

Workshop: Good and Bad Welds in Pressurized Equipment

In this 2-hour workshop, Rob Allsworth, welding inspector and examiner in welding inspection, explains what defines a compliant weld in pressurised equipment under ASME Section IX and construction codes such as ASME VIII and B31.3. Through photographic examples and repair case discussions, you will learn how to recognise unacceptable weld imperfections and defects, together with the engineering and safety implications of weld defects and repairs.

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THURSDAY 10 DEC 2026
(3-5PM CET)

0 MODULES

2 PDH

0 HOURS

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WHAT YOU'LL LEARN

The integrity of pressurised equipment depends on welds that comply with qualified procedures and construction code acceptance criteria. In this workshop, Rob Allsworth, welding inspector and examiner in welding inspection, explains what constitutes a “good” weld and when a weld becomes rejectable under ASME Section IX and EN 15614.

Using photographic examples, participants are shown typical features of bad welds, including incomplete fusion, overlap, excess penetration and concave root surfaces. Rob explains why these conditions occur, linking them to welding parameters, heat input, joint preparation, access restrictions and welding position. The distinction between an imperfection (a geometric deviation) and a defect (a code-rejectable condition) is clarified with reference to inspection practice. The workshop also addresses weld repairs. The session examines why hasty or non-competent repair decisions are dangerous and highlights that even planned, code-compliant repairs require careful control and inspection.

The aim is to equip engineers, whether welders or not, with the knowledge to contribute in making informed design and field decisions.

SKILLS YOU'LL GAIN

- ✓ understand what defines a “good” weld in pressurised equipment;
- ✓ can distinguish clearly between a weld imperfection and a weld defect according to code terminology and acceptance criteria;
- ✓ recognise visual indicators of incomplete fusion, overlap, excess penetration and concave root profiles, and understand the mechanisms that cause them;
- ✓ understand why certain weld geometries, such as concave root surfaces, are more likely to occur under specific welding conditions;
- ✓ appreciate how joint design, fit-up, access and welding position influence weld quality in piping, pressure vessels and heat exchangers;
- ✓ understand the technical and safety risks associated with weld repairs, including unplanned or improperly executed repair procedures.

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ABOUT THE INSTRUCTOR

Robert Allsworth

Welding Inspection, Examiner Welding Inspection

WHO THIS COURSE IS FOR

- ✓ Piping and Mechanical Engineers with a non-welding background

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COURSE CONTENT