

**Product** Optimax® 8085 Two-Component Polyurethane

**Description** Optimax® 8085 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, aluminum, concrete, wood and glass.

**Application** Optimax® 8085 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 0.2mm of bondline thickness should be used for maximum strength.

**Physical Properties**

Properties	Component A	Component B	Mixed
Chemical base	Polyol	MDI	Polyurethane
Cure mechanism	-	-	Polyaddition
Mix ratio by volume	1,00	1,00	-
Mix ratio by weight	0,89	1,00	-
Colour	Black/Natural	Amber	Black/Natural
Appearance	Liquid	Liquid	Thixotropic
Viscosity	5000 mPas	6000 mPas	30000 mPas
Relative density	1,14	1,20	1,17
Application temperature	+10°C to +30°C	+10°C to +30°C	-
Flash Point	>200°C	230°C	-
Working time	-	-	15 mins.
Bonding time	-	-	60 mins.
Fully cured time	-	-	720 mins.
Temperature of exothermic reaction °C	-	-	30
Shore hardness	-	-	85A
Elongation %	-	-	190
Service temp. °C	-	-	-40 to +90
Tensile strength	-	-	8 N/mm <sup>2</sup>
Shelf life months	12	12	12

**Average Lap Shear Strength N/mm<sup>2</sup>**

Tests were conducted at 20°C on various substrates after bonding for 48 hours at 20°C.

Wood	8
Glass	6
Marble	8
Concrete	8

Brass	4
Copper	4
Steel	6
Aluminium	5

Tests were conducted at 20°C on plastic-to-plastic joints after bonding for 48 hours at 20°C. Abrading and degreasing pre-treatment was carried out with iso-propanol.

PVC	7
EPDM	2
Polyamide	7
PMMA	3
Polypropylene	2
ABS	5
Polycarbonate	7
SMC	7

#### Average Lap-Shear strength vs ageing to chemicals agents N/mm<sup>2</sup>

Tests were conducted at 20°C after immersion for 30, 60 and 90 days at 20°C on steel-to-steel joints which had been bonded for 48 hours at 20°C.

Days	30	60	90
As-produced value	8	8	8
Water at 60°C	7	6	5
Paraffin	8	8	8
Motor Oil	8	8	8
Xylene	6	4	2
Methyl ethyl ketone	Destroyed		
Acetic Acid	6	4	2
Isopropanol	7	6	5
Ethyl Acetate	Destroyed		
Petrol	6	4	2.5
IMS	Destroyed		

#### Average Lap-Shear strength vs thermal ageing N/mm<sup>2</sup>

Tests were conducted at 20°C on steel to steel joints which had been aged at 60°C. Following the three thermo cycles of 24 hours ranging from -40°C to 100°C, no variation appeared in the average lap shear strength. Sanding and degreasing pre-treatment was carried out with acetone.

As-produced value	7.5
30 days at 60°C	7
60 days at 60°C	6.5
90 days at 60°C	6

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<b>Reaction</b>	As the reaction is exothermic, the rate of cure will increase as mass size increases. Materials with a high coefficient of thermal conductivity will slow the rate of cure.
<b>Application</b>	<p>All surfaces should be clean and dust, dirt, oil and grease free. Strength and durability of bonded joints are dependent on proper pre-treatment of the surfaces to be bonded.</p> <p>Where appropriate some substrates may require a specialised cleaner, primer or mechanical abrading. Please contact us directly for further information.</p>
<b>Packaging</b>	Optimax® two-component polyurethane casting resins are available in multiple packaging options including 50ml, 200ml and 400ml cartridges. Bulk drums are available also for use with automated dispensing equipment.
<b>Storage</b>	Shelf life is 12 months from date of manufacture when stored in a cool and dry place, between +10°C and 25°C. Keep out of direct sunlight.
<b>Notes</b>	The information contained herein is produced in good faith and is believed to be reliable but is for guidance only. Novachem Corporation Ltd. and its agents cannot assume liability or responsibility for results obtained in the use of its product by persons whose methods are outside or beyond our control. It is the user's responsibility to determine the suitability of any of the products and methods of use or preparation prior to use mentioned in our literature and furthermore the user's responsibility to observe and adapt such precautions as may be advisable for the protection of personnel and property in the handling and use of any of our products.