



# OPTIMAX<sup>®</sup>

Excellence in Engineering and Manufacturing Adhesives

TECHNICAL DATA SHEET

Revision number: 50211

Optimax 8085B/N

## Optimax 8085B/N Two-Component Polyurethane

### Description

Optimax 8085B/N is a two component, room temperature curing, black/neutral, odourless, thixotropic polyurethane adhesive specially designed for structural bonding of a wide range of materials including thermosetting and thermoplastic materials, steel, aluminium, concrete, wood and glass.

### Physical properties

Properties	Component A	Component B	Mixed
Chemical base	Polyol	MDI	Polyurethane
Cure mechanism	-	-	Polyaddition
Mixing ratio by volume	1,00	1,00	-
Mixing ratio by weight	0,89	1,00	-
Colour	Black/Natural	Amber	Black/Natural
Appearance	Liquid	Liquid	Thixotropic
Viscosity	5000 mPas	600 mPas	30000 mPas
Relative density	1,14	1,20	1,17
Application temperature	+10 / +30 °C	+10 / +30 °C	-
Flashpoint	>200 °C	230 °C	-
Vapour pressure	Very Low	0.000004 mmHg	-
Solubility in water	Insoluble	Insoluble	-
Shelf life	12 month	12 month	-

### Processing

The strength and durability of bonded joints are dependant on proper pre-treatment of the surfaces to be bonded. Surfaces to be bonded should be cleaned with a degreasing agent in order to remove all traces of dust, dirt, oil and grease.

Pre-treatment of thermoplastic materials such as PVC, polycarbonate, polypropylene, PMMA, etc., can be made using a mixture of light ethers or with iso-propanol. Use of strong solvents is not recommended due to the risk of damage to the plastic surface. Pre-treatment of other surfaces can be made using acetone or trichloroethylene. Petrol or other solvents should never be used. Where possible, carry out a mechanically abrading to remove paint from the surfaces (where necessary), this will also increase physical strength properties. Allow the pre-treated area to dry before applying the adhesive.

### Application

Optimax 8085B/N is available in a twin cartridge (side by side or coaxial), or in different size drums. A static mixer with a minimum of 16 elements should be used

A minimum 0.2 mm of bondline thickness should be used for maximum strength.

### Reaction

The speed of cure is mainly influenced by two factors: the application temperature and the bondline thickness. As the reaction is exothermic, speed decreases as bondline thickness and ambient temperature decreases. Materials with a high coefficient of thermal conductivity will tend to slow down the reaction. The maximum reaction temperature is reached with a 5mm bondline thickness and is always below 60°C.



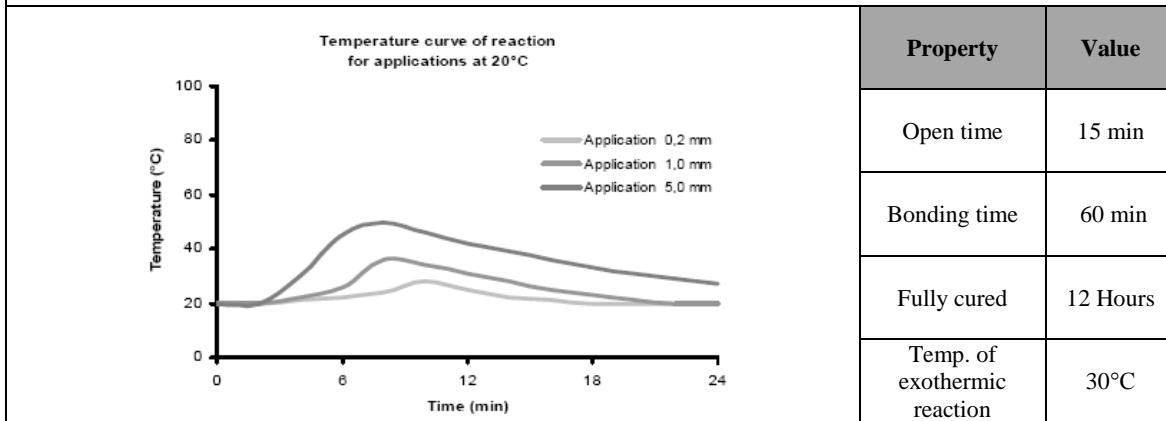
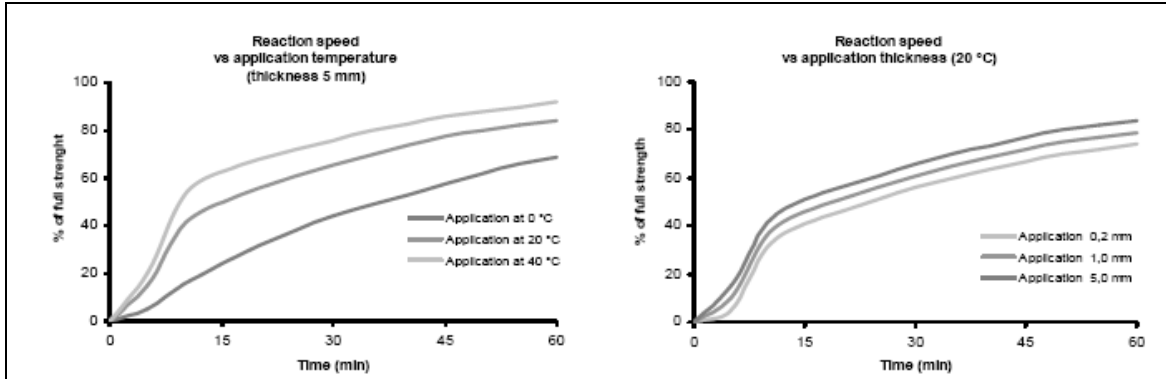
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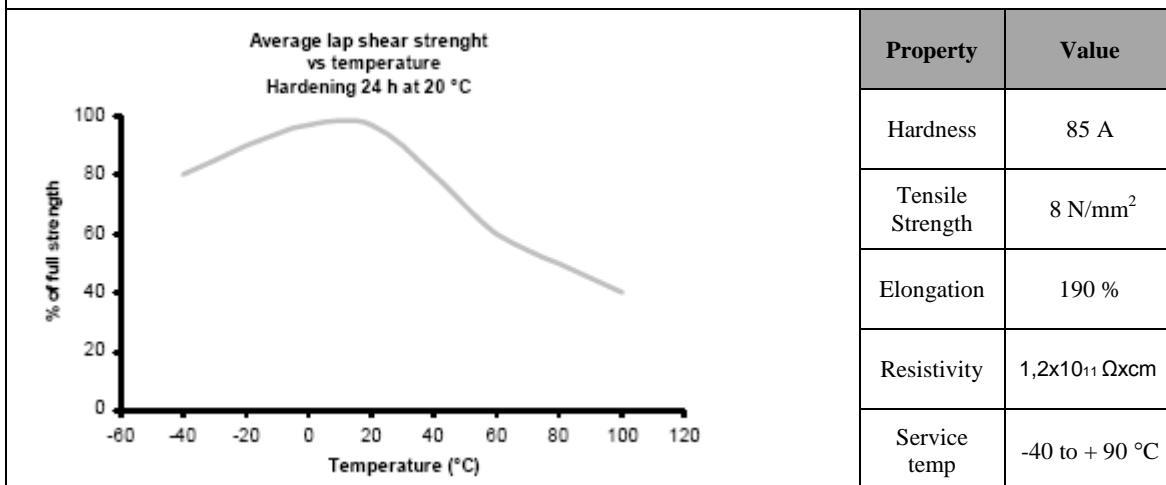
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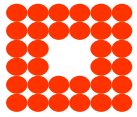
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### Characteristics of cured material

The below properties have been obtained through standard sample tests, by bonding and overlapping samples of different materials of dimensions 100 × 20 × 20 mm with an adhesion area of 20 × 20 mm. The values, obtained with standard methods on typical lots, are exclusively provided as technical information, and not as product specification. In any case, it will be up to the user to test the product for a specific application.





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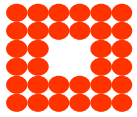
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<p style="text-align: center;"><b>Average lap shear strength (Nmm<sup>2</sup>) with various substrates</b></p> <table border="1"><thead><tr><th>Substrate</th><th>Average lap shear strength (Nmm<sup>2</sup>)</th></tr></thead><tbody><tr><td>Wood</td><td>~7.5</td></tr><tr><td>Glass</td><td>~6.0</td></tr><tr><td>Marble</td><td>~7.5</td></tr><tr><td>Concrete</td><td>~7.5</td></tr><tr><td>Brass</td><td>~4.0</td></tr><tr><td>Copper</td><td>~4.0</td></tr><tr><td>Steel</td><td>~6.0</td></tr><tr><td>Aluminium</td><td>~5.0</td></tr></tbody></table> <td data-bbox="1214 401 1386 978"><p>The tests have been conducted at 20°C on metal to metal joints, which have been hardened for 48 hours at 20°C. Pre-treatment has been made by sanding and degreasing with acetone.</p></td>	Substrate	Average lap shear strength (Nmm <sup>2</sup> )	Wood	~7.5	Glass	~6.0	Marble	~7.5	Concrete	~7.5	Brass	~4.0	Copper	~4.0	Steel	~6.0	Aluminium	~5.0	<p>The tests have been conducted at 20°C on metal to metal joints, which have been hardened for 48 hours at 20°C. Pre-treatment has been made by sanding and degreasing with acetone.</p>
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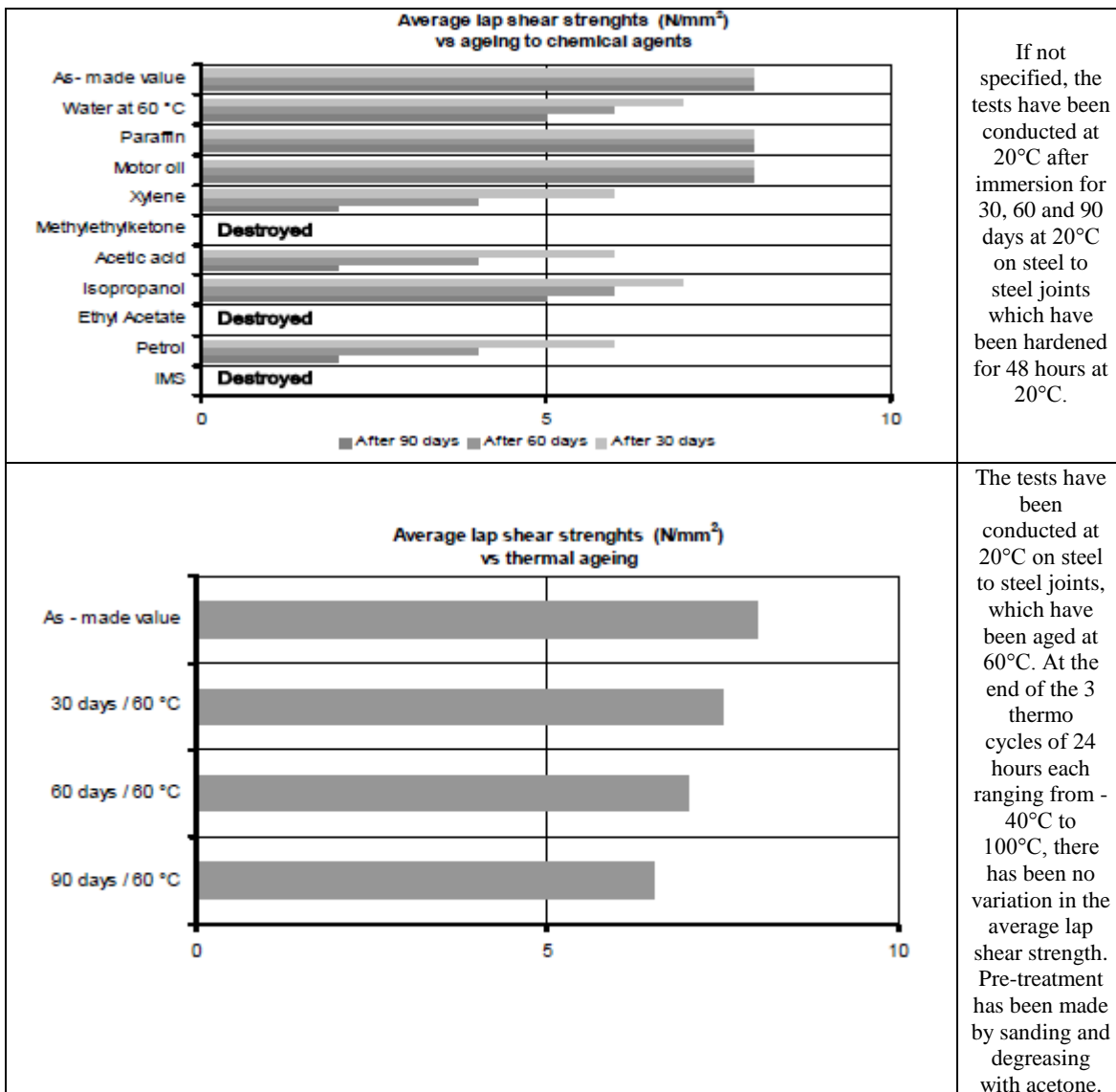
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**Storage**

Shelf life of 12 months from the initial production when stored in a cool and dry place, between +10°C and 25°C. Product expiry date is indicated on the label.

**Notes**

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