

CRESTOMER 1186PA

Structural Adhesive

Description

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 bond line.

Characteristics using 2% Butanox M50 Catalyst

Characteristics	Typical Value	Unit
Working Time/Geltime ¹	30	Minutes
Fixture Time ²	5:20	Hours
Gap Filling	1 - 30	mm
Flash Point	30	°C
Colour Change (over cure)	None	-

Physical Data – Uncured

Property	Value	Unit
Viscosity ³	480,000 – 600,000	cP
Specific Gravity	1.3 – 1.35	-
Volatile Content	21 – 26	%
Mix Ratio ⁴	50:1	w/v
Colour/Appearance	Grey Paste	-
Stability at 20°C ⁵	3	Months

Physical Data – Cured

Property	Typical Value	Unit	Test Method
Hardness	70	Shore D	BS EN ISO 868:2003
Maximum Tensile Strength	14	MPa	BS EN ISO 527-2:1996
Tensile Modulus	800	MPa	BS EN ISO 527-2:1996
Elongation at Break	6	%	BS EN ISO 527-2:1996
Water Absorption	0.43	%	BS EN ISO 62:1999
Volume Shrinkage on cure	5	%	ISO 3521:1997

Bond Joint Strength – Typical Lap Shear Strengths (MPa) ASTM D 5868-95⁶

	FRP	Marine Ply	Aluminium	Stainless Steel
FRP	9.8*	-	-	-
Marine Ply	-	4.8*	-	-
Aluminium	-	-	9.5	-
Stainless Steel	-	-	-	8.2

Values are based on substrate failure where marked by *

Approvals

Crestomer 1186PA has a Statement of Acceptance from Lloyd's Register of Shipping for use in the constructions of craft built under their survey.

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 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.

Application

Crestomer 1186PA is supplied pre-accelerated. The required hardener is Butanox M50 (or other equivalent MEKP catalyst). The catalyst is added at 2% w/v. Crestomer 1186PA can be applied with a spatula or from a dispensing unit, taking care to keep air entrapment to a minimum. 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 and 25°C.

Storage

Crestomer 1186PA should be stored in its original container and out of direct sunlight. It is recommended that the storage temperature should be between 15 and 20°C. Ideally, containers should be opened only immediately prior to use. Products should never be frozen.

Packaging

Crestomer 1186PA is supplied in 25 kg and 200 kg containers.

Health and Safety

See separate Material Safety Data Sheet

Notes

- 1 Gelttime measured with 100g mass of adhesive at 25°C with 2% Butanox M50.
- 2 Time taken at 23°C (ambient temperature) to achieve 1.4MPa strength in lap-shear tests according to ASTM D 5868-95⁶.
- 3 Measured using Brookfield Viscometer at 25°C.
- 4 Mix ratio based on weight/volume (1186PA/M50) for hand mixing. For machine mixing use 42:1 by volume.
- 5 Stability defined from date of dispatch when left un-opened in the original containers and out of direct sunlight.
- 6 Surface preparation methods vary between substrates; FRP - removal of strippable cloth; Marine-ply – dust-free and degrease; Aluminium – P2 etch; Steel - degrease, abrade and degrease.

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.

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