

# 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, 218-O or AP-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 ERCCr-A3A.

## RELATIVE WEAR RESISTANCE:

 abrasion	
 impact	
 heat	
	Low <b>Microstructure</b> High (Chromium Carbide in an Austenitic-Carbide Matrix)

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

WELD METAL ANALYSIS

AWS A5.21  
ERCCr-A3A  
Annex A 7.1.10

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.

For AWS Classification Single Values are Maximum

## TYPICAL MECHANICAL PROPERTIES\* (As Welded):

	NUMBER OF LAYERS	AS-DEPOSITED ON	
		1020 STEEL	MN STEEL
Hardness	1	40 Rc	35 Rc
	2	48 Rc	42 Rc
	3-5	52 Rc	50 Rc

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\*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.

# Tube-Alloy 240-O

## TYPICAL MECHANICAL PROPERTIES\* (As Welded):

Abrasion resistance:	Very Good
Impact resistance:	Fair
Nonmachinable:	Grinding is difficult
Cannot be flame cut	
Deposit will relief check cracks	
Thickness should be limited to five layers maximum	

## RECOMMENDED OPERATING PARAMETERS:

DIAMETER		TYPE OF POWER	STICK-OUT		OPTIMUM AMPS	VOLTS	DEPOSITION RATE	
INCHES	MM		INCHES	MM			AMPS	LB./HR.
.045	1.2	DCEP	1/2 -1	13-25	120-160	19-23	130	4
					<b>160-190</b>	<b>24-25</b>	180	7
					190-230	26-27	220	10
1/16	1.6	DCEP	1-1 1/2	25-38	225-275	23-25	200	6
					<b>275-350</b>	<b>24-27</b>	250	10
					350-400	26-29	300	14
7/64	2.8	DCEP	1 1/2 - 2	38-51	350-400	24-27	300	11
					<b>400-450</b>	<b>26-29</b>	350	14
					450-500	28-32	400	18

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		25-lb. Spool	60-lb. Coil	100-lb. Auto-Pak
Inches	mm			
.045	1.2	S604012-029	—	—
1/16	1.6	S604019-029	—	—
7/64	2.8	—	S604039-062	S604039-097

## APPLICATIONS:

- Ammonia Knives
- Augers
- Bucket Teeth and Lips
- Bulldozer End Bits and Blades
- Conveyor Screws
- Crusher Jaws and Cones
- Crusher Rolls
- Cultivator Chisels and Sweeps
- Dragline Buckets
- Dredge Pump Impellers and Side Plates
- Hammer Mill Hammers
- Impactor Crusher Bars
- Manganese Pump Shells
- Mill Guides
- Muller Tires
- Pipeline Ball Joints
- Pulverizer Hammers
- Scraper Blades
- Screw Conveyors
- 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 36th St., Miami, FL 33166 (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 Company 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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