Technical Data Sheet

Technology : Dimethacrylate ester

Product name : Anabond 113

Revised date : Feb 2015

Revision No. : 01

Product Description

Anabond 113 is a single component dimethacrylate ester based fast curing medium strength anaerobic adhesive system specially designed for locking and sealing of threaded fasteners. The product gets polymerized when confined between closely mating metal surfaces in the absence of air and prevents loosening and leakage from shock and vibration. The product exhibits good temperature performance, chemical resistance and lubricating property.

Chemical Type : **Dimethacrylate ester**

Appearance : **Thixotropic Liquid**

Cure initiator : **Anaerobic**

Application : **Thread Locking & Sealing**

Strength : **Medium**

Colour : **Blue**

Properties of uncured material

Specific Gravity at 25 °C, ATM - R004 x (JIS K6820)	1.0 - 1.1
Viscosity at 25 °C, Brookfield DV-II+, Spindle 5, speed 50 rpm, cP, ATM - R006 x (ISO 2555)	2000 - 4000
Flash point	refer MSDS

Curing performance

The product cures when confined in the absence of air between closely fitting metal surfaces. The curing time is influenced by the gap between the surfaces, the kind of metal, surface treatments and temperature. The assembly can be subjected to limited tests after functional cure. Although functional cure is developed in relatively short time, curing continues for at least 24 hours before full properties are developed. Curing tested according to ATM* - R031 (ISO 10964).

Handling cure at 25 ± 2 °C, minutes	
M10 steel bolts & Nuts	5 - 15
Functional cure at 25 ± 2 °C, h	1 - 3
Full cure at 25 ± 2 °C, h	24

Operating Parameters

Recommended gap	mm	0.25
Service temperature	°C	-55 to + 150

Properties of cured material

Cured for 24 hours at 25 ± 2 °C, tested according to ATM - R031 / ATM - R025 (ISO 10964 & ISO10123)

Breakaway torque, M10 steel bolts and nuts	N.m (kgf.m)	16 - 25 (1.63 – 2.54)
Compressive shear strength, (Pin & Bush)	N / m m² (kg/cm2	9 - 13 (88.29 - 127.53)

Typical Environmental Resistance

Cured for 24 hours at 25 ± 2 °C, Breakaway torque tested on M10 steel Bolts and nuts according to ATM - R031 (ISO 10964).

Chemical resistance

Aged under conditions indicated and tested at 30 ± 2°C.

Sl.No	Environment	Temp °C.	168 h
01	Mobil oil SHC XMP320, % Black SS.	85 ± 3	 100 100
02	Meropa 320,% Black SS	85 ± 3	 100 100
03	Castrol A 320,% Black SS	85 ± 3	 100 100
04	Castrol x 320,% Black SS	85 ± 3	 100 100
05	Shell Dmala S 4GX ,% Black SS	85 ± 3	 100 100
06	Engine oil (Zinc plated) 1.85W140 2.80W90	125 ± 3	 100 100
07	Gasoline Zinc plated	25 ± 3	100
08	Water/glycol (50/50%) Zinc plated	85 ± 3	100

ATM - Anabond Test Method, JIS - Japanese Industrial Standard,
ASTM - American Society for Testing and Materials, BS - British Standard

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General information

Before handling read product safety data sheet and container label for safe use.

This product is not recommended for use in pure oxygen or oxygen rich systems and not be selected as a sealant for chlorine or other strong oxidizing materials.

To prevent the product from clogging in the nozzle, do not allow the tip to touch the metal surfaces during application.

Do not return the used product back to the original container as it may be contaminated during usage.

Where aqueous washing systems are used to clean the surfaces before bonding, it is important to check the compatibility of the washing solution with the adhesive. In some cases these aqueous washes can affect the cure performance of the adhesive.

The product is not normally recommended for use on plastics, particularly thermoplastic materials where stress cracking of plastic could result. Users are recommended to check the compatibility of the product with such substrates.

Direction for use Substrate preparation

- All surfaces must be clean and dry.
- For best results degrease the fasteners with suitable solvent and allow it to dry before applying the adhesive.
- If the metal surface is inactive or curing speed is slow use activator, Anabond Ekaprime 021.

Method of application

- Shake the product thoroughly before use.
- Apply required drops of the product on the mating area of the bolt and nut. Rotate the nut on the bolt for uniform coverage and then tighten as required. Parts should not be disturbed until sufficient handling strength is achieved.
- For through holes, apply several drops of the product on to the bolt at the engagement area of the bolt and nut.
- For blind holes, apply several drops of the product down the internal threads to the bottom of the hole.

Disassembly and cleaning

- Remove with standard hand tools.
- When hand tools do not work, heat the assembly to approximately 250 °C and disassemble while hot.
- Cured product can be removed with a combination of soaking in a solvent and mechanical abrasion such as a wire brush.

Storage

- Store the material in its original container in a cool and dry condition between 8 and 35 °C. Keep away from heat source and direct sunlight.
- Storage other than recommended temperature and conditions will have impact on the properties of the product.
- The product is non-volatile and non-flammable at room temperature.

SKU	Packaging
50 ml, 250 ml	White colour HDPE containers

Shelf life

Fifteen months from the date of manufacture in it's original container, unopened and recommended storage conditions.

Unit Conversion

(ºC x 1.8) + 32 = ºF	N x 0.225 = lb
kgf.m x 9.81 = N.m	N.m x 8.851= lb.in
MPa x 145 = psi	N / mm x 5.71 = lb/in
mPa.s = cP	N.m x 0.738 = lb.ft
mm / 25.4 = inches	N.m x 0.142 = oz.in
µm / 25.4 = mil	

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Disclaimer - Please read carefully

- 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.
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