

# 780 / 780-CG / 780-FG

## CLASSIFICATION

Flux	Flux/wire			
ISO 14174 S A AR/AB 1 78 AC H5		<b>AWS A5.17 / A5.23</b>	<b>ISO 14171-A : MR</b>	<b>ISO 14171-A : TR</b>
	<b>780 / L-60</b>	F7A0-EL12	S 42 0 AR/AB S1	S 4T 0 AR/AB S1
	<b>780 / L-61</b>	F7A2-EM12K	S 42 0 AR/AB S2Si	S 4T 2 AR/AB S2Si
	<b>780 / LNS 140A</b>	F8A2-EA2-G		S 4T 2 AR/AB S2Mo
	<b>780 / L-70</b>	F8A2-EA1-G		S 4T 2 AR/AB S2Mo

## GENERAL DESCRIPTION

Active flux for limited pass welding  
 Good general purpose flux, including semi-automatic  
 High speed on dirty plate  
 Good resistance to porosity on rust and primer  
 Good slag removal, good bead shape  
 Product also available in a fine grain and coarse formula  
 Fine grain formula preferably used on high speed fillet welds applications  
 Good on circumferential welds on small diameters with low voltage

## APPROVALS

Wire grade	BV	ABS	LRS	DNV	GL	RINA	PRS	RMRS	CRS	TÜV
L-60	A2YT	2YT	2YT	2YT	3YT	2YT				✓
LNS 135										✓
L-61	A3YT		2YM/3YT	2YM/3YT	3YT	3YT	2YM/3YT	3YT	3YT	✓
L-50-M (LNS 133U)										✓
LNS 140A (L-70)			3YT				3YT			✓
LNS 150										✓
LNS 151										✓

## CHEMICAL COMPOSITION (W%), TYPICAL, ALL WELD METAL

Wire grade	C	Mn	Si	P	S	Mo
L-60	0.07	1.4	0.6	<0.03	<0.025	
L-61	0.07	1.6	0.7	<0.03	<0.025	
LNS 140A (L-70)	0.07	1.6	0.6	<0.03	<0.025	0.4

## MECHANICAL PROPERTIES, TYPICAL, ALL WELD METAL

Wire grade	Condition*	Yield strength [N/mm <sup>2</sup> ]	Tensile strength [N/mm <sup>2</sup> ]	Elongation [%]	Impact ISO-V(J)	
					0°C	-20°C
L-60	MR	>420	510	28	50	
L-61	TR	>420	>540	28		50
LNS 140A (L-70)	TR	>420	>550	25		60

\* MR : Multirun - TR : Two-run

780/780-CG/780-FG: rev. C-EN24-01/02/16

All information in this data sheet is accurate to the best of our knowledge at the time of printing. Please refer to [www.lincolnelectric.eu](http://www.lincolnelectric.eu) for any updated information.  
Fumes: Safety Data Sheets (SDS) are available on our website.

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## EXAMPLES OF MATERIALS TO BE WELDED

Code	Type/ Steel grades	Limited passes		
		L-60	L-61	LNS 140A (L-70)
<b>Ship plates</b>				
	A to D, A (H) 32 to D(H) 36	✓	✓	✓
<b>General structural steels</b>				
EN 10025 part 6	500 A			✓
EN 10025 part 3/part 4	S275 to S420, N,M	✓	✓	✓
EN 10149	S315 to S420, MC	✓	✓	✓
	S315 to S420, NC	✓	✓	✓
	S460, MC & NC			✓
EN 10025 part 2	S185 to S355, E295 to E360, JR(G1 & G2), J0, J2 (G3&G4)	✓	✓	✓
<b>Boiler &amp; pressure vessel steels</b>				
EN 10028	P235 to P420, GH, N, NH, M, Q & QH	✓	✓	✓
	P235 to P460, GH, N, NH, M, Q & QH	✓	✓	✓
	P500, GH, N, NH, M, Q & QH, P235 S, P265 S	✓	✓	✓
	A37 to A52, CP, AP	✓	✓	✓

## FLUX CHARACTERISTICS

Current type	DC/AC
Basicity (Boniszewski)	0.7
Solidification speed	High
Density (kg/dm <sup>3</sup> )	1.4
Grain size (ISO 14174)	780 : 1 - 20 / 780-CG : 2 - 20 / 780-FG : 1 - 16

## SUGGESTIONS FOR USE

Wire	Characteristics
L-60	To prevent defects from organic components
L-61	Reliable properties
LNS 140A (L-70)	For good impact toughness in two-run as welded

## PACKAGING AND AVAILABLE SIZES

Unit	Net weight (kg)
Bag	25
Sahara ReadyBag™ (SRB)	25
Metal drum	250
Big Bag	500 / 1000