

The Results of Overwelding

One of the most frustrating outcomes of a job occurs when the costs have been estimated, the order has been received, and the product has been built, only to have the cost of the job exceed the estimate. Often the problem results from failing to identify all the factors affecting cost, especially those that are not direct material or labor costs. Sometimes costs are hidden in operations that were not foreseen. Overwelding can be one such unforeseen cost.

Overwelding results from inaccurate cutting and fitting, poor supervision, insufficient training, or lack of confidence in the strength of the weld as specified. Two joint configurations that

often result in overwelding are complete- or partial-penetration welds in T-joints produced in the horizontal position, and butt joints fabricated between plates of unequal thickness.

Overwelding significantly contributes to excessive welding cost. The increase in weld cross section as a result of overwelding is shown in Fig. 1. In Fig. 2, the weld detail is shown in A, the desired weld is illustrated in B, and the common overwelded condition is represented in C. Figure 3 illustrates the potential overwelding of a transition butt joint, and Fig. 4 shows the effect of poor fitup on the weld cross section.

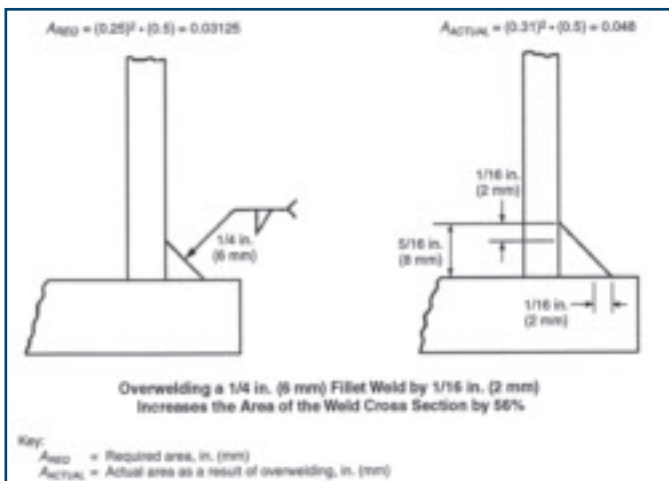


Fig. 1 — Effect of overwelding on a weld cross section.

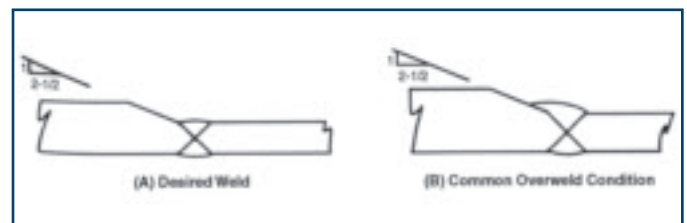


Fig. 3 — Potential overwelding of transition butt joints: A — Desired weld; B — common overweld condition.

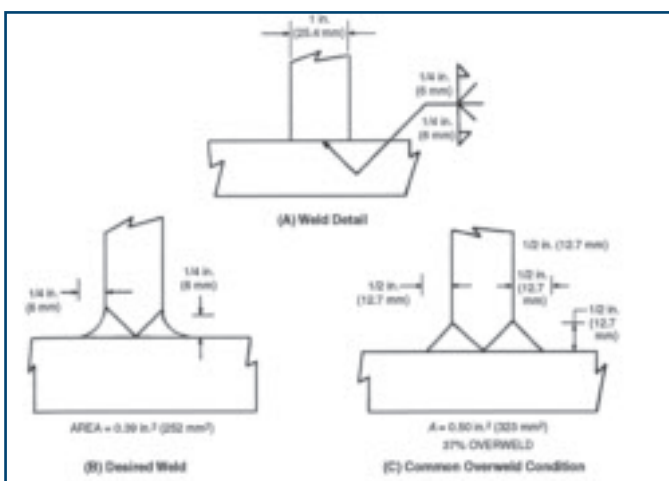


Fig. 2 — Common overwelded complete penetration T-joint fabricated in the horizontal position: A — Weld detail; B — desired weld; and C — common overweld condition.

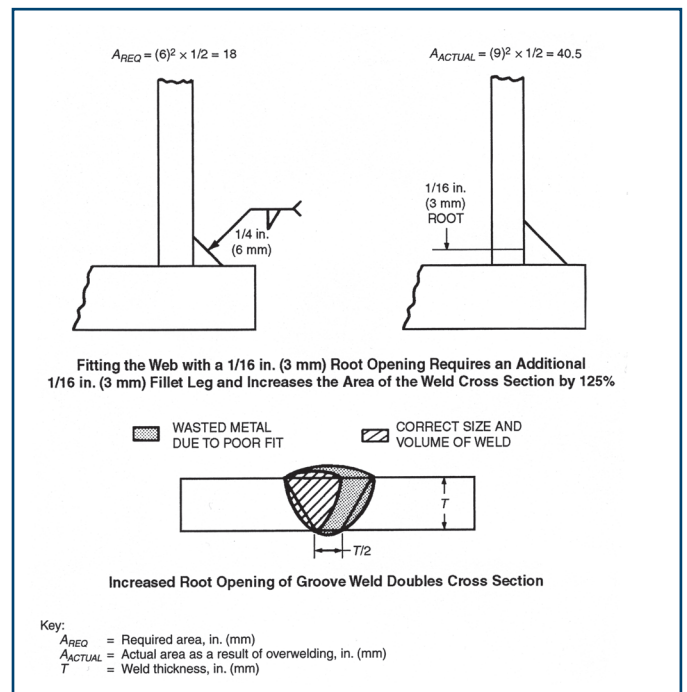


Fig. 4 — Effect of poor fitup on a weld cross section.

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