

Aquatherm Technical Bulletin

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Butt-Fusion of Dissimilar SDRs

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From time to time there arises a need to butt fuse pipe of dissimilar SDR's. For example, many of our 6-inch molded fittings are made in SDR 7.4. In order to butt fuse the fitting to SDR 11 pipe the butt fusion heating times and pressures need to be adjusted to accommodate the difference in pipe wall thickness.

The rules then are as follows: The heating times shall be per the smaller SDR (or thicker pipe wall). The pressures used shall be as required for the larger SDR (or thinner wall pipe). For example, if we desire to fuse an SDR 11 pipe and an SDR 7.4 fitting, the thicker walled pipe is the SDR 7.4 and the thinner walled pipe is the SDR 11. Therefore, the heating time shall be per the requirements of the thicker walled pipe (SDR 7.4) and the pressure shall be per the requirements of the thinner walled pipe (SDR 11).¹

This should only be done if the system pressure is below 75% of the rated pressure for the pipe being used at the design temperature, and the design/operating temperature is at or below 140°F. If the conditions exceed these parameters, then a request for authorization must be made using the Special Application Inquiry form.

The next rule is that only one SDR size difference is permitted to be fused together. For example, an SDR 7.4 can be fused to an SDR 11, but cannot be fused to an SDR 17.6. Requests to butt-fuse across more than one SDR will be reviewed on a case-by-case basis.