

## PRODUCT DESCRIPTION

**CH-54** is a single-component, cold setting cyanoacrylic adhesive, which does not comprise solvents. The glue cures under the influence of humidity contained in the air. It is GEL consistency.

## TYPICAL APPLICATIONS

CH-54 bonds metals, plastics, rubbers and elastomers.

Recommended for use on vertical and absorptive surfaces, eg. textiles, cardboard, wood; tixotropic; cures when is low humidity.

## PRODUCT PROPERTIES

Main component	cyanoethyl acrylate
Consistency	gel
Density [g/cm <sup>3</sup> ] at 25°C	1.10
Colour	colourless
Flash point [°C]	> 80

## COURSES OF GLUE SETTING

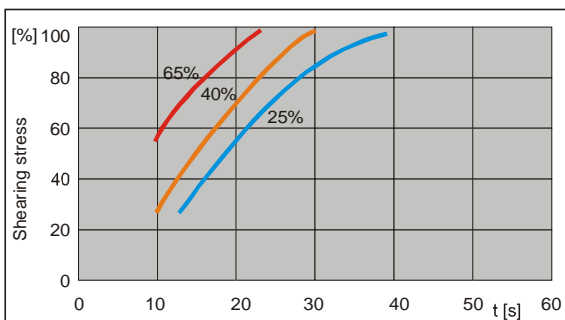
### Setting velocity vs. joint gap width

Setting velocity depends on the gap width. Decrease of the distance between cemented surfaces makes setting faster, and the other way round.

The further quoted results relate to 0.05 mm gap.

### Setting velocity vs. humidity

The graph shows the rise of shear stress vs. time at various air relative humidity values. Tests were performed according to DIN 53283 using Buna N rubber.



### Setting velocity vs. bonded material

Glue setting time depends on the nature of the material being joined. The setting time shown in the table is defined for the time required to obtain the shear strength of 0.1 MPa. The test was performed at 22°C ambient temperature, and 50% air relative humidity.

Bonded material	Setting time [s]
Steel	5-25
Aluminium	2-10
PVC	2-10
ABS	5-10
Nitrile rubber	5
Wood hard	60-150
Leather	5-20
Paper	1-5
Textiles	2-25
Polycarbonate	10-45

## PHYSICAL PROPERTIES OF CURED PRODUCT

Thermal expansion factor [1/K]	ca. $8 \times 10^{-5}$
Thermal conductivity factor [W/(m K)]	ca. 0.1

## STRENGTH PARAMETERS

Value of stress shearing the joint

(acc. to DIN 53283)	[MPa]
Steel	15-25
Aluminium	10-20
PVC	5-20
ABS	5-20
Nitrile rubber	5-15
Polycarbonate	5-20

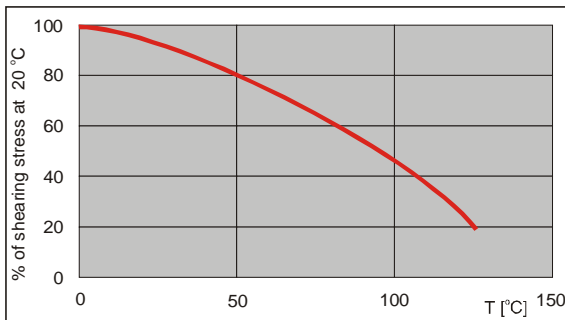
The above parameters have been determined after 24-hour curing at the temperature of 22°C, using tiles from the given material, and of dimensions conforming to the a/m standard.

## TEMPERATURE RESISTANCE

Tests were made after 168 hours of curing at 22°C.

### Shear stress vs. temperature

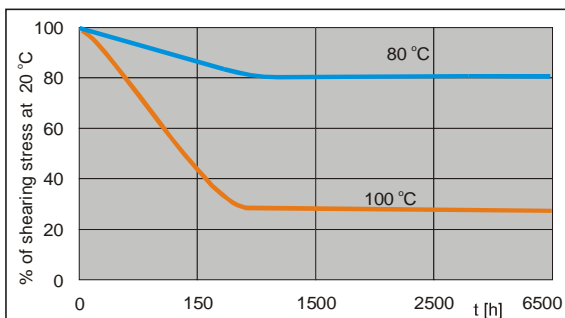
The graph shows the change of shear stress at stretching vs. temperature. The tests were made basing on DIN 53283, using steel tiles. The stresses were measured at the given temperature.



Axis of ordinates: % of shear stress in 20°C

### Shear stress vs. time in increased temperature (thermal ageing)

The graph shows the change of shear stress at stretching vs. time for various temperatures. The tests were made basing on DIN 53283, using steel tiles. The stresses were measured at the temperature of 22°C.





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## Technical Data Sheet

Chester  
Molecular

# CH-54

Product Development Department

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### CHEMICAL RESISTANCE

Tests were made after 168 hours of curing at 22°C. Stress measurements were taken at the temperature of 22°C.

Medium	°C	% of initial strength		
		100 h	500 h	1000 h
Petrol	20	100	100	100
Engine oil	40	90	85	75
Isopropanol	20	100	100	100
Ethanol	20	100	100	100
Freon	20	100	100	100
Air relative humidity: 95%	40	65	50	50

### ADDITIONAL INFORMATION

#### Storing

The glue must be kept in original containers, in dry and cool rooms. Recommended storing temperature ranges from +2°C to +8°C. Storing at temperatures higher or lower than those stated above may adversely influence the glue properties. Glue in its container must be protected against any contamination.

#### Instructions for use

Elements to be joined must be dry, clean, and degreased. Glue should be applied directly from the packaging (bottle) fitted with an applicator tip, only onto one of the joined surfaces, and the elements must be pressed together immediately. In case of joining larger areas, use point glue application technique. If the glue setting time caused by acid surface ( $\text{pH} < 7$ ), low air humidity, or large gap, is not satisfactory, use Chester Molecular CH-3 activator.