

# LINCOLNWELD® 760®

700 Series Active Flux ■ EN ISO 14174 – S A MS 1; EN ISO 14174 – S A CS 1

## KEY FEATURES

- Highly active flux for handling rust and mill scale
- Helps resist porosity caused by arc blow
- Slow freezing slag for good weld appearance
- Actual (Type 3.1) certificates for each lot of flux showing chemical composition, particle size and moisture level are available in the certificate center of [lincolnelectric.com](http://lincolnelectric.com)

## PACKAGING

50 lb (22.7 kg) Plastic Bag

ED032799

## TYPICAL APPLICATIONS

- Single pass welding of mild steel
- Flat fillet welds with constant voltage power source

## RECOMMENDED WIRES

Mild Steel

Lincolnweld® L-50®, L-60, and L-61®

## PRODUCT INFORMATION

Basicity Index: 0.8

Density: 1.2 g/cm<sup>3</sup>

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

	%SiO <sub>2</sub>	%MnO	%MgO	%CaF <sub>2</sub>	%Na <sub>2</sub> O	%Al <sub>2</sub> O <sub>3</sub>	%CaO	% Metal Alloys
Lincolnweld® 760®	47	33	17	5	2	2	1	6 max

## AWS TEST RESULTS<sup>(1)</sup>

Flux/Wire Combination	Weld Condition	Yield Strength <sup>(2)</sup> MPa (ksi)	Tensile Strength MPa (ksi)	Elongation (%)	Charpy V-Notch		AWS Classification (A5.17/A5.23)
					J (ft•lbf)	@ °C (°F)	
L-50®	As-welded	440 (64)	550 (80)	30	53 (39)	-18 (0)	F7A0-EM13K
L-60	As-welded	390 (57)	490 (71)	30	98 (72)	-29 (-20)	F6A2-EL12
L-61®	As-welded	410 (59)	530 (77)	28	69 (51)	-29 (-20)	F7A2-EM12K

<sup>(1)</sup>See test results disclaimer <sup>(2)</sup>Measured with 0.2% offset. NOTE: For the most up-to-date AWS certificates of conformance please visit [www.lincolnelectric.com](http://www.lincolnelectric.com)

# LINCOLNWELD® 761®

700 Series Active Flux ▪ EN ISO 14174 – S A MS 1; EN ISO 14174 – S A CS 1

## KEY FEATURES

- Manganese alloying and carbon reducing flux designed to provide superior crack resistance
- Slow freezing slag for a wide, flat weld
- Excellent resistance to cracking in single pass applications
- Actual (Type 3.1) certificates for each lot of flux showing chemical composition, particle size and moisture level are available in the certificate center of lincolnelectric.com

## PACKAGING

50 lb (22.7 kg) Plastic Bag

ED032765

## TYPICAL APPLICATIONS

- Single pass welding of mild steel
- Large fillets with constant current power sources

## RECOMMENDED WIRES

Mild Steel  
Lincolnweld® L-50®, L-60, and L-61®  
Low Alloy Steel  
Lincolnweld® L-70

## PRODUCT INFORMATION

Basicity Index: 0.8  
Density: 1.2 g/cm<sup>3</sup>

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

	%SiO <sub>2</sub>	%MnO	%MgO	%CaF <sub>2</sub>	%Na <sub>2</sub> O	%Al <sub>2</sub> O <sub>3</sub>	%TiO <sub>2</sub>	%FeO	% Metal Alloys
Lincolnweld® 761®	45	19	22	5	2	2	2	1	6 max

## AWS TEST RESULTS<sup>(1)</sup>

Flux/Wire Combination	Weld Condition	Yield Strength <sup>(2)</sup> MPa (ksi)	Tensile Strength MPa (ksi)	Elongation (%)	Charpy V-Notch		AWS Classification (A5.17/A5.23)
					J (ft•lbf)	@ °C (°F)	
L-50®	As-welded	480 (69)	590 (85)	29	45 (33)	-29 (-20)	F7A2-EM13K-H8
L-60	As-welded	440 (64)	530 (75)	29	64 (47)	-29 (-20)	F7A2-EL12
L-61®	As-welded	480 (70)	590 (85)	28	54 (40)	-29 (-20)	F7A2-EM12K-H8
L-70	As-welded	550 (80)	640 (93)	24	58 (43)	-18 (0)	F9A0-EA1-G

<sup>(1)</sup>See test results disclaimer <sup>(2)</sup>Measured with 0.2% offset. NOTE: For the most up-to-date AWS certificates of conformance please visit [www.lincolnelectric.com](http://www.lincolnelectric.com)

# LINCOLNWELD® 780®

700 Series Active Flux ▪ EN ISO 14174 – S A AB 1; EN ISO 14174 – S A AR 1

## KEY FEATURES

- Industry standard for submerged arc welding applications
- Fast freezing slag for easy removal and minimized spilling on circumferential welds
- When paired with Lincolnweld® L-61® it is recommended for up to three pass welding applications
- Excellent bead shape and slag removal
- Good resistance to moisture contamination for reduced porosity
- Actual (Type 3.1) certificates for each lot of flux showing chemical composition, particle size and moisture level are available in the certificate center of lincolnelectric.com

## PACKAGING

50 lb (22.7 kg) Bag	ED019586
550 lb (249.5 kg) Steel Drum	ED032007
3000 lb (1361 kg) Bulk Bag	ED033188

## TYPICAL APPLICATIONS

- Single pass welding of mild steel
- Roundabouts with minimal spillage
- Horizontal position welding

## RECOMMENDED WIRES

Mild Steel  
Lincolnweld® L-50®, L-60 and L-61®

## PRODUCT INFORMATION

Basicity Index: 0.7  
Density: 1.4 g/cm<sup>3</sup>

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

	%SiO <sub>2</sub>	%MnO	%MgO	%CaF <sub>2</sub>	%Na <sub>2</sub> O	%Al <sub>2</sub> O <sub>3</sub>	%CaO	%TiO <sub>2</sub>	% Metal Alloys
Lincolnweld® 780®	9	16	2	11	2	45	1	9	6 max

## AWS TEST RESULTS<sup>(1)</sup>

Flux/Wire Combination	Weld Condition	Yield Strength <sup>(2)</sup> MPa (ksi)	Tensile Strength MPa (ksi)	Elongation (%)	Charpy V-Notch		AWS Classification (A5.17/A5.23)
					J (ft•lbf)	@ °C (°F)	
L-50®	As-welded	520 (75)	600 (87)	27	65 (48)	-18 (0)	F7A0-EM13K
L-60	As-welded	440 (64)	520 (76)	30	88 (65)	-18 (0)	F7A0-EL12-H8
L-61®	As-welded	530 (77)	600 (87)	27	46 (34)	-29 (-20)	F7A2-EM12K-H8

<sup>(1)</sup>See test results disclaimer <sup>(2)</sup>Measured with 0.2% offset. NOTE: For the most up-to-date AWS certificates of conformance please visit [www.lincolnelectric.com](http://www.lincolnelectric.com)

# LINCOLNWELD® 781™

700 Series Active Flux ▪ EN ISO 14174 – S A ZS 1

## KEY FEATURES

- Features fast follow characteristics that allow for uniform welds at high speeds without undercut or voids
- Recommended for high speed, limited pass welding on clean plate and sheet steel
- Good wetting action
- Actual (Type 3.1) certificates for each lot of flux showing chemical composition, particle size and moisture level are available in the certificate center of [lincolnelectric.com](http://lincolnelectric.com)

## PACKAGING

50 lb (22.7 kg) Bag

ED019587

## TYPICAL APPLICATIONS

- Single pass welding – on clean plate and sheet metal up to 48 mm (3/16 in) in thickness
- Hot water tanks, metal buildings and other applications requiring high speed welds

## RECOMMENDED WIRES

Mild Steel  
Lincolnweld® L-50®, L-60, and L-61®  
Low Alloy Steel  
Lincolnweld® L-70

## PRODUCT INFORMATION

Basicity Index: 0.8  
Density: 1.5 g/cm<sup>3</sup>

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

	%SiO <sub>2</sub>	%MnO	%MgO	%CaF <sub>2</sub>	%Na <sub>2</sub> O	%Al <sub>2</sub> O <sub>3</sub>	%ZrO <sub>2</sub>	%TiO <sub>2</sub>	%CaO	% Metal Alloys
Lincolnweld® 781®	21	17	14	5	2	4	21	12	1	3 max

## AWS TEST RESULTS<sup>(1)</sup>

Flux/Wire Combination	Weld Condition	Yield Strength <sup>(2)</sup> MPa (ksi)	Tensile Strength MPa (ksi)	Elongation (%)	Charpy V-Notch		AWS Classification (A5.17/A5.23)
					J (ft•lbf)	@ °C (°F)	
L-50®	As-welded	530 (77)	610 (89)	29	38 (28)	-18 (0)	F7A0-EM13K
L-60	As-welded	460 (67)	550 (80)	29	42 (31)	-18 (0)	F7A0-EL12
L-61®	As-welded	530 (77)	610 (89)	28	31 (23)	-18 (0)	F7A0-EM12K
L-70	As-welded	590 (85)	660 (96)	25	35 (26)	-18 (0)	F9A0-EA1-G

<sup>(1)</sup>See test results disclaimer <sup>(2)</sup>Measured with 0.2% offset. NOTE: For the most up-to-date AWS certificates of conformance please visit [www.lincolnelectric.com](http://www.lincolnelectric.com)

# LINCOLNWELD® 822™

800 Series Neutral Flux ■ EN ISO 14174 – S A FB 1

## KEY FEATURES

- Designed for chrome-moly applications with Lincolnweld® LA-92 and LA-93 submerged arc wires
- Enables high Charpy V-Notch toughness at temperatures below -40°C (-40°F)
- Step-cooling tests show high resistance to temper embrittlement when welded with Lincolnweld LA-92 and LA-93
- Low Bruscato factor (X<10) when welded with Lincolnweld LA-92 and LA-93
- Certificate of Conformance available with LA-71 to create end user convenience with one flux
- Actual (Type 3.1) certificates for each lot of flux showing chemical composition, particle size and moisture level are available in the certificate center of lincolnelectric.com

## PACKAGING

50 lb (22.7 kg) Plastic Bag ED036223

## TYPICAL APPLICATIONS

- Power Generation
- Process Chemical
- Pressure Vessels

## RECOMMENDED WIRES

Mild Steel  
Lincolnweld® LA-71™

Low Alloy Steel  
Lincolnweld® LA-92, LA-93

## PRODUCT INFORMATION

Basicity Index: 2.6  
Density: 1.3

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

	% SiO <sub>2</sub>	% MnO	% MgO	% CaF <sub>2</sub>	% Na <sub>2</sub> O	% Al <sub>2</sub> O <sub>3</sub>	% CaO	% Metal Alloys
Lincolnweld® 822	15	2	32	21	3	18	5	3 max

## AWS TEST RESULTS<sup>(1)</sup>

Flux/Wire Combination	Weld Condition	Yield Strength <sup>(2)</sup> MPa (ksi)	Tensile Strength MPa (ksi)	Elongation (%)	Charpy V-Notch		AWS Classification (A5.17/A5.23)
					J (ft•lbf)	@ °C (°F)	
LA-92	As-welded	640 (92)	710 (102)	24	95 (70)	-29 (-20)	F9A2-EB2R-B2R-H4
LA-92	Stress-relieved <sup>(3)</sup>	480 (70)	580 (85)	29	200 (148)	-40 (-40)	F8P4-EB2R-B2R-H4
LA-93	As-welded	760 (110)	880 (128)	20	35 (26)	-18 (0)	F11A0-EB3R-B3R-H4
LA-93	Stress-relieved <sup>(3)</sup>	550 (80)	660 (96)	23	156 (115)	-40 (-40)	F9P4-EB3R-B3R-H4
LA-71	As-welded	480 (70)	580 (85)	27	151 (111)	-62 (-80)	F7A8-EM14K-H4
LA-71	Stress-relieved <sup>(4)</sup>	430 (63)	560 (81)	31	127 (93)	-62 (-80)	F7P8-EM14K-H4

<sup>(1)</sup>See test results disclaimer. <sup>(2)</sup>Measured with 0.2% offset. <sup>(3)</sup>Stress-relieved for 1 hour at 691°C (1275°F). <sup>(4)</sup>Stress-relieved for 1 hour at 620°C (1150°F).

# LINCOLNWELD® 842-H™

800 Series Neutral Flux ■ EN ISO 14174 – S A FB 1 55 AC H4

## KEY FEATURES

- Less than 3 mL/100g of deposited weld metal in DC+ or AC polarity
- Excellent resistance to moisture pick-up
- Consistent and low temperature impact and CTOD toughness
- Capable of welding on multiple arcs
- Excellent slag detachment and bead profiles
- Superior flux particle strength for use in central recovery system
- Actual (Type 3.1) certificates for each lot of flux showing chemical composition, particle size and moisture level are available in the certificate center of lincolnelectric.com

## PACKAGING

50 lb (22.7 kg) Hermetically Sealed Pail ED034371

## TYPICAL APPLICATIONS

- Semi-submersible production and exploration platforms
- Fixed, jacket and work platforms
- Compliant towers
- Topside structural applications
- SPAR, FPSO, and FSO applications
- Jack up rigs

## RECOMMENDED WIRES

Mild Steel Electrode  
Lincolnweld® L-53  
Low Alloy Electrodes  
Lincolnweld® LA-85, LA-84, LAC-690

## PRODUCT INFORMATION

Basicity Index: 2.3  
Density: 1.1 g/cm<sup>3</sup>

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

	%SiO <sub>2</sub>	%MnO	%MgO	%CaF <sub>2</sub>	%Na <sub>2</sub> O	%Al <sub>2</sub> O <sub>3</sub>	%CaO	% Metal Alloys
Lincolnweld® 842-H™	15	2	32	21	2	21	4	1 max

## AWS TEST RESULTS<sup>(1)</sup>

Flux/Wire Combination	Weld Condition	Yield Strength <sup>(2)</sup>		Tensile Strength		Elongation (%)	Charpy V-Notch		AWS Classification (A5.17/A5.23)
		MPa (ksi)	MPa (ksi)	J (ft·lbf)	@ °C (°F)				
L-61	As-Welded	440 (64)	520 (76)	33	318 (234)	-51 (-60)	F7A6-EM12K-H4 F6P8-EM12K-H4		
	Stress Relieved <sup>(3)</sup>	370 (53)	480 (70)	38	335 (247)	-62 (-80)			
L-53	As-Welded	490 (72)	580 (84)	30	187 (138)	-62 (-80)	F7A8-EH12K-H4 F7P8-EH12K-H4		
	Stress Relieved <sup>(3)</sup>	420 (61)	550 (79)	32	161 (119)	-62 (-80)			
LA-85	As-Welded	540 (78)	610 (89)	28	171 (126)	-62 (-80)	F8A8-ENi5-Ni5-H4 F8P8-ENi5-Ni5-H4		
	Stress Relieved <sup>(3)</sup>	510 (74)	600 (87)	30	149 (110)	-62 (-80)			
LA-84	As-Welded	640 (93)	720 (104)	25	140 (103)	-62 (-80)	F9A8-EF3-F3-H4 F9P8-EF3-F3-H4		
	Stress Relieved <sup>(3)</sup>	610 (89)	700 (101)	28	83 (61)	-62 (-80)			
LAC-690	As-Welded	700 (102)	790 (115)	23	129 (95)	-73 (-100)	F10A10-ECF5-F5-H4		

<sup>(1)</sup> See test results disclaimer <sup>(2)</sup> Measured with 0.2% offset. <sup>(3)</sup> Stress-relieved for 1 hour at 621 °C (1150 °F)  
NOTE: For the most up-to-date AWS certificates of conformance please visit [www.lincolnelectric.com](http://www.lincolnelectric.com)

# LINCOLNWELD® 860®

800 Series Neutral Flux ■ EN ISO 14174 – S A AB 1

## KEY FEATURES

- Industry standard for submerged arc welding applications
- Excellent operating characteristics in a variety of general welding applications
- Capable of producing weld deposits with impact toughness exceeding 27 J (20 ft·lbf) at -40°C (-40°F) with Lincolnweld® L-61®
- Actual (Type 3.1) certificates for each lot of flux showing chemical composition, particle size and moisture level are available in the certificate center of lincolnelectric.com

## PACKAGING

50 lb (22.7 kg) Bag

ED019589, ED030840\*

\*Tested Material

## TYPICAL APPLICATIONS

- AASHTO Fracture Critical applications with Lincolnweld® L-61® wire
- Pipe and other double ending applications
- General purpose structural and multiple pass welds
- Storage tanks using L-61® or LA-85

## RECOMMENDED WIRES

Mild Steel

Lincolnweld® L-50®, L-56®, L-60, L-61®, LA-71, L-S3

Low Alloy Steel

Lincolnweld® L-70, LA-75, LA-82, LA-85

## PRODUCT INFORMATION

Basicity Index: 1.1

Density: 1.4 g/cm<sup>3</sup>

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

	%SiO <sub>2</sub>	%MnO	%MgO	%CaF <sub>2</sub>	%Na <sub>2</sub> O	%Al <sub>2</sub> O <sub>3</sub>	%CaO	%TiO <sub>2</sub>	% Metal Alloys
Lincolnweld® 860®	19	11	17	12	2	32	2	2	3 max

## AWS TEST RESULTS<sup>(1)</sup>

Flux/Wire Combination	Weld Condition	Yield Strength <sup>(2)</sup> MPa (ksi)	Tensile Strength MPa (ksi)	Elongation (%)	Charpy V-Notch		AWS Classification (A5.17/A5.23)
					J (ft·lbf)	@ °C (°F)	
L-50®	As-welded	430 (62)	520 (75)	30	84 (62)	-29 (-20)	F7A2-EM13K-H8
L-56®	As-welded	470 (68)	590 (86)	28	61 (45)	-29 (-20)	F7A2-EH11K
L-56®	Stress-relieved <sup>(3)</sup>	440 (64)	570 (82)	29	80 (59)	-29 (-20)	F7P2-EH11K
L-60	As-welded	370 (54)	450 (65)	34	138 (102)	-29 (-20)	F6A2-EL12-H8
L-61®	As-welded	410 (59)	500 (72)	31	58 (43)	-40 (-40)	F7A4-EM12K-H8
L-61®	Stress-relieved <sup>(3)</sup>	340 (49)	440 (64)	37	222 (164)	-46 (-50)	F6P5-EM12K-H8
L-S3	As-welded	500 (73)	590 (86)	28	52 (38)	-29 (-20)	F7A2-EH12K
LA-71	As-welded	450 (65)	540 (78)	30	110 (81)	-29 (-20)	F7A2-EM14K-H8
LA-71	Stress relieved <sup>(3)</sup>	400 (58)	520 (75)	32	119 (88)	-29 (-20)	F7P2-EM14K-H8
L-70	As-welded	450 (65)	550 (80)	28	54 (40)	-29 (-20)	F7A2-EA1-A2-H8
L-70	Stress-relieved <sup>(3)</sup>	430 (62)	520 (76)	31	47 (35)	-29 (-20)	F7P2-EA1-A2-H8
LA-75	As-welded	460 (66)	550 (80)	32	107 (79)	-29 (-20)	F7A2-ENi1K-Ni1-H8
LA-75	Stress-relieved <sup>(3)</sup>	410 (60)	540 (79)	30	99 (73)	-29 (-20)	F7P2-ENi1K-Ni1-H8
LA-82	As-welded	660 (96)	740 (107)	24	50 (37)	-40 (-40)	F9A4-EF2-F2-H8
LA-85	As-welded	520 (75)	600 (87)	26	38 (28)	-40 (-40)	E8A4-ENi5-Ni5-H8

<sup>(1)</sup>See test results disclaimer <sup>(2)</sup>Measured with 0.2% offset <sup>(3)</sup>Stress-relieved for 1 hour at 621°C (1150°F).

NOTE: For the most up-to-date AWS certificates of conformance please visit [www.lincolnelectric.com](http://www.lincolnelectric.com)

# LINCOLNWELD® 865™

800 Series Neutral Flux ■ EN ISO 14174 – S A AB 1; EN ISO 14174 – S A AR 1

## KEY FEATURES

- General purpose flux designed to weld butt joints and flat and horizontal fillets
- When used with Lincolnweld® L-50® or L-61®, it is capable of producing 480 MPa (70 ksi) tensile strength after stress relief
- Small loss of strength when used in the stress-relieved condition
- Actual (Type 3.1) certificates for each lot of flux showing chemical composition, particle size and moisture level are available in the certificate center of lincolnelectric.com

## PACKAGING

50 lb (22.7 kg) Bag

EDS27857

## TYPICAL APPLICATIONS

- Butt joints and flat and horizontal fillets
- Pair with Lincolnweld® L-61® on A516 steels

## RECOMMENDED WIRES

Mild Steel

Lincolnweld® L-50®, L-61®, LA-71

Low Alloy Steel

Lincolnweld® LA-75

## PRODUCT INFORMATION

Basicity Index: 1.0

Density: 1.3 g/cm<sup>3</sup>

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

	%SiO <sub>2</sub>	%MnO	%MgO	%CaF <sub>2</sub>	%Na <sub>2</sub> O	%Al <sub>2</sub> O <sub>3</sub>	%TiO <sub>2</sub>	% Metal Alloys
Lincolnweld® 865™	11	1	14	19	2	37	12	3 max

## AWS TEST RESULTS<sup>(1)</sup>

Flux/Wire Combination	Weld Condition	Yield Strength <sup>(2)</sup> MPa (ksi)	Tensile strength MPa (ksi)	Elongation (%)	Charpy V-Notch		AWS Classification (A5.17/A5.23)
					J (ft-lbf)	@ °C (°F)	
L-50®	As-welded	500 (72)	580 (84)	27	53 (39)	-29 (-20)	F7A2-EM13K-H8
L-50®	Stress-relieved <sup>(3)</sup>	440 (64)	550 (80)	30	28 (21)	-46 (-50)	F7P5-EM13K-H8
L-61®	As-welded	480 (70)	570 (83)	22	85 (63)	-29 (-20)	F7A2-EM12K-H8
L-61®	Stress-relieved <sup>(3)</sup>	450 (65)	550 (80)	30	117 (86)	-29 (-20)	F7P2-EM12K-H8
LA-71	As-welded	540 (78)	630 (91)	26	73 (54)	-29 (-20)	F7A2-EM14K-H8
LA-75	As-welded	520 (76)	600 (87)	23	77 (57)	-29 (-20)	F8A2-ENi1K-G-H8
LA-75	Stress-relieved <sup>(3)</sup>	500 (73)	610 (88)	27	79 (58)	-29 (-20)	F8P2-ENi1K-G-H8

<sup>(1)</sup>See test results disclaimer <sup>(2)</sup>Measured with 0.2% offset. <sup>(3)</sup>Stress-relieved for 1 hour at 621°C (1150°F).  
NOTE: For the most up-to-date AWS certificates of conformance please visit [www.lincolnelectric.com](http://www.lincolnelectric.com)



# LINCOLNWELD® 880™

800 Series Neutral Flux ▪ EN ISO 14174 – S A AS 1; EN ISO 14174 – S A FB 1

## KEY FEATURES

- Can be used for both joining and hardfacing welding
- Optimal bead appearance when used with solid low alloy steel electrodes with a minimum of 0.20% silicon
- Use with both solid and flux cored wires
- Actual (Type 3.1) certificates for each lot of flux showing chemical composition, particle size and moisture level are available in the certificate center of lincolnelectric.com

## PACKAGING

50 lb (22.7 kg) Bag ED027866  
550 lb (249.5 kg) Steel Drum ED028322

## TYPICAL APPLICATIONS

- Applications requiring smooth bead appearance
- Hardfacing applications

## RECOMMENDED WIRES

Low Alloy Steel  
Lincolnweld® LA-75, LA-90, LA-100, LAC-B2,  
LAC-M2, LAC-Ni2

## PRODUCT INFORMATION

Basicity Index: 2.0  
Density: 1.4 g/cm<sup>3</sup>

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

	%SiO <sub>2</sub>	%MgO	%CaF <sub>2</sub>	%Na <sub>2</sub> O	%Al <sub>2</sub> O <sub>3</sub>	%CaO	%ZrO <sub>2</sub>	% Metal Alloys
Lincolnweld® 880™	17	27	27	2	16	2	7	5 max

## AWS TEST RESULTS<sup>(1)</sup>

Flux/Wire Combination	Weld Condition	Yield Strength <sup>(2)</sup> MPa (ksi)	Tensile Strength MPa (ksi)	Elongation (%)	Charpy V-Notch		AWS Classification (A5.17/A5.23)
					J (ft•lbf)	@ °C (°F)	
LA-75	As-welded	430 (62)	530 (77)	30	98 (72)	-62 (-80)	F7A8-ENi1K-Ni1-H8
LA-90	As-welded	540 (79)	640 (93)	28	61 (45)	-40 (-40)	F8A4-EA2K-A4-H8
LA-100	As-welded	630 (92)	700 (101)	28	53 (39)	-40 (-40)	F9A4-EM2-M2-H8
LAC-B2	Stress relieved <sup>(4)</sup>	480 (70)	590 (85)	26	135 (100)	-29 (-20)	F8P2-ECB2-B2-H8
LAC-M2	As-welded	730 (106)	820 (119)	18	72 (53)	-51 (-60)	F11A6-ECM2-M2-H8
LAC-Ni2	As-welded	460 (66)	540 (79)	29	140 (103)	-51 (-60)	F7A6-ECNi2-Ni2-H8
LAC-Ni2	Stress relieved <sup>(3)</sup>	430 (63)	540 (78)	30	95 (70)	-73 (-100)	F7P10-ECNi2-Ni2-H8

<sup>(1)</sup>See test results disclaimer <sup>(2)</sup>Measured with 0.2% offset. <sup>(3)</sup>Stress-relieved for 1 hour at 621°C (1150°F). <sup>(4)</sup>Stress-relieved for 1 hour at 691°C (1275°F).  
NOTE: For the most up-to-date AWS certificates of conformance please visit [www.lincolnelectric.com](http://www.lincolnelectric.com)

# LINCOLNWELD® 880M®

800 Series Neutral Flux ■ EN ISO 14174 – S A FB 1

## KEY FEATURES

- A basic flux which features industry proven results in multiple pass applications
- Recommended for welding with solid mild steel and low alloy electrodes, as well as Lincoln's LAC series of low alloy flux-cored electrodes
- Good deep groove slag removal
- Excellent choice for single arc AC submerged arc welding
- Actual (Type 3.1) certificates for each lot of flux showing chemical composition, particle size and moisture level are available in the certificate center of lincolnelectric.com

## PACKAGING

50 lb (22.7 kg) Plastic Bag

ED031853

## TYPICAL APPLICATIONS

- Tandem arc applications for offshore fabrication
- Jobs requiring 480 MPa (70 ksi) tensile strength after stress relief when used with L-56®, L-S3, or LA-71

## RECOMMENDED WIRES

Mild Steel

Lincolnweld® L-50®, L-56®, LA-71, L-S3

Low Alloy Steel

Lincolnweld® LA-75, LA-85, LA-90, LA-92, LA-93, LA-100, LAC-B2, LAC-M2, LAC-Ni2

## PRODUCT INFORMATION

Basicity Index: 3.3

Density: 1.2 g/cm<sup>3</sup>

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

	%SiO <sub>2</sub>	%MnO	%MgO	%CaF <sub>2</sub>	%Na <sub>2</sub> O	%Al <sub>2</sub> O <sub>3</sub>	%CaO	%K <sub>2</sub> O	% Metal Alloys
Lincolnweld® 880M®	12	1	29	29	1	18	8	1	1 max

## AWS TEST RESULTS<sup>(1)</sup>

Flux/Wire Combination	Weld Condition	Yield Strength <sup>(2)</sup> MPa (ksi)	Tensile Strength MPa (ksi)	Elongation (%)	Charpy V-Notch		AWS Classification (A5.17/A5.23)
					J (ft•lbf)	@ °C (°F)	
L-50®	As-welded	410 (59)	510 (74)	32	263 (194)	-62 (-80)	F7A8-EM13K-H8
L-56®	As-welded	480 (69)	580 (85)	31	121 (89)	-51 (-60)	F7A6-EH11K-H8
L-56®	Stress-relieved <sup>(3)</sup>	400 (58)	540 (78)	32	158 (116)	-51 (-60)	F7P6-EH11K-H8
L-S3	As-welded	400 (58)	510 (74)	32	264 (195)	-51 (-60)	F7A6-EH12K-H8
LA-71	As-welded	480 (70)	570 (82)	29	143 (105)	-62 (-80)	F7A8-EM14K-H8
LA-71	Stress-relieved <sup>(3)</sup>	430 (63)	550 (80)	31	164 (121)	-62 (-80)	F7P8-EM14K-H8
LA-75	As-welded	440 (64)	550 (80)	31	167 (123)	-62 (-80)	F7A8-ENi1K-Ni1-H8
LA-85	As-welded	520 (76)	610 (88)	24	57 (42)	-51 (-60)	F7A6-ENi5-Ni5-H8
LA-85	Stress-relieved <sup>(3)</sup>	490 (71)	590 (85)	27	145 (107)	-62 (-80)	F7P8-ENi5-Ni5-H8
LA-90	As-welded	580 (84)	680 (99)	26	68 (50)	-51 (-60)	F9A6-EA3K-A3-H8
LA-90	Stress-relieved <sup>(3)</sup>	520 (75)	630 (91)	28	145 (107)	-62 (-80)	F8P8-EA3K-A3-H8
LA-92	Stress-relieved <sup>(4)</sup>	460 (66)	570 (82)	28	178 (131)	-29 (-20)	F7P2-EB2R-B2-H8
LA-93	Stress-relieved <sup>(4)</sup>	510 (74)	610 (88)	26	214 (158)	-18 (0)	F7P0-EB3R-B3-H8
LA-100	As-welded	680 (98)	730 (106)	25	129 (95)	-51 (-60)	F9A6-EM2-M2-H8
LAC-B2	Stress-relieved <sup>(4)</sup>	500 (72)	600 (87)	25	144 (106)	-29 (-20)	F8P2-ECB2-B2-H8
LAC-M2	As-welded	760 (110)	820 (119)	23	83 (61)	-51 (-60)	F11A6-ECM2-M2-H8
LAC-Ni2	As-welded	510 (73)	600 (87)	22	77 (57)	-73 (-100)	F7A10-ECNi2-Ni2-H8
LAC-Ni2	Stress-relieved <sup>(3)</sup>	480 (69)	570 (83)	28	103 (76)	-73 (-100)	F7P10-ECNi2-Ni2-H8

<sup>(1)</sup>See test results disclaimer. <sup>(2)</sup>Measured with 0.2% offset. <sup>(3)</sup>Stress-relieved for 1 hour at 621 °C (1150 °F). <sup>(4)</sup>Stress-relieved for 1 hour at 691 °C (1275 °F).  
NOTE: For the most up-to-date AWS certificates of conformance please visit [www.lincolnelectric.com](http://www.lincolnelectric.com)

# LINCOLNWELD® 882™

800 Series Neutral Flux ■ EN ISO 14174 – S A AS 1; EN ISO 14174 – S A AS 2

## KEY FEATURES

- Designed for a variety of welding applications and is known for providing consistent mechanical properties
- Recommended for stainless steel welding and can be paired with both mild and low alloy steel electrodes
- Smooth bead appearance
- Actual (Type 3.1) certificates for each lot of flux showing chemical composition, particle size and moisture level are available in the certificate center of [lincolnelectric.com](http://lincolnelectric.com)

## PACKAGING

50 lb (22.7 kg) Bag

ED027859

## TYPICAL APPLICATIONS

- Single wire or tandem welding
- Used for welding of stainless, mild and low alloy steel
- Excellent for multiple pass fillet welds

## RECOMMENDED WIRES

Mild Steel

Lincolnweld® L-50®, L-56®, L-60, L-61®, LA-71, L-53

Low Alloy Steel

Lincolnweld® L-70, LA-75, LA-82, LA-85, LA-92, LA-93, LAC-Ni2

## PRODUCT INFORMATION

Basicity Index: 1.6

Density: 1.2 g/cm<sup>3</sup>

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

	%SiO <sub>2</sub>	%MnO	%MgO	%CaF <sub>2</sub>	%Na <sub>2</sub> O	%Al <sub>2</sub> O <sub>3</sub>	%CaO	%ZrO <sub>2</sub>	% Metal Alloys
Lincolnweld® 882™	16	1	22	24	2	24	1	7	3 max

## AWS TEST RESULTS<sup>(1)</sup>

Flux/Wire Combination	Weld Condition	Yield Strength <sup>(2)</sup> MPa (ksi)	Tensile Strength MPa (ksi)	Elongation (%)	Charpy V-Notch		AWS Classification (A5.17/A5.23)
					J (ft•lbf)	@ °C (°F)	
L-50®	As-welded	420 (61)	520 (76)	29	130 (96)	-51 (-60)	F7A6-EM13K-H8
L-56®	As-welded	500 (73)	600 (87)	28	92 (68)	-40 (-40)	F7A4-EH11K-H8
L-56®	Stress-relieved <sup>(3)</sup>	420 (61)	560 (81)	30	47 (35)	-46 (-50)	F7P5-EH11K-H8
L-60	As-welded	370 (54)	460 (67)	32	207 (153)	-51 (-60)	F6A6-EL12-H8
L-61®	As-welded	400 (58)	500 (72)	31	190 (140)	-51 (-60)	F7A6-EM12K-H8
L-53	As-welded	410 (60)	520 (76)	28	130 (96)	-51 (-60)	F7A6-EH12K-H8
LA-71	As-welded	480 (69)	570 (82)	31	61 (45)	-51 (-60)	F7A6-EM14K-H8
LA-71	Stress-relieved <sup>(3)</sup>	430 (62)	550 (80)	32	70 (52)	-51 (-60)	F7P6-EM14K-H8
L-70	Stress-relieved <sup>(3)</sup>	450 (65)	550 (80)	30	76 (56)	-40 (-40)	F7P4-EA1-A2-H8
LA-75	As-welded	430 (62)	540 (79)	32	133 (98)	-40 (-40)	F7A4-ENi1K-Ni1-H8
LA-82	As-welded	660 (95)	740 (108)	26	56 (41)	-51 (-60)	F10A6-EF2-F2-H8
LA-85	As-welded	510 (74)	610 (88)	25	88 (65)	-40 (-40)	F7A4-ENi5-Ni5-H8
LA-85	Stress-relieved <sup>(3)</sup>	500 (73)	590 (86)	26	102 (75)	-40 (-40)	F7P4-ENi5-Ni5-H8
LA-92	Stress-relieved <sup>(4)</sup>	520 (75)	610 (89)	27	83 (61)	-29 (-20)	F7P2-EB2R-B2-H8
LA-93	Stress-relieved <sup>(4)</sup>	610 (88)	700 (101)	23	214 (158)	-18 (0)	F9P0-EB3R-B3-H8
LAC-Ni2	As-welded	570 (83)	660 (95)	20	72 (53)	-40 (-40)	F8A4-ECNi2-Ni2-H8
LAC-Ni2	Stress-relieved <sup>(3)</sup>	500 (73)	600 (87)	25	100 (74)	-40 (-40)	F7P4-ECNi2-Ni2-H8

<sup>(1)</sup>See test results disclaimer <sup>(2)</sup>Measured with 0.2% offset <sup>(3)</sup>Stress-relieved for 1 hour at 621 °C (1150 °F) <sup>(4)</sup>Stress-relieved for 1 hour at 691 °C (1275 °F)  
NOTE: For the most up-to-date AWS certificates of conformance please visit [www.lincolnelectric.com](http://www.lincolnelectric.com)

# LINCOLNWELD® 888™

800 Series Neutral Flux ■ EN ISO 14174 – S A Z

## KEY FEATURES

- Designed for deep groove slag removal in critical applications
- Low H4 diffusible hydrogen levels
- Moisture resistant packaging
- Charpy V-Notch and CTOD test results available for most alloy systems
- Actual (Type 3.1) certificates for each lot of flux showing chemical composition, particle size and moisture level are available in the certificate center of lincolnelectric.com

## PACKAGING

50 lb (22.7 kg) Plastic Bag ED031596  
2600 lb (1179 kg) Bulk Bag ED033490

## RECOMMENDED WIRES

Mild Steel  
Lincolnweld® L-50®, L-56®, L-53, L-61®, LA-71  
Low Alloy Steel  
Lincolnweld® L-70, LA-75, LA-82, LA-84, LA-85,  
LA-90, LA-100, LAC-Ni2, LAC-M2, LAC-B2, LAC-690

## PRODUCT INFORMATION

Basicity Index: 2.2  
Density: 1.3 g/cm<sup>3</sup>

## TYPICAL APPLICATIONS

- Excellent operation with multiple arcs
- Offshore
- Structural fabrication
- Shipbuilding

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

	%SiO <sub>2</sub>	%MnO	%MgO	%CaF <sub>2</sub>	%Na <sub>2</sub> O	%Al <sub>2</sub> O <sub>3</sub>	%CaO	%FeO	%K <sub>2</sub> O	% Metal Alloys
Lincolnweld® 888™	18	1	27	25	2	19	5	1	2	3 max

## AWS TEST RESULTS<sup>(1)</sup>

Flux/Wire Combination	Weld Condition	Yield Strength <sup>(2)</sup> MPa (ksi)	Tensile Strength MPa (ksi)	Elongation (%)	Charpy V-Notch		AWS Classification (A5.17/A5.23)
					J (ft•lbf)	@ °C (°F)	
L-50®	As-welded	430 (62)	540 (78)	31	122 (90)	-62 (-80)	F7A8-EM13K-H4
L-50®	Stress-relieved <sup>(3)</sup>	370 (53)	510 (74)	32	187 (138)	-62 (-80)	F6P8-EM13K-H4
L-56®	As-welded	510 (74)	610 (88)	29	71 (52)	-51 (-60)	F8A6-EH11K-H4
L-56®	Stress-relieved <sup>(3)</sup>	410 (59)	540 (79)	32	118 (87)	-62 (-80)	F7P8-EH11K-H4
L-61®	As-welded	420 (61)	520 (75)	31	121 (89)	-51 (-60)	F7A6-EM12K-H4
L-53	As-welded	480 (70)	570 (83)	33	70 (52)	-62 (-80)	F7A8-EH12K-H4
L-53	Stress-relieved <sup>(3)</sup>	370 (54)	510 (74)	33	165 (122)	-62 (-80)	F6P8-EH12K-H4
LA-71	As-welded	520 (75)	610 (89)	28	68 (50)	-51 (-60)	F7A6-EM14K-H4
LA-71	Stress-relieved <sup>(3)</sup>	410 (60)	540 (78)	32	134 (99)	-62 (-80)	F7P8-EM14K-H4
L-70	As-welded	510 (74)	600 (87)	29	60 (45)	-40 (-40)	F7A4-EA1-A2-H4
L-70	Stress-relieved <sup>(3)</sup>	470 (69)	570 (83)	31	126 (93)	-40 (-40)	F7P4-EA1-A2-H4
LA-75	As-welded	470 (68)	580 (84)	31	122 (90)	-62 (-80)	F7A8-ENi1K-Ni1-H4
LA-82	As-welded	690 (99)	780 (113)	23	70 (52)	-62 (-80)	F10A8-EF2-F2-H4
LA-82	Stress-relieved <sup>(3)</sup>	600 (87)	700 (102)	25	79 (58)	-51 (-60)	F9P6-EF2-F2-H4
LA-84	As-welded	630 (92)	720 (105)	23	77 (57)	-62 (-80)	F9A8-EF3-F3-H4
LA-84	Stress-relieved <sup>(3)</sup>	580 (84)	670 (98)	26	34 (25)	-51 (-60)	F8P6-EF3-F3-H4
LA-85	As-welded	540 (78)	640 (92)	26	79 (58)	-51 (-60)	F8A6-ENi5-Ni5-H4
LA-85	Stress-relieved <sup>(3)</sup>	500 (72)	590 (86)	27	76 (56)	-51 (-60)	F7P6-ENi5-Ni5-H4
LA-90	As-welded	610 (89)	700 (102)	26	56 (41)	-51 (-60)	F9A6-EA3K-A3-H4
LA-100	As-welded	690 (100)	760 (111)	25	61 (45)	-40 (-40)	F10A4-EM2-M2-H4
LAC-M2	As-welded	860 (124)	930 (135)	15	63 (46)	-62 (-80)	F12A8-ECG-G-H8
LAC-Ni2	As-welded	540 (78)	630 (92)	20	56 (42)	-62 (-80)	F8A8-ECNi2-Ni2-H8
LAC-Ni2	Stress-relieved <sup>(3)</sup>	480 (70)	580 (84)	27	64 (47)	-73 (-100)	F7P10-ECNi2-Ni2-H8
LAC-690	As-welded	800 (116)	860 (124)	22	91 (67)	-73 (-100)	F11A10-ECG-G-H4
LAC-690	Stress-relieved <sup>(3)</sup>	707 (103)	776 (113)	21	51 (37)	-51 (-60)	F11P6-ECG-G-H4

<sup>(1)</sup>See test results disclaimer. <sup>(2)</sup>Measured with 0.2% offset. <sup>(3)</sup>Stress-relieved for 1 hour at 621°C (1150°F). <sup>(4)</sup>Stress-relieved for 1 hour at 691°C (1275°F).  
NOTE: For the most up-to-date AWS certificates of conformance please visit [www.lincolnelectric.com](http://www.lincolnelectric.com)

# LINCOLNWELD® 8500™

800 Series Neutral Flux ■ EN ISO 14174 – S A FB 1

## KEY FEATURES

- Capable of providing impact properties necessary for thick weld joints from root to cap pass
- Operates well on AC and multiple arcs with good resistance to nitrogen porosity
- Capable of producing weld deposits with impact properties exceeding 27 J (20 ft•lbf) at -62°C (-80°F)
- CTOD data available for this flux with many alloy systems
- Actual (Type 3.1) certificates for each lot of flux showing chemical composition, particle size and moisture level are available in the certificate center of lincolnelectric.com

## TYPICAL APPLICATIONS

- Fabrication of offshore drilling platforms
- Multiple pass welding
- Single and multiple arc welding

## RECOMMENDED WIRES

Mild Steel  
Lincolnweld® L-50®, L-56®, L-61®, L-53, LA-71  
Low Alloy Steel  
Lincolnweld® LA-82, LA-85, LA-90, LA-92

## PACKAGING

50 lb (22.7 kg) Plastic Bag ED031854

## PRODUCT INFORMATION

Basicity Index: 2.9  
Density: 1.3 g/cm<sup>3</sup>

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

	%SiO <sub>2</sub>	%MnO	%MgO	%CaF <sub>2</sub>	%Na <sub>2</sub> O	%Al <sub>2</sub> O <sub>3</sub>	%CaO	%K <sub>2</sub> O	%TiO <sub>2</sub>	% Metal Alloys
Lincolnweld® 8500™	13	1	30	24	2	19	8	1	1	1 max

## AWS TEST RESULTS<sup>(1)</sup>

Flux/Wire Combination	Weld Condition	Yield Strength <sup>(2)</sup> MPa (ksi)	Tensile Strength MPa (ksi)	Elongation (%)	Charpy V-Notch		AWS Classification (A5.17/A5.23)
					J (ft•lbf)	@ °C (°F)	
L-50°	As-welded	430 (63)	520 (76)	32	129 (95)	-62 (-80)	F7A8-EM13K-H8
L-56°	As-welded	470 (68)	570 (82)	31	132 (97)	-62 (-80)	F7A8-EH11K
L-56°	Stress-relieved <sup>(3)</sup>	430 (62)	540 (79)	33	151 (111)	-62 (-80)	F7P8-EH11K
L-61°	As-welded	400 (58)	480 (70)	31	168 (124)	-51 (-60)	F7A6-EM12K-H8
L-53	As-welded	460 (67)	570 (82)	29	91 (67)	-62 (-80)	F7A8-EH12K-H8
LA-71	As-welded	450 (66)	550 (80)	30	155 (115)	-62 (-80)	F7A8-EM14K-H8
LA-71	Stress-relieved <sup>(3)</sup>	420 (61)	520 (75)	32	220 (162)	-62 (-80)	F7P8-EM14K-H8
LA-82	As-welded	660 (95)	740 (108)	22	87 (64)	-51 (-60)	F9A6-EF2-F2-H8
LA-82	Stress-relieved <sup>(3)</sup>	610 (89)	700 (102)	24	83 (61)	-51 (-60)	F9P6-EF2-F2-H8
LA-85	As-welded	510 (74)	590 (86)	29	155 (114)	-62 (-80)	F8A8-ENi5-Ni5-H8
LA-85	Stress-relieved <sup>(3)</sup>	500 (72)	590 (85)	28	134 (99)	-51 (-60)	F7P6-ENi5-Ni5-H8
LA-90	As-welded	670 (97)	590 (85)	24	84 (62)	-29 (-20)	F9A2-EA3K-A3-H8
LA-92	Stress-relieved <sup>(4)</sup>	550 (80)	640 (93)	26	209 (154)	-18 (0)	F8P0-EB2-B2-H8

<sup>(1)</sup>See test results disclaimer <sup>(2)</sup>Measured with 0.2% offset. <sup>(3)</sup>Stress-relieved for 1 hour at 621°C (1150°F). <sup>(4)</sup>Stress-relieved for 1 hour at 691°C (1275°F).  
NOTE 1: For the most up-to-date AWS certificates of conformance please visit [www.lincolnelectric.com](http://www.lincolnelectric.com) NOTE 2: This product contains micro-alloying elements.  
Additional information available upon request.

# LINCOLNWELD® MIL800-H™

800 Series Neutral Flux ■ EN ISO 14174 – S A CS 1; EN ISO 14174 – S A FB 1

## KEY FEATURES

- Capable of providing industry leading H<sub>2</sub> diffusible hydrogen levels
- Designed for low temperature applications
- Recommended for both single and multiple arc welding of both butt and fillet welds
- Actual (Type 3.1) certificates for each lot of flux showing chemical composition, particle size and moisture level are available in the certificate center of lincolnelectric.com

## PACKAGING

50 lb (22.7 kg)

Hermetically Sealed Foil Bag ED035892

## TYPICAL APPLICATIONS

- HY-80 and HSLA-80 steels with Lincolnweld® LA-100 wire
- Horizontal and flat fillet welds
- Single and multiple arc welding
- High strength or highly restrained weldments where delayed cracking is a concern

## RECOMMENDED WIRES

Mild Steel

Lincolnweld® L-53, LA-71

Low Alloy Steel

Lincolnweld® LA-75, LA-82, LA-85, LA-90, LA-93, LA-100

## PRODUCT INFORMATION

Basicity Index: 3.2

Density: 1.3 g/cm<sup>3</sup>

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

	%SiO <sub>2</sub>	%MnO	%MgO	%CaF <sub>2</sub>	%Na <sub>2</sub> O	%Al <sub>2</sub> O <sub>3</sub>	%CaO	%K <sub>2</sub> O	% Metal Alloys
Lincolnweld® MIL800-H™	13	1	34	23	1	16	8	1	1 max

## AWS TEST RESULTS<sup>(1)</sup>

Flux/Wire Combination	Weld Condition	Yield Strength <sup>(2)</sup> MPa (ksi)	Tensile Strength MPa (ksi)	Elongation (%)	Charpy V-Notch		AWS Classification (A5.17/A5.23)
					J (ft·lbf)	@ °C (°F)	
L-53	As-welded	500 (73)	610 (88)	27	76 (56)	-62 (-80)	F7A8-EH12K-H2
L-53	Stress-relieved <sup>(3)</sup>	440 (64)	570 (82)	30	118 (87)	-62 (-80)	F7P8-EH12K-H2
LA-71	As-welded	470 (68)	570 (82)	30	163 (120)	-51 (-60)	F7A6-EM14K-H2
LA-71	Stress-relieved <sup>(3)</sup>	420 (61)	540 (79)	32	193 (140)	-51 (-60)	F7P6-EM14K-H2
LA-75	As-welded	460 (67)	560 (82)	30	156 (115)	-62 (-80)	F7A8-ENi1K-Ni1-H2
LA-82	As-welded	700 (102)	800 (116)	21	91 (67)	-51 (-60)	F10A6-EF2-F2-H2
LA-82	Stress-relieved <sup>(3)</sup>	660 (95)	740 (108)	25	76 (56)	-51 (-60)	F10P6-EF2-F2-H2
LA-85	As-welded	570 (82)	660 (95)	25	108 (80)	-62 (-80)	F8A8-ENi5-Ni5-H2
LA-85	Stress-relieved <sup>(3)</sup>	540 (78)	630 (92)	26	83 (61)	-62 (-80)	F8P8-ENi5-Ni5-H2
LA-90	As-welded	620 (90)	710 (103)	26	77 (57)	-51 (-60)	F9A6-EA3K-A3-H2
LA-90	Stress-relieved <sup>(3)</sup>	590 (86)	690 (100)	26	84 (62)	-51 (-60)	F9P6-EA3K-A3-H2
LA-93	Stress-relieved <sup>(4)</sup>	580 (84)	690 (99)	23	34 (25)	-29 (-20)	F9P2-EB3R-B3R-H2
LA-100	As-welded	670 (97)	780 (112)	25	107 (79)	-51 (-60)	F10A6-EM2-M2-H2

<sup>(1)</sup>See test results disclaimer <sup>(2)</sup>Measured with 0.2% offset. <sup>(3)</sup>Stress-relieved for 1 hour at 621°C (1150°F). <sup>(4)</sup>Stress-relieved for 1 hour at 691°C (1275°F).

NOTE: For the most up-to-date AWS certificates of conformance please visit [www.lincolnelectric.com](http://www.lincolnelectric.com)

# LINCOLNWELD® 812-SRC™

800 Series Neutral Flux ■ EN ISO 14174 – S A FB 1

## KEY FEATURES

- Carbon-neutral flux designed to provide excellent mechanical properties after extended stress-relief
- Industry leading low H4 diffusible hydrogen levels
- Smooth bead appearance and excellent slag release
- Excellent resistance to moisture pick up
- Actual (Type 3.1) certificates for each lot of flux showing chemical composition, particle size and moisture level are available in the certificate center of [lincolnelectric.com](http://lincolnelectric.com)

## PACKAGING

50 lb (22.7 kg) Plastic Bag

ED034171

## TYPICAL APPLICATIONS

- Offshore applications with extended post-weld heat treatment (PWHT)
- Quench and tempered steels such as AISI 4130, 8620, and similar chemistries

## RECOMMENDED WIRES

Low Alloy Electrodes  
Lincolnweld® LA-84

## PRODUCT INFORMATION

Basicity Index: 2.2  
Density: 1.3 g/cm<sup>3</sup>

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

	%SiO <sub>2</sub>	%MnO	%MgO	%CaF <sub>2</sub>
Lincolnweld® 812-SRC™	16	3	30	19
	%Na <sub>2</sub> O	%Al <sub>2</sub> O <sub>3</sub>	%CaO	% Metal Alloys
Lincolnweld® 812-SRC™	2	22	4	3 max

## AWS TEST RESULTS<sup>(1)</sup>

Flux/Wire Combination	Weld Condition	Yield Strength <sup>(2)</sup> MPa (ksi)	Tensile Strength MPa (ksi)	Elongation (%)	Charpy V-Notch		AWS Classification (A5.17/A5.23)
					J (ft•lbf)	@ °C (°F)	
LA-82	Stress-relieved	630 (91)	710 (103)	27	54 (40)	-51 (-60)	F10P6-EF2-F2-H4
LA-84	As-welded	680 (98)	790 (114)	24	87 (64)	-51 (-60)	F10A6-EF3-F3-H4
LA-84	Stress-relieved	640 (92)	730 (106)	24	72 (53)	-51 (-60)	F10P6-EF3-F3-H4
AK-10	Stress-relieved	660 (95)	750 (108)	25	55 (41)	-40 (-40)	F10P4-EG-G-H4

<sup>(1)</sup>See test results disclaimer <sup>(2)</sup>Measured with 0.2% offset. NOTE 1: For the most up-to-date AWS certificates of conformance please visit [www.lincolnelectric.com](http://www.lincolnelectric.com)

# LINCOLNWELD® 960®

Special Neutral Flux ■ EN ISO 14174 – S A AB 1

## KEY FEATURES

- Low cost, general purpose flux designed to weld butt joints and both single and multiple pass fillets
- Recommended for automatic and semiautomatic submerged arc welding
- A versatile, cost-effective flux that can be used with many alloy systems
- Can be used on weathering steels when combined with Lincolnweld® LA-75
- Actual (Type 3.1) certificates for each lot of flux showing chemical composition, particle size and moisture level are available in the certificate center of lincolnelectric.com

## PACKAGING

50 lb (22.7 kg) Bag                      ED022412, ED030841\*

\*Tested Material

## TYPICAL APPLICATIONS

- Single and multiple pass welding
- Fillet and butt welds with unlimited plate thickness
- Can weld steel with heavy scale or rust when used with Lincolnweld® L-50® wire

## RECOMMENDED WIRES

Mild Steel  
Lincolnweld® L-50®, L-61®, LA-71  
Low Alloy Steel  
Lincolnweld® LA-75, LA-85, LA-93, LA-100

## PRODUCT INFORMATION

Basicity Index: 1.1  
Density: 1.4 g/cm<sup>3</sup>

## AWS D1.8 AND FEMA 353

- Approved when paired with the following wires:
- 3/32 in (2.4 mm) Lincolnweld® L-56®
  - 1/8 in (3.2 mm) Lincolnweld® L-61®
  - 1/8 in (3.2 mm) Lincolnweld® LA-85

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

	%SiO <sub>2</sub>	%MnO	%MgO	%CaF <sub>2</sub>	%Na <sub>2</sub> O	%Al <sub>2</sub> O <sub>3</sub>	%CaO	%TiO <sub>2</sub>	% Metal Alloys
Lincolnweld® 960®	21	10	21	10	2	31	1	1	3 max

## AWS TEST RESULTS<sup>(1)</sup>

Flux/Wire Combination	Weld Condition	Yield Strength <sup>(2)</sup> MPa (ksi)	Tensile Strength MPa (ksi)	Elongation (%)	Charpy V-Notch		AWS Classification (A5.17/A5.23)
					J (ft•lbf)	@ °C (°F)	
L-50®	As-welded	460 (66)	570 (83)	27	58 (43)	-29 (-20)	F7A2-EM13K-H8
L-56	As-welded	460 (67)	590 (86)	29	65 (48)	-29 (-20)	F7A2-EH11K-H8
L-61®	As-welded	420 (61)	520 (75)	32	125 (92)	-29 (-20)	F7A2-EM12K-H8
LA-71	As-welded	460 (66)	570 (82)	29	44 (32)	-29 (-20)	F7A2-EM14K-H8
LA-71	Stress-relieved <sup>(3)</sup>	420 (61)	540 (79)	31	89 (66)	-29 (-20)	F7P2-EM14K-H8
LA-75	As-welded	480 (69)	600 (87)	30	76 (56)	-29 (-20)	F8A2-ENi1K-Ni1-H8
LA-75	Stress-relieved <sup>(3)</sup>	420 (61)	550 (80)	29	53 (39)	-51 (-60)	F7P6-ENi1K-Ni1-H8
LA-85	As-welded	520 (76)	640 (93)	24	57 (42)	-29 (-20)	F8A2-ENi5-G-H8
LA-85	Stress-relieved <sup>(3)</sup>	500 (73)	610 (88)	25	39 (29)	-46 (-50)	F7P5-ENi5-G-H8
LA-93	Stress-relieved <sup>(4)</sup>	580 (84)	680 (98)	22	65 (48)	-18 (0)	F9P0-EB3R-G-H8
LA-100	As-welded	680 (99)	740 (108)	25	33 (24)	-40 (-40)	F10A4-EM2-G-H8

<sup>(1)</sup>See test results disclaimer <sup>(2)</sup>Measured with 0.2% offset. <sup>(3)</sup>Stress-relieved for 1 hour at 621°C (1150°F). <sup>(4)</sup>Stress-relieved for 1 hour at 691°C (1275°F).  
NOTE: For the most up-to-date AWS certificates of conformance please visit [www.lincolnelectric.com](http://www.lincolnelectric.com)



# LINCOLNWELD® 980™

Special Neutral Flux ■ EN ISO 14174 – S A AB 1; EN ISO 14174 – S A AR 1

## KEY FEATURES

- Combines many of the features of the 700 and 800 series fluxes and is ideal for semiautomatic submerged arc welding
- Exceptional resistance to flash-through and porosity caused by arc blow in a variety of applications
- Especially high productivity when used with Lincolnweld® LC-72 wire
- Actual (Type 3.1) certificates for each lot of flux showing chemical composition, particle size and moisture level are available in the certificate center of lincolnelectric.com

## TYPICAL APPLICATIONS

- Semiautomatic, single and multiple pass submerged arc welding
- General purpose fabrication
- Fillet welds

## RECOMMENDED WIRES

Mild Steel  
 Lincolnweld® L-50®, L-61®, LC-72  
 Low Alloy Steel  
 Lincolnweld® LA-75, LAC-Ni2

## PACKAGING

50 lb (22.7 kg) Bag                      ED027861

## PRODUCT INFORMATION

Basicity Index:     0.6  
 Density:             1.4 g/cm<sup>3</sup>

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

	%SiO <sub>2</sub>	%MnO	%MgO	%CaF <sub>2</sub>	%Na <sub>2</sub> O	%Al <sub>2</sub> O <sub>3</sub>	%TiO <sub>2</sub>	% Metal Alloys
Lincolnweld® 980™	11	14	2	12	2	47	7	4 max

## AWS TEST RESULTS<sup>(1)</sup>

Flux/Wire Combination	Weld Condition	Yield Strength <sup>(2)</sup> MPa (ksi)	Tensile Strength MPa (ksi)	Elongation (%)	Charpy V-Notch		AWS Classification (A5.17/A5.23)
					J (ft•lbf)	@ °C (°F)	
L-50®	As-welded	430 (63)	540 (78)	31	43 (32)	-29 (-20)	F7A2-EM13K-H8
L-61®	As-welded	430 (63)	530 (77)	31	37 (27)	-29 (-20)	F7A2-EM12K-H8
LC-72	As-welded	450 (65)	540 (78)	28	43 (32)	-29 (-20)	F7A2-EC1-H8
LA-75	As-welded	510 (74)	600 (87)	28	61 (45)	-29 (-20)	F7A2-ENi1K-Ni1-H8
LAC-Ni2	As-welded	540 (79)	630 (91)	25	110 (81)	-29 (-20)	F8A2-ECNi2-Ni2-H8

<sup>(1)</sup>See test results disclaimer <sup>(2)</sup>Measured with 0.2% offset. NOTE: For the most up-to-date AWS certificates of conformance please visit [www.lincolnelectric.com](http://www.lincolnelectric.com)

# LINCOLNWELD® WTX™

Special Neutral Flux ■ EN ISO 14174 – S A AB 1

## KEY FEATURES

- Neutral submerged arc welding flux designed to meet the specific requirements of wind tower welding applications
- Recommended for use with Lincolnweld® L-61® electrode on both longitudinal and circumferential seam welds
- Capable of producing weld deposits with impact properties exceeding 27 J (20 ft•lbf) at -62°C (-80°F)
- Smooth bead profile to achieve excellent toe angles, tie-in, and bead appearance on interior and exterior applications
- Actual (Type 3.1) certificates for each lot of flux showing chemical composition, particle size and moisture level are available in the certificate center of lincolnelectric.com

## PACKAGING

50 lb (22.7 kg) Plastic Bag	ED032990
2200 lb (998 kg) Bulk Bag	ED033903

## TYPICAL APPLICATIONS

- Wind tower base
- Wind tower door frame

## RECOMMENDED WIRES

Mild Steel  
Lincolnweld® L-61®  
Low Alloy Steel  
Lincolnweld® L-70

## PRODUCT INFORMATION

Basicity Index: 1.4  
Density: 1.2 g/cm<sup>3</sup>

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

	%SiO <sub>2</sub>	%Mn <sub>x</sub> O <sub>y</sub>	%MgO	%CaF <sub>2</sub>	%NaO	%Al <sub>2</sub> O <sub>3</sub>	%CaO	%ZrO <sub>2</sub>	%FeO	%K <sub>2</sub> O	%TiO <sub>2</sub>
Lincolnweld® WTX™	21	9	23	13	2	25	5	1	2	1	1

## AWS TEST RESULTS<sup>(1)</sup>

Flux/Wire Combination	Weld Condition	Yield Strength <sup>(2)</sup> MPa (ksi)	Tensile Strength MPa (ksi)	Elongation (%)	Charpy V-Notch		AWS Classification (A5.17/A5.23)
					J (ft•lbf)	@ °C (°F)	
L-61®	As-welded	430 (63)	540 (78)	31	84 (62)	-62 (-80)	F7A8-EM12K-H8
L-70	As-welded	500 (73)	610 (88)	25	46 (34)	-40 (-40)	F8A4-EA1-A3-H8

<sup>(1)</sup>See test results disclaimer <sup>(2)</sup>Measured with 0.2% offset. NOTE: For the most up-to-date AWS certificates of conformance please visit [www.lincolnelectric.com](http://www.lincolnelectric.com)

# LINCOLNWELD® WTX™-TR

Special Neutral Flux ■ EN ISO 14174 – S A AB 1

## KEY FEATURES

- Neutral submerged arc welding flux designed to meet the specific requirements of two-run welding technique for wind tower welding applications
- Recommended for use with Lincolnweld® L-61® electrode on both longitudinal and circumferential seam welds
- Capable of producing weld deposits with impact properties exceeding 27 J (20 ft•lbf) at -40°C (-40°F) in two run applications
- Smooth bead profile to achieve excellent toe angles, tie-in, and bead appearance on interior and exterior applications
- Actual (Type 3.1) certificates for each lot of flux showing chemical composition, particle size and moisture level are available in the certificate center of lincolnelectric.com

## PACKAGING

50 lb (22.7 kg) Plastic Bag      ED035463  
2200 lb (998 kg) Bulk Bag      ED035845

## RECOMMENDED WIRES

Mild Steel  
Lincolnweld® L-61®

## TYPICAL APPLICATIONS

- Wind tower base
- Wind tower door frame

## PRODUCT INFORMATION

Basicity Index: 1.5  
Density: 1.2 g/cm<sup>3</sup>

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

	%SiO <sub>2</sub>	%Mn <sub>2</sub> O <sub>3</sub>	%MgO	%CaF <sub>2</sub>	%NaO	%Al <sub>2</sub> O <sub>3</sub>
Lincolnweld® WTX™-TR	17	18	22	13	2	25
	%CaO	%ZrO <sub>2</sub>	%FeO	%K <sub>2</sub> O	%TiO <sub>2</sub>	% Metal Alloys
Lincolnweld® WTX™-TR	4	2	3	1	3	<5

## AWS TEST RESULTS<sup>(1)</sup>

Flux/Wire Combination	Weld Condition	Yield Strength <sup>(2)</sup> MPa (ksi)	Tensile Strength MPa (ksi)	Elongation (%)	Charpy V-Notch		AWS Classification (A5.23)
					J (ft•lbf)	@ °C (°F)	
L-61®	As-welded	560 (81)	640 (93)	23	160 (118)	-40 (-40)	F7TA4-EM12K-H8

<sup>(1)</sup>See test results disclaimer <sup>(2)</sup>Measured with 0.2% offset. NOTE: For the most up-to-date AWS certificates of conformance please visit [www.lincolnelectric.com](http://www.lincolnelectric.com)

# LINCOLNWELD® 761-PIPE™

Flux for Seam Welding of Pipe ■ EN ISO 14174 – S A MS 1; EN ISO 14174 – S A CS 1

## KEY FEATURES

- Features the chemical composition of 761 with a particle size optimized for seam welding
- Low-melting slag system produces wide flat welds with superior resistance to cracks and pockmarking
- Can handle up to 5 arcs or 5,000 amps
- Actual (Type 3.1) certificates for each lot of flux showing chemical composition, particle size and moisture level are available in the certificate center of lincolnelectric.com

## PACKAGING

50 lb (22.7 kg) Plastic Bag	ED032797
2600 lb (1179 kg) Bulk Bag	ED032768

## TYPICAL APPLICATIONS

- Single and multiple arc welding
- Longitudinal seam welding of API grade pipe
- Spiral seam welding of API grade or water pipe

## RECOMMENDED WIRES

Mild Steel  
Lincolnweld® L-61®

Low Alloy Steel  
Lincolnweld® L-70

## PRODUCT INFORMATION

Basicity Index: 0.8  
Density: 1.2 g/cm<sup>3</sup>

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

	%SiO <sub>2</sub>	%Mn <sub>2</sub> O <sub>3</sub>	%MgO	%CaF <sub>2</sub>	%NaO	%Al <sub>2</sub> O <sub>3</sub>	%TiO <sub>2</sub>	%FeO	% Metal Alloys
Lincolnweld® 761-Pipe™	45	19	22	5	2	2	2	1	6 max

## AWS TEST RESULTS<sup>(1)</sup>

Flux/Wire Combination	Weld Condition	Yield Strength <sup>(2)</sup> MPa (ksi)	Tensile Strength MPa (ksi)	Elongation (%)	Charpy V-Notch		AWS Classification (A5.17/A5.23)
					J (ft•lbf)	@ °C (°F)	
L-61® L-70	As-welded	490 (70)	580 (85)	28	54 (40)	-29 (-20)	F7A2-EM12K-H8 F9A0-EA1-G
	As-welded	550 (80)	640 (93)	24	58 (43)	-18 (0)	

<sup>(1)</sup>See test results disclaimer <sup>(2)</sup>Measured with 0.2% offset. NOTE: For the most up-to-date AWS certificates of conformance please visit [www.lincolnelectric.com](http://www.lincolnelectric.com)

# LINCOLNWELD® P223™

Flux for Seam Welding of Pipe ■ EN ISO 14174 – S A AB 1

## KEY FEATURES

- Industry standard for pipe welding on up to X80 grade pipe
- Fast freezing and easily removable slag for excellent bead profile
- Can be used for welding with up to three arcs
- Actual (Type 3.1) certificates for each lot of flux showing chemical composition, particle size and moisture level are available in the certificate center of lincolnelectric.com

## PACKAGING

50 lb (22.7 kg) Plastic Bag  
2600 lb (1179 kg) Bulk Bag

ED032764  
ED032767

## TYPICAL APPLICATIONS

- Pipe welding up to X80 grade pipe
- Two run welding applications for pipe fabrication
- Multiple pass welding for general construction

## RECOMMENDED WIRES

Mild Steel

Lincolnweld® L-56®, L-61®, LA-71, L-53

Low Alloy Steel

Lincolnweld® L-70, LA-90

## PRODUCT INFORMATION

Basicity Index: 1.5  
Density: 1.2 g/cm<sup>3</sup>

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

	%SiO <sub>2</sub>	%MnO	%MgO	%CaF <sub>2</sub>	%NaO	%Al <sub>2</sub> O <sub>3</sub>	%CaO	%TiO <sub>2</sub>	%K <sub>2</sub> O	%FeO	% Metal Alloys
Lincolnweld® P223™	23	4	21	21	2	20	4	2	1	1	3 max

## AWS TEST RESULTS<sup>(1)</sup>

Flux/Wire Combination	Weld Condition	Yield Strength <sup>(2)</sup> MPa (ksi)	Tensile Strength MPa (ksi)	Elongation (%)	Charpy V-Notch		AWS Classification (A5.17/A5.23)
					J (ft•lbf)	@ °C (°F)	
L-56®	As-welded	500 (73)	620 (90)	30	68 (50)	-51 (-60)	F7A6-EH11K-H8
L-56®	Stress-relieved <sup>(3)</sup>	540 (65)	580 (84)	30	66 (49)	-51 (-60)	F7P6-EH11K-H8
L-61®	As-welded	430 (63)	530 (77)	31	126 (93)	-40 (-40)	F7A4-EM12K
LA-71	As-welded	480 (69)	570 (83)	29	94 (69)	-40 (-40)	F7A4-EM14K-H8
LA-71	Stress-relieved <sup>(3)</sup>	410 (60)	540 (78)	32	76 (56)	-51 (-60)	F7P6-EM14K-H8
L-53	As-welded	460 (67)	570 (82)	30	88 (65)	-62 (-80)	F7A8-EH12K-H8
L-70	As-welded	550 (80)	650 (94)	25	53 (39)	-29 (-20)	F8A2-EA1-A2
LA-90	As-welded	630 (91)	720 (105)	25	60 (44)	-18 (0)	F9A0-EA3K-G

<sup>(1)</sup>See test results disclaimer <sup>(2)</sup>Measured with 0.2% offset. <sup>(3)</sup>Stress-relieved for 1 hour at 621°C (1150°F).  
NOTE: For the most up-to-date AWS certificates of conformance please visit [www.lincolnelectric.com](http://www.lincolnelectric.com)

# LINCOLNWELD® SPX80™

Flux for Seam Welding of Pipe ■ EN ISO 14174 – S A AB 1

## KEY FEATURES

- Designed to meet the specific requirements of spiral pipe seam welding of up to API X80 grade pipe
- High speed welding capability for increased productivity
- Capable of producing weld deposits with impact properties exceeding 27 J (20 ft•lbf) at -51°C (-60°F) with Lincolnweld® LA-81
- Smooth bead profile achieves optimal appearance on both inner and outer diameter welds
- Self-peeling slag allows for clean and easy slag removal for reliable non-destructive testing results
- Actual (Type 3.1) certificates for each lot of flux showing chemical composition, particle size and moisture level are available in the certificate center of lincolnelectric.com

## TYPICAL APPLICATIONS

- Spiral pipe mills
- Weld up to API X80 pipe
- Two run welding applications

## RECOMMENDED WIRES

Mild Steel  
Lincolnweld® L-61®

Low Alloy Steel  
Lincolnweld® L-70, LA-81, LA-90

## PACKAGING

50 lb (22.7 kg) Plastic Bag                      ED032960  
2600 lb (1179 kg) Bulk Bag                      ED033319

## PRODUCT INFORMATION

Basicity Index:            1.2  
Density:                    1.2 g/cm<sup>3</sup>

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

	%SiO <sub>2</sub>	%MnO	%MgO	%CaF <sub>2</sub>	%NaO	%Al <sub>2</sub> O <sub>3</sub>	%CaO	%ZrO <sub>2</sub>	%FeO	%TiO <sub>2</sub>
Lincolnweld® SPX80™	21	9	21	14	1	28	3	2	1	1

## AWS TEST RESULTS<sup>(1)</sup> - TWO RUN

Flux/Wire Combination	Steel Type	Weld Condition	Yield Strength <sup>(2)</sup> MPa (ksi)	Tensile Strength MPa (ksi)	Elongation (%)	Charpy V-Notch		AWS Classification (A5.17/A5.23)
						J (ft•lbf)	@ °C (°F)	
LA-81	X80	As-welded	550 (80)	640 (93)	28	40 (29)	-40 (-40)	F9TA4-EA2TiB

<sup>(1)</sup>See test results disclaimer <sup>(2)</sup>Measured with 0.2% offset. NOTE: For the most up-to-date AWS certificates of conformance please visit [www.lincolnelectric.com](http://www.lincolnelectric.com)

# LINCOLNWELD® 995N™

Flux for Seam Welding of Pipe ■ EN ISO 14174 – S A AB 1

## KEY FEATURES

- A nitrogen limiting flux designed for seam welding of pipe
- Recommended for automatic single pass welding with up to five arcs
- Produces welds with minimal buildup and good penetration
- Capable of producing Charpy V-Notch test results required for arctic grade service
- Actual (Type 3.1) certificates for each lot of flux showing chemical composition, particle size and moisture level are available in the certificate center of lincolnelectric.com

## PACKAGING

50 lb (22.7 kg) Plastic Bag      ED032831

## TYPICAL APPLICATIONS

- Automatic, single pass welding
- Single or multiple arc welding
- High speed longitudinal seam welding on a range of pipe steels
- One side welding requiring impact properties

## RECOMMENDED WIRES

Mild Steel  
Lincolnweld® L-61®  
Low Alloy Steel  
Lincolnweld® L-70, LA-81, LA-90

## PRODUCT INFORMATION

Basicity Index: 1.3  
Density: 1.0 g/cm<sup>3</sup>

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

	%SiO <sub>2</sub>	%MnO	%MgO	%CaF <sub>2</sub>	%Na <sub>2</sub> O	%Al <sub>2</sub> O <sub>3</sub>	%CaO	%ZrO <sub>2</sub>	%FeO	%TiO <sub>2</sub>	% Metal Alloys
Lincolnweld® 995N™	19	11	16	14	3	27	5	2	1	1	3 max

## AWS TEST RESULTS<sup>(1)</sup>

Flux/Wire Combination	Weld Condition	Yield Strength <sup>(2)</sup> MPa (ksi)	Tensile Strength MPa (ksi)	Elongation (%)	Charpy V-Notch		AWS Classification (A5.17/A5.23)
					J (ft•lbf)	@ °C (°F)	
L-61®	As-welded	430 (63)	540 (79)	29	83 (61)	-40 (-40)	F7A4-EM12K-H8
L-70	As-welded	510 (74)	610 (88)	24	73 (54)	-29 (-20)	F8A2-EA1-A4
LA-81	As-welded	590 (96)	660 (96)	26	58 (43)	-29 (-20)	F9A2-EG-G
LA-90	As-welded	600 (87)	700 (102)	25	54 (40)	-29 (-20)	F9A2-EA3K-G

<sup>(1)</sup>See test results disclaimer <sup>(2)</sup>Measured with 0.2% offset. NOTE: For the most up-to-date AWS certificates of conformance please visit [www.lincolnelectric.com](http://www.lincolnelectric.com)

# LINCOLNWELD® A-XXX10™

High Performance / Alloy Flux ■ EN ISO 14174 – S A AS 1

## KEY FEATURES

- An alloy flux designed to produce a nominal 1% nickel-bearing weld deposit
- Recommended for use on ASTM A533 Class 1 and A588 weathering steels when combined with Lincolnweld® L-61®
- Actual (Type 3.1) certificates for each lot of flux showing chemical composition, particle size and moisture level are available in the certificate center of lincolnelectric.com

## PACKAGING

50 lb (22.7 kg) Bag

ED027862

## TYPICAL APPLICATIONS

- Welding of A588 weathering steels and ASTM A533-Class 1

## RECOMMENDED WIRES

For Low Alloy  
Lincolnweld® L-61®

## PRODUCT INFORMATION

Basicity Index: 1.0  
Density: 1.4 g/cm<sup>3</sup>

## NOTES

- Since the alloy level in the weld deposit depends upon the arc voltage, and thus the arc length, always maintain a consistent arc voltage. If more flexibility in procedure is necessary, use 960 flux and LA-75 electrode.

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

	%SiO <sub>2</sub>	%MnO	%MgO	%CaF <sub>2</sub>	%Na <sub>2</sub> O	%Al <sub>2</sub> O <sub>3</sub>	%ZrO <sub>2</sub>	%TiO <sub>2</sub>	% Metal Alloys
Lincolnweld® A-XXX10™	18	5	22	11	2	19	22	1	5 max

## AWS TEST RESULTS<sup>(1)</sup>

Flux/Wire Combination	Weld Condition	Yield Strength <sup>(2)</sup> MPa (ksi)	Tensile Strength MPa (ksi)	Elongation (%)	Charpy V-Notch		AWS Classification (A5.17/A5.23)
					J (ft·lbf)	@ °C (°F)	
L-61®	As-welded	460 (67)	570 (83)	30	85 (63)	-40 (-40)	F7A4-EM12K-Ni1-H8

<sup>(1)</sup>See test results disclaimer <sup>(2)</sup>Measured with 0.2% offset. NOTE: For the most up-to-date AWS certificates of conformance please visit [www.lincolnelectric.com](http://www.lincolnelectric.com)



# LINCOLNWELD® MIL800-HPNi™

High Performance / Alloy Flux ■ EN ISO 14174 – S A FB 1

## KEY FEATURES

- When used with Lincolnweld® LA-85 the nickel content will increase from a nominal 1% to a minimum 1%
- Use on high performance steel applications, including HPS70W or HPS100W
- Capable of producing ultra low H2 diffusible hydrogen levels on HPS steels
- Actual (Type 3.1) certificates for each lot of flux showing chemical composition, particle size and moisture level are available in the certificate center of lincolnelectric.com

## PACKAGING

50 lb (22.7 kg)  
Hermetically Sealed Foil Bag      ED035893

## TYPICAL APPLICATIONS

- Bridge fabrication with HPS70W steel, when used with LA-85 wire
- Single or multiple wire arc welding
- Butt and fillet welds on low alloy steels

## RECOMMENDED WIRES

Low Alloy Steel  
Lincolnweld® LA-75, LA-85, LA-100

## PRODUCT INFORMATION

Basicity Index: 3.1  
Density: 1.3 g/cm<sup>3</sup>

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

	%SiO <sub>2</sub>	%MgO	%CaF <sub>2</sub>	%Na <sub>2</sub> O	%Al <sub>2</sub> O <sub>3</sub>	%CaO	%TiO <sub>2</sub>	%K <sub>2</sub> O	%FeO	% Metal Alloys
Lincolnweld® MIL800-HPNi™	13	34	22	1	16	8	2	1	1	3 max

## AWS TEST RESULTS<sup>(1)</sup>

Flux/Wire Combination	Weld Condition	Yield Strength <sup>(2)</sup> MPa (ksi)	Tensile Strength MPa (ksi)	Elongation (%)	Charpy V-Notch		AWS Classification (A5.17/A5.23)
					J (ft·lbf)	@ °C (°F)	
LA-75	As-welded	560 (81)	640 (93)	28	145 (107)	-51 (-60)	F8A6-ENi1K-G-H2
LA-85	As-welded	600 (88)	690 (100)	25	143 (105)	-40 (-40)	F9A4-ENi5-G-H2
LA-100	As-welded	800 (116)	850 (123)	23	91 (67)	-40 (-40)	F11A4-EM2-G-H2

<sup>(1)</sup>See test results disclaimer <sup>(2)</sup>Measured with 0.2% offset. NOTE: For the most up-to-date AWS certificates of conformance please visit [www.lincolnelectric.com](http://www.lincolnelectric.com)