

## THREAD SEALING

When considering thread sealing it is important to note;

- If the fitting will not be taken apart, we recommend adhesive sealants.
- For 90° and 120° fittings or fittings with 90° and 120° fittings mounted on them, we recommend adhesive sealants as this helps prevent the fitting turning from the weight of a hose.
- If they are to be taken apart and have no risk of turning, thread tapes, pipe sealing chords or a lesser strength sealant such as 3M 4200 can be used. A backing nut can also assist to prevent turning.
- When tightening a threaded fitting, do not over tighten, simply allow the adhesive sealant to provide the seal and orientation of the fitting.
- If the fitting is tightened – tighten to a maximum of 16 Nm (12 ft/lb).

### About Adhesive Sealants

Adhesive sealants offer several advantages over traditional tape sealing methods. These advantages include: “Set and forget” installation – the fitting can be set in the correct orientation to better suit hose direction and flow. 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.

The adhesive sealant can be applied to either female or male threads, unlike tapes which are only applied to male threads (and can be awkward to access).

Improved sealing – sealants adhere to the substrate they are applied to unlike tapes that are ‘sandwiched’ in between.

TRUDESIGN™ has tested the following products for watertight sealing of threads on our fittings. Always refer to manufacturer’s web sites for specific details.

### Adhesive Thread Sealers - (Always check manufactures product literature before use)

#### SIKAFLEX® 291i Marine Adhesive Sealant

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. Available colours = Black, White.

#### SIKAFLEX® 591 Multifunctional Sealant for Marine applications.

A multipurpose sealant designed for marine applications. It is suitable for elastic, vibration-resistant joint seals.

#### 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.

#### Bostik® 920 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.



## Normal Thread Sealers (Always check manufactures product literature before use)

### LOCTITE® 5331

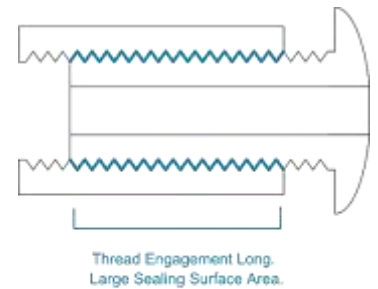
Thread Sealant - low strength. Used for threaded plastic or plastic/metal fittings carrying hot or cold water. Full cure is achieved within 96 hours (at min. 40% atmospheric humidity) – refer to manufactures product literature.

### 3M™ Marine Adhesive Sealant Fast Cure 4200

Approximately half the strength (once cured) of 5200 which allows for easier disassembly of parts.

### PTFE (Teflon™) Thread Tape

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

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.

## THREAD FORMS

### 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:

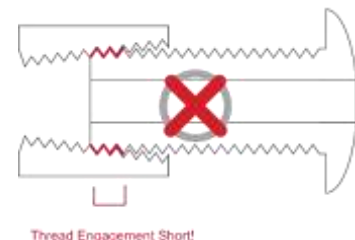
BSP(P) – British Standard Pipe (Parallel) – used widely throughout most parts of the world including Europe, Asia, and Australasia – Identified on parts with an embossed ‘B’.

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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