

# CRESTOMER 1152PA

## Structural Adhesive

### Product Overview

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 some metals. Due to its excellent adhesion to a wide range of materials, 1152PA 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	Excellent adhesion and high elongation at break
Highly thixotropic	No sagging on vertical surfaces
Excellent retention of toughness	Excellent fatigue and impact resistance
Controlled cure behaviour and exotherm	Improved aesthetics and surface finish

### Characteristics Using 2% Butanox M50 Catalyst

Characteristics	Typical Value
Working Time/Geltime <sup>1</sup>	50 Minutes
Fixture Time	10 Hours
Gap Filling	1 – 25 mm
Flash Point	33°C
Colour Change (Over Cure)	None

- Geltime measured with 100g mass of adhesive at 25°C.
- Time taken at 23°C (ambient temperature) to achieve 1.4MPa strength in lap-shear tests according to BS ISO 4587.

### Liquid Properties

Property	Typical Value
Viscosity <sup>3</sup>	250,000 – 320,000 cP
Specific Gravity	1.0 – 1.1
Volatile Content	47%
Mix Ratio <sup>4</sup> (by Volume)	50:1
Appearance	Purple/Brown Gel
Stability at 20°C <sup>5</sup>	5 Months

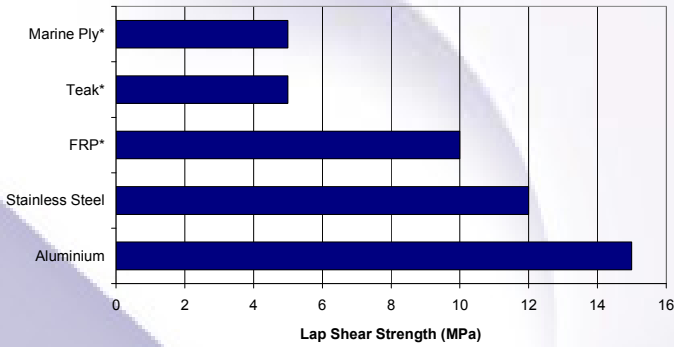
- Measured using Brookfield Viscometer at 25°C.
- Mix ratio based on volume and weight for both machine dispensing and hand mixing.
- Stability defined from date of manufacture when left un-opened in the original containers and stored out of direct sunlight.

### Typical Material Properties

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

## Bond Joint Strength – Typical Lap Shear Strengths (MPa)

Values are based on substrate failure where marked by \*

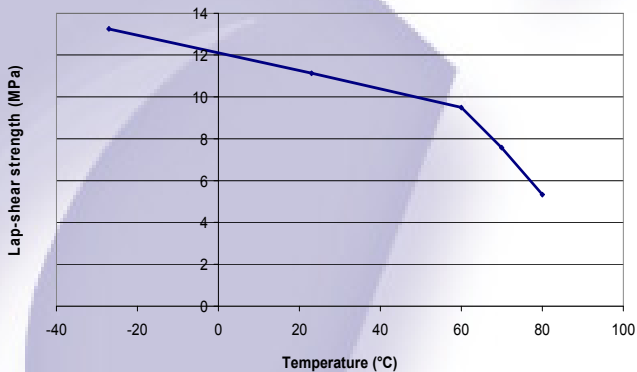


Material	Surface Preparation	Test Method
Marine Ply	Solvent Degrease	ISO 4587
Teak	Solvent Degrease	ISO 4587
FRP	Removal of Strippable Cloth	ISO 4587
Stainless Steel	Degrease, Abrade, Degrease	ISO 4587
Aluminium	P2 Acid Etch	ISO 4587

Please contact Scott Bader Technical Services for information on other substrates.

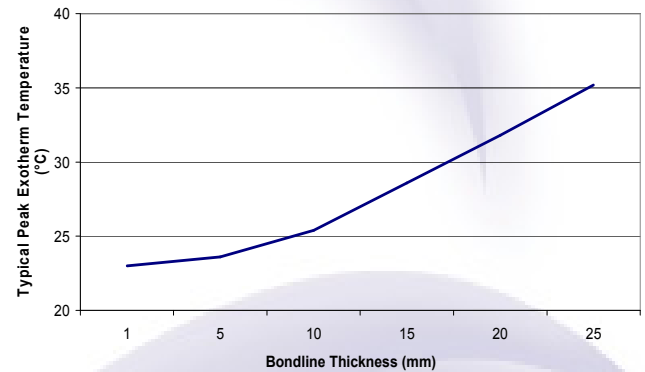
## Temperature Performance Lap Shear Testing

Tested to ASTM 3163 1mm bondlines, GRP substrate, strippable cloth surface preparation.



## Peak Exotherm Profile During Cure

Typical peak exotherm temperatures measured in a GRP lap-shear joint with 1 inch overlap.



## Approvals

Crestomer 1152PA has RINA, DNV Approval and a Statement of Acceptance from Lloyd's Register of Shipping for use in the construction of 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 contaminants). 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.

## Metals

Typically, most metal surfaces will require surface preparation, such as degreasing with solvent, mechanical abrasion and a further degreasing with solvent to leave a clean and dust free surface.

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

## 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. Bondline 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°C and 25°C. 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 obtained under controlled conditions at the Scott Bader laboratory.

**Storage**

The shelf life for Crestomer 1152PA is 5 months from date of manufacture when stored at a recommended temperature between 15°C and 20°C. Long term exposure above 23°C will reduce the shelf life of these materials.

The product should be stored in its original container out of direct sunlight. The bulk product material should be opened only immediately prior to use and it's highly recommended that products should never be frozen or exposed to temperatures above 35°C during shipping or storage.

**Packaging**

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

**Health and Safety**

See separate Material Safety Data Sheet.

Version 6 : May 2014

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. The manufacture of materials is the subject of granted patents and patent applications; freedom to operate patented processes is not implied by this publication.

**SCOTT BADER COMPANY LIMITED**

Wollaston, Wellingborough, Northamptonshire, NN29 7RL

Telephone: +44 (0) 1933 663100

Facsimile: +44 (0) 1933 666623

[www.scottbader.com](http://www.scottbader.com)