

## Thread Sealing Tips

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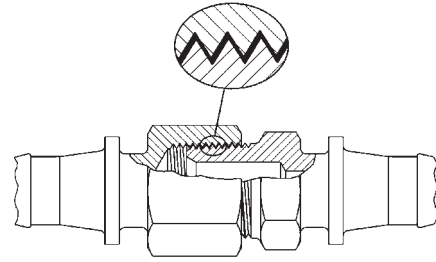
Sealing NPT threads can be an exasperating experience if certain techniques are not followed. The following tips will help alleviate many common problems in thread sealing:

1. Always use some type of sealant (tape or paste) and apply sealant to male thread only. If using a hydraulic sealant, allow sufficient curing time before system is pressurized.
2. When using tape sealant, wrap the threads in a clock-wise motion starting at the first thread and, as layers are applied, work towards the imperfect (vanishing) thread. If the system that the connection being made to cannot tolerate foreign matter (i.e. air systems), leave the first thread exposed and apply the tape sealant as outlined above.
3. When using paste sealant, apply to threads with a brush, using the brush to work the sealant into the threads. Apply enough sealant to fill in all the threads all the way around.
4. When connecting one stainless steel part to another stainless steel part that will require future disassembly, use a thread sealant that is designed for stainless steel (see page 1053). This stainless steel thread sealant is also useful when connecting aluminum to aluminum that needs to be disconnected in the future. These two materials gall easily, and if the correct sealant is not used, it can be next to impossible to disassemble.
5. When connecting parts made of dissimilar metals (i.e. steel and aluminum), standard tape or paste sealant performs satisfactory.
6. For sizes 2" and below, tape or paste performs satisfactory. When using thread tape, four wraps (covering all necessary threads) is usually sufficient.
7. For sizes 2-1/2" and above, thread paste is recommended. If thread tape is used, eight wraps (covering all necessary threads) is usually sufficient. Apply more wraps if necessary.
8. For stubborn to seal threads, apply a normal coating of thread paste followed by a normal layer of thread tape.
9. For extremely stubborn to seal threads, apply a normal coating of thread paste followed by a single layer of gauze bandage followed by a normal layer of thread tape.

#### Caution!

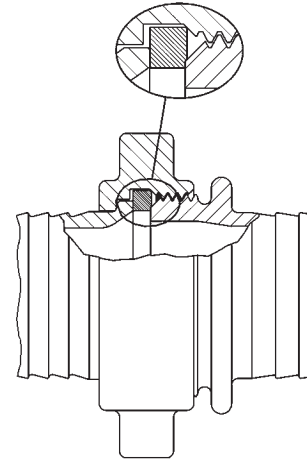
When this procedure is done, the connection becomes permanent. Extreme measures will be necessary to disconnect these components. *All other measures to seal the threads should be explored prior to use of this technique.*

10. Over-tightening threads can be just as detrimental as insufficient tightening. For sizes 2" and below, hand tighten the components and, with a wrench, tighten 3 full turns. For sizes 2-1/2" and above, hand tighten the components and, with a wrench, tighten 2 full turns.



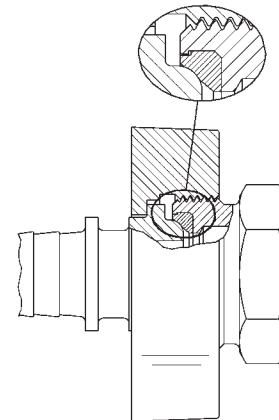
#### Thread Seal Type

- A seal is obtained by applying a sealant to the male thread before engaging.
- The sealant is used to prevent spiral leakage.
- Thread tape or paste is the preferred sealant in this type of application.
- Please refer to page 1052 for thread tape options.



#### Washer Seal Type

- A seal is obtained when the male thread is tightened down onto the washer of the female assembly.
- The washer should be inspected regularly and replaced as needed to prevent leakage.
- Please refer to pages 158, 1037 for replacement washers.



#### Mechanical Seal Type

- A seal is obtained through metal to metal contact or metal to seal contact, i.e. JIC couplings (pages 544 - 549) have a metal to metal seal. Boss® Ground Joint couplings (pages 153 - 155) have a metal to seal contact (shown above).
- The couplings should be retightened as needed to prevent leakage.