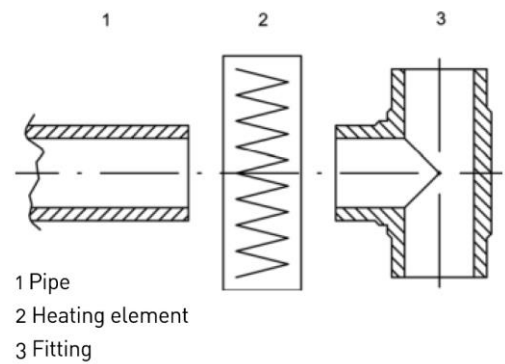


FISH Butt Fusion Fittings

Butt fusion jointing principle

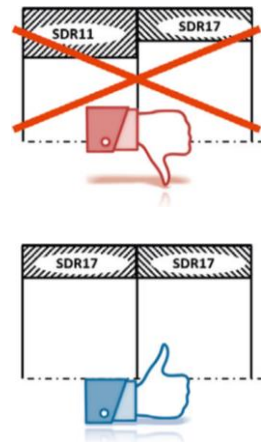
The principle of butt fusion jointing involves heating the ends of two pipes or fittings using a heater plate set to a specified temperature for a defined duration. After removing the heater plate, the pipe ends are pressed together with a designated pressure and then allowed to cool for a specified period. Butt fusion joints must be performed by qualified operators using machines that comply with ISO 12176-1. Operators should have training and skills that meet the requirements outlined in the jointing procedure. Before pipeline construction begins, a written jointing procedure, approved by the pipeline operator, must be available.



General requirements

The fundamental rule for fusion jointing is that only materials of the same type can be joined. For optimal results, components should have a melt flow index (MFI) in the range of 0.2 to 1.4 g/10 min at 190°C/5 kg.

PE butt fusion fittings from Norma Products meet this requirement. Additionally, the components being joined must have identical wall thicknesses at the fusion area. Only properly trained personnel should perform butt fusion jointing to ensure the process is executed correctly.



Temperature matters

The recommended temperature for the heating element is between 250°C and 270°C. Before starting the fusion jointing process, it is important to verify this temperature using a digital thermometer equipped with a surface temperature sensor. During the jointing work, periodically check the heating element temperature to ensure it remains within the specified range, as the heating element's temperature can be affected by ambient conditions.

Operator Competence

The importance of having skilled welders cannot be emphasized enough. The success of a butt weld largely depends on the welder's competency and their commitment to proper surface preparation and adherence to welding procedures. It is crucial to assess the welder's competency level in relation to the pipeline's criticality. Specifying minimum competency requirements ensures that quotes or tenders can be compared fairly. A welding team usually comprises individuals with varying levels of skill and experience, from unskilled workers to highly trained welders. The specification should outline the expected skills and experience for the team members. For major projects, the welding supervisor should be a trained and experienced welder, typically certified by a Registered Training Organization (RTO) and able to demonstrate at least 3 years of relevant experience, including work with pipes of similar or larger sizes than those in the current project. The rest of the crew would generally consist of trained welders (with training from an RTO within the last 3 years) and unskilled workers.