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| Princeton Plasma Physics Laboratory | ENGINEERING STANDARD | No. ES-MECH-004 Rev. 1 Page 1 of 1 |
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| Subject: Seal Welds on Threaded Joints | Effective Date 12/1/2008 | Initiated Fabrication, Operations & Maintenance Division |
| | Supersedes 8/22/94 | Engineering & Technology Development Department Head |

Applicability: This Engineering Standard provides the criteria for seal welds which may be deposited at the male/female thread interface between two components, to provide a leak-light barrier. This weld is not designed to replace or supplement the mechanical strength of the thread connection.

Introduction: Threaded connections may leak after being placed into service. Therefore, seal welds are often specified for use on the threaded connections, where a maximum degree of leak-tightness is required by design.

Reference Documents: ENG-037 General Welding and Brazing Requirements

Standard:

A typical seal weld configuration is show in Figure 1. The weld penetrates to the root of the first exposed male thread.

These seal welds are typically specified as 1/32-1/16 inch fillets welds, to be deposited using the manual Gas Tungsten Arc (GTAW) welding process. Acceptance criteria for these welds is to perform visual examination to ascertain specified weld size, no cracks, and leak testing to specified acceptance standards.

Welding shall be performed in accordance with Procedure ENG-037, using qualified procedures and welders. Threaded connections that are to be seal welded shall be assembled without thread sealant or tape. After assembly, the joint area shall be thoroughly cleaned to assure complete penetration and fusion. Threaded joints which have already been assembled using a joint sealer may be seal welded if disassembly and removal of the joint sealer is not practical, provided the weld zone is cleaned to remove any exposed thread sealant or tape prior to welding.

In cases where threaded connections are subject o considerable vibration and/or cyclic stresses during service, as determined by the Cognizant Individual, either: (a) threads in the weld zone shall be ground smooth before welding, (b) threads in the weld zone shall be ground smooth after welding or (c) the seal weld shall cover all exposed threads. These conditions are shown in Figures 2 and 3.

Attachments:

Attachment 1: Figure 1 – Typical Seal Weld Detail

Attachment 2: Figure 2 – Seal Weld with Ground Threads in Weld Zone

Figure 3 – Seal Weld Covering Exposed Threads

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| Princeton Plasma Physics Laboratory | ENGINEERING STANDARD | No. ES-MECH-004 Rev. 1 Attachment 1 |
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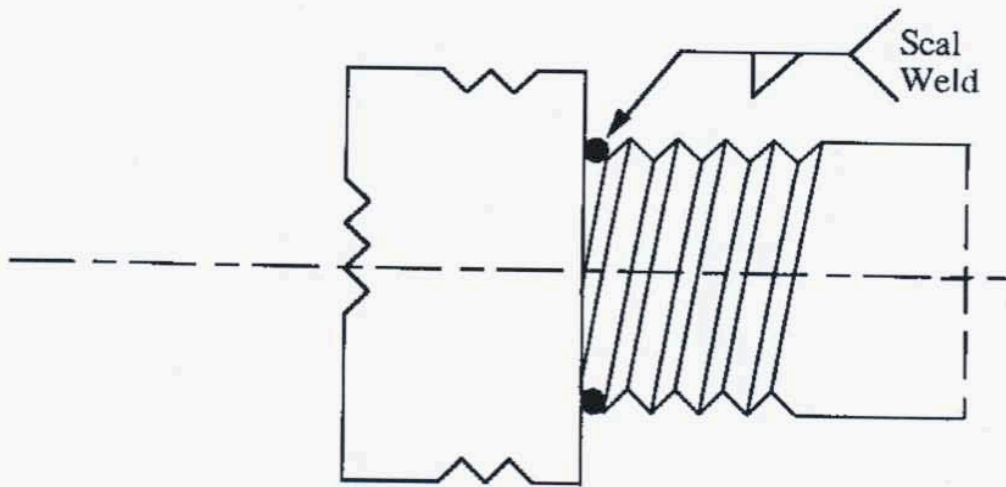


Figure 1: Typical Seal Weld Detail

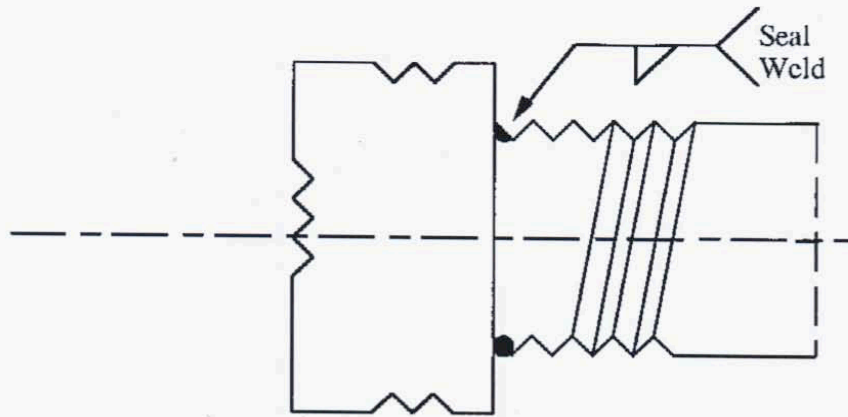


Figure 2: Seal Weld with Ground threads in Weld Zone

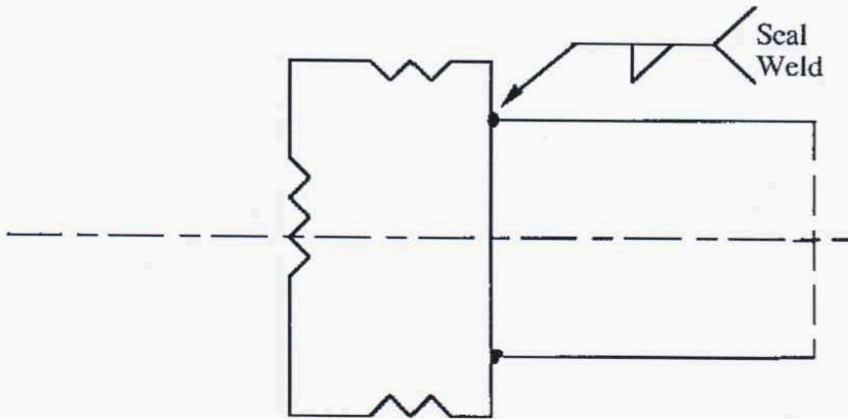


Figure 3: Seal Weld with Covered threads in Weld Zone