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COR™NICKEL N718 FC

DESCRIPTION

COR™NICKEL N718 FC is a flux-cored, nickel base alloy designed to respond to an Inconel® 718 heat treatment. N718 maintains excellent tensile strength up to 1400°F, and will resist oxidation and strain-age cracking. This product is designed for overlay applications only and has not been qualified for joining critical components.

APPLICATIONS

N718 FC is used for welding high strength forging dies that are subjected to high heats and stresses. It is also used for overlay of dummy blocks used in the copper extrusion industry. Other uses include repair and/or rebuilding of both high temperature and low temperature components.

PROCEDURE

Preheat according to base metal. When welding on 718 base metal maintain 500°F maximum interpass temperature to reduce the possibility of strain-age cracking. Remove the oxide film between layers to prevent oxide inclusions in the weld bead. Peening should be performed between layers. The weldment's properties will be maximized by following this heat treat procedure: Solution treat base metal before welding at 1800°F for 1 hour/inch thickness. After welding, solution treat welded piece at 1800°F for 1 hour/inch thickness then age harden at 1325°F for 8 hours, furnace cool at 100°F/hour to 1150°F, hold for 8 hours, then air cool.

WELDING PARAMETERS

	Size	Volts	Amps	Stickout	Shielding Gas
MC-G	1/16"	22-24	180-220	3/4"	75%Ar-25%CO_2
MC-G	3/32"	23-25	380-420	3/4"	75%Ar-25%CO_2

MECHANICAL PROPERTIES

	Solution treated and age hardened
Hardness:	37-41 Rc
Tensile Strength:	165,000 psi
Yield:	135,000 psi
Elongation:	15%

CLASSIFICATION

Inconel® 718

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