



Hardalloy® 119

HARD SURFACING ELECTRODE

Build-UP

Replaces Preliminary

220-G INDEX: 981201







DESCRIPTION:

Hardalloy 119 deposit is a work hardening austenitic manganese steel. It is designed for the build-up or joining of austenitic manganese steels. Slightly harder than Hardalloy 118 in the “as deposited” condition and also work hardens quicker.

OPERATIONAL CHARACTERISTICS:

Hardalloy 119 produces a smooth, stable arc with very low spatter. Deposits are porosity-free with an easily removable slag. 1/8” and 5/32” diameters can be used out-of-position using reduced amperages, building a series of horizontal beads on a “shelf”, and using a weave technique.

RELATIVE WEAR RESISTANCE:

 abrasion	
 impact	
 heat	
Low Microstructure High (Austenitic)	

TYPICAL WELD METAL PROPERTIES* (CHEM PAD):

Weld Metal Analysis

Carbon (C)	1.00
Manganese (Mn)	19.50
Silicon (Si)	0.50
Chromium (Cr)	5.00
Iron (Fe)	Bal.

TYPICAL MECHANICAL PROPERTIES* (AS WELDED):

Tensile Strength	135,000 psi (932 MPa)
Yield Strength	97,000 psi (669 MPa)
Elongation % in 2"	31%
Hardness - as Deposited	21 Rc
Hardness - Work Hardened	50-55 Rc
Machinability	Difficult/Grind only
Flame cutting is difficult	

*The information contained or otherwise referenced herein is presented only as “typical” without guarantee or warranty, and McKay expressly disclaims any liability incurred from any reliance thereon. No data is to be construed as a recommendation for any welding condition or technique not controlled by McKay.



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RECOMMENDED OPERATING PARAMETERS:

Diameter		Type of Power	Minimum Amps	Optimum Amps	Maximum Amps
Inches	mm				
1/8	3.2	DCEP* or AC	135	150	165
5/32	4.0	DCEP* or AC	180	200	220
3/16	4.8	DCEP* or AC	220	240	280
7/32	5.6	DCEP* or AC	260	280	340

* Preferred

AVAILABLE DIAMETERS AND PACKAGES:

Diameter		Length		10-lb. Can	45-lb. Can
Inches	mm	Inches	mm		
1/8	3.2	14	355	S541944-033	-
5/32	4.0	14	355	S541951-033	-
3/16	4.8	14	355	S541958-033	-
7/32	5.6	18	457		S541970-037

APPLICATIONS:

Similar to Hardalloy 118, except that it is slightly harder in the “as deposited” condition, and work hardens quicker.

- Manganese Steel Railroad Crossovers and Frogs

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