

# Hardalloy<sup>®</sup> 118



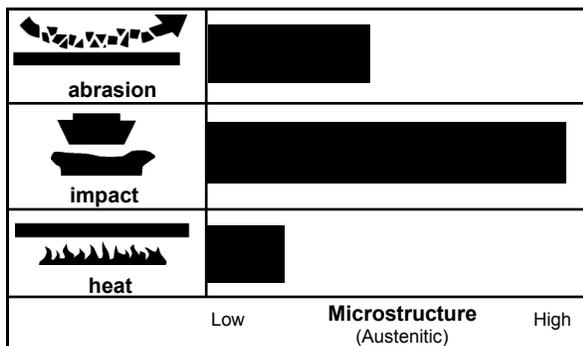
## DESCRIPTION:

**Hardalloy 118** deposits a work hardenable austenitic manganese steel alloy. It is designed for the build-up and overlay of austenitic manganese (Hadfield) steels. It can also be used for joining austenitic manganese to austenitic manganese only. The deposit is extremely tough, making it suitable for severe impact. After work hardening under impact, it provides good abrasion resistance. Hardalloy 118 is not limited to a maximum number of layers of build-up and provides an excellent base for more abrasion-resistant carbide alloys such as Hardalloy 140 and Hardalloy 155.

## OPERATIONAL CHARACTERISTICS:

Hardalloy 118 produces a smooth, stable arc with low spatter loss. Deposits are porosity-free with an easily removable slag. 1/8" and 5/32" diameters 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:



## TYPICAL WELD METAL PROPERTIES\* (CHEM PAD):

### Weld Metal Analysis

Carbon (C)	0.80
Manganese (Mn)	16.50
Silicon (Si)	0.50
Chromium (Cr)	5.00
Nickel (Ni)	0.30
Iron (Fe)	Bal.

## TYPICAL MECHANICAL PROPERTIES\* (AS WELDED):

Tensile Strength	127,000 psi (876 MPa)
Yield Strength	78,000 psi (538 MPa)
Elongation % in 2"	50%
Hardness—as deposited	18-22 Rc
Hardness—work hard-	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 Hobart Brothers Company 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 Hobart Brothers Company.

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## RECOMMENDED OPERATING PARAMETERS:

Diameter		Type of Power	Minimum Amps	Optimum Amps	Maximum Amps	Deposition Rate lb/hr <sup>†</sup>
Inches	mm					
1/8	3.2	DCEP* or AC	85	120	175	2
5/32	4.0	DCEP* or AC	140	180	250	3
3/16	4.8	DCEP* or AC	170	230	270	4

\* Preferred

<sup>†</sup> Typical at optimum settings

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

## AVAILABLE DIAMETERS AND PACKAGES:

Diameter		Length		10-lb. Can
Inches	mm	Inches	mm	
1/8	3.2	14	355	S540444-033
5/32	4.0	14	355	S540451-033
3/16	4.8	14	355	S540458-033

## APPLICATIONS:

- Crusher Jaws and Cones
- Crusher Rolls
- Dredge Pump Casings, Impellers, and Side Plates
- Gyratory Crusher Mantles and Cones
- Hammer Mill Hammers
- Impactor Crusher Bars
- Manganese Bucket Teeth
- Manganese Steel Railroad Crossovers and Frogs
- Sizing Screens

**TECHNICAL QUESTIONS?** For technical support of Hobart Filler Metals products, contact the Applications Engineering department by phone toll-free at 1-800-532-2618 or by e-mail at [Applications.Engineering@hobartbrothers.com](mailto:Applications.Engineering@hobartbrothers.com)

### CAUTION:

Consumers should be thoroughly familiar with the safety precautions on the warning label posted in each shipment and in the American National Standard Z49.1, "Safety in Welding and Cutting," published by the American Welding Society, 8669 NW 36 St, # 130, Doral, FL 33166-6672 (can also be downloaded online at [www.aws.org](http://www.aws.org)); OSHA Safety and Health Standards 29 CFR 1910 is available from the U.S. Department of Labor, Washington, D.C. 20210

Material Safety Data Sheets on any Hobart Brothers Company product may be obtained from Hobart Customer Service or at [www.hobartbrothers.com](http://www.hobartbrothers.com).

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