Thread Sealing

About Adhesive Sealants

Adhesive sealants offer several advantages over traditional thread tape sealing methods. These advantages include:

- "Set and forget" – the fitting can be set in the correct orientation to better suit Hose Tail (Hose Barb) or Ball Valve Handle position.
- Greater strength– hose tails can sometimes have large hoses "working" the joint between the tail and ball valve. Adhesive sealants limit the possibility of movement of the seal. The permanent elasticity characteristic of sealants helps in keeping seals watertight when faced with conditions such as thermal expansion, water absorption, movement and vibrations.

When considering thread sealing it is important to note.

- When tightening a threaded fitting, do not over tighten them, simply allow the adhesive sealant to provide the seal. If the fitting is tightened – tighten to a maximum of 16 Nm (12 ft/lb).
- To orientate the tail (hose barb) or Ball Valve Handle wind the fitting down to the bottom of the thread then "back it off" to the desired Hose Tail (Hose Barb) or Ball Valve Handle position.
- If parts are to be taken apart thread tapes, pipe sealing chords or a lesser strength adhesive sealant such as 3M 4200 can be used. A backing nut can also assist to prevent turning.
- For the 3" Range only, TruDesign recommends adhesive sealants - we do not recommend Thread Tape or Pipe sealing Cord.

Applying Adhesive Sealants

- Always check adhesive sealants manufacturer's instructions.
- Apply sealant using a popsicle stick to make an even flow. Filling the thread channels to the top only (on both sides) – see pic below.

ADHESIVE THREAD SEALERS *

*(Always check manufactures product literature before use) **

TruDesign has tested the following products for watertight sealing of threads on our fittings. Always refer to manufacture's web sites for specific details.

SIKAFLEX® 291I MARINE ADHESIVE SEALANT

A one-part polyurethane adhesive/sealant. Full cure takes 24 hours – refer to product literature. Creates a permanent seal. Available colours = Black, White. Sika 205 Activator helps adhesion properties.

SIKAFLEX® 591 MULTIFUNCTIONAL SEALANT FOR MARINE APPLICATIONS

A multipurpose sealant designed for marine applications. It is suitable for elastic, vibration-resistant joint seals. Sika 205 Activator helps adhesion properties

3M™ MARINE ADHESIVE SEALANT FAST CURE 5200

A one-part polyurethane adhesive/sealant. Starts to cure (tack-free) in approx. 2 hours, after which hoses can be attached. Full cure takes 24 hours – refer to product literature. Creates a permanent seal. Colour = White. Prep with 3M General Purpose Cleaner.

3M™ MARINE ADHESIVE SEALANT 4200

Approximately half the strength (once cured) of 5200 however allows for easier disassembly of parts. Note: Alcohol will interfere with the curing process, and extra care must be taken when using alcohol as a cleaning solvent to prevent any contact with the sealant.

3M™ MARINE ADHESIVE SEALANT FAST CURE 4000 UV

A Silane Modified Polymer (SMP) - Designed for marine applications above and below the waterline. Excellent UV resistance.

BOSTIK® 920 FS MARINE SEALANT

A one-part urethane adhesive/sealant. Starts to cure (tack-free) in approx. 2 hours, after which hoses can be attached. Full cure takes 1.5 – 3 days – refer to manufacturer's product literature.

FIX TECH FIX 15 ADHESIVE SEALANT

A one-part MS Polymer.

Other Sealers *

*(Always check manufactures product literature before use) **

LOCTITE® 5331

Thread Sealant - low strength. Used for threaded plastic or plastic/metal fittings carrying hot or cold water. Full cure is achieved within 96 hours (at min. 40% atmospheric humidity) – refer to manufactures product literature.

PTFE (Teflon™) Thread Tape – not for 3" Range

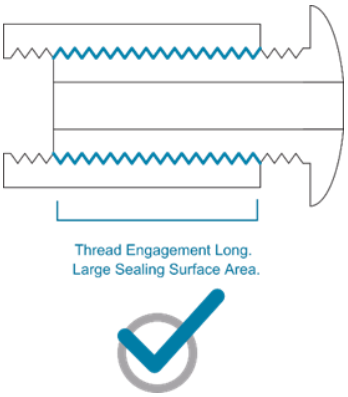
PTFE (Teflon™) tape is a traditional thread sealing method which provides a good seal when applied correctly. However, in some cases if the position or tightness of the Ball Valve or Skin Fitting is incorrect, they have to be unscrewed and more tape applied, slowing the assembly process. Additionally, the fittings can sometimes be turned by hand after being installed. A backing nut can also assist to prevent turning.

LOCTITE® 55 Pipe Sealing Cord – not for 3" Range

A coated multi-filament cord designed as a faster method than Teflon tape to seal threaded fittings. The main advantage is that a component, for example a Ball Valve, could be screwed down then screwed back a turn to suit positioning whilst still maintaining a tight seal. This eliminates the need to remove the entire Ball Valve and apply more tape as with traditional Teflon tape. Colour = White.

Parallel Threads:

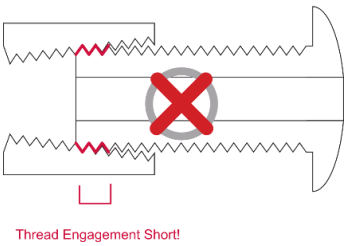
To comply with International Marine Standards, all TRUDESIGN™ Skin Fittings, Ball Valves and threaded connectors are manufactured with parallel threads. This ensures threaded connections utilise full thread engagement, resulting in greater strength and sealing ability. A backing nut can be used to help secure fittings in the desired direction.
TRUDESIGN™ parallel thread types are available in:
BSP(P) – British Standard Pipe (Parallel) – used widely throughout most parts of the world including Europe, Asia, and Australasia – Identified on parts with an embossed 'B'.
NPS – National Pipe Straight (American National Pipe) – predominantly used within North America – Identified on parts with an embossed 'N'.



Tapered Threads:

Do not use tapered thread valves in marine applications!

For safety reasons tapered BSPT and NPT threads, such as those used in the agricultural industry, should never be used in marine applications due to their lack of strength and sealing reliability caused by poor thread engagement.



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