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TECHNICAL DATA SHEET

1. IDENTIFICATION OF THE PRODUCT

NAME OF THE PRODUCT Cyanoacrylate universal quick fix adhesive, 20 g

CODE 080202

2. DESCRIPTION

The cyanoacrylate adhesive is a medium viscosity adhesive (100 cps), based on Ethyl-Cyanoacrylate. It is designed for high-strength joints that polymerize plastics, rubbers and other materials at high speed. Recommended for mounting smooth parts and flat surfaces.

Technology	Cyanoacrylate
Chemical Type	Ethyl cyanoacrylate
Appearance (uncured)	Transpartent, colourless
Viscosity	Medium
Cure	Humidity
Application	Bonding
Key Substrats	Plastic, Rubber and Metals

3. PROPERTIES OF UNCURED MATERIAL

Specific gravity	1.06g/ml
Gamma Viscosity (cps)	80-120
Viscosity typical values (cps)	100
Tensile strength (N / mm2)	20
Fixture time (sec) (sec)	10-30
Total cure (hours)	24
Flash point (ºC)	> 85
Shelf life a 5º (months) Shelf life	12
Max gap fill (mm)	0.15
Operating Temperature Range (ºC)	-50º, + 80º

4. CURING PERFORMANCE

Cure Speed vs. Substrate
This is defined as the time to develop a shear strength of 0,1 N/mm2. The speed of cure of cyanoacrylate varies according to the substrates to be bonded. Acidic surfaces such as paper and leather will have longer cure times than most plastics and rubbers. Some plastics with very low surface energies, such as polyethylene, polypropylene and Teflon® require the use of Bossauto Primer.

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Fixure time, Seconds:

Steel	5 a 20
Aluminium	2 a 10
Neoprene	<4
Rubber	<3
ABS	2 a 10
PVC	2 a 10
Wood Balsa	2 a 4
Wood Oak	60 a 180
Carton	20 a 90
Textile	2 a 15
Leather	5 a 15
Paper	1 a 10

Cure Speed vs. Bond Gap
Bossauto cyanoacrylate gives best results on close fitting parts. The product should be applied in a very thin line in order to ensure rapid polymerisation and a strong bond. Excessive bond gaps will result in slower cure speeds. Activator may be used to greatly increase cure speeds. The Bossauto Accelerator can be used to increase healing speed.

Cure Speed vs. Humidity
Cyanoacrylate adhesives require surface moisture on the substrates in order to initiate the curing mechanism. The speed of cure is reduced in low-humidity conditions. Low temperatures will also reduce cure speed. All figures relating to cure speed are tested at 21º C.

Cure Speed vs. Activator
Activator Bossauto may be used in conjunction with Bossauto cyanoacrylate where cure speed needs to be accelerated. Cure speeds of less than 2 seconds can be obtained with most Bossauto cyanoacrylate. The use of an activator can reduce the final bond strength by up to 30%. Bossauto recommends testing on the parts to measure the effect.

5. PERFORMANCE OF CURED MATERIAL

After 24 hours to 21ºC:

Lap Shear Strength

Steel	N/mm2	18 to 26
	(psi)	(2600 a 3700)
Aluminium	N/mm2	10 to 18
	(psi)	(1600 a 2800)
ABS	N/mm2	>5
	(psi)	(>875)
PVC	N/mm2	>4
	(psi)	(>580)

Tensile Strength

Steel	N/mm2	12 to 25
	(psi)	(1740 s 3625)

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6. PROPERTIES OF CURED MATERIAL

After 24 hours to 21ºC:

Physical Properties	
Coefficient of Thermal Expansion	80x10-6 K-1
Coefficient of Thermal Conductivity	0,1 W/(m·K)
Glass transition Temperature	120 ºC
Electrical Properties	
Dielectric Constant / Dissipation Factor	
0,1 KHz	2,25 / <0,02
1 KHz	2,25 / <0,02
10 KHz	2,25 / <0,02
Volume Resistivity (W·cm)	10x1015
Surface Resistivity (W)	10x1015
electric Breakdown Strength (Kv/mm)	25

7. ENVIRONMENTAL RESISTANCE

After 1 week to 21ºC

Hot Strength
Our adhesives are suitable for use at temperatures up to 80º. At 80ºC the bond will be approximately 70% of the strength at 21ºC. The bond strength at 100º C is approximately 50% of full strength at 21ºC.

Heat Aging
Bossauto cyanoacrylate retains over 90% of their strength when heated to 80ºC for 7 days and then tested at 21ºC. Heating the bond to 100ºC and then testing at 21ºC gives bond strength of approximately 50% of initial strength.

Chemical / Solvent resistance
Cyanoacrylate adhesives exhibit excellent chemical resistance to most oils and solvents including motor oil, leaded petrol, ethanol, propane and Freon. Cyanoacrylate is not resistant to high levels of moisture or humidity over time.

		% of initial strength		
Environment	**ºC**	**100 h**	**500 h**	**1000 h**
Motor Oil	40	100	100	95
Gasoline	22	100	100	100
Ethanol	22	100	100	100
Alcohol Isopropyl	22	100	100	100
Freon TA	22	100	100	100
Heat / Humidity 95% RH	40	80	75	65

8. GENERAL INFORMATION

This product is not recommended for use in pure oxygen and/or oxygen rich systems and should not be selected as a sealant for chlorine or other strong oxidizing materials.
For safe handing information on this product, consult the Material Safety Data Sheet.

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Directions for Use

1. For best performance bond surfaces should be clean and free from grease.
2. This product performs best in thin bond gaps (0,05 mm).
3. Apply sparingly to one surface and press parts firmly together until handling strength is achieved.
4. Bossauto activators may be required if there are gaps or porous surfaces.
5. Product is normally hand applied from the bottle.
6. Cured cyanoacrylate may be removed from most substrates, and parts disassembled, with Bossauto debonder. It is not possible to remove cyanoacrylate from fabrics. De bonder Bossauto is not good for the view, for more information consult the Material Safety Data Sheet.

Storage

Store product in an unopened container in a dry and cool location. Storage information may be indicated on the product container labelling.
The optimal storage is between 2ºC to 7ºC. Storage below 2ºC or greater than 7ºC can adversely affect product properties.
Material removed from containers may be contaminated during use. Do not return product to the original container. Bossauto cannot assume responsibility for product which has been contaminated or stored under conditions other than those previously indicated. If additional information is required, please contact our Technical Department.

Safety

Cyanoacrylate. Danger. Bonds skin and eyes in seconds. Keep out of reach of the children. Irritating to Eyes, respiratory system and skin.
Do not breathe fumes/vapour. Avoid contact with skin and eyes.
In case of contact with eyes, rinse immediately with plenty of water and seek medical advice.
Wear suitable gloves.
For additional information consult the Material Safety Data Sheet.

Data Ranges

The data contained in this data sheet may be reported as typical value and/or range. Values are based on actual test data and are verified on a regular basis.

Note

The data contained herein are furnished for information only and are believed to be reliable. We cannot assume responsibility for the results obtained by others over whose methods we have no control. It is the user's responsibility to determine suitability for the user's purpose of any production methods mentioned herein and to adopt such precautions as may be advisable for the protection of property and of persons against any hazards that may be involved in the handling and use thereof. Bossauto and its distributors can't assume liability or responsibility for results obtained in the use of its product by persons whose methods are outside or beyond our control. It is the user's responsibility to determine the suitability of any of the products and methods of use.
We recommend that each prospective user test his proposed application before repetitive use, using this data as a guide, to verify that this is the best product in each case.