

# Tube-Alloy<sup>®</sup> 244-O



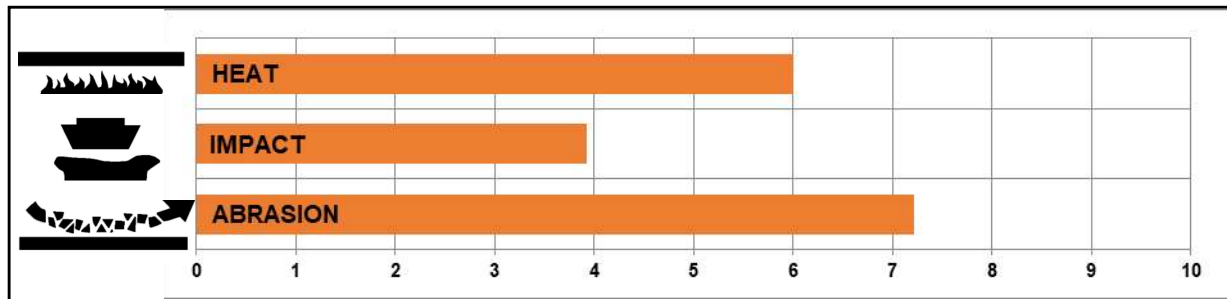
## DESCRIPTION:

**Tube-Alloy 244-O** is a medium alloy carbide steel. It is primarily designed to meet the specific physical and operational requirements necessary in the automatic rebuilding of dredge pump shells. Deposits do stress relief check crack.

## OPERATIONAL CHARACTERISTICS:

Tube-Alloy 244-O requires no external shielding gas to produce sound weld deposits but CO<sub>2</sub> shielding gas can sometimes be utilized for special conditions. Weldability is excellent in the horizontal position. A fine check pattern provides maximum stress relief.

## RELATIVE WEAR RESISTANCE:



Microstructure: Chromium Carbides in an Austenite-Carbide Matrix

## TYPICAL WELD METAL CHEMICAL COMPOSITION\* (Chem Pad):

Weld Metal Analysis (%)	
Carbon (C)	2.50
Manganese (Mn)	1.60
Silicon (Si)	2.00
Chromium (Cr)	9.00
Copper (Cu)	0.50
Iron (Fe)	Balance

## TYPICAL DEPOSIT HARDNESS\* (AS DEPOSITED):

Layer(s)	1020 Steel	4130 Steel
1	34 Rc	24 Rc
2	37 Rc	33 Rc
3	40 Rc	38 Rc

- Abrasion resistance: Very Good
- Impact resistance: Fair
- Machinability: Very Difficult
- Cannot be flame cut
- Slightly Magnetic
- Heat-treatable
- Will relief check crack readily
- Thickness—3 to 5 layers maximum

\*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 LLC.

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## RECOMMENDED OPERATING PARAMETERS\*:

Diameter Inches (mm)	Type of Power	Optimum Amps	Volts	Deposition Rate			CTWD	
				Amps	lbs/hr	(kg/hr)	Inches	(mm)
7/64" (2.8 mm)	DCEP	350-400	24-27	300	11.0	(5.0)	1-1/2—2	(38-51)
7/64" (2.8 mm)	DCEP	<b>400-450</b>	<b>26-29</b>	350	14.0	(6.4)	1-1/2—2	(38-51)
1/7/64" (2.8 mm)	DCEP	450-500	28-32	400	18.0	(8.2)	1-1/2—2	(38-51)

- Start with **middle ranges** and adjust accordingly. Higher amperages will increase deposition rate, dilution, and heat input to base metal, increasing voltage will widen and flatten bead profile, but excessive voltage will result in porosity.
- Too much electrical stick-out may result in increased spatter, too little may result in internal porosity.

**AVAILABLE DIAMETERS AND PACKAGES:** For a complete list of diameters and packaging, please contact Hobart Brothers at (800) 424-1543 or (937) 332-5188

Diameter Inches (mm)	250 lb. (113kg) Auto-Pak
Net Pallet Weight	2000-lb. (907 kg)
7/64" (2.8)	S604439-65

## APPLICATIONS:

- Dredge Pumps
- Impeller and Side Plates
- Pipeline Ball Joints
- Pump Shells

**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, Miami, 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

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

Because Hobart Brothers Company is constantly improving products, Hobart reserves the right to change design and/or specifications without notice.

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