

**PRODUCT DESCRIPTION**

CH-10 is a single-component, ambient temperature cured cyanoacrylate adhesive, free from solvents. The curing of the adhesive is caused by the moisture in the air, which condenses on the glued parts

**APPLICATIONS**

CH-10 glues metals, plastics, rubbers and elastomers. It is characterized by high viscosity. It is resistant to high temperature, vibrations and high relative air humidity.

**PROPERTIES**

Chemical type	Ethyl cyanoacrylate
Form	liquid
Density [g/cm <sup>3</sup> ] w 25 °C	1,10
Colour	black
Flash point [°C]	> 80
Viscosity [mPa s] AT 25 °C spindle 2 (acc.to DIN 54453)	2700-3900

**CURING PERFORMANCE**

**Cure speed vs. bond gap**

The rate of cure depends on the gap size. Thin bond gap results in high cure speeds, increasing the bond gap decreases the rate of cure.

The following results refer to a 0,05mm gap.

**Cure speed vs. substrate**

The rate of cure depends 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 obtain a shear strength of 0,1 N/mm<sup>2</sup>.

Bonded material	Setting time [s]
Steel	50-120
Aluminium	10-40
PVC	35-100
ABS	20-50
Nutril rubber	10-30
Polycarbonate	20-90

**PHISICAL PROPERTIES OF CURED PRODUCT**

Thermal expansion factor [1/K]	ca. $9 \times 10^{-5}$
Thermal conductivity factor [W/(m K)]	ac. 0,1

**STRENGHT PARAMETRS**

Value of stress shearing the joint (acc. to DIN 53283) [MPa]

Steel	18-22
Aluminium	10-20
PVC	10-20
ABS	5-10
Nitrile rubber	10-15
Polycarbonate	5-15

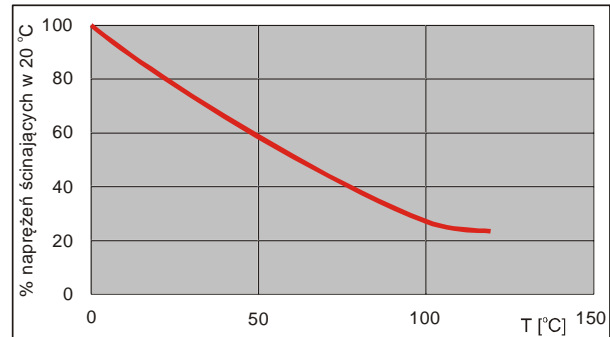
The above-mentioned parameters were determined after 24 h curing at the temperature of 22 °C tiles made of a given material with dimensions in accordance with the above-mentioned standard.

**TEMPERATURE RESISTANCE**

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

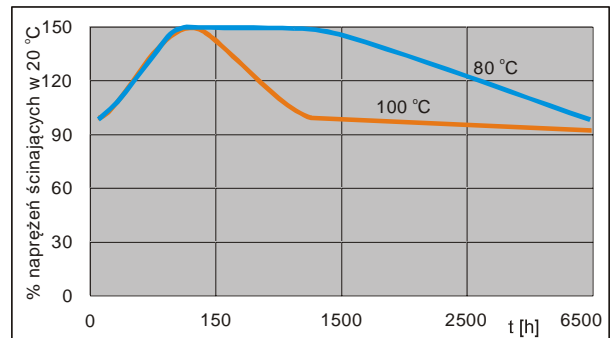
**Shear stress vs. temperature**

The graph shows the change of shear stress in tension as a function of temperature. Tested according to DIN 53283 standard with the use of steel plates at temperature.



**Shear stress as a function of time at elevated temperatures (Heat Aging)**

The graph shows the change of shear stress as a function of time at various temperatures.. The tests were carried out according to DIN 53283, using steel tiles. Parts are aged at temperature indicated and tested at 22oC



**CHEMICAL RESISTANCE**

The tests were carried out after 168h curing at 22°C . Tested at 22°C.

	°C	% of initial strenght		
		100h	500h	1000h
Medium				
Petrol	20	85	80	80
Engine oil	40	90	85	85
Isopropanol	20	75	75	75
Ethanol	20	90	90	90
Freon	20	90	85	85
Air relative humidity 95%	40	100	100	100

## OTHER INFORMATION

### Storage

Product should be stored in closed 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 (pH < 7), low air humidity, or large gap, is not satisfactory, use Chester Molecular CH-2 activator.