



# The utilization of Welding Stainless Steel

What are best techniques for welding stainless-steel? That's like asking what's the ultimate way to go fishing? This will depend over a lot of things, doesn't it? Lots of things like which stainless, what thickness, what's the application, and for what industry?

1. Food Service. Most metal inside the food service industry is 300 series stainless. Type 304 .063" thick stainless sheet metal to become exact. In the event you go to any Fastfood counter to see all the counters, shelving, cookers and such, you will notice to make sure produced from welded stainless steel sheet metal. Food service codes require 304 stainless to be employed in cooking food areas because it does not rust easily. All welds should be performed such not to trap bacteria along with other crud. Back sides of stainless-steel welds must be shielded with argon in order that they are not sugared and packed with pits that can trap bacteria like salmonella. All wire brushing carried out using a stainless brush and welds that are not perfectly smooth must be blended smooth by incorporating kind of abrasive wheel and then cleaned with alcohol.

Tig welding is almost always the best process since spatter and slag are absent. Tig welding rods must be 308L for welding 304 stainless. L is made for low carbon because



Carbon is bad in relation to corrosion resistance in stainless.

Tricks for welding SS sheet metal : 1 amp per 1 thousands of thickness, maintain the hot tip with the filler rod shielded and snip it whether it gets oxidized, use chill bars manufactured from aluminum, copper, or bronze whenever you can. Filler rod should generally stop larger than thickness of metal welded. Keep bead width to Four times the thickness from the sheet. Utilize a gas lens style cup, a #7 or bigger. A 1/16 thoriated or lanthanated electrode will easily weld 16 ga .063" sheet. Keep electrodes clean and sharp.

2. Aerospace. Metal alloys employed in the aerospace and aviation industries are a extra varied. There are lots of them. Austenitic stainless steels like 321, 347, 316, and 304 are routine, but so are martensitic stainless grades like 410 steel , Greek Ascology, and Jethete M190. Another family of stainless utilized on commercial aircraft will be the Precipitation Hardening variety. A PH towards the end like 15-5ph, 17-4ph, 15-7ph, 17-7ph shows that the steel is precipitation hardening. Meaning holding it at warm for long time allows the steel to harden. PH grades are occasionally a lot more difficult to weld as opposed to straight 300 series as a consequence of alloy elements and sophisticated metallurgical reactions to heat while welding.

Tig Welding and automated plasma welding would be the normally utilized processes.

Methods for Aerospace tig welding SS : Clean, Clean, Clean. Use as big a tig cup and possible 3/4 " --1". Use minimal heat and use any means to prevent distortion (skip welding, fixturing, small beads) shield a corner side of everything you weld with argon using tooling, or hand made purge boxes.

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