

# Tube-Alloy<sup>®</sup> 242-O



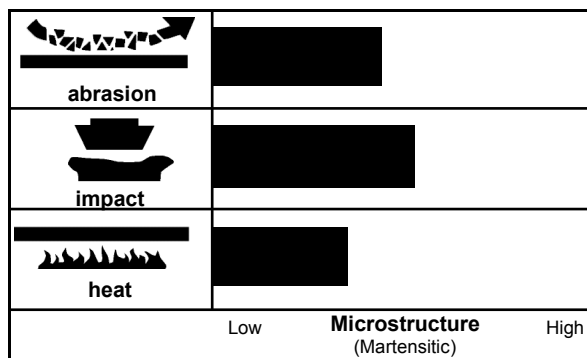
## DESCRIPTION:

**Tube-Alloy 242-O** is a self-shielded, flux-cored wire that deposits a premium martensitic alloy steel. It has excellent resistance to adhesive (metal-to-metal) wear. The deposit's good resistance to abrasion and impact makes it a versatile overlay alloy. It is designed for use as an overlay on carbon and low-alloy steels or a base of Tube-Alloy Build Up-O. With proper preheating, crack-free deposits can be obtained. Tube-Alloy 242-O should never be used for joining. Similar to AWS A5.21, classification ERC Fe-2.

## OPERATIONAL CHARACTERISTICS:

Tube-Alloy 242-O has a steady arc with a globular transfer. Spatter and noise levels are minimal, with a complete, easily removed slag cover. Out-of-position welding is limited to a horizontal shelf technique.

## RELATIVE WEAR RESISTANCE:



**AWS A5.21  
ERC Fe-2  
Annex A 7.1.1**

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

### WELD METAL ANALYSIS

Element	Typical Value	AWS A5.21 ERC Fe-2 Annex A 7.1.1
Carbon (C)	0.25	0.10 - 0.30
Manganese (Mn)	1.30	0.5 - 2.0
Silicon (Si)	0.70	1.0
Chromium (Cr)	4.00	1.8 - 3.8
Molybdenum (Mo)	0.50	1.0
Iron (Fe)	Bal.	Rem

For AWS classification single values are maximum

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

Property	Number of Layers	As-Deposited on 1020 Steel
Hardness	1	36 Rc
	2	39 Rc
	3	42 Rc
Abrasion resistance		Good
Impact resistance		Good
Machinable		
Can be flame cut		
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	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 stick-out may result in increased spatter, too little may result in internal porosity.

## AVAILABLE DIAMETERS AND PACKAGES:

DIAMETER		25-LB. SPOOL	60-LB. COIL
INCHES	MM		
.045	1.2	S604212-029	—
1/16	1.6	S604219-029	S604219-062
7/64	2.8	—	S604239-062

## APPLICATIONS:

- Carbon Steel Frogs
- Carbon Steel Rolls
- Crane Wheels
- Idlers
- Rail Ends
- Steel Shafts
- Switch Points
- Tractor Rollers

**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).

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

Tube-Alloy is a registered trademark of Hobart Brothers Company, Troy, Ohio.

Revision Date: 150305 (Replaces 100617)

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