

# 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	0.039 – 0.984 in
Flash Point	91.4°F
Color Change (Over Cure)	None

- Geltime measured with 100g mass of adhesive at 77°C.
- Time taken at 73.4°C (ambient temperature) to achieve 203 Psi 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 68°F <sup>5</sup>	5 Months

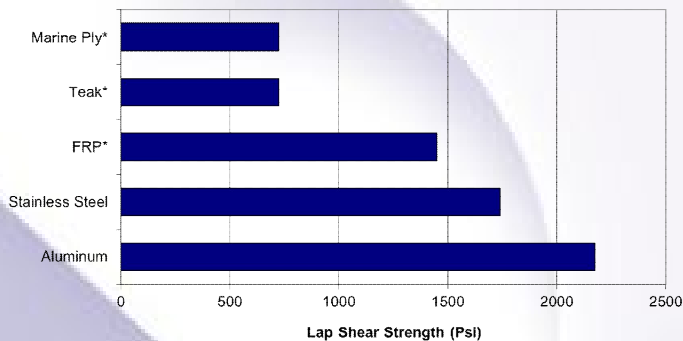
- Measured using Brookfield Viscometer at 77°F.
- Mix ratio based on volume and weight for both machine dispensing and hand mixing.
- Stability defined from date of manufacture when left un-opened in the original containers and stored out of direct sunlight.

### Typical Material Properties

Property	Typical Value	Test Method
Hardness	65 Shore D	BS EN ISO 868
Maximum Tensile Strength	3771 Psi	BS EN ISO 527-2
Tensile Modulus	195,800 – 210,304 Psi	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 (Psi)

Values are based on substrate failure where marked by \*

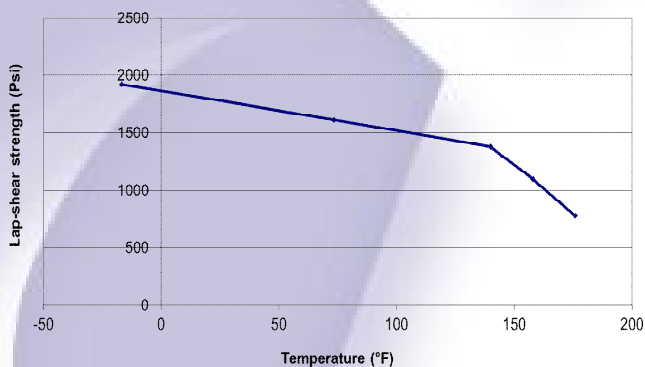


Material	Surface Preparation	Test Method
Marine Ply	Solvent Degrease	ISO 4587
Teak	Solvent Degrease	ISO 4587
FRP	Removal of Strippable Cloth	ISO 4587
Stainless Steel	Degrease, Abrade, Degrease	ISO 4587
Aluminum	P2 Acid Etch	ISO 4587

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

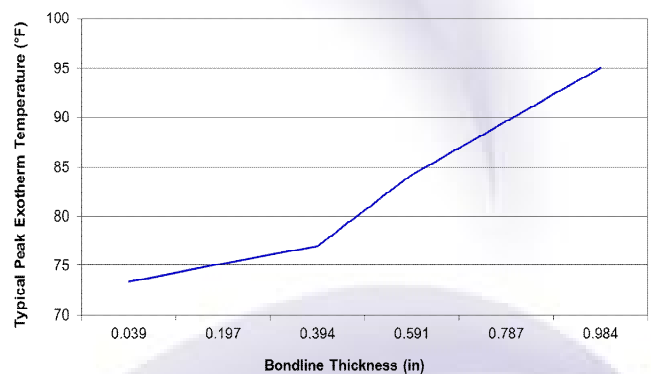
## Temperature Performance Lap Shear Testing

Tested to ASTM 3163 0.039in 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 0.984in 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 59°F. Recommended temperature range for application is between 64.4°F and 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 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 59°F and 68°F. Long term exposure above 73.4°F 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 95°F during shipping or storage.

**Packaging**

Crestomer 1152PA is supplied in 25Kg (55lbs) and 200Kg (441lbs) containers.

**Health and Safety**

See separate Material Safety Data Sheet.

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