



ROTAL ADHESIVES & CHEMICALS LTD.

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Technical Data Sheet RMB-2002

January 2010

PRODUCT DESCRIPTION

RMB-2002 provides the following product characteristics:

Chemical Type	Silyl-Terminated Polymer
Appearance (uncured)	Paste
Components	One part - requires no mixing
Viscosity	Paste
Cure	Atmospheric moisture
Application	Sealing and Bonding
Color	Transparent
Approvals	Food Industries

RMB-2002 is a high strength, high elongation adhesive used for elastic bonding and sealing on various substrates. It is a one component adhesive based on a MS polymer, which cures by reaction with moisture to an elastomeric thermoset neutral product. The skin formation and curing times are dependent on humidity, temperature, and joint depth. By increasing the exposure to moisture these times can be reduced. RMB-2002 is sag resistant and has a high initial tack. It is non-corrosive, free of solvents, isocyanates, silicones, PVC, and is odorless. PR-RMB-2002 demonstrates good adhesion to a wide variety of substrates and is compatible with suitable paint systems. It also demonstrates good UV resistance and can therefore be used for interior and exterior applications.

APPLICATIONS:

Assembly and sealing in manufacturing industry (coach building, metal assembly...).
Building industry applications include: skirting boards, profiles, insulation panels, decorative fixing... Assembly of natural stone and marble.
Excellent adhesion on aluminium, galvanised steel, copper, brass, stainless steel, zinc glass, PVC, epoxy, polyester, melamine, lacquered wood and most common construction materials (concrete, plaster, ceramic tiles)...
The product is neutral, so it can be used on corrosion sensitive materials and for sealing, bonding and securing components of electronic equipment to boards, including automotive and other electronic industry applications.

TYPICAL PROPERTIES OF UNCURED MATERIALS

Density, ISO 2811-1 @ 22 °C, g/ml 1.55
Flash Point - See MSDS
Consistency: Thixotropic

TYPICAL CURING PERFORMANCE

Under normal conditions, the atmospheric moisture initiates the curing process. The product develops functional strength in 24 hours and fully cures in 7 days.

TYPICAL PROPERTIES OF CURED MATERIAL

Cured for 3 days @ 22 °C / 50±5 % RH

Physical Properties:

Elongation, at break, ISO 527-3, % 400
Tensile Strength, ISO 527-3 N/mm² 2.5
Glass Transition Temperature (Tg) -45
, ISO 11357-2, °C
Volume change DIN EN ISO 10563 appr. 3%

Non-Volatile Content, ASTM D 2369, % 98
Shore Hardness, ISO 868, Durometer A 41±2

Skin forming 23°C 60%RH 3-5 min.

Modulus @ 100% (DIN 53504): 0.9 N/mm²
Elastic recovery (DIN 52455): >150%
Temperature resistance continuous -40°C/+80°C

(Tests at +200°C 10 minutes or +180°C, 30 minutes showed no destruction of the polymer)

Electrical Properties:

Dielectric Constant , IEC 60250:
1kHz 4.44
100 kHz 4.38
1 MHz 4.33
Surface Resistivity, IEC 60093, Ω 1.18×10¹⁴
Volume Resistivity, IEC 60093, Ω·cm 1.1×10¹²

TYPICAL PERFORMANCE OF CURED MATERIAL

Adhesive Properties

Cured for 21 days @ 22 °C

Lap Shear Strength, ISO 4587:

Steel (grit blasted) N/mm² 0.9
Stainless Steel N/mm² 1.1
Galvanized Steel N/mm² 0.70
Aluminum N/mm² 0.75

Zinc dichromate N/mm² 0.5
Wood (Pine) N/mm² 0.9
Glass N/mm² 1.1
Fiberglass N/mm² 0.8
Buna-N N/mm² 0.2

Block Shear Strength, ISO 13445:

Polycarbonate N/mm² 0.6
PVC N/mm² 0.7
ABS N/mm² 1.8

"T" Peel Strength, ISO 11339:

Aluminum N/mm 0.4
Impact Strength, ISO 9653, J:
Aluminum 2.8

Volume resistivity according to DIN 53482 Ω x cm 10¹⁵

Di-electric strength Kv/mm ASTM-D-149 17

WARNING: THIS MATERIAL IS SOLD FOR INDUSTRIAL USE ONLY

NOT FOR PRODUCT SPECIFICATIONS THE TECHNICAL DATA CONTAINED HEREIN ARE INTENDED AS REFERENCE ONLY.
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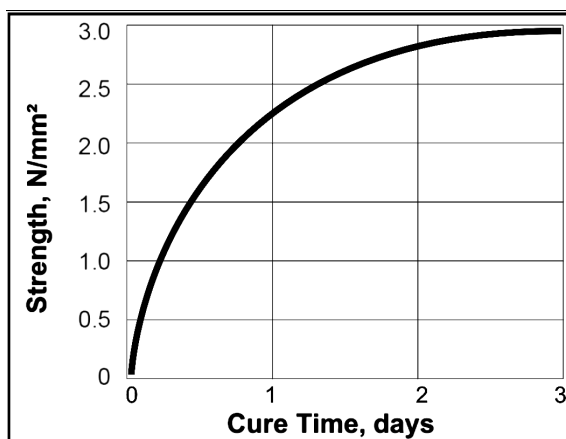
Skin Over Time

Skin over time is the time the surface of the adhesive forms a skin upon exposure to atmospheric moisture at 25 ± 2 °C, 60 RH.

Skin Over Time, minutes 3-5

Cure Speed vs. Time

The graph below shows the shear strength developed over time at 22 °C / 50 % RH on mild steel (grit blasted) and tested according to ISO 4587.



Depth of Cure

The depth of cure depends on temperature and humidity. Depth of cure was determined by filling a 12 mm deep cup and removing the cured film of material. The cured section of product is measured to determine depth of cure.

Depth of Cure

23°C 60% RH 24 Hrs approx. 3mm

GENERAL INFORMATION

This product is not recommended for use in pure oxygen and/or oxygen rich systems and should not be selected as a sealant for chlorine or other strong oxidizing materials

For safe handling information on this product, consult the Material Safety Data Sheet (MSDS).

Directions for use

1. For best performance bond surfaces should be clean and free from grease.
2. Moisture curing begins immediately after the product is exposed to the atmosphere, therefore parts to be assembled should be mated within a few minutes after the product is dispensed.
3. The bond should be allowed to cure (e.g. seven days), before subjecting to heavy service loads.
4. Excess material can be easily wiped away with non-polar solvents.

Storage

Store product in the unopened container in a dry location. Storage information may be indicated on the product container labeling.

Optimal Storage: 8 °C to 21 °C. Storage below 8 °C or greater than 28 °C can adversely affect product properties.

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