FINIXA
paint processing products

TDS
TECHNICAL DATA SHEET

TECHNICAL SHEET
IAG - Finixa instant adhesive gel - 20gr

Description

Chemical Type	Ethyl cyanoacrylate
Appearance (uncured)	Transparent, colorless to straw colored liquid[LMS]
Components	One part - requires no mixing
Viscosity	Low
Cure	Humidity
Application	Bonding
Key Substrates	Plastics and Rubbers

SCC provides enhanced performance on EPDM and other elastomers.

Typical properties of uncured materials

Specific Gravity @ 25 °C	1.05
Viscosity, Cone & Plate, mPa·s (cP):	
Temperature: 25 °C, Shear Rate: 3,000 s-1	70 to 110LMS
Viscosity, Brookfield - LVF, 25 °C, mPa·s (cP):	
Spindle 1, speed 30 rpm	95 to 125
Vapour Pressure, hPa	<1
Flash Point - See SDS	

Typical curing performance

Under normal conditions, the atmospheric moisture initiates the curing process. Although full functional strength is developed in a relatively short time, curing continues for at least 24 hours before full chemical/solvent resistance is developed.

Cure Speed vs. Substrate

The rate of cure will depend on the substrate used. The table below shows the fixture time achieved on different materials at 22 °C / 50 % relative humidity. This is defined as the time to develop a shear strength of 0.1 N/mm².

Fixture Time, ISO 4587, seconds:	
Mild Steel (degreased)	15 to 30
Aluminum (degreased)	2 to 10
Zinc Dichromate	30 to 90
Neoprene	<5
Rubber, Nitrile	<5
ABS	2 to 10
PVC	2 to 10
Polycarbonate	15 to 50
Phenolic	5 to 15

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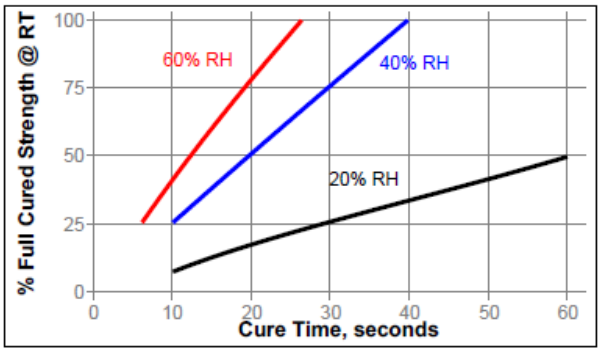
Cure Speed vs. Bond Gap

The rate of cure will depend on the bondline gap. Thin bond lines result in high cure speeds, increasing the bond gap will decrease the rate of cure.

Cure Speed vs. Humidity

The rate of cure will depend on the ambient relative humidity.
The following graph shows the tensile strength developed with time on Buna N rubber at different levels of humidity.



Cure Speed vs. Activator

Where cure speed is unacceptably long due to large gaps, applying activator to the surface will improve cure speed. However, this can reduce ultimate strength of the bond and therefore testing is recommended to confirm effect.

Typical properties of cured material

After 24 hours @ 22 °C
Physical Properties:

Coefficient of Thermal Expansion, ASTM D 696, K-1	100×10-6
Coefficient of Thermal Conductivity, ASTM C 177,	0.10
W/(m·K)	
Softening Point, °C	165

Electrical Properties:

Dielectric Constant / Dissipation Factor, ASTM D 150:	
0.10-kHz	2 to 3.30 / <0.02
1-kHz	2 to 3.50 / <0.02
10-kHz	2 to 3.50 / <0.02
Volume Resistivity, ASTM D 257, Ω·cm	10×10^{15}
Surface Resistivity, ASTM D 257, Ω	10×10^{15}
Dielectric Breakdown Strength, ASTM D 149, kV/mm	25

Typical performance of cured material

Adhesive Properties

After 24 hours @ 22 °C
Lap Shear Strength, ISO 4587:

Steel (grit blasted)	N/mm² 18 to 26 (psi) (2,610 to 3,770)
Aluminum (grit blasted)	N/mm² 11 to 19 (psi) (1,595 to 2,755)
Zinc Dichromate	N/mm² 6 to 14 (psi) (870 to 2,030)
ABS	N/mm² 6 to 20 (psi) (870 to 2,900)
PVC N/mm²	6 to 20 (psi) (870 to 2,900)

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Polycarbonate	N/mm² 5 to 20 (psi) (725 to 2,900)
Phenolic	N/mm² 5 to 15 (psi) (725 to 2,175)
Neoprene	N/mm² 5 to 15 (psi) (725 to 2,175)
Nitrile N/mm²	5 to 15 (psi) (725 to 2,175)

Tensile Strength, ISO 6922:

Steel (grit blasted)	N/mm² 12 to 25 (psi) (1,740 to 3,625)
Buna-N (psi) (725 to 2,175)	N/mm² 5 to 15

"T" Peel Strength, ISO 11339:

Steel (degreased)	N/mm <0.50 (lb/in) (<2.80)

After 10 seconds @ 22 °C
Tensile Strength, ISO 6922:

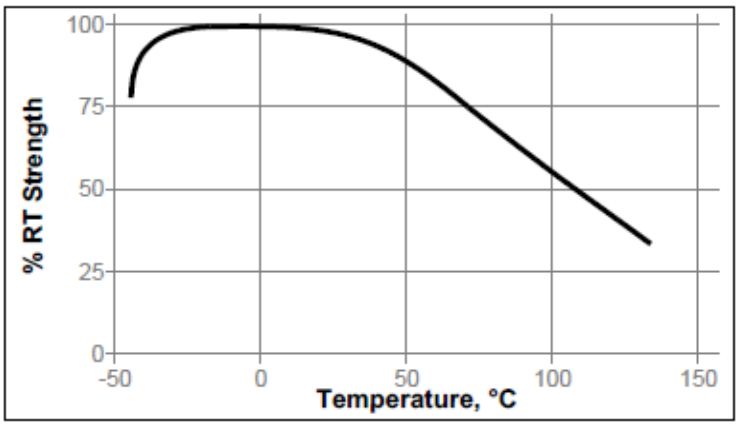
Buna-N	N/mm² ≥6.90LMS (psi) (≥1,000)

Typical environmental resistance

Cured for 1 week @ 22 °C
Lap Shear Strength, ISO 4587:
Mild Steel (grit blasted)

Hot Strength

Tested at temperature



Heat Aging

Aged at temperature indicated and tested @ 22 °C

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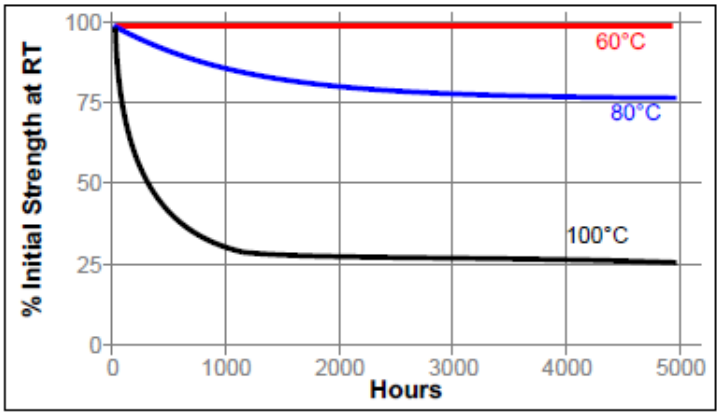

Chemical/Solvent Resistance

Aged under conditions indicated and tested @ 22 °C.

		% of initial strength		
Environment	**°C**	**100 hr**	**500 hr**	**1000 hr**
Motor Oil	40	100	100	95
Gasoline	22	100	100	100
Isopropanol	22	100	100	100
Ethanol	22	100	100	100
Freon TA	22	100	100	100
1,1,1 Trichloroethane	22	100	100	100
Heat/Humidity 95% RH	40	80	75	65
Heat/Humidity 95% RH on Polycarbonate	40	100	100	100

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 Safety Data Sheet.

Directions for use

1. For best performance bond surfaces should be clean and free from grease.
2. This product performs best in thin bond gaps (0.05 mm).
3. Excess adhesive can be dissolved with cleanup solvents, nitromethane or acetone.

Storage

Store product in the unopened container in a dry location.
Storage information may be indicated on the product container labeling.
Optimal Storage: 2 °C to 8 °C. Storage below 2 °C or greater than 8 °C can adversely affect product properties.
Material removed from containers may be contaminated during use. Do not return product to the original container.

Conversions

(°C x 1.8) + 32 = °F
kV/mm x 25.4 = V/mil
mm / 25.4 = inches
N x 0.225 = lb
N/mm x 5.71 = lb/in
N/mm² x 145 = psi
MPa x 145 = psi

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N·m x 8.851 = lb.in
N·mm x 0.142 = oz.in
mPa·s = cP

The above information is given in good faith, but the user should assure himself that the performance of the product is sufficient for his application. The quoted values are average and should not be taken as maximum or minimum values for specific purposes. Chemicar Europe cannot be held responsible for product failure unless full testing has been carried out. The client has to decide on the products suitability for their own applications.

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