

Advanced Materials

Structural Adhesives

Ureol[®] 1356 A/B

Two component polyurethane adhesive

For industrial applications

Key properties

- Room temperature curing
- Solvent free polyurethane adhesive
- Bonds a wide variety of materials

Description

Ureol[®] 1356 A/B is a multipurpose, two component, room temperature curing and a solvent free polyurethane adhesive.

It's suitable for bonding a wide variety of metals, wood, rubber, foams, plastics (except polyolefine) and fibreglass reinforced plastic GFK. It's an adhesive for most industrial applications.

Typical product data

	Ureol [®] 1356 A	Ureol [®] 1356 B	Mixed Adhesive
Colour (visual)	Brown liquid	Beige paste	
Chemical base	isocyanate	polyol	
Specific gravity (g/cm ³)	1.20 - 1.25	1.50 - 1.55	
Viscosity (mPas) at 20°C	ca 200	45,000 – 50,000	
Flash point (Pensky – Martens, °C)	207	190 - 200	
Pot Life - (100 gm at 23°C)	-	-	ca 40-50 min

Processing

Pretreatment

The strength and durability of a bonded joint are dependent on proper treatment of the surfaces to be bonded.

Mix ratio	Parts by weight	Parts by volume
Ureol [®] 1356 A	20	25
Ureol [®] 1356 B	100	100

Resin and hardener should be blended until they form a homogeneous mix.

Application of adhesive

The resin/hardener mix is applied with a spatula to the pretreated and dry joint surfaces.

The joint components should be assembled and clamped as soon as the adhesive has been applied.

An even contact pressure throughout the joint area will ensure optimum cure.

Typical curing times

The minimum curing time for light handling will depend on the temperature at which the adhesive is cured. The adhesive is designed to give a safe handling strength after a cure of 24 hours at 20°C. Full strength will be achieved after exposure to temperatures of 20°C during 5 days.

Cure temperature

	Minimum cure time	Proposed cure time
20°C	4 - 5 hours	24 h
40°C	60 min	4 h
60°C	35 min	45 min
80°C	15 min	20 min
100°C	10 min	10 min

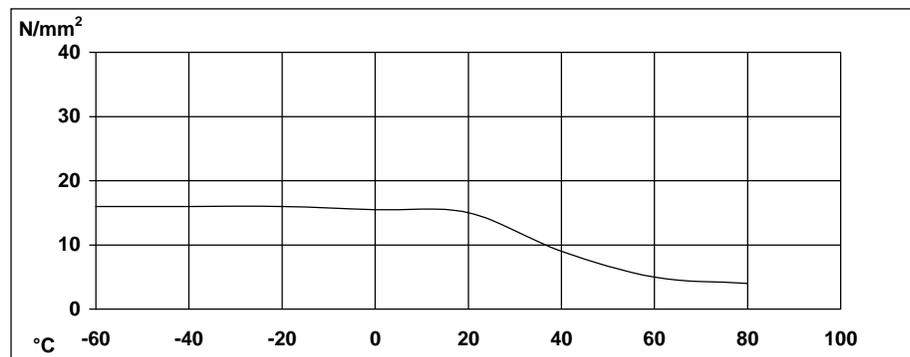
Typical cured properties

Unless otherwise stated, the figures given below were all determined by testing standard specimens made by lap-jointing 170 x 25 x 1.5 mm strips of aluminium alloy.

The figures were determined with typical production batches using standard testing methods. They are provided solely as technical information and do not constitute a product specification.

Lap shear strength variation vs. Temperature

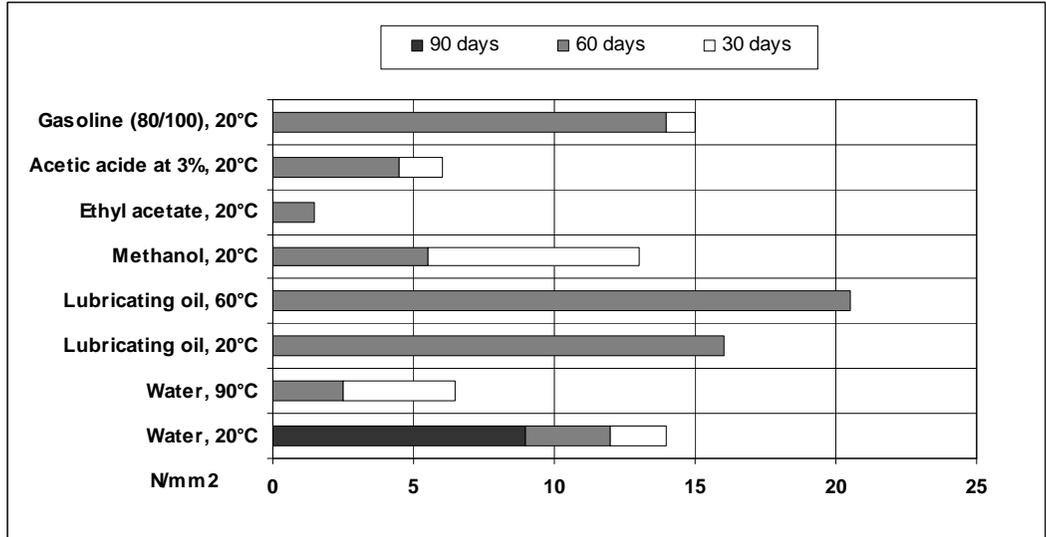
Cure = 4 hours at 40°C + 5 days at 20°C

**Lap shear strength variation vs. Temperature and Time**

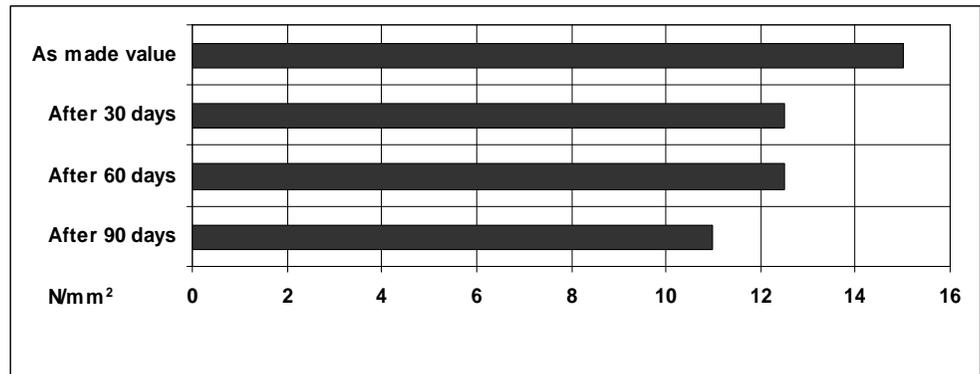
	Curing Time	Lap shear strength (N/mm ²)
20°C	5 hours	2 - 3
	24 hours	6 - 8
	5 days	14 - 16
40°C	1 hour	7 - 8
	4 hours	9 - 11
60°C	38 min	8 - 10
	1 hour	12 - 13
80°C	20 min	10 - 11
	1 hour	13 - 14
100°C	10 min	10 - 11
	30 min	12 - 14

Roller peel test 4-6 kp/cm

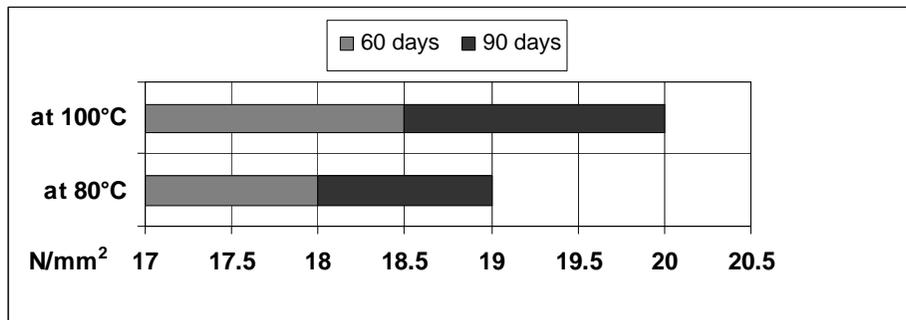
Lap shear strength versus immersion in various media (typical average values)
 Cure = 4 hours at 40°C + 5 days at 20°C



Lap shear strength versus tropical weathering
 (40/92, DIN 50015 ; typical average values)
 Cure = 4 hours at 40°C + 5 days at 20°C



Lap shear strength versus heat ageing
 Cure = 4 hours at 40°C + 5 days at 20°C



Storage

Ureol® 1356 A and Ureol® 1356 B may be stored at 18-20°C provided the components are stored in sealed containers. The expiry date is indicated on the label.

Keep containers in dry atmosphere, avoid to exposure the containers to the moisture and direct sources of heat.

Handling precautions**Caution**

Our products are generally quite harmless to handle provided that certain precautions normally taken when handling chemicals are observed. The uncured materials must not, for instance, be allowed to come into contact with foodstuffs or food utensils, and measures should be taken to prevent the uncured materials from coming in contact with the skin, since people with particularly sensitive skin may be affected. The wearing of impervious rubber or plastic gloves will normally be necessary; likewise the use of eye protection. The skin should be thoroughly cleansed at the end of each working period by washing with soap and warm water. The use of solvents is to be avoided. Disposable paper - not cloth towels - should be used to dry the skin. Adequate ventilation of the working area is recommended. These precautions are described in greater detail in the Material Safety Data sheets for the individual products and should be referred to for fuller information.

Note

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