



Product Overview

Crestomer® 1196PA is a low density, structural gap-filling core adhesive for use in sandwich construction where requirement is for a strong, tough, highly impact-resistant structure. It is based on Scott Bader's innovative urethane acrylate technology and exhibits exceptional impact strength and toughness. Crestomer® 1196PA has been formulated to bond core materials such as rigid PVC foam and balsa to cured or semi-cured FRP skins. Using Crestomer® 1196PA gives a significantly tougher and more durable structural bond than a polyester resin/ glass structure or polyester bonding adhesive. In addition, Crestomer® 1196PA provides significant weight savings, reduced styrene emissions and greatly improved cosmetics with the elimination of core print through.

Features and Benefits

Urethane acrylate base



Excellent adhesion and high elongation at break

Low density adhesive



Reduced weight of end product

Reduced core print through



Improved aesthetics and end product

Highly thixotropic



Non sagging on vertical surfaces

Colour change system



Visual check for effective catalyst mix

Application properties	
Working time ¹	50 minutes
Fixture time ²	6.5 hours
Gap filling	1 – 30 mm/ 0.04 – 1.2 inch
Colour change (over cure)	Purple to Pink
Recommended application temperature	18°C - 25°C / 64°F - 77°F

Mechanical properties	
Tensile strength ⁶	19 - 22 MPa
Tensile modulus ⁶	1000 - 1500 MPa
Tensile elongation ⁶	4 - 7%
Hardness	69 Shore D
Water Absorption ⁷	1.72%
Approvals	Lloyds
Tensile Strength Balsa ⁸	10.2 MPa
Tensile Strength PVC Foam	6.3 MPa
Approvals	Lloyds, DNV.GL

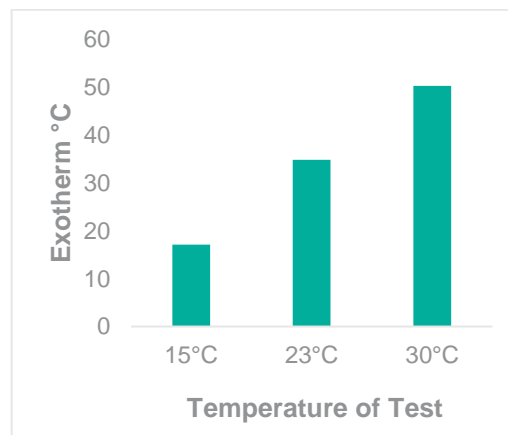
Liquid properties	
Product	1196PA
Viscosity ³	250,000 – 320,000 cP
Specific gravity	0.60
Volatile Content	45%
Mixed ratio ⁴ (by volume)	50:1
Appearance	Pink paste
Shelf life ⁵	6 months

Recommended Substrates

	Recommended substrates ⁹ (Lap shear / Cleavage strength MPa)	Non - recommended substrates
Metals	Stainless Steel ^{10/12} – 6 – 8 MPa Aluminium ^{10/12} 7 – 9 MPa	-
Wood	Marine ply ¹¹ Balsa ¹¹	-
Composites	GRP/FRP ¹² – 7 – 8 MPa Polyester resin DCPD ¹² – 5 – 7 MPa 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, does not occur. The graph shows the exotherm temperatures of Crestomer[®] adhesives over a range of test temperatures.



Core preparation

Priming the core material is essential. It ensures complete wetting of the core material and in the case of balsa, it also effectively seals the grain against potential cracking in the event of minor gelcoat or laminate damage. To prime the core, a light coat of catalysed resin should be evenly sprayed or rolled onto the core surface. The primer resin does not need to be cured before the core can be pushed onto the Crestomer® 1196PA. Crystic polyester resins such as 2.406PA, 414PA and 489PA can be used as the primer resin, although it is recommended that test panels of desired constructions are made to confirm performance.

Application

Crestomer® 1196PA is supplied pre-accelerated. The required hardener is a medium reactivity MEKP catalyst. The catalyst is added at 2% w/v. Crestomer® 1196PA can be applied with a spatula or from a dispensing unit capable of achieving a volumetric ratio of 92:1 taking care to keep air entrapment to a minimum. Care needs to be taken on the pressure settings to ensure that the microspheres within the adhesive are not crushed, which adversely affects the viscosity of the material. Application should always be carried out at temperatures above 15°C/ 59°F. The recommended temperature range is between 18°C and 25°C/ 66°F and 77°F.

After application, a saw cut toothed comb should be used to meter the adhesive into peaks. A comb with a 4-5mm edge will meter sufficient adhesive for most applications. Crestomer® 1196PA is designed to allow full penetration of the core with a simple consolidation roller used to remove air from laminates. Penetration can be further ensured by the use of a vacuum bag; typical pressures of 0.04 – 0.07 MPa (6-10lb/square inch) are sufficient to ensure good contact.

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.

Coverage

Coverage is variable depending on the laminate contour uniformity and core material thickness. For 10mm/ 0.4 inch thick square cut foam, an adhesive thickness of about 1.5mm/ 0.06 inch should give adequate bond thickness and cut penetration. For 20mm/ 0.8 inch thick core material, 2.5mm/ 0.1 inch adhesive thickness may be necessary.

Coverage	
Adhesive Thickness	Coverage
1.5mm	1.5 Litres (0.9kg)
2.5mm	2.5 Litres (1.5kg)

Storage and shelf life

Crestomer[®] 1196PA 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[®] 1196PA is supplied in 25Kg/ 55 lbs 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.		
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. Test to ASTM C297 / C97M
9. Metals test to ASTM D1002 for Lap Shear Strength, Composites and Marine Ply test to ASTM 5868 for Lap Shear Strength, Balsa tested to ASTM D3807 for Cleavage Peel. All at 23oC (73oF)		
10. Adhesive Failure When Tested	11. Substrate Failure When Tested	12. Cohesive Failure When Tested

© 2022 Scott Bader Company Limited, July 2022, Issue No. 1

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.