GENERAL INFORMATION

Anaerobic adhesives are used primarily for maintenance and servicing in mechanical engineering and metal construction. Their easy and clean application and their outstanding resistance to high temperatures and chemicals are typical features of anaerobic one-part adhesives.

CURING

Anaerobic adhesives cure without presence of air, with a catalytic reaction of the metal. The time required for curing depends on the catalytic effect of the material and on the ambient temperature. For gluing non-metallic materials, an application-specific activator is required.

ACTIVE AND PASSIVE MATERIALS

With regard to their catalytic effect, materials are divided into active and passive materials, ‚active' referring to metals with a high iron or copper content, whereas passive materials are either metallic materials with a low catalytic effect or non-metallic materials.
Active materials release a high number of (metal) ions allowing the adhesive to cure faster (activation energy for the polymerisation reaction). Passive materials release just a few ions, which is why the adhesive will cure very slowly.

Active materials - fast curing	Passive materials - slow curing
Iron	Aluminium
Steel	Chromium steel and chromate conversion coated surfaces
Copper	Anodised surfaces
Brass	Zinc or zinc coated (galvanized) surfaces
Bronze	

APPLICATIONS

Anaerobic adhesives are mainly used for thread locking, joining of components and thread sealing. They are available in various strength and viscosity grades matching different applications.

THE BENEFITS OF USING ANAEROBIC ADHESIVES FOR THREAD LOCKING

Especially in the field of thread locking, anaerobic adhesives offer many advantages when compared with conventional mechanical solutions. Threads that are not secured will lose part of their pre-load due to the setting and creeping of the material. Dynamic load, vibrations or changes in temperature may provoke the self-loosening of threaded joints. Mechanical thread locking may curtail problems such as the self-loosening of joints and the loss of pre-load but offers no definite solution.
In contrast, a thread that has been locked with an anaerobic adhesive features permanent and excellent resistance to vibrations, reliable protection against self-loosening and a constant pre-load. In addition, anaerobic adhesives protect joints from corrosion and seizing.

THE BENEFITS OF USING ANAEROBIC ADHESIVES FOR THE JOINING OF COMPONENTS

Using anaerobic adhesives for the joining of components is a good alternative to expensive, laborious positive connections. In contrast to positive connections, anaerobic adhesives protect the joints from fretting corrosion, reduce the mechanical load on the components and allow for wider tolerances. For example, bushes can be glued in without strain, and internal diameters with tight tolerances will not suffer any deformation by force fitting.

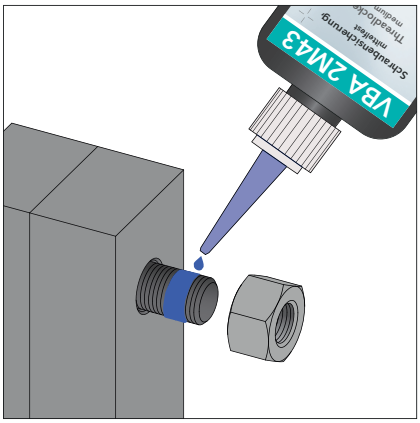
THE BENEFITS OF USING ANAEROBIC ADHESIVES FOR THREAD SEALING

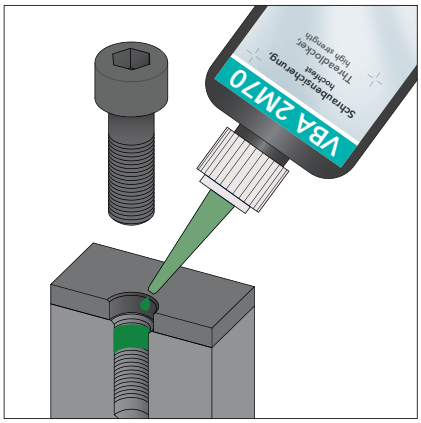
When it comes to thread sealing, anaerobic adhesives offer many advantages, especially for components that are subject to high loads. The sealing of threaded joints that are subject to high pressure, an aggressive environment and high vibrations with conventional sealants is almost impossible. Because of their high resistance to chemicals and vibrations, anaerobic adhesives are the ideal solution for such applications, enabling the permanent sealing of this kind of threaded joints.

INSTRUCTIONS FOR THE USE OF ANAEROBIC ADHESIVES

LOCKING A SCREW USING VBA 2M43 OR VBA 2M70

Before applying the adhesive, thoroughly clean the components using a suitable cleaning agent (VCQ 10).
For locking a screw inside a through hole, first insert the screw, then apply the adhesive in a circumferential bead directly on the screw's thread.
In order to lock a screw inside a blind threaded hole, apply the adhesive inside the bore hole in a circumferential band on the thread.
This guarantees an optimal distribution of the glue on the components.
At room temperature and on steel, the curing time for fixture is just a few minutes and functional strength is reached within 2 to 4 hours (= approx. 60 - 80% of the adhesive's full strength). Full strength is reached after approx. 12 hours.

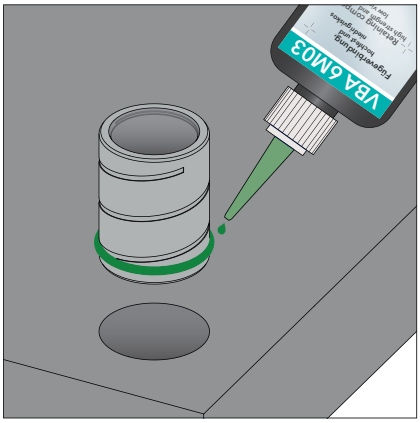




Technical Tips on the subject "Threadlocker" at **www.meusburger.com/threadlocker**

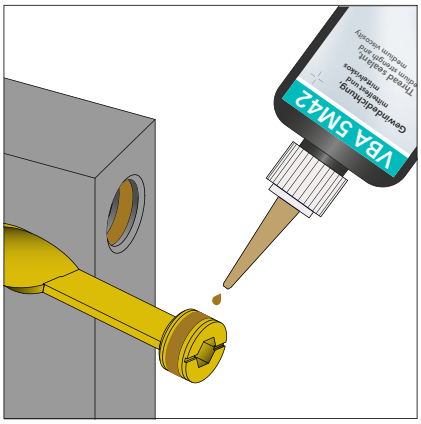
GLUING IN A BUSH USING VBA 6M03 OR VBA 6M48

Before applying the adhesive, thoroughly clean the components using a suitable cleaning agent (VCQ 10).
For joining components such as the E 5140 ball guiding bush for gluing in, apply the adhesive in a circumferential bead (for thick plates, it should be two circumferential beads) on the upper third of the bush. In order to ensure an optimal distribution of the glue, the bush should be inserted into the hole with a rotational movement.
The bushes for the ball cages are glued in in the preloaded condition, together with the ball cage and the guide pillar. After applying the adhesive, allow the tool to rest for approx. 8 hours, that is, until the adhesive reaches its full strength.



SEALING A BAFFLE USING VBA 5M42, VBA 5M77 OR VBA 5M69

Before applying the adhesive, thoroughly clean the components using a suitable cleaning agent (VCQ 10).
In order to seal a threaded joint, apply the adhesive on both the male and the female thread in order to ensure an optimal distribution of the glue and achieve full sealing.
At room temperature and on steel, the curing time for fixture is just a few minutes and functional strength is reached within 2 to 8 hours (= approx. 60 to 80 % of the adhesive's full strength). Full strength is reached after approx. 12 hours.



PRODUCT OVERVIEW

VBA 2M43	Threadlocker, medium strength
VBA 2M70	Threadlocker, high strength
VBA 6M03	Retaining compound, high strength
VBA 6M48	Retaining compound, high strength/medium viscosity
VBA 5M42	Thread sealant, medium strength
VBA 5M77	Pipe sealant, medium strength and high viscosity
VBA 5M69	High-temperature thread sealant, medium strength