

ABSTRACT

A Method of Fabricating A
Welded Metallic Duct Assembly

A process for fabricating a welded metallic duct assembly includes the steps of forming tubing from a flat form of a metal or alloy, annealing the tubing while applying radially directed pressure to a surface thereof, and then welding an end of the tubing to an article such as a flange, fitting, connector, spacer, or similarly processed tubing to form a duct assembly. The annealing step includes thermal sizing of the tubing in a manner that relieves residual stresses resulting from the forming process. A welded duct assembly fabricated in accordance with this process is substantially free of distortion in the heat affected zone of the weld that adversely affects the fatigue life of the ducting.