

## Product Description

Anabond 402 is a single component dimethacrylate ester based fast curing high strength anaerobic adhesive system specially designed for permanent bonding and sealing of cylindrical fitting parts, where maximum strength is required. 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. Typical applications include locking bushings and sleeves into housings and on shafts.

Chemical Type	: <b>Dimethacrylate ester</b>
Appearance	: <b>High viscous liquid</b>
Cure initiator	: <b>Anaerobic</b>
Application	: <b>Retaining</b>
Strength	: <b>High</b>
Colour	: <b>Red</b>

## Properties of Uncured Material

Specific Gravity at 30 °C, ATM - R004 x (JIS K6820)	1.00 - 1.10
Viscosity at 30 °C, Brookfield DV-II+, Spindle 5, speed 100 rpm, cP, ATM - R006 x (ISO 2555)	1800 - 2000
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 test 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) / ATM - R025 (ISO 10123).

Handling cure at 30 ± 2 °C, min	8 - 12
Functional cure at 30 ± 2 °C, h	3
Full cure at 30 ± 2 °C, h	24

## Operating Parameters

Recommended gap, ATM - R025 (ISO 10123)	0.25
Service temperature ATM - R025 (ISO 10123)	-60 to +200

## Hot strength

Tested at temperature indicated

Test Temperature	% of initial strength
At 50 °C	100
At 100 °C	80
At 150 °C	60

## Heat Aging

Aged at temperature indicated and tested at 30 ± 2 °C.

Aging Time (hrs)	% of initial strength	
	Aged at 120 °C	Aged at 150 °C
100	100	100
500	100	98
1000	100	98

## Typical Environment Resistancet

Cured for 7 days at 30 ± 2 °C, Shear strength tested on steel pins and collars according to ATM - R025 (ISO 10123).

## Properties of cured Material

Cured for 24 hours at 30 ± 2 °C, tested according to ATM - R025 (ISO 10123).

Compressive shear strength, Steel pin and collars	N/mm <sup>2</sup> (kg/cm <sup>2</sup> )	22.5 - 30 (225 - 300)
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## Chemical resistance

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

Chemicals	% of initial strength		
	100 h	500 h	1000 h
Motor oil 10W30,125 °C	100	99	98
Motor oil 20W40,125 °C	100	98	98
Gasoline, 25 °C	100	98	98
Water / Glycol, 50 / 50, 87 °C	100	92	81

## 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 surface 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 bond surface of the mating area. Ensure the joint is completely filled with adhesive. Parts should not be disturbed until sufficient handling strength is achieved.
- For slip fitted assemblies, apply adhesive around the leading edge of the pin and the inside of the collar and use a rotating motion during the assembly to ensure good coverage.
- For press fitted assemblies, apply adhesive thoroughly to both bond surfaces and assemble at high press on rates.
- For shrink fitted assemblies the adhesive should be coated onto the pin, the collar should then be heated to create sufficient clearance for free assembly.

## 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
50ml , 250ml & 4ml	HDPE cartridge

## Shelf life

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



# Anabond®

# Technical Data Sheet

Technology : Dimethacrylate ester

Product name : Anabond 402

Revised date : Feb 2015

Revision No. : 01

## Unit Conversion

$(^{\circ}\text{C} \times 1.8) + 32 = ^{\circ}\text{F}$	$\text{N} \times 0.225 = \text{lb}$
$\text{kgf.m} \times 9.81 = \text{N.m}$	$\text{N.m} \times 8.851 = \text{lb.in}$
$\text{MPa} \times 145 = \text{psi}$	$\text{N} / \text{mm} \times 5.71 = \text{lb/in}$
$\text{mPa.s} = \text{cP}$	$\text{N.m} \times 0.738 = \text{lb.ft}$
$\text{mm} / 25.4 = \text{inches}$	$\text{N.m} \times 0.142 = \text{oz.in}$
$\mu\text{m} / 25.4 = \text{mil}$	

## 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.
- 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.
- In practice, the differences in materials, substrates and actual site conditions are such that no warranty in respect of merchantability or of fitness for a particular purpose, nor any liability arising out of any legal relationship whatsoever, can be inferred either from this information, or from any written recommendations, or from any other advice offered.
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