

PRODUCT DESCRIPTION

Anaerobic adhesive C-12 is a single component adhesive, which contains acrylic and methacrylic esters, organic peroxides.

The product cures when deprived of contact with oxygen in the presence of metal ions.

APPLICATION

- Sealing of threaded and fitted connections
- Securing against loosening and corrosion of highly loaded threaded connections
- Securing studs-bolts
- Assembling bearings

PROPERTIES

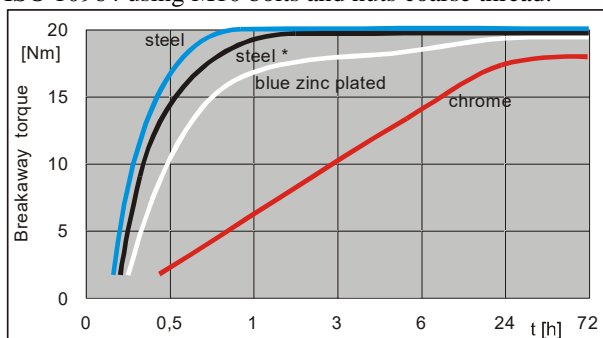
- Form liquid
- Density [g/cm³] at 25 °C 1,12
- Colour red
- Viscosity [MPa] at 25 °C 1200 ÷ 2400 [spindle 3 (DIN 54453)]

TYPICAL CURING PERFORMANCE

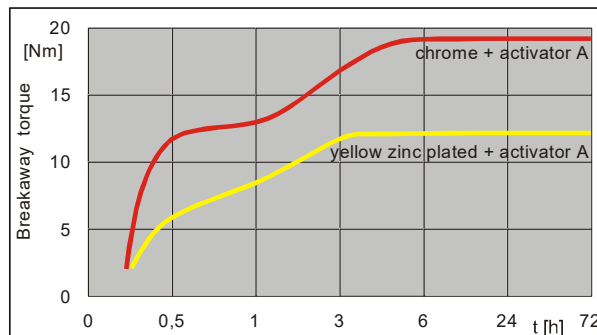
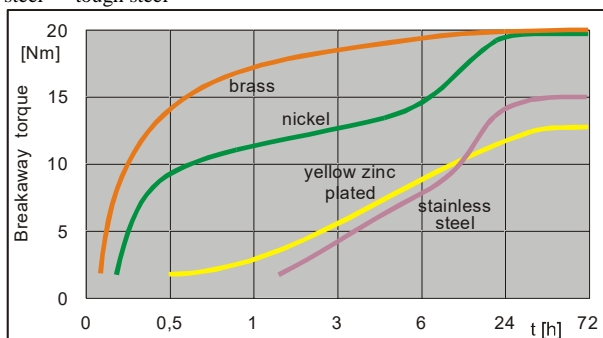
Cure speed vs. substrate

The graphs show the increase in breaking torque screw connection as a function of time for different types of substrate. The tests were performed in accordance with the standard

ISO 10964 using M10 bolts and nuts coarse thread.

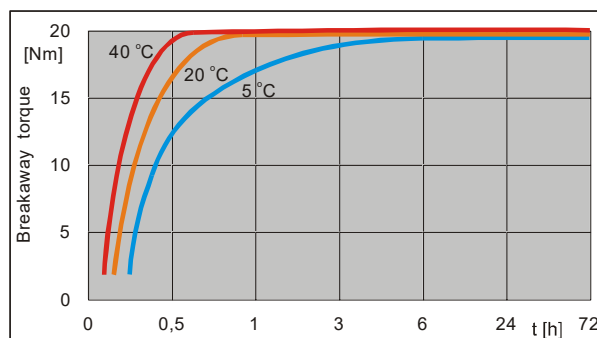


steel* – tough steel



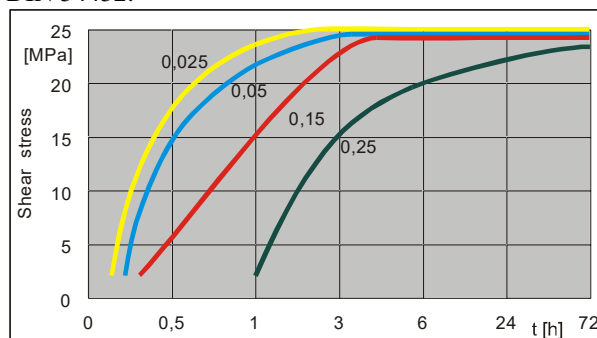
Cure speed vs. temperature

The graph shows the increase in the breaking torque of threaded connection as a function of time for different ambient temperature values. The tests were carried out in accordance with to ISO 10964 using M10 bolts and nuts coarse thread



Cure speed vs. bond gap

The graph shows the increase in compression shear stress as a function of time for different size of bond gap. The tests were carried out in accordance with to DIN 54452.



Cure speed on aluminum vs. bolt material

The graph below shows the increase in breakaway torque as a function of time for different bolt materials. Developed on M10 coarse thread bolts and tapped holes in aluminum alloy.

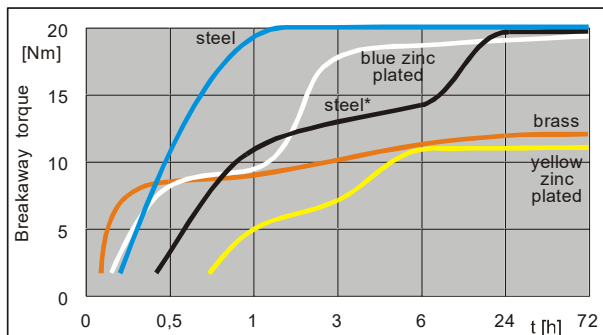
The tests were based on the ISO 10964

Curing speed when applied activator A

The graph shows the increase in the breaking torque of threaded connection as a function of time at using activator A. The tests were carried out in accordance with to ISO 10964 using M10 bolts and nuts coarse thread.

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PHYSICAL PROPERTIES OF CURED MATERIAL
 Coefficient of thermal expansion [1/K] ca. 8×10^{-5}
 Coefficient of thermal conductivity [W/mK] ca. **0,1**
 Specific heat [J/kgK] ca. **300**

PERFORMANCE OF CURED MATERIAL

Breakaway torque [Nm] [ISO 10964 (3.3)]

Value: 20

Range: 15-25

Prevail Torque [Nm] [ISO 10964 (3.5)]

Value: 8

Range: 6-10

Shear strength [Mpa] [DIN 54452]

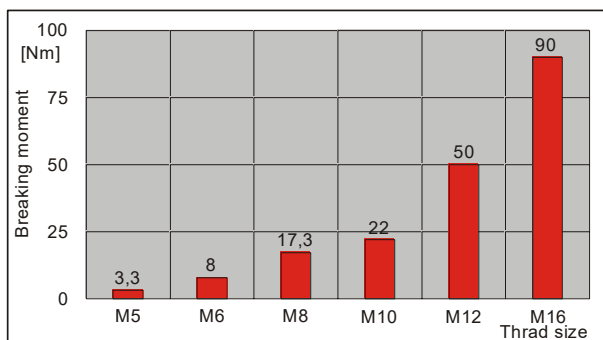
Value: 25

Range: 15-35

The above-mentioned parameters were determined after 72 h curing at the temperature of 22 °C using M10 steel coarse thread bolts and nuts and calibrated shaft and hubs pairs.

Breakaway torque vs thread size

The graph below shows the maximum breakaway torque for different sizes of connection threads. The tests were carried out on steel coarse thread bolts and nuts after 72h curing at 22°C. Tested according to ISO 10964.



TEMPERATURE RESISTANCE

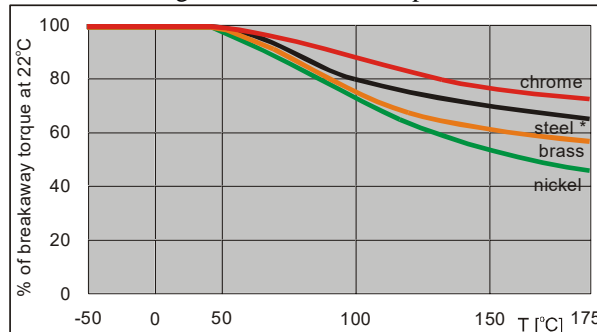
The tests were carried out after 72h curing at 22°C

Breakaway torque vs temperature

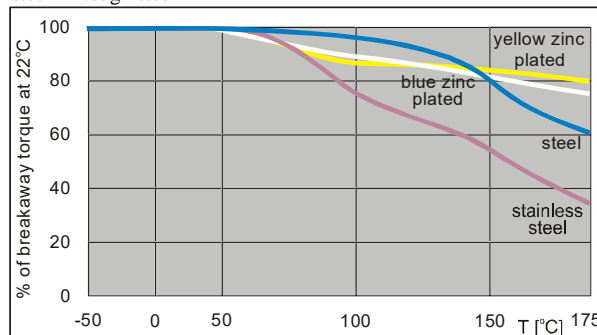
The graphic presentations show the change of breaking torque of a threaded connection as a function of temperatures for various types of substrate. The tests

were carried out on M10 steel coarse thread bolts and nuts.

Tested according to ISO 10964 at temperature

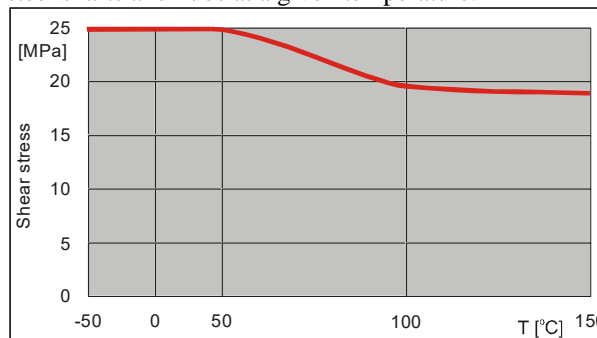


steel* – tough steel



Shear strength vs temperature

The graph shows the change in shear strength as a function of temperature. Measurements were made in accordance with DIN 54452 using calibrated pairs of steel shafts and hubs at a given temperature.



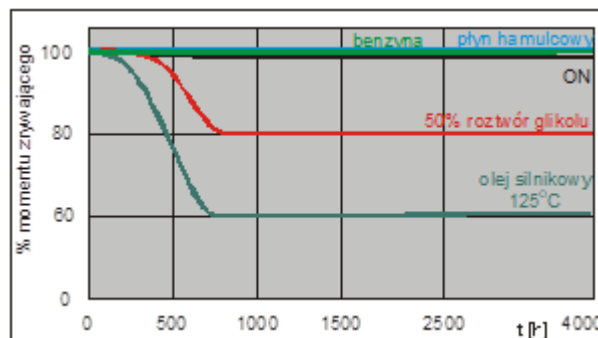
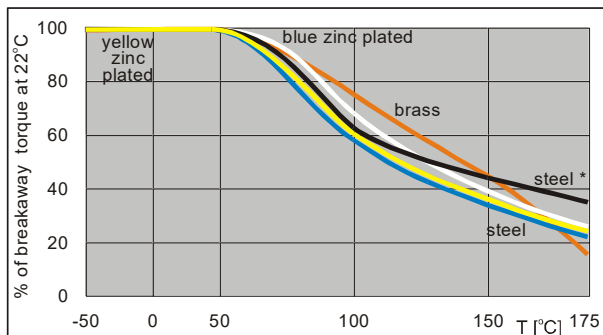
Breakaway torque vs temperature (for aluminum and various materials bolts)

The graphic presentations show the change of torque of a threaded connection as a function of temperatures for various types of bolt substrate. The tests were carried out on M10 steel coarse thread bolts and nuts.

Tested according to ISO 10964 at temperature

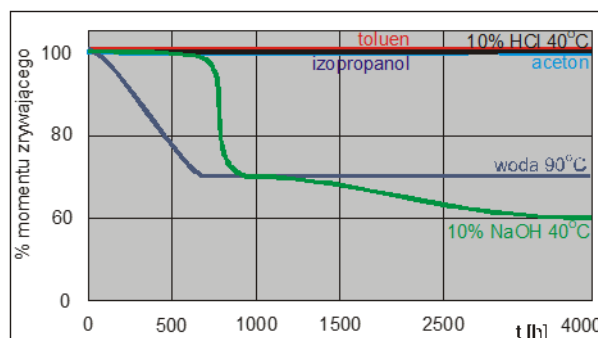
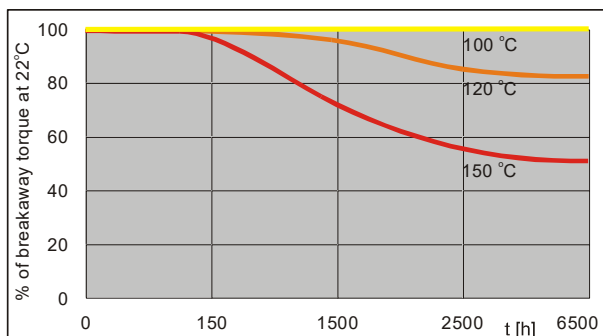
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Breakaway torque of a threaded connection as a function of time at elevated temperatures (Heat Aging)

The graphic presentations show the change of breaking torque as a function of time at various temperatures.. The tests were carried out on M10 steel blue zinc plated coarse thread bolts and nuts. Tested according to ISO 10964. Parts are aged at temperature indicated and tested at 22°C



Chemical resistance short table

Solvent	Chemical resistance
Sodium hypochlorite	+
Butanol	+
Methanol	+
Phosphoric acid 10%	+
Glycerine	+
Paraffin	+
Ethanol	+
Nitric acid 10%	+
Acetic acid 10%	+
Amine	+
Phenol	+
Hydroxypropionic acid	+
Salt water	+
Ethanol	+
Natural gas	+
Ammonia	-
Chlorine	-
Oxygen	-

+ - can be used unreservedly

- - not recommended

The complete Resistance Table for CHESTER anaerobic materials can be found on our website

OTHER INFORMATION

Storage

Product should be stored in closed, original containers at a temperature between +5°C to +28°C.

Because of the curing mechanism anaerobic adhesives are delivered in packages partly filled with an adhesive. Air space in bottle is required to keep contents liquid. Keep in dry and clean place.

Instruction for use

The applied surfaces should be cleaned and free of grease. The adhesive should be spread only through the batching tip. Do not dip nuts, bolts, metal parts, paste brushes or any other things in the bottle with an adhesives. If the process of curing the adhesives is not satisfactory by reason of low temperature, big bond gap or inactive material, **Aktywator A** of Chester Molecular should be applied.

