



## Product Overview

Crestomer® 1186PA is a multi-purpose gap filling structural adhesive for a wide range of FRP applications. It is based on Scott Bader's unsaturated urethane acrylate technology and exhibits very good impact strength, toughness and resistance to crack propagation. Crestomer® 1186PA also shows outstanding adhesion to a wide range of metals, ceramics and polymeric materials and provides structural adhesion even when bonding FRP laminates with a 30mm thick bondline.

## Features and Benefits

Urethane acrylate base	▶	Excellent adhesion and high elongation at break
Highly thixotropic	▶	Non sagging on vertical surfaces
Colour change system	▶	Visual check for effective catalyst mix
Excellent fatigue and impact resistance	▶	Excellent fatigue and impact resistance

Application properties	
Working time <sup>1</sup>	50 minutes
Fixture time <sup>2</sup>	5.5 hours
Gap filling	1 – 30 mm/ 0.04 – 1.2 inch
Colour change (over cure)	Blue to Grey
Recommended application temperature	18°C - 25°C / 64°F - 77°F

Mechanical properties	
Tensile strength <sup>6</sup>	13 - 16 MPa
Tensile modulus <sup>6</sup>	700 - 900 MPa
Tensile elongation <sup>6</sup>	4 - 7%
Hardness	70 Shore D
Water Absorption <sup>7</sup>	0.43%
Volume Shrinkage on Cure	5%
Approvals	Lloyds

Liquid properties	
Product	1186PA
Viscosity <sup>3</sup>	480,000 – 600,000 cP
Specific gravity	1.30
Volatile Content	25%
Mixed ratio <sup>4</sup> (by volume)	50:1
Appearance	Blue paste
Shelf life <sup>5</sup>	6 months

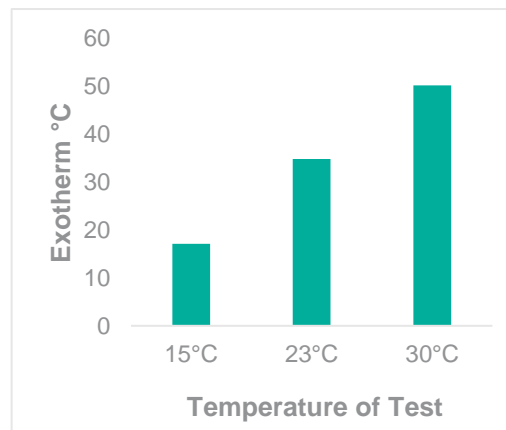
## Recommended Substrates

	Recommended substrates <sup>8</sup> (Lap shear / Cleavage strength MPa)
<b>Metals</b>	Stainless Steel <sup>9/11</sup> – 6 – 8 MPa Aluminium <sup>9/11</sup> 7 – 9 MPa
<b>Wood</b>	Marine ply <sup>10</sup> Balsa <sup>10</sup>
<b>Composites</b>	GRP/FRP <sup>11</sup> – 7 – 8 MPa Polyester resin DCPD <sup>11</sup> – 5 – 7 MPa Vinyl ester Epoxy
<b>Other</b>	PVC Foam <sup>10</sup> – 5 – 7 MPa PET Foam <sup>10</sup> – 7 – 10 MPa

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

## Exotherm of Crestomers<sup>®</sup>

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<sup>®</sup> adhesives ensures that high exotherm temperatures, a characteristic of some other adhesives, does not occur. The graph shows the exotherm temperatures of Crestomer<sup>®</sup> adhesives over a range of test temperatures.



## Surface preparation

Crestomer® 1186PA 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 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® 1186PA is supplied pre-accelerated. The required hardener is a medium reactivity MEKP catalyst. The catalyst is added at 2% v/w. Crestomer® 1186PA 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® 1186PA should be stored in its original container 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 container 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® 1186PA is supplied in 25Kg/ 55 lbs and 200Kg/ 440lbs containers.

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. 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. 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.		
6. Test to BS EN ISO 527-2		7. BS EN ISO 62
8. Metals test to ASTM D1002 for Lap Shear Strength, Composites and Marine Ply test to ASTM 5868 for Lap Shear Stength, Balsa/PVC Foam/PET Foam tested to ASTM D3807 for Cleavage Peel. All at 23°C (73°F)		
9. Adhesive Failure When Tested	10.Substrate Failure When Tested	11. Cohesive Failure When Tested

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