



# Tube-Alloy 240-O

## DESCRIPTION:

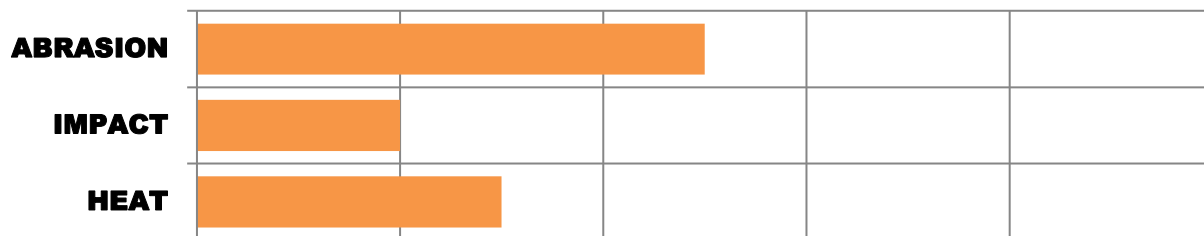
Tube-Alloy 240-O is a self-shielded, flux-cored wire that deposits a chromium carbide alloy steel. The deposit's combination of very good abrasion resistance and moderate impact resistance makes it an excellent general-purpose alloy. The Tube-Alloy 240-O is designed for overlay on carbon, low alloy, or austenitic manganese base metals or can be used over a weld base of Tube-Alloy Build UP-O or 218-O.

Some stress-relief check cracking will occur. This cracking is not detrimental to the wear properties of the deposit and provides some degree of stress relief for the weld metal.

## OPERATIONAL CHARACTERISTICS:

Tube-Alloy 240-O has a steady arc with a globular transfer. Spatter and noise levels are minimal. The minimal slag coverage allows it to operate well in automatic applications without slagging between passes. Out-of-position welding is limited to a horizontal shelf technique. Conforms to AWS A5.21, classification ERcFeCr-A3A.

## RELATIVE WEAR RESISTANCE:



## TYPICAL WELD METAL CHEMISTRY\* (Chem Pad):

WELD METAL ANALYSIS		AWS A5.21 ANNEX A 7.1.10 ERcFeCr-A3A
CARBON (C)	3.20	2.5-3.5
MANGANESE (MN)	1.80	1.5-3.5
SILICON (SI)	1.90	0.5-2.0
CHROMIUM (CR)	15.50	14-20
IRON (FE)	BAL.	BAL.

## TYPICAL DEPOSIT HARDNESS\* (As Deposited):

	NUMBER OF LAYERS	1020 STEEL AS DEPOSITED	MN STEEL AS DEPOSITED
HARDNESS	<b>1</b>	<b>40 Rc</b>	<b>35 Rc</b>
	<b>2</b>	<b>48 Rc</b>	<b>42 Rc</b>
	<b>3-5</b>	<b>52 Rc</b>	<b>50 Rc</b>

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

- **ABRASION RESISTANCE:** Very Good
- **IMPACT RESISTANCE:** Fair
- **NONMACHINABLE:** Grinding is difficult
- **CUTTING:** Cannot be oxy-fuel (flame) cut
- **STRESS-RELIEF (CHECK) CRACKING:** The weld deposit will readily stress-relief crack. This cracking is not detrimental to the deposit or the base material
- **THICKNESS SHOULD BE LIMITED TO A MAXIMUM OF FIVE LAYERS.**

## RECOMMENDED OPERATING PARAMETERS:

Diameter		Polarity	Stick-Out		Optimum Amps	Volts	Deposition Rate	
Inches	MM		Inches	MM			Amps	Lbs./Hr
1/16	1.6	DCEP	1"-1.5"	25-38	225-275	23-25	200	6
					<b>275-350</b>	<b>24-27</b>	250	10
					350-400	26-29	300	14

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 stickout may result in increased spatter, too little may result in internal porosity.

## AVAILABLE DIAMETERS AND PACKAGES:

Diameter		33-lb. Spool
Inches	mm	
1/16	1.6	S604019-029

## APPLICATIONS:

- Ammonia Knives
- Hammer Mill Hammers
- Augers
- Impactor Crusher Bars
- Bucket Teeth and Lips
- Manganese Pump Shells
- Bulldozer End Bits and Blades
- Mill Guides
- Conveyor Screws
- Muller Tires
- Crusher Jaws and Cones
- Pipeline Ball Joints
- Crusher Rolls
- Pulverizer Hammers
- Cultivator Chisels and Sweeps
- Scraper Blades
- Dragline Buckets
- Screw Conveyors
- Dredge Pump Impellers and Side Plates
- Sheepsfoot Tampers
- 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, 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).

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**Revision Date: 221013** (Replaces 160523)

