



## 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 aesthetics 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
Low exotherm during cure	▶	Low risk of print through
Over 100% Elongation	▶	A truly flexible structural adhesive
Easy to apply	▶	Saves you time and cost

Application properties	
Working time <sup>1</sup>	90 minutes
Fixture time <sup>2</sup>	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 / 64°F - 77°F

Mechanical properties	
Tensile strength <sup>3</sup>	22 - 25 MPa
Tensile modulus <sup>3</sup>	1000 - 1500 MPa
Tensile elongation <sup>3</sup>	100 - 120%
Hardness	65 Shore D
Water Absorption <sup>4</sup>	0.36%
Approvals	Lloyds

Liquid properties	
Product	1153PA
Viscosity	250,000 – 320,000 cP
Specific gravity	1.05
Volatile Content	47%
Mixed ratio <sup>5</sup> (by volume)	50:1
Appearance	Mauve gel
Shelf life <sup>6</sup>	12 months

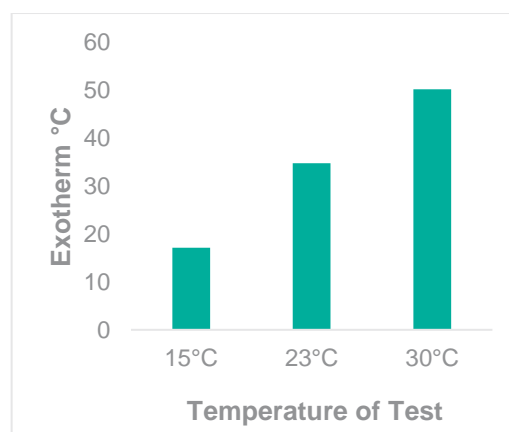
## Recommended Substrates

	Recommended substrates <sup>7</sup> (Lap shear / Cleavage strength MPa)
<b>Metals</b>	Stainless Steel <sup>8</sup> – 11 – 12 MPa Aluminium <sup>8</sup> 5 – 8 MPa
<b>Wood</b>	Marine ply <sup>9</sup> - 2 – 4 MPa Balsa <sup>9</sup> 2 – 4 MPa
<b>Composites</b>	GRP/FRP <sup>9</sup> – 12 – 14 MPa Polyester resin DCPD <sup>9</sup> – 7 – 8 MPa Vinyl ester Epoxy

Please contact Scott Bader Technical Support for information and advice on other substrates

## 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, does 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 strippable cloths such as peel ply (without lubricant contaminants). 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 cloth prior to bonding.

## Application

Crestomer® 1153PA is supplied pre-accelerated. The required hardener is a medium reactivity 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. 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 - 77°F. The use of additional pigments or fillers is not recommended as they can affect the performance of the adhesive.

For industrial / commercial use only. The user must determine the suitability of a selected adhesive for a given substrate and application. Contact your local Scott Bader representative for questions or assistance with the selection of adhesives for your use. This product is intended for use by skilled individuals at their own risk. Recommendations contained herein are based on information we believe to be reliable. The properties and strength values are obtained under controlled conditions at the Scott Bader laboratory.

## Storage and shelf life

Crestomer® 1153PA should be stored between 2°C and 23°C/ 36°F and 73°F in the original unopened container in a dry well ventilated place. Protect from freezing and direct sunlight. Avoid contact with oxidising agents. Exposure to temperatures outside these conditions will affect shelf life. Ideally containers should be opened only immediately prior to use.

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/ 55 lbs kegs and 200Kg/ 440lbs drums.

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.	
3. Test to BS EN ISO 527-2	
4. BS EN ISO 62.	
5. Mix ratio based on volume and weight for both machine dispensing and hand mixing.	
6. The shelf life for Crestomer® products is defined from the date of manufacture if stored as recommended. The expiry date is indicated on the product labels.	
7. Metals test to ASTM D1002 for Lap Shear Strength, Composites and Marine Ply test to ASTM 5868 for Lap Shear Stength, Balsa tested to ASTM D3807 for Cleavage Peel. All at 23°C (73°F)	
8. Adhesive Failure When Tested	9.Substrate Failure When Tested

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