

Cyberbond®



SM40™	HYDRAULIC SEALANT
TECHNICAL DATA SHEET	

Cyberbond SM40 is a single component anaerobic thread locking and thread sealing adhesive, which develops medium strength. The product cures between close fitting metal parts where there is an absence of air. Used for locking and sealing all types of straight and tapered metal fine threads where high pressure sealing is required, such as hydraulic and pneumatic fittings.

Monomer Form (Liquid)	
Monomer Base	Dimethacrylate
Colour	Brown
Viscosity @ 20°C	200 – 400 mPa•s
Density @ 20°C	1.06 g/cm ³

Polymer Form (Solid)	
Shear Strength (DIN 54452)	10 – 16 N/mm ²
Breakloose Torque (DIN 54452)	14 – 22 Nm
Temperature Range	-50 / +150°C

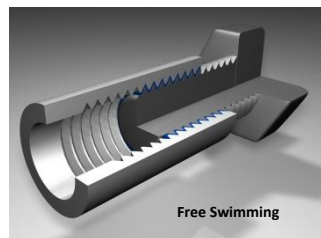
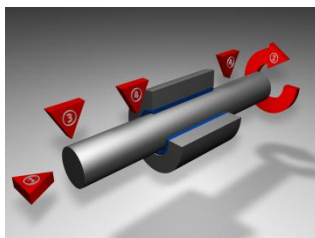
Typical Curing Properties (M10 steel nut/bolt)	
Fixture time	30 – 60 minutes
Full cure	24 hours
Gap Filling Capacity	0.05 – 0.15mm
Maximum Thread	M20

Curing Performance

The rate of cure will depend on environmental conditions and the substrates used. The gap of the bond line will affect set speed. Smaller gaps tend to increase the speed. Activators can be applied to improve set speed but may also impair overall adhesive performance.

Different Loading Conditions

- Axial Load**
Shear Strength measured in N/mm²
- Torsional Load (Free Swimming)**
Break loose and prevailing torques measured in Nm.
- Bending Load**
- Radial Load**



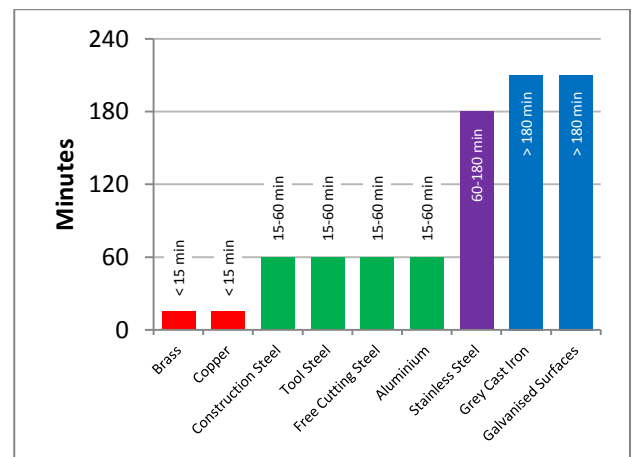
Specifications and Approvals

ISO 9001:2008, ISO/TS 16949:2009
ASTM D 5363; Group 1, Class 6, Grade 2

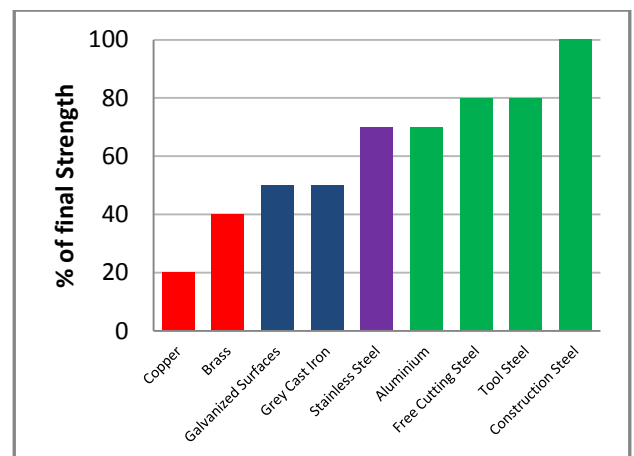
Relationship of Strength and Cure Speed

Whilst products used on active metals cure very fast, these same products when used on inactive metals need longer times to cure. Furthermore final strength values will differ depending upon the substrate being used.

Typical Setting Time on Different Materials

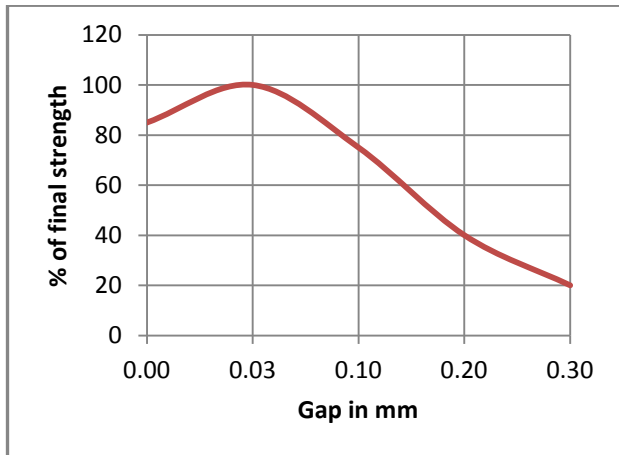


Typical Shear Strength on Different Metals



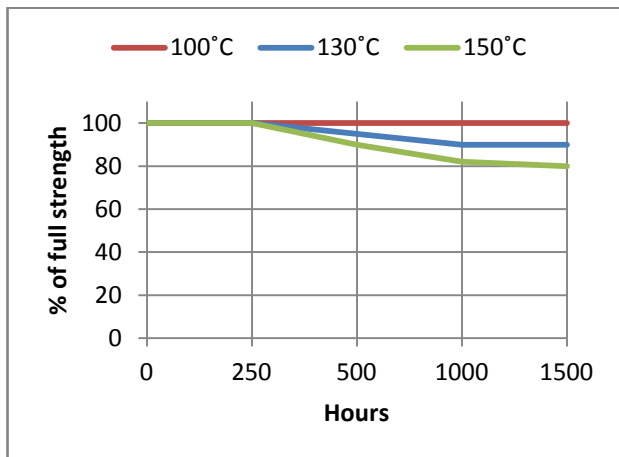
Strength vrs Bond Gap

*Shear Strength in relation to gap size
(Tested acc. to DIN 54452; Steel)*



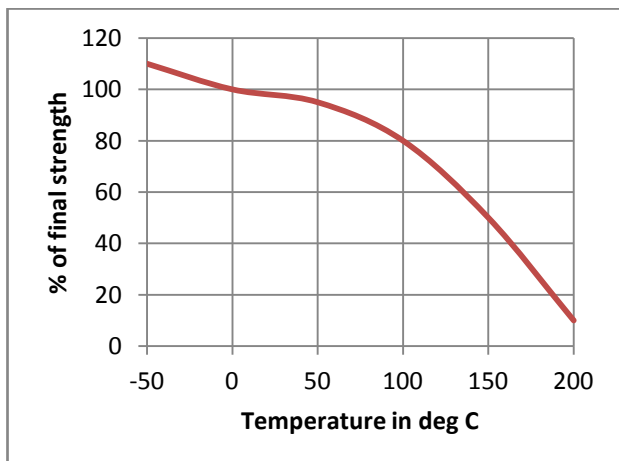
Heat Ageing

*Shear strength in relation to heat ageing at higher temperatures and measured at room temperature
(Tested acc. to DIN 54452; Steel)*



Hot Strength

*Shear strength at different temperatures
(Tested acc. to DIN 54452; Steel)*



Chemical Resistance

Once cured Cyberbond Anaerobic Adhesives and Sealants are resistant against a wide range of oils, industrial solvents, and gases.

Liquids

- aqua regia	+ kerosene
+ aviation fuel	+ methanol
- barium hydroxide a.s.	+ methylethylketone
+ benzene	+ mineral oil
+ benzoic acid	- nitric acid
+ boric acid	+ octane
+ brake fluid	+ paraffin, liquid
- bromine	+ perchlorethylene
+ bunker fuel	- perchloric acid
+ butyl alcohol	+ petroleum
+ butylene glycol	- phosphoric acid
+ ethanol	+ styrene
+ ethyl acetate	+ sulphur dioxide
+ ethyl acrylate	- sulphuric acid
+ ethylene glycol	+ toluol
+ glycerine	+ trichloroethylene
+ heptane	+ turpentine oil
+ hydraulic oil	+ urea, a.s.
+ hydrogen cyanide	+ water
- hydrogen fluoride	+ xylol

Gases

+ acetylene	+ natural gas
- ammonia	+ nitrogen
+ argon	+ nitrous oxide
+ butane	+ oxygen
+ carbon dioxide	(up to 30 bar, 60 degrees C)
+ ethane	- ozone
+ ethylene	+ propane
+ exhaust gas	- steam
- freon gas	
+ methane	

(+) resistant

(-) not resistant

For chemicals not listed above please refer to full version of the Cyberbond [chemical compatibility chart](#).

General Instructions

Surfaces to be bonded should be cleaned with Cyberbond 9999 Universal Cleaner and Degreaser or a non-oily solvent. Product should be applied in sufficient quantity to cover both surfaces. The product performs best in thin bond gaps. Very large gaps will affect the cure speed and overall strength. Good contact is essential. This product is not designed for plastics, particularly thermoplastics where stress cracking of the plastic could result. It is recommended to confirm compatibility of the product with all substrates prior to use.

Use of Activator

Cyberbond Anaerobic Adhesives and Sealants have been designed to cure rapidly and do not generally require the use of an activator. The use of Cyberbond 9190 Activator, is however, recommended under the following conditions:

- ▶ Large gaps (> 0.3mm)
- ▶ Low temperatures (<5 deg C)
- ▶ Inactive metals such as cast iron and electroplated surfaces.

Disassembly

There are two practical methods for dissolving bonded joints:

- ▶ **Mechanical** with appropriate hand tools (for low and medium strength products)
- ▶ **Thermal** by heating up the bonded joint to +250°C and disassembling while hot (for high strength products)

Storage / Shelf Life

Store unopened containers in a cool, dry place out of direct sunlight. Under these conditions the shelf life is 12 months from date of manufacture. Do not return used product to the original container as this may result in contamination. Air space in the bottle is required to keep the product liquid.

Precautions

Generally speaking Anaerobic Adhesives and Sealants can irritate or sensitize the skin. It is important to keep the workplace clean and:

- ▶ Use in well ventilated areas only
- ▶ Wear suitable safety glasses and gloves

Additional safe handling information is listed in the [Material Safety Data Sheet \(MSDS\)](#)

Packaging

Size	Part Number
10ml Bottle	SM40010
50ml Bottle	SM40050
250ml Bottle	SM40250

Note

The data contained herein is offered in good faith based upon information that is believed to be accurate and reliable, but no warranty, express or implied, regarding the accuracy of such information is made. The conditions or methods of handling, storage, use and disposal of this product are beyond our control and may be beyond our knowledge. For this and other reasons, we do not assume responsibility and expressly disclaim liability for loss, damage or expense arising out of or in any way connected with the handling, storage, use or disposal of this product. It is the responsibility of the user to determine the products suitability for their intended purpose.

Contact

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