1 – 15 mm/ 0.04 - 0.6 inch
Colour change (over cure)	None
Recommended Application Temperature	18°C - 25°C/ 66°F - 77°F

Mechanical Properties

Tensile Strength ⁵	22 - 25 MPa
Tensile Modulus ⁵	1000 - 1500 MPa
Tensile Elongation ⁵	100 - 120%
Hardness	65 Shore D
Water Absorption ⁶	0.36%
Approvals	Lloyds, RINA

Liquid Properties

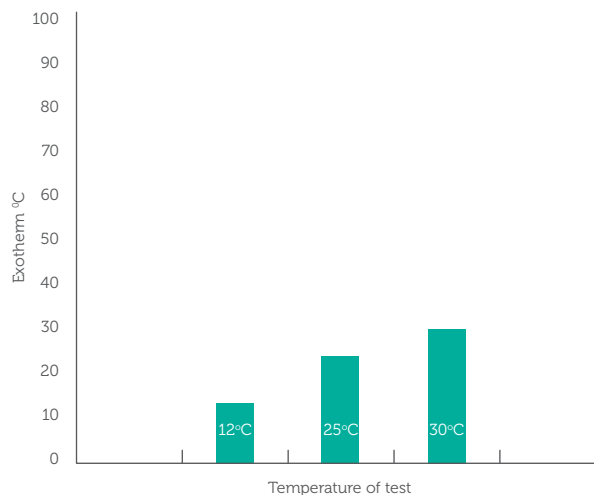
Product	1153PA
Viscosity ³	250,000 - 320,000 cP
Specific Gravity	1.05
Volatile Content	47%
Mixed Ratio ⁴ (by Volume)	50:1
Appearance	Mauve Gel
Shelf Life	12 months

Recommended Substrates

	Recommended Substrates (Lapshear Strength MPa ⁶)	Non - Recommended Substrates
Metals	Stainless Steel Aluminium	-
Wood	Marine Ply Balsa	-
Composites	GRP/FRP Polyester Resin DCPD Vinyl Ester Epoxy	-

Exotherm of Crestomers

High exotherm in an adhesive can cause the substrate to distort and give poor aesthetic characteristics to the parts being bonded. The chemistry of Crestomer adhesives ensures that high exotherm temperatures, a characteristic of some other adhesives do not occur. The graph shows the exotherm temperatures of Crestomer adhesives over a range of test temperatures.



Surface Preparation

Crestomer 1153PA 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 stripable cloths such as peel ply (without lubricant contaminates). If the laminate surface is more than three 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 1153PA is supplied pre-accelerated. The required hardener is Butanox M50 (or other equivalent MEKP catalyst). The catalyst is added at 2% v/w. Crestomer 1153PA can be applied with a spatula or from a dispensing unit, taking care to keep air entrapment to a minimum. The maximum dimensions recommended are gap height 15mm/ 0.6 inch and joint width 40mm/ 1.6 inch. Bulk volumes of Crestomer 1153PA may lead to unsatisfactory cure and reduced mechanical performance. Application should always be carried out at temperatures above 15°C/ 59°F. Recommended temperature range for application is between 18°C and 25°C/ 64°F and 77°F.

Storage and Shelf Life

Crestomer 1153PA should be stored in its original container and out of direct sunlight. It is recommended that the storage temperature should be between 15°C and 20°C/ 59°F and 68°F. Ideally containers should be opened only immediately prior to use. Products should never be frozen.

The shelf life for Crestomer products is defined from date of manufacture if stored as recommended. The expiry date is indicated on the product labels.

Packaging

Crestomer 1153PA is supplied in 25Kg/ 55lbs and 200Kg/ 440lbs containers.

Health and Safety

See separate Material Safety Data Sheet.

1. Geltime measured with 100g mass of adhesive at 25°C/ 77°F. Using 2% Butanox M50 catalyst.

2. Time taken at 23°C/ 73°F (ambient temperature) to achieve 1.4MPa strength in lap-shear tests according to BS ISO 4587:2003.

3. Measured using Brookfield Viscometer at 25°C/ 77°F.

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

5. Test to BS EN ISO 527-2.

6. BS EN ISO 62.



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