Cyberbond

Apollo 2004 TECHNICAL DATA SHEET

Apollo 2004 is a single component low viscosity cyanoacrylate adhesive. It is a fast setting adhesive ideal for bonding all types of rubbers and preassembled parts. Apollo 2004 is approved to ISO 10993-5 for biocompatibility, making it suitable for use in medical device applications.

Physical Properties - Monomer (Uncured)

Base Compound	Ethyl
Appearance	Clear
Viscosity	**9 +/- 2 cPs**
Specific Gravity	1.06 g/cc
Flash Point	85°C/ 185°F
Shelf Life	12 mo
Storage Condition	20°C/ 68°F
RoHS-Compliant	yes

Physical Properties - Polymer (Cured)

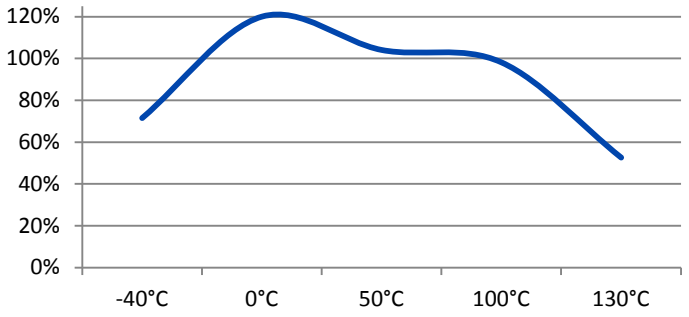
Full Cure Time	24 hours
Appearance	Clear
Service Temp Range	-55 to 95 °C (-67 to 203 °F)

Specifications and Approvals

10993-5

Mil-A-46050C, Type II Class I, A-A-3097, Type II Class 1

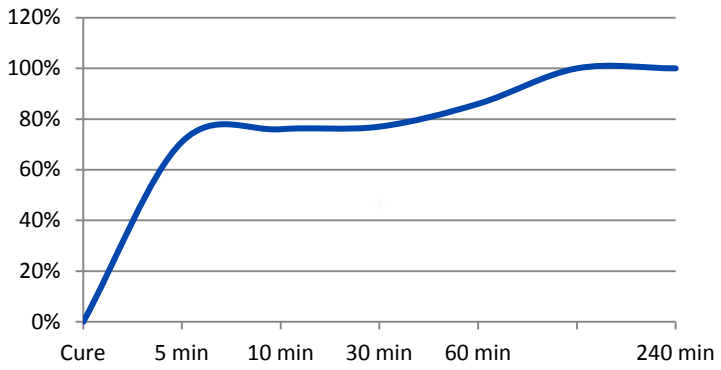
Hot Strength (%RT strength, tested at temperature)



Setting Time

Steel	40	seconds
ABS	2	seconds
EPDM	3	seconds

Time Until Full Cure (% of RT strength)



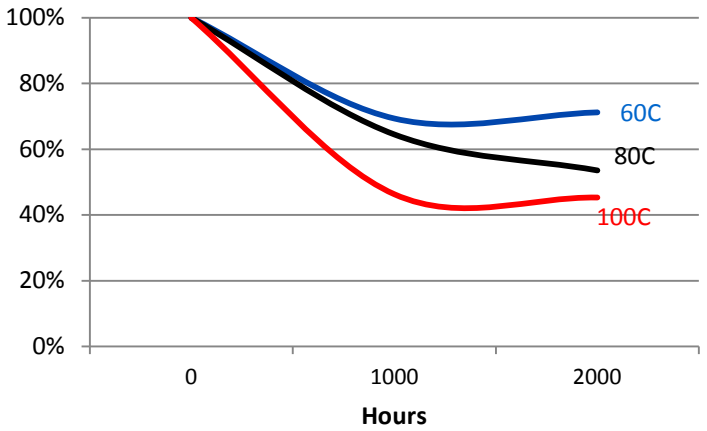
Performance of Cured Adhesive

Substrate	N/mm²			PSI		
Steel	17.4	to	20.1	2520	to	2920
Rubber*	4.3	to	15.2	630	to	2200
AL	11.1	to	12.6	1605	to	1830
PC**	27.7	to	29.2	4020	to	4235
PVC**	12.6	to	13.2	1830	to	1910
ABS**	5.8	to	17.2	840	to	2500

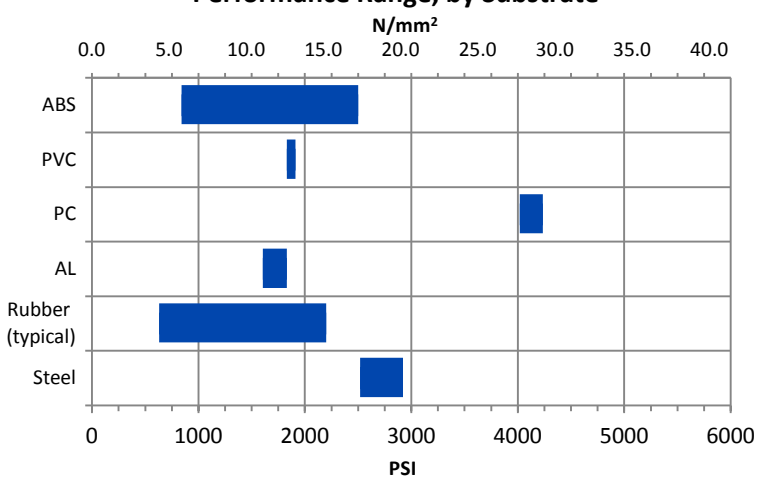
***Rubber figures given are typical**. Your results may vary by specific rubber type.

**Tested to ASTM 4501 ***n/r = not recommended

Heat Aging (aged at temp indicated and tested @ 22°C)



Performance Range, by Substrate



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Solvent Resistance

Solvent	Example	Resistance
Alcohol	Ethanol, Methanol	+ + +
Ester (aromatic)	Ethylacetate	– – –
Ketone (aromatic)	Acetone, Benzophenone	– – –
Aliphatic hydrocarbon (alkanes)	Petrol, Heptanes, Hexane	+ + –
Aromatic hydrocarbons	Benzyl, Toluol, Xylol	+ + –
Halogenated hydrocarbons	Methylenchloride, Chloroform, Chlorobenzol	– – –
Weak aqueous acid	Nitrite, muriatic acid, sulphuric acid, phosphoric acid	+ + + (– – – if concentrated)
Weak aqueous base	sodium hydroxide solution, caustic potash	+ + + (– – – if concentrated)

General Instructions

Surfaces to be bonded should be clean and dry. Dispense a drop or drops to one surface only. Apply only enough to leave a thin film layer after compression. Press parts together and hold firmly for a few seconds. Good contact is essential. An adequate bond develops in less that one minute and maximum strength is attained in 24 hours. Wipe off excess adhesive from the top of the container and recap. Apollo products if left uncapped may deteriorate by contamination from moisture in the air. Because Apollo products cure by polymerization, whitening may appear on the surface of the container or the bonded materials. This will not affect adhesive performance.

Curing Performance

Ambient surface moisture initiates the curing process. Handling strength is reached in a short time, and will vary based on environmental conditions, bond line gap, and other factors. Product will continue to cure for at least 24 hours before full strength and solvent resistance is developed.

Storage

Products should be stored unopened in a cool, dry place out of direct sunlight. Products should be kept at room temperature away from direct light. Protect from extreme heat or cold, do not refrigerate.

Updated 1/20/2012

Note

The data contained herein are furnished for information only and are believed to be reliable. Cyberbond cannot assume responsibility for the results obtained by others over whose method Cyberbond does not control. It is the user's responsibility to determine suitability for the product or 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. In light of the foregoing, Cyberbond specifically disclaims all warranties of merchantability or fitness for a particular purpose arising from sale or use of Cyberbond products. Cyberbond specifically disclaims any liability for consequential or incidental damages of any kind, including loss of profits. The discussion herein of various processes or compositions is not to be interpreted as representation that they are free from domination of patents owned by others or as a license under any Cyberbond patents which may cover such processes or compositions. We recommend that each prospective user test the proposed application to determine its suitability for the purpose intended prior to incorporating any product or application in its manufacturing process using the data as a guide.

For safe handling information on this product,consult the Material Safety Data Sheet (MSDS)

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