

# CRESTOMER<sup>®</sup> 1186PA

## Structural Adhesive

### Introduction

Crestomer 1186PA is a gap filling, structural adhesive based on an unsaturated urethane acrylate in styrene monomer. It bonds to a wide variety of substrates and has excellent impact resistance. Crestomer 1186A is a slower curing variant.

### Approvals

Crestomer 1186PA has Lloyd's Statement of Acceptance for craft built under their Survey.

### Product Characteristics

#### Formulation

Crestomer 1186PA is fully compounded and requires only the addition of Norox KP9 to cure it. Curing should not be carried out at temperatures below 15°C. The resin and workshop should both be at, or above, this temperature.

#### Pot Life

When Crestomer 1186PA is catalysed with 2% Norox KP9 it has a workable pot life of 40-50 minutes at 25°C.

Crestomer 1186A is catalysed with Benzoyl Peroxide paste or powder (eg. Benox L40LV at 2.5% or Benox C50 at 2%) and has a workable pot life of 120 mins at 25°C.

### Applications

Crestomer 1186PA has excellent adhesion to a wide range of metals, ceramics and polymeric materials. It is used in the marine and land transport industries where it allows the bonding of FRP (fibre reinforced polyester) modules with minimum mechanical fixing. It is superior to unsaturated polyester bonding pastes in adhesion, impact resistance and resistance to crack propagation. Crestomer 1186PA should be used wherever the primary requirement is for a strong, impact resistant bond and gap filling is a secondary, added advantage.

### Performance

The consistent strength and durability of adhesive bonds depends on many factors. These include:

- The condition of the surfaces to be bonded
- The accurate measurement and adequate mixing of the adhesive components
- The glue-line thickness
- The joint design
- The nature of applied stresses
- The operating environment.

The table below shows the Lap Shear Strengths of Crestomer 1186PA when tested in accordance with BS 4994. The bonds were post-cured for 24 hours at 20°C and 16 hours at 40°C as required by Lloyd's Register of Shipping.

| Substrates                                 | Lap Shear Strength |
|--|--------------------|
| M/G Stainless Steel to M/G stainless steel | 15 MPa             |
| M/G Aluminium to M/G Aluminium             | 13 MPa             |
| Copper to Copper                           | 11.5 MPa           |
| Galvanised steel to Galvanised steel       | 11.5 MPa           |
| FRP to FRP                                 | 9.5 Mpa            |

M/G = Marine Grade

In all cases the substrates were degreased with acetone, abraded with 100 grit wet-and-dry paper and then degreased with acetone again. All the tests showed cohesive failure, except for the FRP, where the failure occurred within the laminate.

### Typical Properties

Test methods as in BS2782 1980

| Property                                     |         | Liquid Resin |
|--|---------|--------------|
| Viscosity at 25°C                            |         | Non slumping |
| Volatile content                             | %       | 26           |
| Appearance                                   |         | Grey Paste   |
| Stability in the dark at 20°C                | months  | 3            |
| Geltime at 25°C (2% Norox <sup>®</sup> KP9 ) | minutes | 50           |
| <b>Cured Resin (unfilled casting)</b>        |         |              |
| Hardness                                     | Shore D | 70           |
| Ultimate Tensile Strength                    | MPa     | 14           |
| Initial Tensile Modulus                      | MPa     | 80           |
| Elongation at Break                          | %       | 6            |
| Volume shrinkage on cure                     | %       | 5            |

### Storage

Crestomer 1186PA should be stored in the dark in suitable, closed containers. It is recommended that the storage temperature should be less than 20°C where practical. Ideally, containers should be opened only immediately prior to use. Where they have to be stored outside, it is recommended that they are kept in a horizontal position to avoid the possible ingress of water.

### Packaging

Crestomer 1186PA is supplied in 25 kg and 225 kg containers.

### Health and Safety

See separate Material Safety Data Sheet

Technical Leaflet No 102.22SA  
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Before you use this information, kindly verify that this data sheet is the latest version.

All information is given in good faith but without warranty. We cannot accept responsibility or liability for any damage, loss or patent infringement resulting from the use of this information.

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