

Tube-Alloy[®] Build Up-O



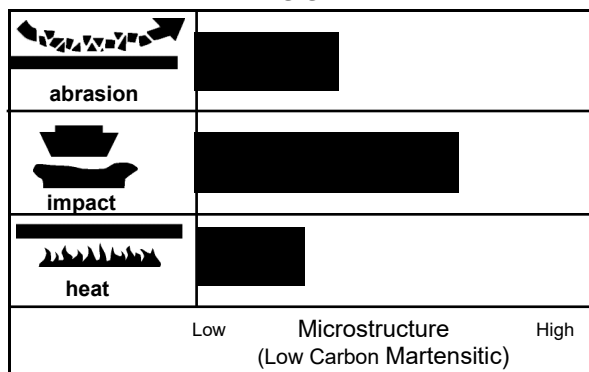
DESCRIPTION:

Tube-Alloy Build Up-O is a self-shielded, flux-cored wire that deposits a low alloy steel. It is designed for build-up carbon and low alloy steels only. The weld metals have good compressive strength and impact resistance, making them excellent bases for more abrasion-resistant alloys. The deposits have excellent resistance to cracking, even in multiple layers, and are well within the machinable range. Tube-Alloy Build Up-O is not recommended for joining. Conforms to AWS A5.21, classification ERCFe-1A.

OPERATIONAL CHARACTERISTICS:

Tube-Alloy Build Up-O has a steady arc with a globular transfer. It can operate successfully over a wide range of parameters. Spatter and noise levels are minimal, with a complete, easily removed slag cover—even at high temperatures. Out-of-position welding is limited to a horizontal shelf technique.

RELATIVE WEAR RESISTANCE:



TYPICAL WELD METAL PROPERTIES* (Chem Pad):

AWS A5.21
ERCFe-1A
Annex A 7.1.1

Weld Metal Analysis

Carbon (C)	0.12	0.05-0.25
Manganese (Mn)	2.80	1.7-3.5
Silicon (Si)	0.80	1.0
Chromium (Cr)	1.20	0.5-3.5
Iron (Fe)	Bal.	Bal.

For AWS Classification Single Values are Maximum

TYPICAL MECHANICAL PROPERTIES* (As Welded):

	Number of Layers	As-Deposited on	
		1020 Steel	4130 Steel
Hardness	1	30 Rc	36 Rc
	2	28 Rc	30 Rc
	3	25 Rc	26 Rc
Abrasion resistance		Fair	
Impact resistance		Very Good	
Machinability		Excellent	
Can be flame cut			
Magnetic			
Heat-treatable			

*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 Inches	Diameter mm	Type of Power	Stick-Out		Optimum Amps	Volts	Deposition Rate	
			Inches	mm			Amps	lb/hr
.045	1.2	DCEP	1/2-1	13-25	120-160	19-23	130	4
					160-190	24-25	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
					275-350	24-27	250	10
					350-400	26-29	300	14
7/64	2.8	DCEP	1-1 1/2	38-51	350-400	24-27	300	11
					400-450	26-29	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 Inches	Diameter mm	25-lb.	60-lb.	250-lb.
		Spool	Coil	Auto-Pak
.045	1.2	S600412-029	—	—
1/16	1.6	S600419-029	—	—
7/64	2.8	—	S600439-062	S600439-065

APPLICATIONS:

- Bucket Teeth and Lips
- Crane Wheels
- Dragline Buckets
- Dragline Chains
- Dredge Ladder Rolls
- Gear Teeth
- Kiln Trunnions
- Mine Car Wheels
- Spindles
- Steel Shafts
- Wobbler Ends

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

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); 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.

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

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Revision Date: **160912** (Replaces 160825)

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