

# LINCORE<sup>®</sup> 57-G

## Multi-Purpose GMAW-C Hardfacing Wire



### ONE WIRE. MULTIPLE APPLICATIONS.

Lincore<sup>®</sup> 57-G metal-cored wire uses state-of-the-art chemical composition to deliver Rockwell Hardness of 56-61 (R<sub>c</sub>) and outstanding wear resistance in a wide range of hardfacing applications.

- » Great for Moderate Abrasion and Impact applications experienced by:
  - Mining equipment rebuilders
  - Dredging equipment
  - Sugar cane harvesters
  - Tilling and other earth moving equipment
  - Tire shredders
- » Can also be used for Metal-to-Metal or Severe Abrasion with Low Impact applications
- » Can be used with bulk tungsten carbide to generate added abrasion resistance for exceptional wear life
- » Delivers excellent weldability properties
- » Clean, crack-resistant surface appearance with proper preheat and interpass temperatures
- » Works well in mechanized and robotic automation applications

#### Processes

GMAW-C (Metal-Cored)

#### Positions

All, except overhead

#### Shielding Gas

75-90% AR / Balance CO<sub>2</sub>  
98% Ar / 2% O<sub>2</sub>

#### AWS Classifications

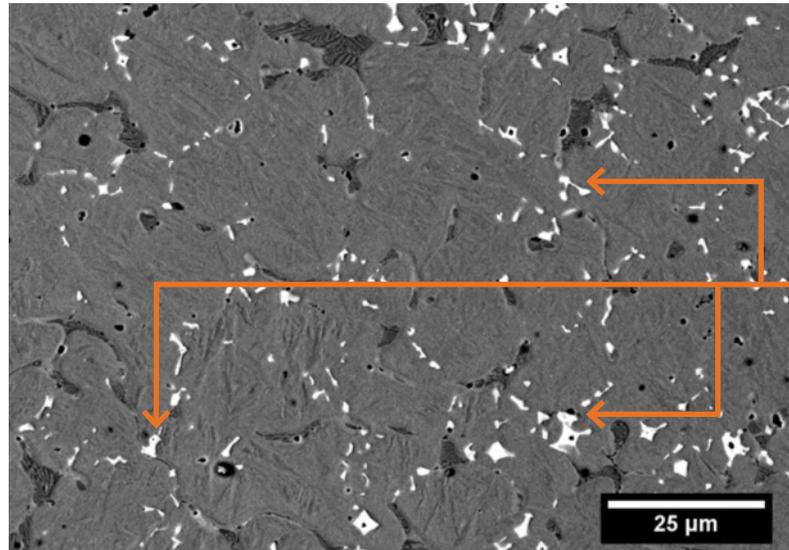
None

## GOOD ABRASION RESISTANCE MADE POSSIBLE BY NIOBIUM CARBIDES

Alloyed with Niobium to form NbC, which enhances wear resistance. Vanadium is added to enhance deposit hardness.

### RESULTS

Lincore 57-G delivers very good (R<sub>c</sub>) Rockwell Hardness and 0.35g mass loss (ASTM G65) to produce a relatively hard and abrasion-resistant deposit for a multi-purpose hardfacing wire



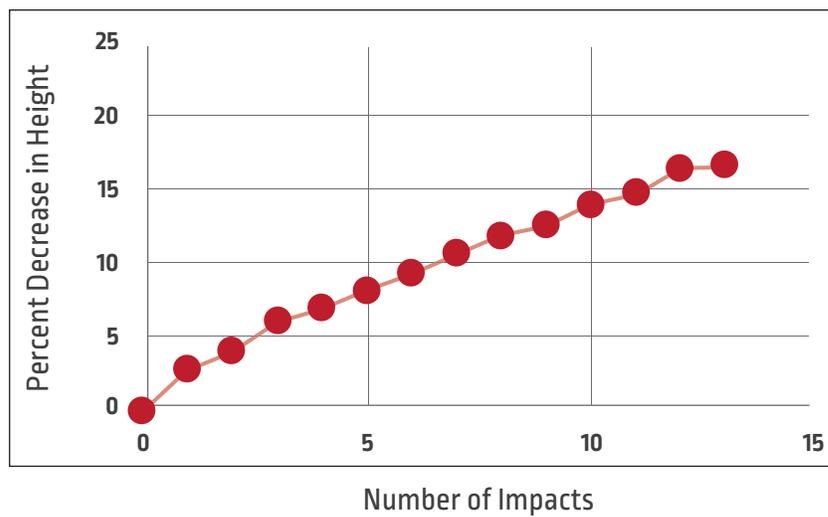
White marks are the Niobium Carbide (NbC) integrated throughout, providing abrasion resistance

## GOOD METAL-TO-METAL WEAR RESISTANCE AND MODERATE IMPACT RESISTANCE

The hard martensitic matrix provides good metal-to-metal wear resistance and moderate impact resistance when tempered.

### RESULTS

In addition to the wear resistance referenced above, testing shows Lincore 57-G also exhibits moderate impact resistance, helping to make it a good multi-purpose hardfacing wire



Percent decrease in height after 130 ft-lb (176 J) vertical impacts – 2 layers on A36, tempered 2h at 950°F (510°C)

## SPECIFICATIONS

### DIAMETERS / PACKAGING

Diameter in (mm)	10 lb (4.5 kg) Plastic Spool	25 lb (11.3 kg) Plastic Spool	500 lb (227 kg) Accu-Trak® Drum
0.045 (1.1)	ED037794	ED037795	ED037796
1/16 (1.6)	ED037297	ED037298	ED037296

### MECHANICAL PROPERTIES<sup>(1)</sup>

Shielding Gas	Rockwell Hardness (R <sub>c</sub> )	Mass Loss (G65) (g)
75%Ar/25 CO <sub>2</sub>	56-59	0.36
98%Ar/2%O <sub>2</sub>	59-61	0.36

### DEPOSIT COMPOSITION<sup>(1)</sup>

On Carbon Steel (2 Layers)	%C	%Cr	%Nb	%Mn	%Mo	%Si	%V
0.045 in (1.1 mm) - Ar/CO <sub>2</sub>	0.971	8.65	-	1.00	0.59	1.02	-
1/16 in (1.6 mm) - 98% Ar/2% CO <sub>2</sub>	0.9-1.1	7.6-10.0	1.3-1.8	1.2-1.6	0.5-0.6	0.8-1.2	1.4-1.9

### TYPICAL OPERATING PROCEDURES

Diameter, Polarity ESO – in (mm)	Approx. Current (Amps)	Voltage (Volts)	Wire Feed Speed m/min (ipm)	Deposition Rate kg/hr (lb/hr)
0.045 in (1.1 mm), DC+, 5/8 (16) 75% Ar/25% CO <sub>2</sub>	200	27	6.4 (250)	2.4 (5.2)
	260	28	8.9 (350)	3.3 (7.2)
	290	29	11.4 (450)	4.4 (9.6)
0.045 in (1.1 mm), DC+, 3/4 (20) 90% Ar/10% CO <sub>2</sub>	200	26	6.4 (250)	2.5 (5.4)
	260	27	8.9 (350)	3.4 (7.4)
	300	28	11.4 (450)	4.5 (9.8)
0.045 in (1.1 mm), DC+, 3/4 (20) 98% Ar/2% O <sub>2</sub>	215	24	6.4 (250)	2.6 (5.8)
	270	25	8.9 (350)	3.6 (7.9)
	315	26	11.4 (450)	4.5 (9.8)
1/16 in (1.6 mm), DC+, 5/8 (16) 75% Ar/25% CO <sub>2</sub>	240	28	3.8 (150)	2.6 (5.8)
	340	30	6.4 (250)	4.7 (10.4)
	420	32	8.9 (350)	6.8 (15.1)
1/16 in (1.6 mm), DC+, 3/4 (20) 90% Ar/10% CO <sub>2</sub>	230	26	3.8 (150)	2.7 (6.0)
	315	27	6.4 (250)	4.9 (10.7)
	400	29	8.9 (350)	7.0 (15.4)
1/16 in (1.6 mm), DC+, 3/4 (20) 98% Ar/2% O <sub>2</sub>	220	23	3.8 (150)	2.9 (6.4)
	320	26	6.4 (250)	5.0 (11.0)
	415	28	8.9 (350)	7.1 (15.7)

<sup>(1)</sup> Based on two layers. Composition and properties depend upon dilution.

NOTE: Work area should be clean, with any previous hardfacing deposit removed, and cracks properly repaired. Cold parts should be warmed to at least 25°C (75°F). Higher preheat of 150° - 260°C (300° - 500°F) on thick parts or heavy sections.

## **FUMES AND GASES CAN BE HAZARDOUS TO YOUR HEALTH**

- Fumes from the normal use of this product contain significant quantities of potentially hazardous compounds. See consumable product label/insert.
- Keep your head out of the fumes.
- Use enough ventilation and local exhaust to keep fumes and gases from your breathing zone and the general area.
- An approved respirator should be used unless exposure assessments are below applicable exposure limits.

## **TEST RESULTS**

Test results for mechanical properties, deposit or electrode composition and diffusible hydrogen levels were obtained from a weld produced and tested according to prescribed standards, and should not be assumed to be the expected results in a particular application or weldment. Actual results will vary depending on many factors, including, but not limited to, weld procedure, plate chemistry and temperature, weldment design and fabrication methods. Users are cautioned to confirm by qualification testing, or other appropriate means, the suitability of any welding consumable and procedure before use in the intended application.

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