



Tube-Alloy 255-O MAIN LINE

OPEN ARC HARD SURFACING WIRE

Overlay

Replaces HS-158 990129

260-I INDEX: 100617

DESCRIPTION:

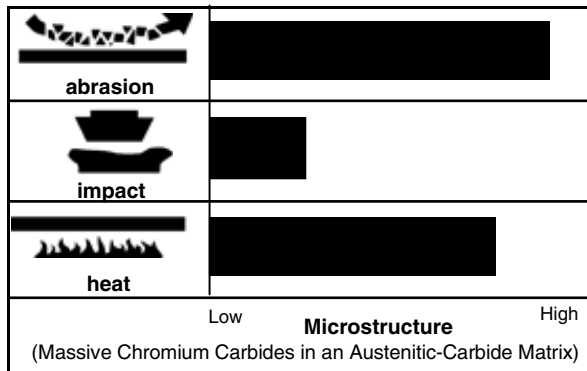
Tube-Alloy 255-O is a self-shielded, flux-cored wire that deposits an extra high chromium carbide alloy steel. It can be used to overlay surfaces subjected to extremely severe abrasion. It can also be used where high temperature (up to 1250°F) wear resistance is required. Tube-Alloy 255-O is designed for overlay on carbon, low alloy, or austenitic manganese base metals or can be used over a weld metal base of Tube-Alloy Build-Up O, 218-O or AP-O.

Stress-relief cracking will readily occur with this product. This cracking is not detrimental to the wear properties of the deposit and provides some degree of stress relief for the weld metal. Conforms to AWS A5.21, classification ERC FeCr-A9.

OPERATIONAL CHARACTERISTICS:

Tube-Alloy 255-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. Tube-Alloy 255-O can be run submerged arc by using with a neutral flux.

RELATIVE WEAR RESISTANCE:



**AWS A5.21
ERC FeCr-A9
Annex A 7.1.12**

TYPICAL WELD METAL PROPERTIES* (CHEM PAD):

Weld Metal Analysis

Carbon (C)	4.50	3.5 - 5.0
Manganese (Mn)	0.90	0.5 - 1.5
Silicon (Si)	0.50	2.5
Chromium (Cr)	26.50	24 - 30
Iron (Fe)	Bal.	Rem

For AWS classification single values are maximum

TYPICAL MECHANICAL PROPERTIES* (AS WELDED):

	Number of Layers	As-Deposited on 1020 Steel	Mn Steel
Hardness	1	54 Rc	48 Rc
	2	56 Rc	50 Rc
	3	58 Rc	53 Rc

Continued on back

*The information contained or otherwise referenced herein is presented as "typical" without guarantee or warranty, and McKay 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 McKay.



Tube-Alloy[®] 255-O MAIN LINE

TYPICAL MECHANICAL PROPERTIES* (AS WELDED):

Abrasion resistance:	Excellent
Impact resistance:	Poor
Nonmachinable:	Grinding is difficult
Cannot be flame cut	
Deposit will relief check cracks readily	
Maintains hot hardness to 1250°F	
Thickness should be limited to three layers maximum	

RECOMMENDED OPERATING PARAMETERS:

Diameter		Type of Power	Stick-Out		Optimum Amps	Volts	Deposition Rate	
Inches	mm		Inches	mm			Amps	lb./hr.
1/16	1.6	DCEP	1 -1-1/2	25 - 28	225 - 275	23 - 25	200	6
					275 - 350	24 - 27	250	10
					350 - 400	26 - 29	300	14
7/64	2.8	DCEP	1-1/2 - 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		25-lb. Spool	60-lb. Coil	100-lb. Auto-Pak	500 lb. Auto-Pak
Inches	mm				
1/16	1.6	S605519-029	S605519-062	--	--
7/64	2.8	--	S605539-062	S605539-266	S605539-097

APPLICATIONS:

Similar to Tube-Alloy 240-O where additional abrasion resistance is required.

- Ammonia Knives
- Augers
- Bucket Teeth and Lips
- Bulldozer End Bits and Blades
- Cement Chutes
- Coal Feeder Screws
- Coal Pulverizer Hammers, Rolls and Table
- Coke Chutes
- Coke Pusher Shoes
- Conveyer Screws
- Crusher Jaws and Cones
- Cultivator Chisels and Sweeps
- Dragline Buckets
- Dredge Cutter Heads and Teeth
- Dredge Pump Inlet Nozzle and Side Plates
- Fan Blades
- Grizzly Bars and Fingers
- Gyrotory Crusher Mantles and Cones
- Manganese Pump Shells
- Muller Tires
- Ore and Coal Chutes
- Pipeline Ball Joints
- Pug Mill Paddles
- Ripper Shanks
- Road Rippers
- Scraper Blades
- Screw Conveyors
- Sheepsfoot Tampers
- Sizing Screens
- Subsoiler Teeth

Material Safety Data Sheets on any McKay product may be obtained from McKay Customer Service. Because McKay is constantly improving products, McKay reserves the right to change design and/or specifications without notice.

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