Silicone (VMQ) Anaerobic Threadlockers and Thread Sealants

Silicone (VMQ) Anaerobic Threadlockers and Thread Sealants are supplied to vinyl-methyl silicone, typically 70 Shore A. Corrosion behaviour is inert and physiologically neutral; low tear and abrasion strength, the material is non-magnetic, and the usable service range is approx. -60 °C to +200 °C. In practice this grade is used for wide temperature range and food/medical contact, in static seals only.

Grade

vinyl-methyl silicone, typically 70 Shore A

Corrosion resistance

Inert and physiologically neutral; low tear and abrasion strength

Magnetic response

Non-magnetic

Service temperature

approx. -60 °C to +200 °C

Property values are typical for the grade. Certified mechanical test data is available on request for production orders.



Silicone (VMQ) (vinyl-methyl silicone, typically 70 Shore A) is used for wide temperature range and food/medical contact, in static seals only. Specified on anaerobic threadlockers and thread sealants it determines the corrosion behaviour (inert and physiologically neutral; low tear and abrasion strength) and the service temperature range (approx. -60 °C to +200 °C); the dimensions are ours rather than a standard's, and are listed in full below.

Why Choose Silicone (VMQ) for Anaerobic Threadlockers and Thread Sealants

Used for wide temperature range and food/medical contact, in static seals only. For anaerobic threadlockers and thread sealants, this matters when inert and physiologically neutral; low tear and abrasion strength is the primary requirement.

Mechanical & Physical Properties

Grade designation	vinyl-methyl silicone, typically 70 Shore A
Magnetic response	Non-magnetic
Service temperature	approx. -60 °C to +200 °C
Corrosion characteristic	Inert and physiologically neutral; low tear and abrasion strength

Corrosion Behavior in Service

Carbon and alloy steel anaerobic threadlockers and thread sealants require a coating for corrosion protection. Zinc plating (with or without passivation) is the most common; hot-dip galvanizing is used for outdoor structural service; black-oxide is mainly a tarnish-prevention finish for tool-room use.

Galvanic & Galling Considerations

Galvanic and galling behavior do not apply to anaerobic threadlockers and thread sealants in Silicone (VMQ) — the relevant compatibility questions are chemical: confirm the elastomer against the fluid, the temperature and any cleaning agents in service, and check the gland or groove dimensions give the intended compression on the section.

Sizes of Anaerobic Threadlockers and Thread Sealants Available in Silicone (VMQ)

Grade	Removal	Typical use	Notes
low strength	hand tools	set screws, adjusting screws, small fasteners	up to ab
medium strength	hand tools	general assembly, machine screws	the usua
high strength	heat and hand tools	studs, permanent assemblies	not for p
thread sealant grade	hand tools	tapered pipe threads, hydraulic fittings	seals rat
retaining compound	heat	bearings, bushes, cylindrical fits	not a thr

Dimensions are independent of the material: every size above is available in Silicone (VMQ).

Custom manufacturing · Made to drawing

Need this seal in a grade that is not listed?

Silicone is one of the grades the catalog describes. A special seal is almost always a compound change rather than a size change — the same dimensions in a material that survives the medium.

Minimum order from 2,000 pieces; samples within 7 days of drawing approval.

Custom seal manufacturing

(https://engineeringhardware.com/custom/seals/)

Send a drawing (https://engineeringhardware.com/custom/seals/#rfq)

Technical Drawing

Customize the parameters below — every spec field is editable, and the drawing redraws to match the values you choose. Changing the size will snap the other fields to that size's standard values; you can then override any individual value.

Dimensioned line drawing of low strength Anaerobic Threadlockers and Thread Sealants to Trade series (anaerobic adhesives for threaded assemblies). Side view and top view, drawn to the dimensions in the table below and redrawn for any size selected.

Sends the selected values to the quote form below.

Request a Quote

The form below follows the current technical drawing configuration. Change the drawing values above and the request details update automatically.

Dimensions & Specifications (Trade series (anaerobic adhesives for threaded assemblies))

Grade	Removal	Typical use	Notes
low strength	hand tools	set screws, adjusting screws, small fasteners	up to ab
medium strength	hand tools	general assembly, machine screws	the usua
high strength	heat and hand tools	studs, permanent assemblies	not for p
thread sealant grade	hand tools	tapered pipe threads, hydraulic fittings	seals rat
retaining compound	heat	bearings, bushes, cylindrical fits	not a th

Product catalog

Related Thread Sealants & Threadlockers products



(https://engineeringhardware.com/product/m5-0-8-10l-customizable-self-tapping-screw-sleeve-steel-stainless-steel-material/)

Thread Repair & Solid Threaded Inserts

M5*0.8*10L Customizable Self-Tapping Screw Sleeve Steel Stainless Steel Material Thread Inserts (https://engineeringhardware.com/product/m5-0-8-10l-customizable-self-tapping-screw-sleeve-steel-stainless-steel-material/)

Common · Stainless Steel

US$0.31 MOQ 1,000 pieces



(https://engineeringhardware.com/product/precision-lathe-processed-brass-threaded-insert-nut-hardware-fasteners/)

Thread Repair & Solid Threaded Inserts

Precision Lathe Processed Brass Threaded Insert Nut Hardware Fasteners (https://engineeringhardware.com/product/precision-lathe-processed-

brass-threaded-insert-nut-hardware-fasteners/)

GB · Alloy

US$1.20 – 3.60MOQ 100 pieces



(https://engineeringhardware.com/product/m2-m3-m4-m5-m6-m8-acme-steel-self-tapping-threaded-insert-bushing-302-slotted-screw/)

Thread Repair & Solid Threaded Inserts

M2 M3 M4 M5 M6 M8 Acme Steel Self Tapping Threaded Insert Bushing 302 Slotted Screw Wire Repair Left Hand Brass Thread Insert (https://engineeringhardware.com/product/m2-m3-m4-m5-m6-m8-acme-steel-self-tapping-threaded-insert-bushing-302-slotted-screw/)

Common · Carbon Steel

US$0.06 – 0.24 MOQ 1,000 pieces



(https://engineeringhardware.com/product/auto-interior-threaded-insert-nut-brass-metric-high-precision-fastener/)

(https://engineeringhardware.com/product/auto-interior-threaded-insert-nut-brass-metric-high-precision-fastener/)

Thread Repair & Solid Threaded Inserts

Auto Interior Threaded Insert Nut Brass Metric High Precision Fastener (https://engineeringhardware.com/product/auto-interior-threaded-insert-nut-brass-metric-high-precision-fastener/)

Auto Fasteners · DIN, GB, ISO, ANSI/ASTM, BS, Bsw, JIS etc.

US$0.024 – 0.036MOQ 20,000 pieces



(https://engineeringhardware.com/product/brad-hole-tee-nuts-insert-steel-threads-onto-wood-tee-nuts/)

Thread Repair & Solid Threaded Inserts

Brad Hole Tee Nuts Insert Steel Threads Onto Wood Tee Nuts

(https://engineeringhardware.com/product/brad-hole-tee-nuts-insert-steel-threads-onto-wood-tee-nuts/)

Tee · DIN, ANSI, GB, JIS, GOST, BSW

US$0.012 – 0.036MOQ 10,000 pieces

Sandum



(https://engineeringhardware.com/product/self-locking-keyed-style-keylocking-threaded-insert-for-metal-hardware-repair-m3-m6/)

Thread Repair & Solid Threaded Inserts

Self Locking Keyed Style Keylocking Threaded Insert for Metal Hardware Repair M3 M6 M8 (https://engineeringhardware.com/product/self-locking-keyed-style-keylocking-threaded-insert-for-metal-hardware-repair-m3-m6/)

Threaded Inserts · DIN,ASTM/ANSI JIS EN ISO,AS,GB

US$0.09 – 0.12 MOQ 2,000 pieces

View all Thread Repair & Solid Threaded Inserts → (https://engineeringhardware.com/fastener-products/threaded-inserts-clinch-fasteners/thread-repair-solid-threaded-inserts/)

Full product catalog (https://engineeringhardware.com/products/)

Applications & Industries

Anaerobic Threadlockers and Thread Sealants are bought for a small number of well-defined jobs. These are the ones we ship them for. Stocked from low strength to retaining compound (inside diameter).

Industries that specify Anaerobic Threadlockers and Thread Sealants

Field maintenance **Securing set screws.**

Machine assembly **Fasteners that must not loosen.**

Automotive **Vibration-prone joints.**

Hydraulics **Tapered thread sealing.**

Process & food equipment **Sealing at joints that are cleaned and inspected.**

Hydraulics & pneumatics **Static and dynamic sealing in cylinders and valve bodies.**

Typical applications

- **allowing the stated cure time before loading the joint**
- **choosing the grade by how the joint will be serviced**
- **degreasing both threads before applying**
- **using a sealant grade rather than a locking grade on pipe threads**
- **excluding dust and moisture from a housing**
- **sealing a joint against fluid or air pressure**

Service conditions to specify against

Sealed joints

Used where the fixing has to keep water or air out as well as hold — the elastomer, not the fastener, decides service life.

Vibration

Specified where cyclic load would loosen a plain nut or screw — rotating plant, rail, mobile equipment and anything that is not re-torqued in service.

Where to use something else

- **Do not use a high-strength grade on anything that will be serviced in the field; removing it needs heat, and heat is rarely available where the fastener has to come out.**

Full application guide: where Anaerobic Threadlockers and Thread Sealants are used, how to specify them, and the cases they are wrong for (https://engineeringhardware.com/applications/anaerobic-threadlockers/)

Inside the plant

Manufactured in our own plant

This part is cold-formed, threaded, heat-treated and finished in-house. The stages below are where its class and finish are actually decided.



01

Cold heading

Wire rod is drawn to size and cold-formed into blanks. Forming rather than cutting keeps the grain flow continuous around the head, which is where a bolt is most likely to fail.

Head dimensions and under-head radius checked at set-up and per shift.



02

Thread rolling

Threads are rolled between hardened dies rather than cut. Rolled threads are stronger in fatigue than cut threads and hold pitch and flank angle far more consistently across a batch.

Go / no-go ring gauges to ISO 965 tolerance class 6g.



03

Heat treatment

Quench-and-temper brings carbon and alloy steel to the property class ordered — 8.8, 10.9 or 12.9 — with the furnace charge tracked so a finished lot can be traced back to it.

Core hardness and tensile tested per lot to ISO 898-1.



04

Surface treatment

Zinc, zinc-nickel, hot-dip galvanizing, black oxide, phosphate and Dacromet, selected against the service environment rather than against the price list.

Coating thickness and neutral salt spray hours to ISO 9227.

Frequently Asked Questions

What corrosion resistance do Silicone (VMQ) Anaerobic Threadlockers and Thread Sealants offer?

Silicone (VMQ) Anaerobic Threadlockers and Thread Sealants provide inert and physiologically neutral; low tear and abrasion strength with a service range of approx. -60 °C to +200 °C.

Which media is Silicone (VMQ) suitable for?

Silicone (VMQ) suits dry heat and cold in static service, and food contact. It is the wrong choice for dynamic duty, fuel and steam — it tears and abrades easily. Elastomer selection is decided by the fluid first, then the temperature, then whether the seal is static or dynamic.

What hardness are Silicone (VMQ) Anaerobic Threadlockers and Thread Sealants supplied in?

Shore A 70 is the general-purpose default. A softer compound (around 60) seals better on a rough or slightly out-of-round surface; a harder one (around 80 to 90) resists extrusion at higher pressure or across a wider gap. State the hardness on the order — it is not implied by the material.

Does Silicone (VMQ) have a shelf life?

Yes. Elastomers age in storage as well as in service — keep them cool, dark, dry and away from ozone sources such as electric motors, and use stock in the order it arrived. PTFE is the exception and does not age this way.

How do I request a quotation?

Use the technical drawing on this page to pick the exact configuration, then submit it with the quote form. We respond within one business day.

Related Pages

View the full Anaerobic Threadlockers and Thread Sealants page (https://engineeringhardware.com/fastener/anaerobic-threadlockers/)

More Anaerobic Threadlockers and Thread Sealants Guides

- **NBR (Nitrile) Anaerobic Threadlockers and Thread Sealants (https://engineeringhardware.com/guide/material/nbr-anaerobic-threadlockers/)**
- **FKM (Viton®-type) Anaerobic Threadlockers and Thread Sealants (https://engineeringhardware.com/guide/material/fkm-anaerobic-threadlockers/)**
- **EPDM Anaerobic Threadlockers and Thread Sealants (https://engineeringhardware.com/guide/material/epdm-anaerobic-threadlockers/)**
- **PTFE Anaerobic Threadlockers and Thread Sealants (https://engineeringhardware.com/guide/material/ptfe-anaerobic-threadlockers/)**