



WELDING BASICS SERIES

MAKE SOMETHING BETTER



STAINLESS STEEL BASICS

Stainless Steel Basics

312 STAINLESS STEEL

Alloy ER 312 was originally designed to weld cast alloys of similar composition.

This filler metal has also been found to be valuable in welding dissimilar metals such as carbon steel to stainless steel, particularly those grades high in nickel.

ER 312 gives a two-phase weld deposit with substantial percentages of ferrite in an austenite matrix. Even with considerable dilution by austenite-forming elements such as nickel, the microstructure remains two-phase and thus highly resistant to weld metal cracks and fissures.

WHEN SHOULD I USE 308L, 309L, 347 OR 316L FILLER METAL?

308L (including ER308LSi) is predominately used on austenitic stainless steels, such as types 301, 302, 304, 305. For high temperature applications such as in the electrical power industry, the high carbon 308H electrode provides better creep resistance than 308L.

316L (including ER316LSi) filler metal should be used with 316L and 316 base metals.

Use 309L (including ER309LSi) when joining mild steel or low alloy steel to stainless steels, for joining dissimilar stainless steels such as 409 to itself or to 304L stainless, as well as for joining 309 base metal. Some 308L applications may be substituted with 309L filler metal, but 316L or 316 applications generally require molybdenum and 309L contains no molybdenum.

Type 347 stainless steel filler metal is ideal for 347 and 321 base materials because it matches these stabilised grades. Type 347 filler metal is also suitable most 308L filler metal applications.



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BETTER**

**ANY QUESTIONS?
CONTACT US!**

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