

## Three Bond 1741 (Cyanoacrylate Adhesive)

The product Three Bond 1741 is a one-component, solventless cyanoacrylate adhesive on the basis of ethyl ester. This instant adhesive cures in a few seconds due to the catalytic effect of anionic initiators. In most cases already slight traces of moisture on the material are sufficient to initiate the polymerization.

### 1. Features

- The fast curing without any aid, such as hardener, pressure or heat, accelerates the assembly works, as the parts bonded can be finished already after a few seconds.
- These cyanoacrylate adhesives bond (with each other and among one another) all metals (also coated), such as steel, aluminium, zinc, their alloys and ferrites as well as most of the plastic materials, such as polystyrene, hard PVC, FRP, ABS, polycarbonate, hard paper, wood and cellulose, ceramics, stone and glass.
- Together with the primer Three Bond 1797, also plastic materials difficult to bond such as polyethylene, polypropylene and polyacetal can be bonded without any problems.
- Together with the accelerator Three Bond 1796B, even in case of thick layers or unfavourable bonding conditions, such as extremely low air moisture, fitting faces with acid residues or large gaps ( $\geq 0,1$  mm), a full curing can be ensured.

### 2. Typical Properties

Test Item	Unit	Result
Colour	Transp. colourless	
Viscosity at 25 °C	2	mPa·s
Density at 25 °C	1.06	g/cm <sup>3</sup>
Curing time Fe/Fe	5	s
NBR/NBR	5	s
Shear strength Fe/Fe	14.2	MPa
Volume resistivity	$6.4 \times 10^{13}$	$\Omega \cdot m$
Surface resistivity	$1.1 \times 10^{15}$	$\Omega$
Dielectric constant at 1 MHz	3.14	
Dielectric dissipation factor at 1 MHz	0.024	
Breakdown voltage	40	MV/m
Flash point	88	°C
Effective temperature range	- 40 ~ 85	°C
Shelf life at 5 °C	12	months

# **TECHNICAL BULLETIN**

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## **3. Handling**

- Keep the adhesive in the original container tightly closed and store it in a dark, dry, sufficiently ventilated and cool place.
- Before opening the container let the products reach room temperature as otherwise the formation of dew might be resulting.
- In order to obtain optimal results, remove humidity, fat and other impurities from the fitting surfaces.
- The best results are obtained when bonding the parts at 23°C x 40 ~ 80% RH. A lower humidity slows the curing down, a higher humidity accelerates it, but can prejudice the solidity of the bonded joint by 10 ~ 15 %. Acid fitting faces (pH-value < 7) can delay the full curing, basic surfaces (pH-value > 7) accelerate the polymerisation.
- In case of parts difficult to bond apply the primer Three Bond 1797 on the fitting faces and let shortly ventilate (finish within 1 h).
- In case of unfavourable bonding conditions apply the accelerator Three Bond 1796B on one of the fitting faces and let shortly ventilate (finish within 1 h).
- Apply the adhesives thinly on the other fitting face ( $\approx 5 \text{ mg/cm}^2$ ) and immediately join the parts, position them correctly and fix them under slight pressure.
- In case of a larger thickness of the layers ensure the full curing by applying the accelerator Three Bond 1796B directly on the adhesives.
- A product once transferred into another container should not be returned to the original container. Excess material can be easily wiped off with a cloth.
- Cured adhesive can be removed by repeated coating with the removing agent Three Bond 1795.

## **4. Packing**

2 g tubes, 20 g and 50 g bottles

All data given here were compiled to the best of our knowledge and are based on experiments and tests of our Company. We cannot guarantee the results obtained through the use of our products, and all products are sold and samples given without any warranty, expressed or implied, of fitness for any particular purpose or otherwise and upon condition that the user shall make his own tests to determine the suitability of the product for his purpose.