



Chrome-Mang[®] MAIN LINE

HARD SURFACING ELECTRODE

Build-Up

Replaces HS-150A

220-B INDEX: 981201




DESCRIPTION:

Chrome-Mang deposits a high chromium austenitic manganese alloy. As a result of the higher chromium content in the weld metal, Chrome-Mang is much more versatile than standard austenitic manganese alloy. It can be used for build-up and overlay of austenitic manganese (Hadfield) as well as carbon and low alloy steels. It can also be used for joining of manganese steel to itself or to carbon and low alloy steels. The deposit offers the ultimate in impact resistance and upon work hardening, has good abrasion resistance. It also offers more corrosion resistance than mild steel. Chrome-Mang is not limited to a maximum number of build-up layers and is an excellent base for more abrasion-resistant carbide alloys such as a Hardalloy 140 and Hardalloy 155.

OPERATIONAL CHARACTERISTICS:

Chrome-Mang produces a smooth, stable arc with low spatter loss. Deposits are porosity-free with an easily removable slag. Diameters 1/8" and 5/32" can be used out-of-position using reduced amperage, building a series of horizontal beads on a "shelf", and by using a weave technique.

RELATIVE WEAR RESISTANCE:

 abrasion	
 impact	
 heat	
Low Microstructure (Austenitic) High	

TYPICAL WELD METAL PROPERTIES* (CHEM PAD):

Weld Metal Analysis

Carbon (C)	0.40
Manganese (Mn)	14.50
Silicon (Si)	0.60
Chromium (Cr)	14.00
Nickel (Ni)	1.00
Molybdenum (Mo)	1.50
Vanadium (V)	0.50
Iron (Fe)	Bal.

TYPICAL MECHANICAL PROPERTIES* (AS WELDED):

Tensile Strength	130,000 psi (897 MPa)
Yield Strength	94,000 psi (649 MPa)
Elongation % in 2"	40%
Hardness— as deposited	18-22 Rc
Hardness— work hardened	50-55 Rc
Machinability	Difficult
Flame cutting is difficult	
Non-magnetic	

*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 Inches	Diameter mm	Type of Power	Minimum Amps	Optimum Amps	Maximum Amps	Deposition Rate lb/hr [†]
1/8	3.2	DCEP* or AC	120	150	170	2
5/32	4.0	DCEP* or AC	150	200	240	3
3/16	4.8	DCEP* or AC	220	250	280	4
7/32	5.6	DCEP* or AC	260	280	320	5

* Preferred

[†] Typical at optimum settings

Note: To maximize deposition use higher amperages. To minimize penetration (and dilution) use lower amperages.

AVAILABLE DIAMETERS AND PACKAGES:

Diameter Inches	Diameter mm	Length Inches	Length mm	10-lb. Can	45-lb. Can
1/8	3.2	14	355	S542144-033	—
5/32	4.0	14	355	S542151-033	—
3/16	4.8	14	355	S542158-033	—
7/32	5.6	18	457	—	S542170-037

APPLICATIONS:

- Bucket Teeth
- Crusher Jaws and Cones
- Dredge Cutter Head and Teeth
- Grizzly Bars and Fingers
- Gyratory Crusher Rolls and Mantles
- Hammer Mill Hammers
- Hydroelectric Turbines
- Impactor Crusher Bars
- Railroad Frogs and Crossovers

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