DEXCYAN 120 Technical Datasheet

Elastomer and Plastic Series
- fast bonding
- good ageing properties
- medium viscosity

The Elastomer and Plastic Series stands for Cyanoacrylates with extreme good properties in bonding rubber (especially EPDM) and plastics with each other or in combination. The ageing properties of these joints are outstanding. The medium viscosity of Dexcyan 120 is considered to be favourable for manual applications.

Physical properties - monomer (uncured)

Base compound	Ethyl-2-cyanoacrylate
Appearance	colourless, transparent
Density at 20 °C in g/cm3	1,05
Flashpoint	85
Shelf life,20 °C, unopend,in months	12

Viscosity

cone-plate, @20 °C @ 160 rpm	80-120 cps

Physical properties - Polymer

Appearance	transparent
Service temp range	-55 - 95 °C

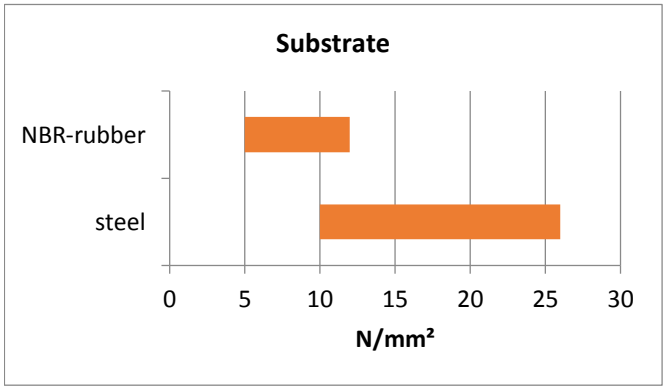
Setting time [seconds]

metal (steel)	20 - 50
EPDM	2 - 4
plastic (ABS)	2 - 4

strength of cured adhesive

Substrate	N/mm²		
NBR-rubber ▲	5	to	12
steel	10	to	26

▲ material failure



Specification

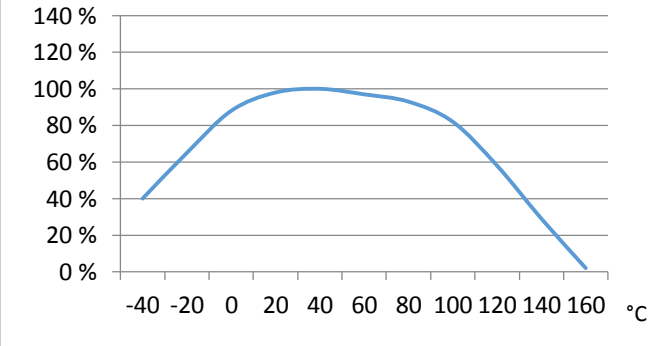
ISO 10993-5: Tests for in vitro cytotoxicity (biocompatibility).
ISO 10993-10: Tests for iritation and delayed-type hyper-sensitivity.
ISO 10993-11: Tests for systematic toxicity.

RoHS conform.

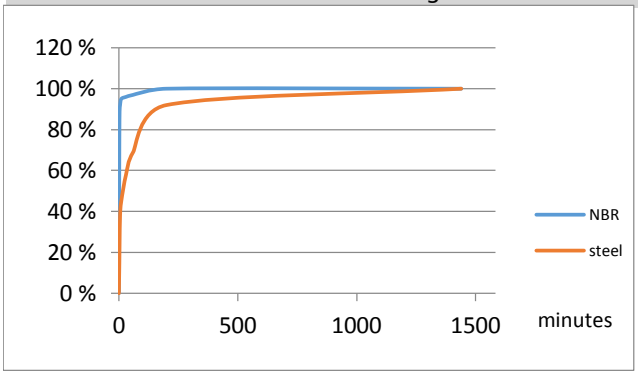
For details and certificates see www.Cyberbond.eu

Hot Strength on steel

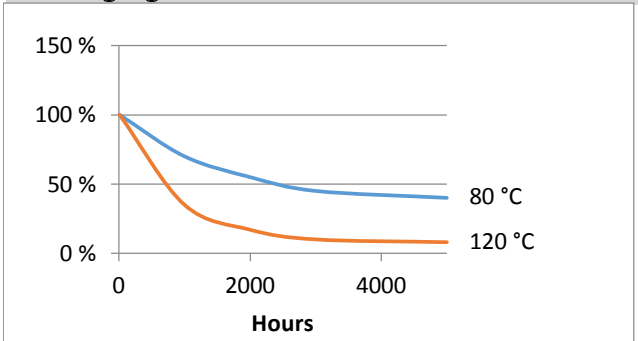
% of RT strength, tested at temperature



Time Until Full Cure % of RT strength



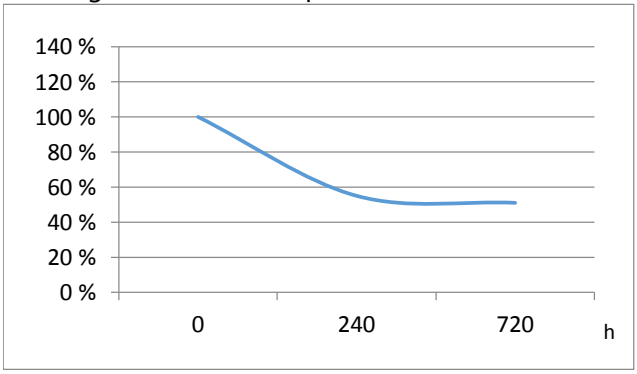
Heat Aging - on steel tested @20 °C



Durability after Alternating Climate Storage Conditions; tested with stainless steel

above freeze point 80% rel. humidity
temperature range: -20 - 80 °C

	[h]
Cycle Count	60
Holding time at start temperature	0
Heating up phase	3
Keeping warm phase	3
Cooling down phase	3
Holding time at final temperature	3



Solvent resistance

Solvent	Example	Resistance
alcohol	ethanol, methanol	+++
ester (aliphatic)	ethyl acetate (acetic acid ethyl ester)	---
ketones	acetone, benzophenone	---
aliphatic hydrocarbons (alkanes)	petrol, heptane, hexane	++
aromatic hydrocarbons	benzene, toluene, xylene	++
halogenated hydrocarbons	methylene chloride, chloroform, chlorobenzene	---
weak acqueous acids	diluted nitric- , muriatic-, sulfuric- , phosphoric acid	+++
concentrated acid	nitric acid, muriatic acid, sulfuric acid, phosphoric acid	---
weak acqueous bases	diluted sodium hydroxide -, caustic potash solution	+++
concentrated bases	sodium hydroxide - , caustic potash solution	---
water		++
iso-propanol		+++
acetone		---
mineral oil		++

+++ very good ++ good --- very bad

General Information CA

Cyanoacrylates are fast setting, one component and solvent free adhesives. They are based on esters of cyanoacetic acid. To get to a finished product, mainly thickeners, respectively film forming agents (polymer methacrylics and acrylics) and stabilisers are added. The polymerization is initiated by present humidity. Best results are given between 40 to 70 % relative humidity.

Dexcol standard grades are as follows:

- Powerdrop series (stabilised ethyl ester)
- Elastomer and plastic series (ethyl ester)
- Neomer Series (surface insensitive ethyl ester)
- xtraflex series (rubber toughened ethyl ester)
- metal series (ethyl ester)
- low odour series (alkoxy ester)
- medical series (butyl- and octyl ester)

Measurement of Viscosities

Viscosity describes the flow-ability of a liquid. Dexcol measures the viscosity of the products by means of the cone/plate method: the liquid is applied on a panel and a defined cone presses the liquid together and rotates.

You differentiate between a Newtonian and a thixotropic liquid. In terms of a Newtonian liquid you will get a relative constant viscosity graph in dependence of the rotary speed of the cone. In terms of thixotropic liquids the product becomes more liquid (down to its base viscosity) the faster the cone rotates.

The viscosity is measured in mPa*s (milli Pascal x second) [SI system] or in cP (centipoise) [CGS- system]; 1 mPa*s = 1 cP.

In order to allow products comparison all adhesives are measured at the same rotation speeds.

- Newtonian liquids at 160 upm
- Thixotropic liquids at 0,5 upm and at 160 upm

Temperature always is at 20 °C / 68 °F, if not mentioned to be different.

Clean Surface

The surface condition of the mating parts has an enormous influence on the success of a bond. To achieve good bonding success the mating parts should be clean.

LINOP Equipment

Dexcol offers by means of the LINOP Equipment range suitable dosing and LED based curing devices. We also refer to suitable dosing tips which help an economical use of the adhesives (also if used manually).

Storage

Store products in a cold and dark place. Before use allow to reach ambident temperature.

Potential Danger of Cyanoacrylates

You should care for the following:

- use in well ventilated areas only
- install suitable exhaust systems in the workshop
- apply material economically and use a dosing system where appropriate
- allow a consistent relative humidity of 50 to 65 %; with regards to lower figures the polymerization will be delayed and monomer adhesive fume will appear
- if necessary: wear suitable, non-sucking gloves (e.g. no cotton)
- keep adhesive out of reach of children

The data mentioned in this TDS, particularly the recommendations and use of products are based on our recent knowledge and experience. Due to the fact of having so many different materials involved and conditions of applications which are out of our influence, we strongly recommend to do sufficient tests in order to guarantee that Dexcol products are suitable for the intended process and applications. Except for wilful acts any liability based on such recommendations or any verbal advice is hereby expressly excluded.

For safe handling consult Material Saftey Data Sheet (MSDS).

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