

Technical Data Sheet

technicoll® 9461

Viscoplastic, high viscous 2-component epoxy adhesive with a long pot life



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Special characteristics

- Long pot life for bonding of large-area surfaces
- High resistance to dynamic loading, humidity and different chemicals (oil, mixture of alkanes)
- Good electrical isolator

Handling data and product data

	technicoll® 9461 A	technicoll® 9461 B	product
Mixing ratio	100	100	
Volume	100	80	
Weight	1.2 g/cm ³	1.0 g/cm ³	1.1 g/cm ³
Density	approx. 110 Pas	approx. 12.5 Pas	approx. 30 Pas
Viscosity (+25 °C)	translucent	bright amber	bright amber
Colour	70 minutes		
Pot life (+25 °C) for 100 g	1 N/mm ² lap shear strength: 8 hours		
Curing time (+25 °C)	10 N/mm ² lap shear strength: 16 hours		
Processing temperature	+15 °C to +30 °C		
Consumption	150 - 250 g/m ²		
Way of application	one-sided		
Diluent	not possible		
Cleaning agent / material	technicoll® 8363		
	technicoll® 9901 (metal cleaning spray)		
	technicoll® 9902 (plastics cleaning spray)		
Cleaning agent / tool	technicoll® 8362, technicoll® 9901 (spray)		
Cleaning	Cured adhesive can only be removed mechanically.		
Maximum time of storage	At least 18 months when stored in sealed original packaging in cool and dry places.		
Preferred storage temperature	+10 °C to +25 °C		
Behaviour at low temperature	Not susceptible to frost. Densification at low temperature. Once adjusted to processing temperature: fully employable.		

Favoured substrates

- metals
- ceramics, stone, concrete
- rubber
- thermosets (e.g. FRP, SMC)
- rigid foams
- derived timber products
- phenoplastics (HPL)

Not suitable for: PE, PP, PTFE (Teflon®), POM, silicone, EPDM, PVC-p (faux leather)

Due to the large variety of possible materials and differences in adhesion behaviour hazard tests are mandatory before introducing the adhesive into the actual production process.

Physical properties of cured adhesive

Shore hardness D 1	75
Shear strength	24 MPa
Elongation at rupture	24 %
Glass transition temperature T_g	55 °C
Coefficient of thermal expansion (CTE)	140 $10^{-6} K^{-1}$ (from 20 °C to 50 °C)
Temperature range (depending on substrate and mechanical load)	approx. -40 °C to +80 °C

Curing 8 h at +80 °C and 48 h at room temperature

Surface preparation

Bonding surfaces must be dry and clean, especially free of oil, grease or release agents. In many cases, surface roughening prior to bonding improves strength of bonded joint. It is recommended when working with rubber and metals.

Adhesion

Position cartridge into the bracket of an adequate dispensing gun, lock it and remove cap. Expel a small amount of the adhesive to make sure that both components flow freely. Attach mixing nozzle and lock it. Apply adhesive in a thin bead, drop or film on the surfaces to be bonded. The joint components should be assembled and clamped within the pot time.

The final bonding strength is achieved after approx. 7 days!

Curing

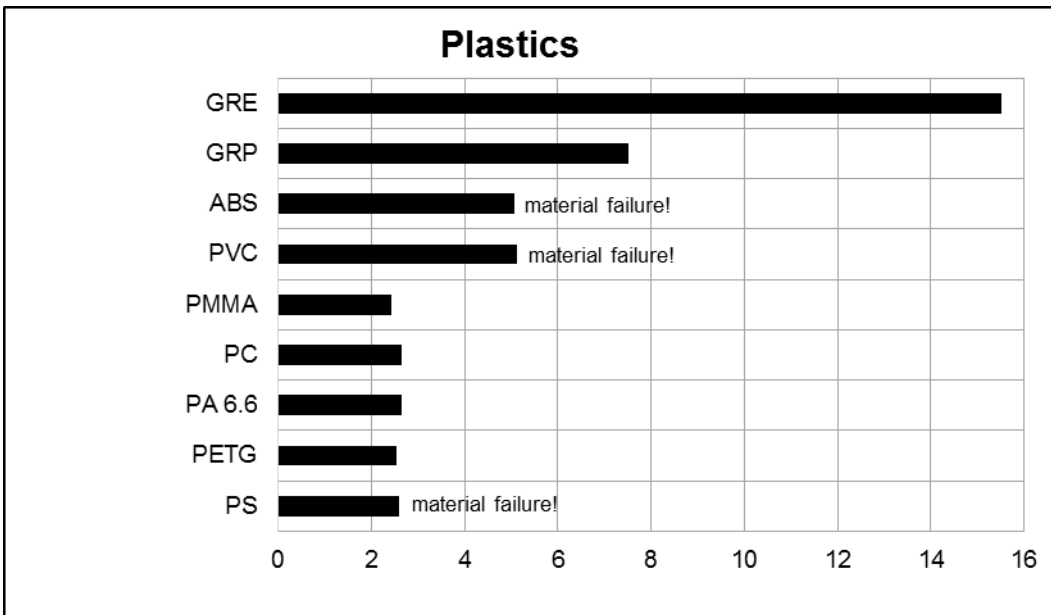
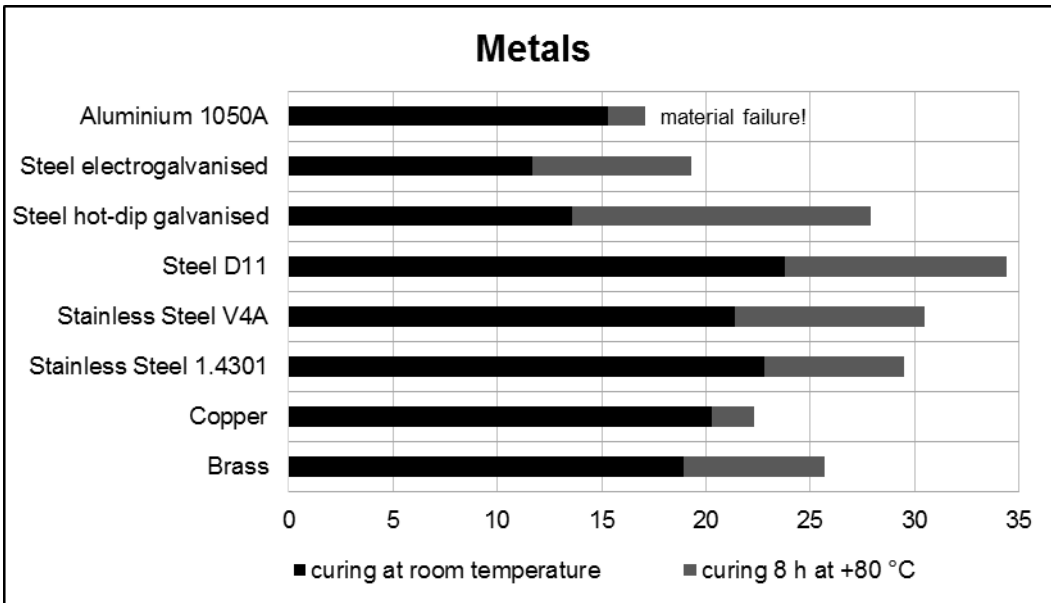
A lap shear strength of 1 N/mm² at +25 °C is achieved after 7 hours and 50 % of the final strength is achieved at +25 °C after 16 hours! Curing speed can be increased by heat.



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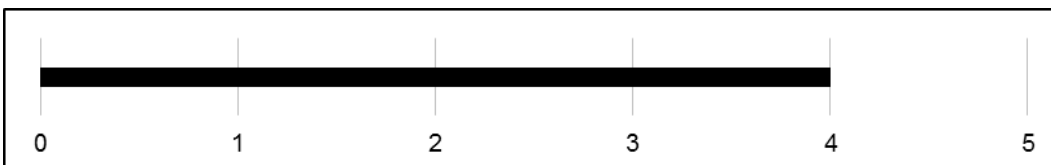
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Lap shear strengths [N/mm²] according to DIN 1465 (average value)



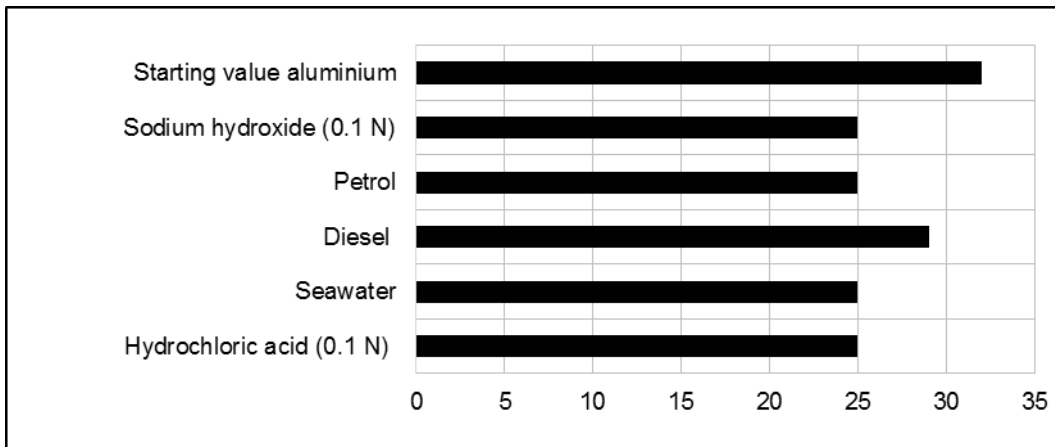
Pre-treatment: test specimens cleaned, metals sand blasted. Plastics and galvanised metals lightly roughened
 Tested at room temperature.

Roller peel test (aluminium 2017A) [kN/m] (average value)



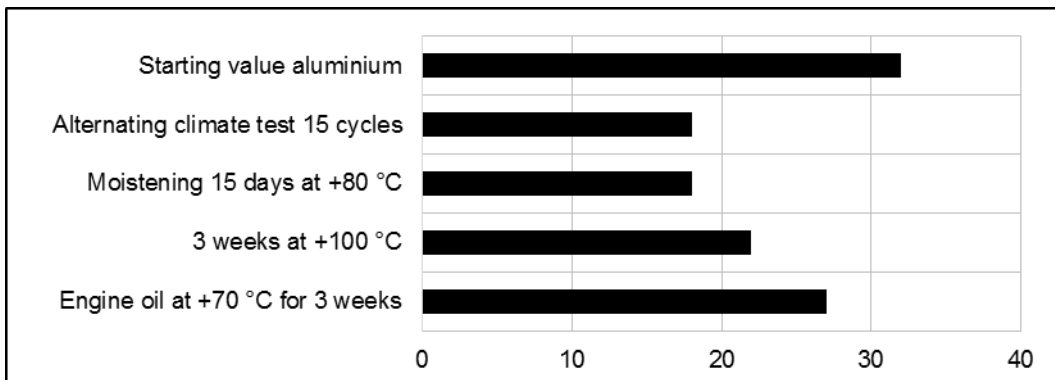
Curing 8 h at +80 °C and 48 h at room temperature

Lap shear strengths [N/mm²] after ageing 3 weeks (average value)



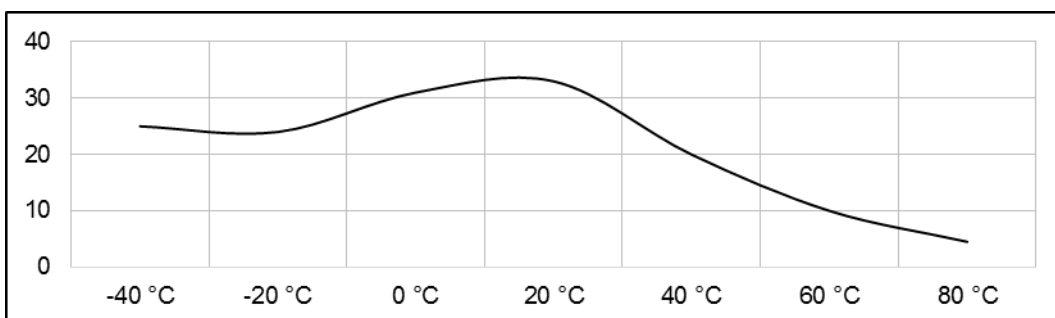
Pre-treatment: aluminium 2017A cleaned, etched. Tested at room temperature.

Lap shear strengths [N/mm²] after ageing (average value)



Pre-treatment: aluminium 2017A cleaned, etched. Tested at room temperature.

Lap shear strengths [N/mm²] vs. temperature (average value)



Pre-treatment: aluminium 2017A cleaned, etched.

Technical status: 22.12.2015

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Deviating information of earlier versions is invalid.

Special notice:

All information given on this data sheet is based on our knowledge and experience at the time of printing. The information is not binding. We advise to determine the suitability of our products with respect to their intended use and method of application. Therefore, a warranty claim cannot be granted.