CRESTOMER®

Urethane Acrylate Structural Adhesives

1154PA

Technical Data Sheet



Product overview

Crestomer® 1154PA 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, 1154PA can also be used 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[1]	90 minutes
Fixture time[2]	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 / 66°F - 77°F

Mechanical properties	
Tensile strength[3]	22 - 25 MPa
Tensile modulus[3]	400 - 800 MPa
Tensile elongation[3]	100 - 120%
Hardness	65 Shore D
Water Absorption[4]	0.56%
Approvals	Lloyds

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Liquid properties	
Product	1154PA
Viscosity[5]	250,000 - 320,000 cP
Specific gravity	1.05
Volatile Content	47%
Appearance	Mauve gel
Shelf life	12 months

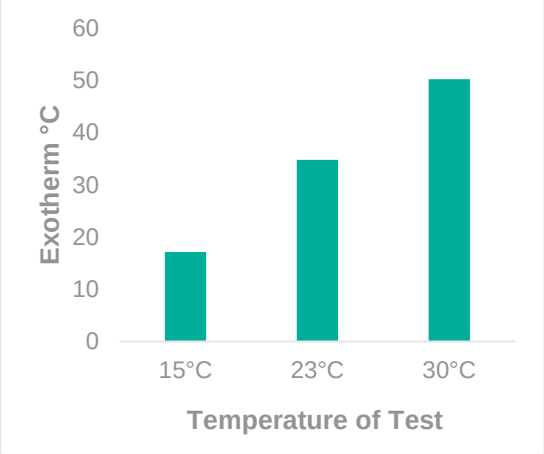
Recommended substrates

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Metals	Stainless Steel Aluminium
Wood	Marine ply Balsa
Composites	GRP/FRP Polyester resin DCPD Vinyl ester Epoxy

Please contact Scott Bader Technical Support for information 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 1154PA 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, clean cloth prior to bonding.

Application

Crestomer 1154PA is supplied pre-accelerated. The required hardener is a medium reactivity MEKP catalyst. The catalyst is added at 2% v/w. Crestomer 1154PA can be applied with a spatula or from a dispensing unit, taking care to keep air entrapment to a minimum. The maximum dimensions recommended are gap height 15mm/ 0.6 inch and joint width 40mm/ 1.6 inch. Bulk volumes of Crestomer 1154PA may lead to unsatisfactory cure and reduced mechanical performance. Application should always be carried out at temperatures above 15ºC/ 59ºF. Recommended temperature range for application is between 18ºC and 25ºC/ 64ºF and 77ºF.

Storage and shelf life

Crestomer 1154PA should be stored in its original container and out of direct sunlight. It is recommended that the storage temperature should be between 15ºC and 20ºC/ 59ºF and 68ºF. Ideally containers 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® 1154PA 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% BPO catalyst.
2. Time taken at 23°C / 73°F (ambient temperature) to achieve 1.4MPa strength in lap-shear tests according to BS ISO 4587:2003.
3. Tensile properties tested to BS EN ISO 527-2
4. Water absorption tested to BS EN ISO 62
5. Measured using Brookfield Viscometer at 25°C/ 77°F. 6. Test to ISO 458-7.

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