

SUBMERGED ARC WELDING CONSUMABLES

SAW WIRES & FLUXES

SAW WIRES

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SUBMERGED
ARC WELDING
CONSUMABLES
SAW WIRES
& FLUXES

L50M

TOP FEATURES

- A low carbon, high manganese, medium silicon submerged arc wire primarily designed to be used in multirun conditions
- Capable of producing weld deposits with impact properties exceeding 27 J at -62°C when used with fluxes such as 8500™, P240 or Lincolweld®842-H in As Welded and after post weld heat treatment conditions
- Actual (Type 3.1) certificates for each lot of wire showing chemical composition are available

CLASSIFICATION

AWS A5.17 EH12K
 EN ISO 14171-A S3Si

CHEMICAL COMPOSITION (WEIGHT %), TYPICAL, WIRE

C	Mn	Si
0.1	1.75	0.25

PACKAGING AND AVAILABLE SIZES

Wire diameter (mm)	Packaging	Weight (kg)	Item number
1.6	SPOOL	25.0	FL50M-16-25VCI
	REEL	300.0	107241, FL50M-16-300
	DRUM	600.0	FL50M-16-600AC
2.0	SPOOL	25.0	FL50M-2-25VCI
	DRUM	300.0	FL50M-2-300AC
	DRUM	350.0	FL50M-2-350
	DRUM	400.0	FL50M-2-400
2.4	SPOOL	25.0	FL50M-24-25VCI
	SPOOL	100.0	FL50M-24-100
	REEL	300.0	FL50M-24-300
	DRUM	400.0	FL50M-24-400
	DRUM	600.0	FL50M-24-600AC
	COIL	1000.0	FL50M-24-1T
3.2	SPOOL	25.0	FL50M-32-25VCI
	SPOOL	100.0	FL50M-32-100
	REEL	300.0	FL50M-32-300
	DRUM	350.0	FL50M-32-350
	DRUM	400.0	FL50M-32-400
	DRUM	600.0	FL50M-32-600SF
	COIL	1000.0	FL50M-32-1T
	DRUM	1000.0	FL50M-32-1000
4.0	SPOOL	25.0	FL50M-4-25VCI
	SPOOL	100.0	FL50M-4-100
	REEL	300.0	FL50M-4-300
	DRUM	350.0	FL50M-4-350
	DRUM	400.0	FL50M-4-400
	DRUM	600.0	FL50M-4-600SF
	COIL	1000.0	FL50M-4-1T
	DRUM	1000.0	FL50M-4-1000
4.8	SPOOL	25.0	FL50M-48-25VCI

SAW

L60

TOP FEATURES

- A low carbon, low manganese, low silicon general purpose wire
- Provides the lowest hardness and is best suited for use with the Lincoln active fluxes
- Excellent choice when welding on oily plates.
- Best suited to use with active fluxes

CLASSIFICATION

AWS A5.17 EL12
EN ISO 14171-A S1

CHEMICAL COMPOSITION (WEIGHT %), TYPICAL, WIRE

C	Mn	Si
0.09	0.5	0.06

PACKAGING AND AVAILABLE SIZES

Wire diameter (mm)	Packaging	Weight (kg)	Item number
1.6	SPOOL	25.0	FL60-16-25VCI
	SPOOL	25.0	FL60-2-25VCI
2.0	REEL	230.0	106893
	DRUM	350.0	107029
	DRUM	400.0	FL60-2-400
	SPOOL	25.0	FL60-24-25VCI
2.4	REEL	230.0	106886
	DRUM	400.0	FL60-24-400
	DRUM	600.0	FL60-24-600AC
	DRUM	1000.0	FL60-24-1000
3.2	SPOOL	25.0	FL60-32-25VCI
	SPOOL	100.0	FL60-32-100
	DRUM	400.0	FL60-32-400
	DRUM	1000.0	FL60-32-1000
4.0	SPOOL	25.0	FL60-4-25VCI
	SPOOL	100.0	FL60-4-100
	REEL	300.0	104752
	DRUM	350.0	FL60-4-350
	DRUM	400.0	FL60-4-400
	DRUM	600.0	FL60-4-600SF

L61

TOP FEATURES

- Industry standard for submerged arc welding applications
- A low carbon, medium manganese, low silicon general purpose submerged arc wire
- A good choice for a wide range of applications with single or multiple pass subarc welding

CLASSIFICATION

AWS A5.17 EM12K
 EN ISO 14171-A S2Si

CHEMICAL COMPOSITION (WEIGHT %), TYPICAL, WIRE

C	Mn	Si
0.1	1.0	0.25

PACKAGING AND AVAILABLE SIZES

Wire diameter (mm)	Packaging	Weight (kg)	Item number
1.6	SPOOL	25.0	FL61-16-25VCI
	DRUM	250.0	FL61-16-250
	DRUM	350.0	FL61-16-350
	DRUM	600.0	FL61-16-600AC
2.0	SPOOL	25.0	FL61-2-25VCI
	SPOOL	100.0	FL61-2-100
	DRUM	300.0	FL61-2-300AC
	REEL	300.0	FL61-2-300
	DRUM	350.0	FL61-2-350
	DRUM	500.0	FL61-2-500
	DRUM	600.0	FL61-2-600AC
	DRUM	1000.0	FL61-2-1000
2.4	SPOOL	25.0	FL61-24-25VCI
	REEL	300.0	FL61-24-300
	DRUM	350.0	FL61-24-350
	DRUM	400.0	FL61-24-400
	COIL	1000.0	FL61-24-1T
	DRUM	1000.0	FL61-24-1000
3.2	SPOOL	25.0	FL61-32-25VCI
	SPOOL	100.0	FL61-32-100
	REEL	300.0	FL61-32-300
	DRUM	350.0	105506
	DRUM	400.0	FL61-32-400
	DRUM	600.0	FL61-32-600SF
	COIL	1000.0	FL61-32-1T
	DRUM	1000.0	FL61-32-1000
	4.0	SPOOL	25.0
SPOOL		100.0	FL61-4-100, FL61-4-100E
REEL		300.0	FL61-4-300
DRUM		350.0	105438
DRUM		400.0	FL61-4-400
DRUM		600.0	FL61-4-600SF
COIL		1000.0	FL61-4-1T
DRUM		1000.0	FL61-4-1000
4.8	SPOOL	25.0	FL61-48-25VCI
	SPOOL	100.0	FL61-48-100

SAW

LNS 135

TOP FEATURES

- Generate a soft weld metal deposit in combination with neutral fluxes
- Used on 355MPa grade or below
- Good behavior on oily plates

CLASSIFICATION

AWS A5.17 EM12K
EN ISO 14171-A S2

CHEMICAL COMPOSITION (WEIGHT %), TYPICAL, WIRE

C	Mn	Si
0.1	1.0	0.10

PACKAGING AND AVAILABLE SIZES

Wire diameter (mm)	Packaging	Weight (kg)	Item number
2.4	SPOOL	25.0	LNS135-24-25VCI
3.2	SPOOL	25.0	LNS135-32-25VCI
4.0	SPOOL	25.0	LNS135-4-25VCI
	DRUM	400.0	LNS135-4-400

L-70

TOP FEATURES

- A low carbon, medium manganese, low silicon, 1/2% molybdenum wire used for single or multiple pass welds
- A standard choice for pipe fabrication and other limited pass applications
- Actual (Type 3.1) certificates for each lot of wire showing chemical composition are available

CLASSIFICATION

AWS A5.23 EA1
 EN ISO 14171-A S2Mo

CHEMICAL COMPOSITION (WEIGHT %), TYPICAL, WIRE

C	Mn	Si	Mo
0.1	0.9	0.10	0.5

PACKAGING AND AVAILABLE SIZES

Wire diameter (mm)	Packaging	Weight (kg)	Item number
2.0	SPOOL	25.0	FL70-2-25VCI
	DRUM	400.0	FL70-2-400
2.4	SPOOL	25.0	FL70-24-25VCI
	SPOOL	25.0	FL70-32-25VCI
3.2	SPOOL	100.0	FL70-32-100
	DRUM	350.0	FL70-32-350
	DRUM	600.0	FL70-32-600SF
	COIL	1000.0	FL70-32-1T
4.0	SPOOL	25.0	FL70-4-25VCI
	SPOOL	100.0	FL70-4-100
	DRUM	350.0	FL70-4-350
	DRUM	600.0	FL70-4-600SF
	COIL	1000.0	FL70-4-1T
4.8	SPOOL	25.0	FL70-48-25VCI
	SPOOL	100.0	FL70-48-100

LNS 133TB

TOP FEATURES

- High Manganese and microalloying elements to optimize impact toughness in 2-run technique at low temperature
- Molybdenum free composition to limit the secondary hardening phenomena
- Suitable for pipe grade up to X90

CLASSIFICATION

AWS A5.23 EG
EN ISO 14171-A SZ

CHEMICAL COMPOSITION (WEIGHT %), TYPICAL, WIRE

C	Mn	Si	Ti	B
0.08	1.55	0.25	0.15	0.015

PACKAGING AND AVAILABLE SIZES

Wire diameter (mm)	Packaging	Weight (kg)	Item number
4.0	SPOOL	25.0	LNS133TB-4-25VCI
	DRUM	350.0	LNS133TB-4-350
	REEL	350.0	LNS133TB-4-350R
	DRUM	600.0	LNS133TB-4-600SF
	COIL	1000.0	LNS133TB-4-1T
4.8	DRUM	350.0	LNS133TB-48-350

LNS 140A

TOP FEATURES

- A low carbon, medium manganese, low silicon, 0,5% molybdenum wire used for single or multiple pass welds
- A standard choice for pipe fabrication and other limited pass applications
- Actual (Type 3.1) certificates for each lot of wire showing chemical composition are available

CLASSIFICATION

AWS A5.23 EA2
 EN ISO 14171-A S2Mo

CHEMICAL COMPOSITION (WEIGHT %), TYPICAL, WIRE

C	Mn	Si	Mo
0.1	1.0	0.10	0.5

PACKAGING AND AVAILABLE SIZES

Wire diameter (mm)	Packaging	Weight (kg)	Item number
2.0	SPOOL	25.0	LNS140A-2-25VCI
	REEL	300.0	LNS140A-2-300
	DRUM	350.0	LNS140A-2-350
	DRUM	400.0	107036
	DRUM	600.0	LNS140A-2-600AC
2.4	SPOOL	25.0	LNS140A-24-25VCI
	DRUM	400.0	LNS140A-24-400
3.2	SPOOL	25.0	LNS140A-32-25VCI
	SPOOL	100.0	LNS140A-32-100
	DRUM	350.0	105407
	DRUM	400.0	LNS140A-32-400
	DRUM	600.0	LNS140A-32-600SF
	COIL	1000.0	106725, LNS140A-32-1T
	DRUM	1000.0	LNS140A-32-1000
4.0	SPOOL	25.0	LNS140A-4-25VCI
	SPOOL	100.0	LNS140A-4-100
	DRUM	200.0	107159
	DRUM	350.0	105346, 105414
	DRUM	400.0	LNS140A-4-400
	DRUM	600.0	LNS140A-4-600SF
	COIL	1000.0	LNS140A-4-1T
	DRUM	1000.0	LNS140A-4-1000
4.8	SPOOL	25.0	LNS140A-48-25VCI
	SPOOL	100.0	LNS140A-48-100
	DRUM	300.0	LNS140A-48-300
	DRUM	600.0	LNS140A-48-600SF
	COIL	1000.0	LNS140A-48-1T

SAW

LNS 140TB

TOP FEATURES

- 0.5%Mo and microalloying elements to optimize impact toughness in 2-run technique at low temperature
- Suitable for limited passes applications
- Suitable for pipe grade up to X90

CLASSIFICATION

AWS A5.23 EA2TiB
EN ISO 14171-A S2MoTiB

CHEMICAL COMPOSITION (WEIGHT %), TYPICAL, WIRE

C	Mn	Si	Mo	Ti	B
0.06	1.1	0.20	0.5	0.13	0.013

PACKAGING AND AVAILABLE SIZES

Wire diameter (mm)	Packaging	Weight (kg)	Item number
2.4	SPOOL	25.0	LNS140TB-24-25VCI
	SPOOL	25.0	LNS140TB-32-25VCI
3.2	DRUM	600.0	LNS140TB-32-600SF
	COIL	1000.0	LNS140TB-32-1T
	SPOOL	25.0	LNS140TB-4-25VCI
4.0	SPOOL	100.0	LNS140TB-4-100E
	REEL	350.0	LNS140TB-4-350R
	DRUM	400.0	LNS140TB-4-400
	DRUM	600.0	LNS140TB-4-600SF
	COIL	1000.0	LNS140TB-4-1T
	SPOOL	25.0	LNS140TB-48-25VCI
4.8	DRUM	300.0	LNS140TB-48-300
	COIL	1000.0	LNS140TB-48-1T

LNS 150

TOP FEATURES

- For maximal operating temperature of 550°C
- Low bruscato factor
- Actual (Type 3.1) certificates for each lot of wire showing chemical composition are available

CLASSIFICATION

AWS A5.23 EB2R
EN ISO 24598-A S Cr Mo1

TYPICAL APPLICATIONS

- Creep resistant steel

CHEMICAL COMPOSITION (WEIGHT %), TYPICAL, WIRE

C	Mn	Si	Mo	Cr	P
0.13	0.8	0.15	0.5	1.2	<0.010

PACKAGING AND AVAILABLE SIZES

Wire diameter (mm)	Packaging	Weight (kg)	Item number
1.6	SPOOL	25.0	LNS150-16-25VCI
	SPOOL	25.0	LNS150-2-25VCI
2.0	DRUM	350.0	LNS150-2-350
	DRUM	600.0	LNS150-2-600AC
2.4	SPOOL	25.0	LNS150-24-25VCI
	SPOOL	25.0	LNS150-32-25VCI
3.2	COIL	1000.0	LNS150-32-1T
	DRUM	1000.0	LNS150-32-1000
4.0	SPOOL	25.0	LNS150-4-25VCI
	DRUM	400.0	LNS150-4-400

LNS 151

TOP FEATURES

- For maximal operating temperature of 600°C
- Low bruscato factor
- Actual (Type 3.1) certificates for each lot of wire showing chemical composition are available

CLASSIFICATION

AWS A5.23 EB3R
EN ISO 24598-A S Cr Mo2

TYPICAL APPLICATIONS

- Creep resistant steel
- Can be used with low basicity index flux for single pass fillet welds dedicated to fin to tube welding for heat exchangers (waterwalls as an example).

CHEMICAL COMPOSITION (WEIGHT %), TYPICAL, WIRE

C	Mn	Si	Mo	P	Cr
0.10	0.6	0.12	1.0	<0.010	2.5

PACKAGING AND AVAILABLE SIZES

Wire diameter (mm)	Packaging	Weight (kg)	Item number
2.4	SPOOL	25.0	596681
3.2	SPOOL	25.0	596694

LNS 160

TOP FEATURES

- 1%Nickel addition
- Optimum results in multipass technique
- Comply with NACE requirement

CLASSIFICATION

AWS A5.23 ENi1
 EN ISO 14171-A S2Ni1

CHEMICAL COMPOSITION (WEIGHT %), TYPICAL, WIRE

C	Mn	Si	Ni
0.10	1.1	0.15	0.9

PACKAGING AND AVAILABLE SIZES

Wire diameter (mm)	Packaging	Weight (kg)	Item number
2.4	SPOOL	25.0	LNS160-24-25VCI
3.2	SPOOL	25.0	LNS160-32-25VCI
4.0	SPOOL	25.0	LNS160-4-25VCI

LNS 162

TOP FEATURES

- 2% Ni alloyed wire
- Excellent impact toughness at -60°C
- Recommended for multirun technique in combination with basic fluxes

CLASSIFICATION

AWS A5.23 ENi2
EN ISO 14171-A S2Ni2

CHEMICAL COMPOSITION (WEIGHT %), TYPICAL, WIRE

C	Mn	Si	Ni
0.10	1.1	0.15	2.2

PACKAGING AND AVAILABLE SIZES

Wire diameter (mm)	Packaging	Weight (kg)	Item number
2.0	REEL	300.0	LNS162-2-300
2.4	SPOOL	25.0	LNS162-24-25VCI
3.2	SPOOL	25.0	LNS162-32-25VCI
4.0	SPOOL	25.0	LNS162-4-25VCI
	DRUM	350.0	LNS162-4-350

LNS 163

TOP FEATURES

- Contains Nickel and Copper
- For Cor-ten steels and equivalent
- Recommended with P240 and P230 fluxes

CLASSIFICATION

AWS A5.23 EG
EN ISO 14171-A S2 Ni1Cu

TYPICAL APPLICATIONS

- Weathering steel structure

CHEMICAL COMPOSITION (WEIGHT %), TYPICAL, WIRE

C	Mn	Si	Ni	Cu	Cr	S	P
0.11	1.0	0.25	0.7	0.5	0.2 max	0.02 max	0.02 max

PACKAGING AND AVAILABLE SIZES

Wire diameter (mm)	Packaging	Weight (kg)	Item number
2.0	DRUM	400.0	LNS163-2-400
	DRUM	350.0	LNS163-24-350
2.4	DRUM	400.0	LNS163-24-400
	SPOOL	25.0	LNS163-32-25VCI
4.0	SPOOL	25.0	LNS163-4-25VCI
	SPOOL	100.0	LNS163-4-100
	DRUM	400.0	LNS163-4-400

LNS 164

TOP FEATURES

- Deliver a high strength and low temperature fracture toughness weld metal
- Compatible with NACE requirement on Ni content
- Actual (Type 3.1) certificates for each lot of wire showing chemical composition are available

CLASSIFICATION

AWS A5.23 EF3
EN ISO 14171-A S3Ni1Mo

CHEMICAL COMPOSITION (WEIGHT %), TYPICAL, WIRE

C	Mn	Si	Ni	Mo
0.12	1.75	0.10	0.95	0.5

PACKAGING AND AVAILABLE SIZES

Wire diameter (mm)	Packaging	Weight (kg)	Item number
2.4	SPOOL	25.0	LNS164-24-25VCI
	DRUM	350.0	LNS164-24-350
3.2	SPOOL	25.0	LNS164-32-25VCI
	DRUM	400.0	LNS164-32-400
4.0	SPOOL	25.0	LNS164-4-25VCI
	DRUM	350.0	LNS164-4-350
	DRUM	600.0	LNS164-4-600SF
4.8	SPOOL	25.0	LNS164-48-25VCI

LNS 165

TOP FEATURES

- 1% bearing Nickel and 0.2% Molybdenum wire to combine high strength and high toughness properties
- Impact toughness properties down to -60°C
- Actual (Type 3.1) certificates for each lot of wire showing chemical composition are available
- Comply with NACE requirement

CLASSIFICATION

AWS A5.23 ENi5
 EN ISO 14171-A S3Ni1Mo,2

CHEMICAL COMPOSITION (WEIGHT %), TYPICAL, WIRE

C	Mn	Si	Ni	Mo
0.08	1.4	0.20	0.95	0.2

PACKAGING AND AVAILABLE SIZES

Wire diameter (mm)	Packaging	Weight (kg)	Item number
2.0	SPOOL	25.0	LNS165-2-25VCI
2.4	SPOOL	25.0	LNS165-24-25VCI
	SPOOL	100.0	LNS165-24-100
3.2	DRUM	350.0	LNS165-24-350
	SPOOL	25.0	LNS165-32-25VCI
4.0	SPOOL	25.0	LNS165-4-25VCI
	SPOOL	100.0	LNS165-4-100
	DRUM	1000.0	LNS165-4-1000
4.8	SPOOL	25.0	LNS165-48-25VCI

SAW

LNS 168

TOP FEATURES

- For 690MPa yield strength base material
- Recommended with P230 and P240 fluxes
- Good impacts down to -40°C

CLASSIFICATION

AWS A5.23 EG
EN ISO 26304-A S3Ni2.5CrMo

CHEMICAL COMPOSITION (WEIGHT %), TYPICAL, WIRE

C	Mn	Si	Ni	Mo	Cr
0.10	1.6	0.15	2.3	0.6	0.7

PACKAGING AND AVAILABLE SIZES

Wire diameter (mm)	Packaging	Weight (kg)	Item number
2.4	SPOOL	25.0	597028
3.2	SPOOL	25.0	597059
	REEL	300.0	LNS168-32-300
4.0	SPOOL	25.0	598216

LNS 304L

TOP FEATURES

- High resistance to intergranular corrosion and oxidizing environments

CLASSIFICATION

AWS A5.9 ER308L
EN ISO 14343-A S 199 L

CHEMICAL COMPOSITION (WEIGHT %), TYPICAL, WIRE

C	Mn	Si	Cr	Ni
0.015	1.8	0.4	20	10

PACKAGING AND AVAILABLE SIZES

Wire diameter (mm)	Packaging	Weight (kg)	Item number
2.0	SPOOL	25.0	LNS304L-2-25VCI
2.4	SPOOL	25.0	LNS304L-24-25VCI
3.2	SPOOL	25.0	LNS304L-32-25VCI
4.0	SPOOL	25.0	LNS304L-4-25VCI

LNS 316L

TOP FEATURES

- High resistance to intergranular corrosion and general corrosion conditions
- The 2-3% molybdenum improve pitting corrosion resistance of the weld deposit

CLASSIFICATION

AWS A5.9 ER316L
EN ISO 14343-A S 19 12 3 L

CHEMICAL COMPOSITION (WEIGHT %), TYPICAL, WIRE

C	Mn	Si	Cr	Ni	Mo
0.015	1.75	0.4	18.5	12	2.75

PACKAGING AND AVAILABLE SIZES

Wire diameter (mm)	Packaging	Weight (kg)	Item number
2.4	SPOOL	25.0	LNS316L-24-25VCI
3.2	SPOOL	25.0	LNS316L-32-25VCI
4.0	SPOOL	25.0	LNS316L-4-25VCI

LNS 309L

TOP FEATURES

- Designed to be used primarily with basic fluxes that recover nearly all of the wire chromium in the deposit
- Reduced carbon level (0.03% max) that offers increased resistance to inter-granular corrosion

CLASSIFICATION

AWS A5.9 ER309L
EN ISO 14343-A S 23 12 L

CHEMICAL COMPOSITION (WEIGHT %), TYPICAL, WIRE

C	Mn	Si	Ni	Cr
0.02	1.8	0.4	13	24

PACKAGING AND AVAILABLE SIZES

Wire diameter (mm)	Packaging	Weight (kg)	Item number
2.4	SPOOL	25.0	LNS309L-24-25VCI
3.2	SPOOL	25.0	LNS309L-32-25VCI
4.0	SPOOL	25.0	LNS309L-4-25VCI

LNS 347

TOP FEATURES

- The addition of niobium reduces intergranular corrosion in severe operating conditions
- Niobium stabilized stainless steel electrodes used for the welding of types 347 and 321 stainless and stainless clad steels
- Recommended with P2000 flux

CLASSIFICATION

AWS A5.9 ER347
EN ISO 14343-A S 199 Nb

CHEMICAL COMPOSITION (WEIGHT %), TYPICAL, WIRE

C	Mn	Si	Ni	Cr	Mo	Nb
0.04	1.6	0.4	9.7	19.5	0.1	0.6

PACKAGING AND AVAILABLE SIZES

Wire diameter (mm)	Packaging	Weight (kg)	Item number
2.4	SPOOL	25.0	LNS347-24-25VCI
3.2	SPOOL	25.0	LNS347-32-25VCI
4.0	SPOOL	25.0	LNS347-4-25VCI

LNS 307

TOP FEATURES

- Self hardening wire
- Typically used on difficult-to-weld steels such as armour plates
- Recommended with P2000 and P2007 fluxes

CLASSIFICATION

AWS A5.9 ER307
 EN ISO 14343-A S 188 Mn

CHEMICAL COMPOSITION (WEIGHT %), TYPICAL, WIRE

C	Mn	Si	Cr	Ni
0.07	7.0	0.6	19	8.9

PACKAGING AND AVAILABLE SIZES

Wire diameter (mm)	Packaging	Weight (kg)	Item number
3.2	SPOOL	25.0	LNS307-32-25VCI

LNS 4462

TOP FEATURES

- For duplex stainless steel

CLASSIFICATION

AWS A5.9 ER2209
EN ISO 14343-A S 22 9 3 N L

CHEMICAL COMPOSITION (WEIGHT %), TYPICAL, WIRE

C	Mn	Si	Ni	Cr	Mo	N
0.015	1.6	0.5	8.6	23	3.1	0.16

PACKAGING AND AVAILABLE SIZES

Wire diameter (mm)	Packaging	Weight (kg)	Item number
2.4	SPOOL	25.0	598797
3.2	SPOOL	25.0	598780

LNS NiCr 60/20

TOP FEATURES

- Used for joining and wire cladding
- Corrosion resistant in a large range of media/conditions
- Recommended with P2007 flux on 9%Ni LNG tank application

CLASSIFICATION

AWS A5.14 ERNiCrMo-3
 EN ISO 18274 S Ni 6625

TYPICAL APPLICATIONS

- LNG Tank welding

CHEMICAL COMPOSITION (WEIGHT %), TYPICAL, WIRE

C	Mn	Si	Cr	Ni	Mo	Nb	Fe
0.05	0.02	0.1	22	65	8.7	3.7	0.1

PACKAGING AND AVAILABLE SIZES

Wire diameter (mm)	Packaging	Weight (kg)	Item number
1.6	SPOOL	25.0	598717
2.0	SPOOL	25.0	598718
2.4	SPOOL	25.0	598803

SAW

LNS NiCrMo 60/16

TOP FEATURES

- Matches C276 chemistry
- Low sensitivity to hot cracking
- Recommended with P2007 flux on 9%Ni LNG tank application

CLASSIFICATION

AWS A5.14	ERNiCrMo-4
EN ISO 18274	S Ni 6276

TYPICAL APPLICATIONS

- LNG Tank welding

CHEMICAL COMPOSITION (WEIGHT %), TYPICAL, WIRE

C	Mn	Si	Ni	Cr	Mo	W	Fe
0.006	0.5	0.04	58	16	16	3.6	5.8

PACKAGING AND AVAILABLE SIZES

Wire diameter (mm)	Packaging	Weight (kg)	Item number
1.6	SPOOL	25.0	598377
2.4	SPOOL	25.0	598384

708GB

TOP FEATURES

- Smooth bead appearance
- Initially design for gas bottle welding
- Very suitable as well for high speed fillet weld

CLASSIFICATION

Flux	EN ISO 14174: S A AR 1 99 AC H10	
Flux/wire	EN ISO 14171-A	AWS A5.17
708GB / L-60	S 42 0 AR S1	F7A0 - EL12
708GB / L-61	S 42 0 AR S2Si	F7A0 - EM12K

CHEMICAL COMPOSITION (WEIGHT %), TYPICAL, ALL WELD METAL

Wire grade	C	Mn	Si	P	S
L-60	0.08	1.4	0.75	0.023	0.02
L-61	0.09	1.6	0.9	0.023	0.02

MECHANICAL PROPERTIES, TYPICAL, ALL WELD METAL

Wire grade	Condition*	Yield strength (MPa)	Tensile strength (MPa)	Elongation (%)	Impact ISO-V (J) -18°C
L-60	MR	440	570	33	30
L-61	MR	490	630	30	50

* MR = Multi-Run

FLUX CHARACTERISTICS

Current type	DC(+/-)/AC
Solidification speed	High
Basicity (Boniszewski)	0.65
Density (kg/dm ³)	1.3
Grain size (EN ISO 14174)	2 - 20

PACKAGING AND AVAILABLE SIZES

Packaging	Weight (kg)	Item number
PE BAG	25.0	111552

761

TOP 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
- Also available in fine and coarse grain versions

CLASSIFICATION

Flux	EN ISO 14174: S A CS/MS 1 88 AC EN H5		
Flux/wire	EN ISO 14171-A: MR	EN ISO 14171-A: TR	AWS A5.17 / A5.23
761 / L-60	S 38 2 CS/MS S1		F7A2-EL12
761 / L-61	S 42 2 CS/MS S2Si	S 4T 0 CS/MS S2Si	F7A2-EM12K
761 / LNS 140A	S 46 0 CS/MS S2Mo	S 4T 2 CS/MS S2Mo	F8A0-EA2-G
761 / L-70	S 46 0 CS/MS S2Mo	S 4T 2 CS/MS S2Mo	F8A0-EA1-G

CHEMICAL COMPOSITION (WEIGHT %), TYPICAL, ALL WELD METAL

Wire grade	C	Mn	Si	P	S	Mo
L-60	0.05	1.5	0.7	<0.03	<0.025	
L-61	0.07	1.7	0.9	<0.03	<0.025	
LNS 140A (L-70)	0.06	1.7	0.8	<0.03	<0.025	0.4

MECHANICAL PROPERTIES, TYPICAL, ALL WELD METAL

Wire grade	Condition*	Yield strength (MPa)	Tensile strength (MPa)	Elongation (%)	Impact ISO-V (J)	
					0°C	-20°C
L-60	MR	380	500	28	80	50
L-61	MR	470	560	28	100	50
L-61	TR	>420	>540		65	
LNS 140A (L-70)	MR	480	600		80	40
LNS 140A (L-70)	TR	>440	>540		100	55

* MR = Multi-Run; TR = Two-Run

FLUX CHARACTERISTICS

Current type	DC(+/-)/AC
Basicity (Boniszewski)	0.8
Solidification speed	Low, viscous slag
Density (kg/dm ³)	1.2
Grain size (EN ISO 14174)	761: 1-16 / 761-CG: 1-20

PACKAGING AND AVAILABLE SIZES

Packaging	Weight (kg)	Item number
PE BAG	25.0	111040, FX761-25
SRB BAG	25.0	FX761-25-C-SRB, FX761-25SRB
DRUM	250.0	111842, 111880

780

TOP FEATURES

- Fast freezing slag for easy removal and minimized spilling on circumferential welds
- Excellent bead shape and slag removal
- Good resistance to moisture contamination for reduced porosity
- Also available in fine and coarse grain versions

CLASSIFICATION

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

CHEMICAL COMPOSITION (WEIGHT %), 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 (MPa)	Tensile strength (MPa)	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 = Multi-Run; TR = Two-Run

FLUX CHARACTERISTICS

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

PACKAGING AND AVAILABLE SIZES

Packaging	Weight (kg)	Item number
PE BAG	25.0	110562, 110579, FX780-25
SRB BAG	25.0	FX780-25SRB
DRUM	250.0	111781

781

TOP 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

CLASSIFICATION

Flux	EN ISO 14174: S A ZS 1 87 AC H5	
Flux/wire	EN ISO 14171-A: TR	AWS A5.17 / A5.23
781 / L-60		F7A0-EL12
781 / L-61	S 4T 0 ZS S2Si	F7A0-EM12K
781 / L-50M	S 4T 2 ZS S3Si	
761 / LNS 140A	S 4T 2 ZS S2Mo	

CHEMICAL COMPOSITION (WEIGHT %), TYPICAL, ALL WELD METAL

Wire grade	C	Mn	Si	P	S	Mo
L-61	0.05	1.3	0.9	<0.03	<0.02	
L-50M (LNS 133U)	0.06	1.6	1.0	<0.03	<0.02	
LNS 140A (L-70)	0.06	1.3	0.9	<0.03	<0.02	0.4

MECHANICAL PROPERTIES, TYPICAL, ALL WELD METAL

Wire grade	Condition*	Yield strength (MPa)	Tensile strength (MPa)	Impact ISO-V (J) -20°C
L-61	TR	>420	>540	50
L-50M (LNS 133U)	TR	>450	>560	60
LNS 140A (L-70)	TR	>490	>580	65

* TR = Two-Run

FLUX CHARACTERISTICS

Current type	DC(+/-)/AC
Basicity (Boniszewski)	0.7
Solidification speed	Fast, fluid slag
Density (kg/dm ³)	1.5
Grain size (EN ISO 14174)	1 -16

PACKAGING AND AVAILABLE SIZES

Packaging	Weight (kg)	Item number
SRB BAG	25.0	FX781-25SRB
DRUM	250.0	110050

782

TOP FEATURES

- Recommended for high speed fillet weld
- Excellent slag detachability
- Available in standard and fine grain size

CLASSIFICATION

Flux	EN ISO 14174: S A AR/AB 1 76 AC H5		
Flux/wire	EN ISO 14171-A: MR	EN ISO 14171-A: TR	AWS A5.17 / A5.23
782 / L-60	S 42 0 AR/AB S1	S 4T A AR/AB S1	
782 / LNS 135		S 4T 0 AR/AB S2	F7AZ-EM12
782 / L-61	S 46 0 AR/AB S2Si	S 4T 0 AR/AB S2Si	F7AZ-EM12K
782 / L-50M	S 46 0 AR/AB S3Si	S 4T 2 AR/AB S3Si	
782 / LNS 140A		S 4T 2 AR/AB S2Mo	

CHEMICAL COMPOSITION (WEIGHT %), TYPICAL, ALL WELD METAL

Wire grade	C	Mn	Si	P	S	Mo
L-60	0.07	1.0	0.6	<0.03	<0.025	
LNS 135	0.07	1.15	0.7	<0.03	<0.025	
L-61	0.07	1.15	0.8	<0.03	<0.025	
L-50M (LNS 133U)	0.06	1.7	1.0	<0.03	<0.025	
LNS 140A (L-70)	0.07	1.2	0.7	<0.03	<0.025	0.4

MECHANICAL PROPERTIES, TYPICAL, ALL WELD METAL

Wire grade	Condition*	Yield strength (MPa)	Tensile strength (MPa)	Impact ISO-V (J)	
				0°C	-20°C
L-60	TR	>420	>520	45	
LNS 135	TR	>420	>520	55	
L-61	TR	>420	>520	60	
L-50M (LNS 133U)	TR	>460	>550	65	50
LNS 140A (L-70)	TR	>460	>600	70	50

* MR = Multi-Run; TR = Two-Run

FLUX CHARACTERISTICS

Current type	DC/AC
Basicity (Boniszewski)	0.4
Solidification speed	High
Density (kg/dm ³)	1.4
Grain size (EN ISO 14174)	782: 1-20 / 782-FG: 1-16

PACKAGING AND AVAILABLE SIZES

Packaging	Weight (kg)	Item number
PE BAG	25.0	111033, FX782-25-F
BAG	500.0	FX782-500-F

802

TOP FEATURES

- Neutral hardfacing flux
- Excellent slag removal even with high interpass temperature
- Compatible with a wide range of wire grade

CLASSIFICATION

Flux EN ISO 14174: S A CS 3 55 DC H5

Flux/wire

Hardfacing solid and flux cored wire

CHEMICAL COMPOSITION (WEIGHT %), TYPICAL, ALL WELD METAL

Wire grade	C	Mn	Si	Cr	Ni	Mo	V	W
LINCORE 102W	0.28	1.5	0.4	6.5		1.0	0.15	1.0
LINCORE 423L	0.15	1.2	0.4	11.5	2.0	1.0	0.15	
LINCORE 423Cr	0.15	1.2	0.4	13.5	2.0	1.0	0.15	

MECHANICAL PROPERTIES, TYPICAL, ALL WELD METAL

Wire grade	Hardness: HRC in 6 layers hardfacing application after 2 hours postweld tempering at					
	AW*	426 °C	482 °C	538 °C	593 °C	649 °C
LINCORE 102W	51	50	50	51	40	35
LINCORE 423L	43	42	46	38	33	32
LINCORE 423Cr	46	45	46	38	34	32

* AW = As welded

PACKAGING AND AVAILABLE SIZES

Packaging	Weight (kg)	Item number
SRB BAG	25.0	FX802-25

839

TOP FEATURES

- Suitable for mild steel, low alloy and standard stainless steel grades
- Excellent bead finishing appearance with stainless grades
- Suitable as the one flux workshop solution

CLASSIFICATION

Flux	EN ISO 14174: S A FB 1 66 AC H5
Flux/wire	AWS A5.17 / A5.23
839/L60	F6A2-EL12
839/LNS135	F6A4-EM12
839/L-61	F7A5-EM12K / F6P6-EM12K
839/L-50M	F7A6-EH12K / F7P8-EH12K
839/LNS140A	F7A4-EA2-A2
839/LNS164	F9A0-EF3-F3 / F9P4EF3-F3

CHEMICAL COMPOSITION (WEIGHT %), TYPICAL, ALL WELD METAL

Wire grade	C	Mn	Si	P	S	Mo	Ni
L-60	0.04	0.85	0.2	<0.01	<0.01		
LNS 135	0.05	1.2	0.2	<0.015	<0.01		
L-61	0.07	1.2	0.3	<0.015	<0.01		
L-50M	0.07	1.7	0.3	<0.015	<0.01		
LNS 140A (L-70)	0.06	1.2	0.2	<0.015	<0.01	0.45	
LNS 164	0.07	1.7	0.3	<0.015	<0.01	0.45	0.80

MECHANICAL PROPERTIES, TYPICAL, ALL WELD METAL

Wire grade	Condition*	Yield strength (MPa)	Tensile strength (MPa)	Elongation (%)	Impact ISO-V (J)			
					-20°C	-40°C	-50°C	-60°C
L-60	AW	390	470	30	100			
LNS 135	AW	410	490		100	50		
L-61	AW	440	530	29	130	80		
L-61	SR	400	510	31		115	65	
L-50M (LNS 133U)	AW	470	570	28		100		
L-50M (LNS 133U)	SR	415	520	29		140		110
LNS 140A (L-70)	AW	460	560	26		80		
LNS 164	AW	650	710	20	50			
LNS 164	SR	590	670	24	100	65		

* AW = As welded; SR = Stress relieved

FLUX CHARACTERISTICS

Current type	DC/AC
Basicity (Boniszewski)	2.4
Solidification speed	Medium
Density (kg/dm ³)	1.2
Grain size (EN ISO 14174)	2 - 20

PACKAGING AND AVAILABLE SIZES

Packaging	Weight (kg)	Item number
SRB BAG	25.0	FX839-25

8500

TOP 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 at -62°C

CLASSIFICATION

Flux	EN ISO 14174: S A FB 1 54 AC H5		
Flux/wire	EN ISO 14171-A: MR	EN ISO 14171-A: TR	AWS A5.17 / A5.23
8500 / L-61	S 38 4 FB S2Si	S 4T 0 FB S2Si	F7A6/F6P8-EM12K
8500 / L-50M	S 42 6 FB S3Si	S 4T 2 FB S3Si	F7A6/F7P8-EH12K
8500 / LNS 140A	S 42 4 FB S2Mo		F8A6-EA2-A2
8500 / LNS 160	S 42 5 FB S2Ni1*		F7A8/P8-ENi1-Ni1
8500 / LNS 162	S 42 6 FB S2Ni2*		F7A8/P8-ENi2-Ni2
8500 / LNS 165 (LA85)	S 50 6 FB S3Ni1Mo0.2		F8A8/F7P8-ENi5-Ni5
8500 / LNS T55	S 50 4 FB TZ		

CHEMICAL COMPOSITION (WEIGHT %), TYPICAL, ALL WELD METAL

Wire grade	C	Mn	Si	P	S	Mo	Ni
L-61	0.08	1.0	0.2	<0.02	<0.015		
L-50M (LNS 133U)	0.07	1.4	0.3	<0.02	<0.015		
LNS 140A (L-70)	0.08	0.9	0.2	0.03	<0.025	0.4	
LNS 160	0.07	1.0	0.1	0.02	0.015		0.95
LNS 162	0.08	1.0	0.1	0.02	0.015		2.0
LNS 165 (LA 85)	0.07	1.3	0.2	0.02	0.015	0.2	0.9
LNS T55	0.08	1.7	0.7	<0.015	<0.015		

MECHANICAL PROPERTIES, TYPICAL, ALL WELD METAL

Wire grade	Condition*	Yield strength (MPa)	Tensile strength (MPa)	Elongation (%)	Impact ISO-V (J)		
					-20°C	-40°C	-60°C
L-61	MR	420	510	28	150	100	50
L-50M (LNS 133U)	MR	450	540	28		110	
L-50M (LNS 133U)	SR	>420	>500	30		150	
LNS 140A (L-70)	MR	440	540	28		55	
LNS 160	AW	430	510	30		150	60
LNS 160	SR	400	510	30		150	90
LNS 162	AW	470	560			150	70
LNS 162	SR	450	530			150	100
LNS 165 (LA 85)	AW	530	600	25		120	50
LNS 165 (LA 85)	SR	480	580	30		120	60
LNS T55	AW	530	620		120	80	
LNS T55	SR	500	570			70	

* MR = Multi-Run; TR = Two-Run; AW = As welded; SR = Stress relieved

8500

FLUX CHARACTERISTICS

Current type	DC/AC
Basicity (Boniszewski)	2.8
Solidification speed	Medium
Density (kg/dm ³)	1.3
Grain size (EN ISO 14174)	2 - 20

PACKAGING AND AVAILABLE SIZES

Packaging	Weight (kg)	Item number
SRB BAG	25.0	FX8500-25SRB
DRUM	250.0	FX8500-250

860

TOP 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 at -40°C with L-61 wire

CLASSIFICATION

Flux	EN ISO 14174: S A AB 1 56 AC H5		
Flux/wire	EN ISO 14171-A: MR	EN ISO 14171-A: TR	AWS A5.17 / A5.23
860 / L-60	S 35 2 AB S1		F6A2-EL12
860 / LNS 135	S 35 2 AB S2	S 3T 0 AB S2	F6A2-EM12
860 / L-61	S 38 2 AB S2Si	S 3T 0 AB S2Si	F7A2-EM12K
860 / L-50M	S 42 2 AB S3Si		F7A2/F7P2-EH12K
860 / L-70	S 46 2 AB S2Mo	S 4T 2 AB S2Mo	F7A2-EA1-A2
860 / LNS 140A	S 46 2 AB S2Mo	S 4T 2 AB S2Mo	F7A2-EA2-A2
860 / LNS 163	S 42 2 AB S2Ni1Cu		F7A4-EG-G
860 / LNS T55	S 50 2 AB TZ		F7A2/F7P4-EC1

CHEMICAL COMPOSITION (WEIGHT %), TYPICAL, ALL WELD METAL

Wire grade	C	Mn	Si	P	S	Mo
L-60	0.05	1.0	0.25	<0.025	<0.020	
LNS 135	0.06	1.3	0.3	<0.025	<0.020	
L-61	0.10	1.2	0.3	<0.025	<0.020	
L-50M (LNS 133U)	0.07	1.7	0.5	<0.025	<0.020	
LNS 140A (L-70)	0.05	1.3	0.3	<0.025	<0.020	0.4
LNS T55	0.06	1.8	0.7	<0.020	<0.015	

MECHANICAL PROPERTIES, TYPICAL, ALL WELD METAL

Wire grade	Condition*	Yield strength (MPa)	Tensile strength (MPa)	Elongation (%)	Impact ISO-V (J)	
					0°C	-20°C
L-60	AW	360	480	30	80	50
LNS 135	AW	390	490	33	100	50
L-61	AW	430	510	32	100	60
L-61	SR	400	505	32		115
L-50M (LNS 133U)	AW	460	530	28	120	80
L-50M (LNS 133U)	SR	420	520			115
LNS 140A (L-70)	AW	520	570	26		70
LNS 140A (L-70)	SR	510	580	30		50
LNS T55	AW	520	610			70
LNS T55	SR	470	560			70
LNS 163	AW	460	540	27		55

* AW = As welded; SR = Stress relieved

860

FLUX CHARACTERISTICS

Current type	DC/AC
Basicity (Boniszewski)	1.1
Solidification speed	High
Density (kg/dm ³)	1.4
Grain size (EN ISO 14174)	1 - 16

PACKAGING AND AVAILABLE SIZES

Packaging	Weight (kg)	Item number
PE BAG	25.0	FX860-25
SRB BAG	25.0	FX860-25SRB
DRUM	250.0	111828

888

TOP FEATURES

- Designed for deep groove slag removal in critical applications
- Low H4 diffusible hydrogen levels

CLASSIFICATION

Flux	EN ISO 14174: S A FB 1 66 AC H5	
Flux/wire	EN ISO 14171-A: MR	AWS A5.17 / A5.23
888 / L-61	S 38 5 FB S2Si	F7A6-EM12K
888 / L-50M	S 42 6 FB S3Si	F7A8/F7P8-EH12K
888 / LNS 140A	S 46 4 FB S2Mo	F8A4-EA2-A2
888 / L-70	S 46 4 FB S2Mo	F8A4-EA1-A2
888 / LNS 160	S 42 5 FB S2Ni1*	F7A8/P8-ENi1-Ni1
888 / LNS 162	S 42 6 FB S2Ni2*	F7A8/F7P8-ENi2-Ni2
888 / LNS 164	S 50 4 FB S3Ni1Mo	F9A6/F9P4-EF3-F3
888 / LNS 165	S 50 4 FB S3Ni1Mo0.2	F8A6/F7P8-ENi5-Ni5
888 / LNS 150	S 50 2 FB CrMo1	F7P4-EB2R-B2
888 / LNS 151		F8P4-EB3R-B3

CHEMICAL COMPOSITION (WEIGHT %), TYPICAL, ALL WELD METAL

Wire grade	C	Mn	Si	P	S	Ni	Mo	Cr
L-61	0.08	1.05	0.37	<0.02	<0.015			
L-50M (LNS 133U)	0.07	1.45	0.55	<0.02	<0.015			
LNS 140A (L-70)	0.07	1.0	0.35	<0.02	<0.015		0.4	
LNS 160	0.07	1.2	0.4	<0.02	<0.015	0.95		
LNS 162	0.07	1.1	0.4	<0.02	<0.015	2.0		
LNS 164	0.08	1.7	0.5	<0.02	<0.01	0.9	0.5	
LNS 165	0.06	1.50	0.5	<0.02	<0.015	0.97	0.2	
LNS 150	0.07	0.90	0.5	<0.02	<0.015		0.55	1.35
LNS 151	0.06	0.85	0.3	<0.02	<0.015		0.93	2.15

888**MECHANICAL PROPERTIES, TYPICAL, ALL WELD METAL**

Wire grade	Condition*	Yield strength (MPa)	Tensile strength (MPa)	Elongation (%)	Impact ISO-V (J)			
					-20°C	-40°C	-50°C	-60°C
L-61	AW	415	515	31		35	100	
L-50M (LNS 133U)	AW	480	580	29			90	60
L-50M (LNS 133U)	SR	430	550	31		105		65
LNS 160	AW	470	550	26		115		
LNS 160	SR	410	510	27		160		120
LNS 162	AW	500	580	25		100		55
LNS 162	SR	440	550	25		160		120
LNS 164	AW	650	750	21		65		30
LNS 164	SR	610	700	23		65		30
LNS 165	AW	530	620	26		70		40
LNS 165	SR	495	595	27				70
LNS 150	SR	420	580	26	100			
LNS 151	SR	530	645	23		45		

* AW = As welded; SR = Stress relieved

FLUX CHARACTERISTICS

Current type	AC/DC
Basicity (Boniszewski)	2.3
Solidification speed	High
Grain size (EN ISO 14174)	2 - 20

PACKAGING AND AVAILABLE SIZES

Packaging	Weight (kg)	Item number
SRB BAG	25.0	FX888-25SRB

960

TOP FEATURES

- Versatile flux
- High current carrying capacity
- For both single -run and multi-run techniques with moderate weld metal properties requirements
- Also available in coarse grain version

CLASSIFICATION

Flux	EN ISO 14174: S A AB 1 66 AC H5		
Flux/wire	EN ISO 14171-A: MR	EN ISO 14171-A: TR	AWS A5.17 / A5.23
960 / L-61	S 38 2 AB S2Si	S 3T 2 AB S2Si	F7A2-EM12K
960 / L-50M	S 38 2 AB S3Si	S 3T 2 AB S3Si	F7A2-EH12K
960 / LNS 163	S 42 4 AB S2Ni1Cu		F7A4-EG-G

CHEMICAL COMPOSITION (WEIGHT %), TYPICAL, ALL WELD METAL

Wire grade	C	Mn	Si	P	S	Cu	Ni
L-61	0.07	1.3	0.4	<0.03	<0.025		
L-50M (LNS 133U)	0.07	1.6	0.6	<0.03	<0.025		
960 / LNS 163	0.06	1.4	0.35	<0.03	<0.025	0.4	0.6

MECHANICAL PROPERTIES, TYPICAL, ALL WELD METAL

Wire grade	Condition*	Yield strength (MPa)	Tensile strength (MPa)	Elongation (%)	Impact ISO-V (J)	
					-20°C	-40°C
L-61	AW	420	510	28	50	
L-50M (LNS 133U)	AW	440	530	28	70	
LNS 163	AW	460	540	27		55

* AW = As welded

FLUX CHARACTERISTICS

Current type	DC/AC
Basicity (Boniszewski)	1.0
Solidification speed	High
Density (kg/dm ³)	1.4
Grain size (EN ISO 14174)	2-20

PACKAGING AND AVAILABLE SIZES

Packaging	Weight (kg)	Item number
PE BAG	25.0	FX960-25
SRB BAG	25.0	FX960-25SRB
DRUM	250.0	111835
BIG BAG	1000.0	FX960-1T

995N

TOP FEATURES

- A nitrogen limiting flux designed for seam welding of pipes
- Recommended for automatic single pass/2-run welding with up to five arcs
- Very high current capacity

CLASSIFICATION

Flux	EN ISO 14174: S A AB 1 67 AC H5	
Flux/wire	EN ISO 14171-A: TR	AWS A5.23
995N / LNS 140A	S 4T 2 AB S2Mo	
995N / LNS 140TB	S 5T 5 AB S2MoTiB	F9TA6G-EA2TiB
995N / LNS 133TB		F9TA6G-EG

CHEMICAL COMPOSITION (WEIGHT %), TYPICAL, ALL WELD METAL

Wire grade	Base material	C	Mn	Si	P	S	Mo	Ti	B	N
LNS 140A (L-70)	X65	0.07	1.45	0.3	<0.025	<0.025	0.2	-	-	0.005
LNS 140TB (LA-81)	X80	0.06	1.6	0.35	<0.025	<0.025	0.2	0.015	0.002	0.004

Remark: the chemical composition from butt welds in pipe depends on the chemical composition of base material.
 Proced: tandem AC/AC application on X65 plate 12.7 mm thick.

MECHANICAL PROPERTIES, TYPICAL, ALL WELD METAL

Wire grade	Condition*	Yield strength (MPa)	Tensile strength (MPa)	Elongation (%)	Impact ISO-V (J)				Hardness
					-20°C	-40°C	-50°C	-60°C	
Procedure 1									
LNS 140A (L-70)	TR	580	680	30	95	65			230
LNS 140TB (LA-81)	TR	630	700	27	115	75	50		235
Procedure 2									
LNS 140TB (LA-81)	TR	600	720	25	100	65		45	220-235
Procedure 3									
LNS 133TB	TR	600	700	27		120		90	

Remark: the mechanical properties from butt welds in pipe depends on the chemical composition of base material.
 Procedure 1: tandem in 12.5mm X65; Procedure 2: multiwire weld (4/5 wires) in 19-25mm X65; Procedure 3: AWS test plate

* TR = Two-Run

FLUX CHARACTERISTICS

Current type	DC/AC
Basicity (Boniszewski)	1.3
Solidification speed	Medium
Density (kg/dm ³)	1.0
Grain size (EN ISO 14174)	2 -20

PACKAGING AND AVAILABLE SIZES

Packaging	Weight (kg)	Item number
PE BAG	25.0	111218
SRB BAG	25.0	111220
SRB BIG BAG	1000.0	FX995N-1TSRB
BIG BAG	1200.0	111712

998N

TOP FEATURES

- Suitable for both seam and spiral pipe welds
- Recommended for automatic single pass/2-run welding with up to five arcs
- Very high current capacity

CLASSIFICATION

Flux	EN ISO 14174: S A AB 1 67 AC H5	
Flux/wire	EN ISO 14171-A: TR	AWS A5.23
998N / LNS 140A	S 4T 2 AB S2Mo	
998N / LNS140TB	S 5T 5 AB S2MoTiB	F9TA6-G-EA2TiB
998N / LNS133TB		F9TA6-G-EG

CHEMICAL COMPOSITION (WEIGHT %), TYPICAL, ALL WELD METAL

Wire grade	Base material	C	Mn	Si	P	S	Mo	Ti	B	N
LNS 140TB (LA-81)	X65	0.067 / 0.076	1.41 / 1.51	0.28 / 0.34	0.017 / 0.020	0.003 / 0.004	0.22 / 0.27	0.024 / 0.034	0.0028 / 0.0036	0.005 / 0.01
LNS 140TB (LA-81)	X80	0.045 / 0.06	1.6 / 1.64	0.35 / 0.4	0.016 / 0.017	0.004 / 0.005	0.3 / 0.35	0.031 / 0.034	0.0029 / 0.0032	0.005 / 0.006

Remark: the chemical composition from butt welds in pipe depends on the chemical composition of base material.
 Proced1: triple arc application on X65 plate 15.9 mm thick; Proced2: tandem applications on X80 plate 12.7mm thick.

MECHANICAL PROPERTIES, TYPICAL, ALL WELD METAL

Wire grade	Condition*	Yield strength (MPa)	Tensile strength (MPa)	Elongation (%)	Impact ISO-V (J)				Hardness
					-20°C	-40°C	-50°C	-60°C	
Procedure 1									
LNS 140A (L-70)	AW	570	680	27					230
LNS 140TB (LA-81)	AW	610	700	27	115	75	50		235
Procedure 2									
LNS 140TB (LA-81)	AW	640	730	24	160	120	90	70	220-235
Procedure 3									
LNS 133TB	TR	610	730	26			120	80	

Remark: the mechanical properties from butt welds in pipe depends on the chemical composition of base material.
 Procedure 1: tandem in 12.5mm X65; Procedure 2: multiwire weld (4/5 wires) in 19-25mm X65; Procedure 3: AWS test plate

* AW = As welded; TR = Two-Run

998N

FLUX CHARACTERISTICS

Current type	DC/AC
Basicity (Boniszewski)	1.3
Solidification speed	Fast
Density (kg/dm ³)	1.3
Grain size (EN ISO 14174)	2 -20

PACKAGING AND AVAILABLE SIZES

Packaging	Weight (kg)	Item number
PE BAG	25.0	112047
SRB BAG	25.0	112054
BIG BAG	1000.0	112061

P223

TOP FEATURES

- Excellent choice for Spiral mills application
- Compatible with a large range of pipe diameters
- Up to 3 arcs configuration

CLASSIFICATION

Flux	EN ISO 14174: S A AB 1 67 AC H5	
Flux/wire	EN ISO 14171-A: TR	AWS A5.17 / A5.23
P223 / L-61	S 4T 2 AB S2Si	F7A4-EM12K
P223 / L-50M	S 4T 2 AB S3Si	F7A5-EH12K
P223 / LNS 140A	S 4T 4 AB S2Mo	F8A4-EA2-A2
P223 / LNS 133TB		F8TA4G-EG

CHEMICAL COMPOSITION (WEIGHT %), TYPICAL, ALL WELD METAL

Wire grade	C	Mn	Si	P	S	Mo
L-61	0.08	1.4	0.2	<0.02	<0.015	
L-50M (LNS 133U)	0.07	1.7	0.3	<0.02	<0.015	
LNS 140A (L-70)	0.08	1.4	0.2	0.03	<0.025	0.4

Remark: the chemical composition from butt welds in pipe depends on the chemical composition of base material.

MECHANICAL PROPERTIES, TYPICAL, ALL WELD METAL

Wire grade	Condition*	Yield strength (MPa)	Tensile strength (MPa)	Impact ISO-V (J)	
				-20 °C	-40 °C
L-61	TR	450	550	60	
L-50M (LNS 133U)	TR	470	570	80	
LNS 140A (L-70)	TR	500	600		50
LNS 133TB	TR	510	610		60

* TR = Two-Run

FLUX CHARACTERISTICS

Current type	DC/AC
Basicity (Boniszewski)	1.6
Solidification speed	High
Density (kg/dm ³)	1.2
Grain size (EN ISO 14174)	2 - 20

PACKAGING AND AVAILABLE SIZES

Packaging	Weight (kg)	Item number
PE BAG	25.0	110364
SRB BAG	25.0	FXP223-25SRB

P230

TOP FEATURES

- Versatile and robust flux behavior
- Low hydrogen content
- Good impact values in two run and multirun technique with the related wire chemistry

CLASSIFICATION

Flux	EN ISO 14174: S A AB 1 67 AC H5		
Flux/wire	EN ISO 14171-A: MR	EN ISO 14171-A: TR	AWS A5.17 / A5.23
P230 / LNS 135	S 38 4 AB S2	S 4T 2 AB S2	F7A4/F7P6-EM12
P230 / L-61	S 38 4 AB S2Si		F7A4/F6P5-EM12K
P230 / L-50M	S 46 5 AB S3Si		F7A5/F7P5-EH12K
P230 / LNS 140A	S 46 4 AB S2Mo	S 4T 4 AB S2Mo	F8A4-EA2-G
P230 / L-70	S 46 4 AB S2Mo	S 4T 4 AB S2Mo	F8A4-EA1-G
P230 / LNS 160	S 46 4 AB S2Ni1*		F7A8/F7P8-ENi1-Ni1
P230 / LNS 162	S 46 6 AB S2Ni2*		F7A8/F7P8-ENi2-Ni2
P230 / LNS T55	S50 4 AB Tz		F7A4/F7P5-EC1

CHEMICAL COMPOSITION (WEIGHT %), TYPICAL, ALL WELD METAL

Wire grade	C	Mn	Si	P	S	Mo	Ni
L-61	0.06	1.4	0.4	<0.03	<0.02		
LNS 135	0.07	1.4	0.25	<0.03	<0.02		
L-50M (LNS 133U)	0.08	1.7	0.5	<0.03	<0.02		
LNS 140A (L-70)	0.07	1.4	0.3	<0.03	<0.02	0.5	
LNS 160	0.07	1.4	0.3	<0.03	<0.02		0.9
LNS 162	0.08	1.2	0.3	<0.03	<0.02		2.0
LNS T55	0.07	1.8	0.8	0.02	0.015		

MECHANICAL PROPERTIES, TYPICAL, ALL WELD METAL

Wire grade	Condition*	Yield strength (MPa)	Tensile strength (MPa)	Elongation (%)	Impact ISO-V (J)		
					-20 °C	-40 °C	-60 °C
LNS 135	AW	400	500	30	50		
L-61	AW	450	520	30	100		
L-61	SR	400	490	30	140	80	
L-50M (LNS 133U)	AW	480	580	30		80	
L-50M (LNS 133U)	SR	460	540	28		70	
LNS 140A (L-70)	MR	540	620	28	70		
LNS 140A (L-70)	TR		620			60	
LNS 160	AW	490	570	28		120	45
LNS 160	SR	430	550	28		140	75
LNS 162	AW	500	590	28		120	50
LNS 162	SR	460	570	28		150	80
LNS T55	AW	540	630	28	90	60	
LNS T55	SR	520	610	28	80	50	

* MR = Multi-Run; TR = Two-Run; AW = As welded; SR = Stress relieved

P230

FLUX CHARACTERISTICS

Current type	DC/AC
Basicity (Boniszewski)	1.6
Solidification speed	High
Density (kg/dm ³)	1.2
Grain size (EN ISO 14174)	2 -20

PACKAGING AND AVAILABLE SIZES

Packaging	Weight (kg)	Item number
SRB BAG	25.0	FXP230-25SRB

P240

TOP FEATURES

- Excellent impact toughness properties
- Low carbon burn-off
- Recommended with Long stick-out process

CLASSIFICATION

Flux	EN ISO 14174: S A FB 1 55 AC H5	
Flux/wire	EN ISO 14171-A: MR	AWS A5.17 / A5.23
P240 / L-61	S 42 4 FB S2Si	F7A6-EM12K
P240 / L-50M	S 46 6 FB S3Si	F7A8/P8-EH12K
P240 / LNS 160	S 46 6 FB S2Ni1*	F7A10/P10-ENi1-Ni1
P240 / LNS 162	S 46 6 FB S2Ni2*	F7A10/P10-ENi2-Ni2
P240 / LNS 165 (LA-85)	S 50 6 FB S3Ni1Mo0.2	F8A8/P8-ENi5-Ni5
P240 / LNS 168	S 69 4 FB S3NiCr2.5Mo	F10A5-EM2-M2

CHEMICAL COMPOSITION (WEIGHT %), TYPICAL, ALL WELD METAL

Wire grade	C	Mn	Si	P	S	Mo	Ni	Cr
L-61	0.08	1.0	0.35	< 0.010	< 0.010			
L-50M (LNS 133U)	0.08	1.6	0.35	< 0.020	< 0.015			
LNS 160	0.08	1.0	0.25	< 0.020	< 0.015		0.9	
LNS 162	0.08	1.0	0.25	< 0.020	< 0.015		2.0	
LNS 165	0.08	1.3	0.35	< 0.020	< 0.015	0.15	0.9	
LNS 168	0.08	1.5	0.4	< 0.015	< 0.015	0.4	2.4	0.3

MECHANICAL PROPERTIES, TYPICAL, ALL WELD METAL

Wire grade	Condition*	Yield strength (MPa)	Tensile strength (MPa)	Elongation (%)	Impact ISO-V (J)			
					-20°C	-40°C	-50°C	-60°C
L-61	AW	440	530	30	115	75		
L-50M (LNS 133U)	AW	460	560	28				0
L-50M (LNS 133U)	SR	420	540	28				40
LNS 160	AW	470	550	28				80
LNS 160	SR	430	490	32				100
LNS 162	AW	480	560	26				100
LNS 162	SR	460	530	30				140
LNS 165	AW	520	600	25				60
LNS 165	SR	510	580	24				60
LNS 168	AW	720	800	20			55	

* AW = As welded; SR = Stress relieved

P240

FLUX CHARACTERISTICS

Current type	DC/AC
Basicity (Boniszewski)	3.0
Density (kg/dm ³)	1.1
Grain size (EN ISO 14174)	1 - 16

PACKAGING AND AVAILABLE SIZES

Packaging	Weight (kg)	Item number
SRB BAG	25.0	FXP240-25SRB

P240X

TOP FEATURES

- Excellent impact toughness properties
- Low carbon burn-off
- Recommended with Long stick-out process
- Suitable in multi-wire (tandem, triple arc), conventional and Long Stick Out applications
- Recommended for PWHT assembly

CLASSIFICATION

Flux	EN ISO 14174: S A FB 1 55 AC H5	
Flux/wire	EN ISO 14171-A: MR	AWS A5.17 / A5.23
P240X / L-61	S 42 4 FB S2Si	F7A6-EM12K
P240X / L-50M	S 46 6 FB S3Si	F7A8/P8-EH12K
P240X / LNS 150	S 50 4 FB S2CrMo1	F8P4-EB2R-B2
P240X / LNS 162	S 46 6 FB S2Ni2*	F7A10/P10-ENi2-Ni2
P240X / LNS164(LA-84)	S 50 6 FB S3Ni1Mo	F9A8/P8-EF3-F3
P240X / LNS 165 (LA-85)	S 50 6 FB S3Ni1Mo0.2	F8A8/P8-ENi5-Ni5
P240X / LNS 168	S 69 4 FB S3NiCr2.5Mo	F10A5-EM2-M2

* Nearest classification

CHEMICAL COMPOSITION (WEIGHT %), TYPICAL, ALL WELD METAL

Wire grade	C	Mn	Si	P	S	Ni	Mo	Cr
L-61	0.08	1.0	0.35	< 0.010	< 0.010			
L-50M (LNS 133U)	0.08	1.6	0.35	< 0.020	< 0.015			
LNS150	0.13	0.8	0.15	< 0.010	< 0.010		0.5	1.2
LNS 162	0.08	1.0	0.25	< 0.020	< 0.015	2.2		
LNS164	0.08	1.7	0.1	< 0.020	< 0.015	0.9	0.5	
LNS 165	0.08	1.4	0.2	< 0.020	< 0.015	1	0.2	
LNS 168	0.1	0.6	0.15	< 0.015	< 0.015	2.3	0.6	0.7

P240X

MECHANICAL PROPERTIES, TYPICAL, ALL WELD METAL

Wire grade	Condition*	Yield strength (MPa)	Tensile strength (MPa)	Elongation (%)	Impact ISO-V (J)			
					-29 °C	-40 °C	-50 °C	-60 °C
L-61	AW / DC+	460	520	35		200		90
L-61	SR / DC+	410	500	34		187		180
L-61	AW / AC / Long Stick Out	500	560	32		145		100
L-61	SR / AC / Long Stick Out	430	530	34		164		150
L-50M (LNS 133U)	AW / DC+	500	575	33		214		190
L-50M (LNS 133U)	SR / DC+	420	520	37			210	175
L-50M (LNS 133U)	AW / AC / Long Stick Out	570	630	31		196		150
L-50M (LNS 133U)	SR / AC / Long Stick Out	480	560	35		192		160
LNS150	SR / DC+	540	610	29			47	
LNS150	SR / AC / Long Stick Out	550	640	23	140		31	
LNS 162	AW / DC+	500	570	32		190		150
LNS 162	SR / DC+	440	530	36		240		190
LNS 162	AW / AC / Long Stick Out	530	600	31		210		180
LNS 162	SR / AC / Long Stick Out	470	560	33		230		190
LNS164	AW / DC+	630	680	29		110		80
LNS164	SR / DC+	600	660	28		170		80
LNS164	AW / AC / Long Stick Out	660	730	27		190		150
LNS164	SR / AC / Long Stick Out	640	700	28		220		180
LNS 165	AW / DC+	520	600	25				60
LNS 165	SR / DC+	510	580	24				60
LNS 168	AW	720	800	20			55	

* AW = As welded; SR = Stress relieved

590°C/1h for the L61 wire

620°C/1h for the L50M/LNS162/LNS164 and LNS165

690°C/1h for the LNS150

FLUX CHARACTERISTICS

Current type	DC/AC
Basicity (Boniszewski)	3.0
Grain size (EN ISO 14174)	1-16
Density (kg/dm ³)	1.1

PACKAGING AND AVAILABLE SIZES

Packaging	Weight (kg)	Item number
SRB BAG	25.0	111040
DRUM	200.0	112276

WTX

TOP FEATURES

- Excellent bead profile
- High current carrying capacity
- Designed for onshore windtower fabrication
- Mainly used with L61 and L70 wires

CLASSIFICATION

Flux	EN ISO 14174: S A AB 1 57 AC H5		
Flux/wire	EN ISO 14171-A: MR	EN ISO 14171-A: TR	AWS A5.17 / A5.23
WTX™ / L-61	S 42 4 AB S2Si		F7A8-EM12K
WTX™/L-61 (SR)	S 38 5 AB S2Si		F6P8-EM12K
WTX™ / LNS 140A	S 50 2 AB S2Mo	S 5T 4 AB S2Mo	F8A4-EA2-A2

CHEMICAL COMPOSITION (WEIGHT %), TYPICAL, ALL WELD METAL

Wire grade	C	Mn	Si	P	S	Mo
L-61	0.06	1.63	0.25	0.02	0.01	-
LNS 140A	0.05	1.39	0.17	0.02	0.01	0.45

MECHANICAL PROPERTIES, TYPICAL, ALL WELD METAL

Wire grade	Condition*	Yield strength (MPa)	Tensile strength (MPa)	Elongation (%)	Impact ISO-V (J)		
					-20 °C	-40 °C	-60 °C
L-61	AW-MR	445	525	31	150		35
L-61	SR 620°C/1h - MR	395	490	35	150		
LNS 140A	AW-MR	530	595	24	60		
LNS 140A	AW-TR	575	640	24		75	

* MR = Multi-Run; TR = Two-Run; AW = As welded; SR = Stress relieved

FLUX CHARACTERISTICS

Basicity (Boniszewski)	1.4
Density (kg/dm ³)	1.2
Grain size (EN ISO 14174)	2-20

PACKAGING AND AVAILABLE SIZES

Packaging	Weight (kg)	Item number
SRB BAG	25.0	FXWTX-25SRB

P2000

TOP FEATURES

- Excellent slag detachability
- Recommended for duplex and stabilized grades
- Moisture resistant packaging

CLASSIFICATION

Flux	EN ISO 14174: S A AF2 5643 DC H5	
Wire	EN ISO 14343-A	AWS A5.9/A5.9M
LNS 304L	S 19 9 L	ER308L
LNS 309L	S 23 12 L	ER309L
LNS 316L	S 19 12 3 L	ER316L
LNS 4462	S 22 9 3 N L	ER2209
LNS 318	S 19 12 3 Nb	ER318
LNS 347	S 19 9 Nb	ER347
LNS Zeron® 100X	S 25 9 4 N L	ER2594
LNS 4455	S 20 16 3 Mn L	ER316LMn
LNS 4500	S 20 25 5 Cu L	ER385
LNS 304H	S 19 9 H	ER308H
LNS 307	S 18 8 Mn	ER307*
Wire	EN ISO 18274	AWS A5.14/ A5.14M
LNS NiCro 60/20	S Ni 6625	ERNiCrMo-3
LNS NiCroMo 60/16	S Ni 6276	ERNiCrMo-4
LNS NiCro 70/19	S Ni 6082	ERNiCr-3

CHEMICAL COMPOSITION (WEIGHT %), TYPICAL, ALL WELD METAL

Wire grade	C	Mn	Si	Cr	Ni	Mo	N	Nb	Cu	W	FN
LNS 304L	0.015	1.5	0.5	19	10						08-10
LNS 309L	0.015	1.5	0.5	23	13						10-20
LNS 316L	0.015	1.5	0.5	18	12	2.5					08-10
LNS 4462	0.015	1.5	0.5	22	8	3.0	0.1				40-60
LNS 318	0.04	1.5	0.5	19	11	2.5		0.5			08-10
LNS 347	0.03	1.4	0.5	19	10			0.6			08-10
LNS Zeron® 100X	0.03	0.6	0.5	25	9.5	3.6	0.2		0.7	0.6	30-60
LNS NiCro 60/20	0.006	0.1	0.4	21.5	64.5	8.7		3.8			
LNS 4455	0.025	6	0.5	18.5	15	2.6	0.15				
LNS 4500	0.03	1.5	0.6	19	25	4.1			1.2		

P2000

MECHANICAL PROPERTIES, TYPICAL, ALL WELD METAL

Wire grade	Condition*	Yield strength (MPa)	Tensile strength (MPa)	Elongation (%)	Impact ISO-V (J)			
					20°C	-20°C	-40°C	-196°C
LNS 304L	AW	380	550	35		80		
LNS 309L	AW	425	580	33			80	
LNS 316L	AW	425	560	33				50
LNS 4462	AW	550	800	27			50	
LNS Zeron® 100X	AW	670	880	21		70	45	
LNS NiCro 60/20	AW	520	780	40				100
LNS 347	AW	470	620	30	90			35
LNS 4455	AW	360	640	30				

* AW = As welded

FLUX CHARACTERISTICS

Current type	DC+/-
Basicity (Boniszewski)	1.6
Solidification speed	High
Density (kg/dm ³)	1.2
Grain size (EN ISO 14174)	2 -20

PACKAGING AND AVAILABLE SIZES

Packaging	Weight (kg)	Item number
SRB BAG	25.0	FXP2000-25SRB

P2000S

TOP FEATURES

- Chromium compensating stainless steel flux
- Recommended for dissimilar welding
- Moisture resistant packaging

CLASSIFICATION

Flux	EN ISO 14174: S A AF2 7681 DC H5	
Wire	EN ISO 14343-A	AWS A.59/A5.9M
LNS 309L	S 24 12 L	ER309L
LNS 4462	S 22 9 3 N L	ER2209
LNS Zeron® 100X	S 25 9 4 N L	ER2594

CHEMICAL COMPOSITION (WEIGHT %), TYPICAL, ALL WELD METAL

Wire grade	C	Mn	Si	Cr	Ni	Mo	N	Cu	W	FN
LNS 309L	0.015	1.5	0.5	25	13					15-20
LNS 4462	0.015	1.5	0.5	24	8	3.0	0.1			40-60
LNS Zeron® 100X	0.02	0.5	0.4	26	9	3.7	0.2	0.7	0.6	30-60

MECHANICAL PROPERTIES, TYPICAL, ALL WELD METAL

Wire grade	Yield strength (MPa)	Tensile strength (MPa)	Elongation (%)	Impact ISO-V (J) -40°C
LNS 309L	450	600	33	80
LNS 4462	700	850	27	50
LNS Zeron® 100X	670	880	25	45

FLUX CHARACTERISTICS

Current type	DC(+/-)
Basicity (Boniszewski)	1.6
Solidification speed	High
Density (kg/dm ³)	1.2
Grain size (EN ISO 14174)	1-16

PACKAGING AND AVAILABLE SIZES

Packaging	Weight (kg)	Item number
SRB BAG	25.0	FXP2000S-25SRB

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TOP FEATURES

- Recommended for all stainless steels grades except duplex and stabilized grades
- Recommended for 2G welding application
- Operates on AC

CLASSIFICATION

Flux	EN ISO 14 174: S A AF2 5643 AC H5	
Wire	EN ISO 14343-A	AWS A5.9/A5.9M
LNS 304L	S 19 9 L	ER308L
LNS 309L	S 24 12 L	ER309L
LNS 316L	S 19 12 3 L	ER316L
LNS 4455	S 20 16 3 Mn L	ER316LMn
LNS 4500	S 20 25 5 Cu L	ER385
LNS 304H	S 19 9 H	ER308H
LNS 307	S 18 8 Mn	ER307*
Wire	EN ISO 18274	AWS A5.14/ A5.14M
LNS NiCro 60/20	S Ni 6625	ERNiCrMo-3
LNS NiCroMo 60/16	S Ni 6276	ERNiCrMo-4
LNS NiCro 70/19	S Ni 6082	ERNiCr-3

CHEMICAL COMPOSITION (WEIGHT %), TYPICAL, ALL WELD METAL

Wire grade	C	Mn	Si	Cr	Ni	Mo	N	Nb	Cu	W	FN
LNS 304L	0.015	1.5	0.5	19	10						08-10
LNS 309L	0.015	1.5	0.5	23	13						10-20
LNS 316L	0.015	1.5	0.5	18	12	2.5					08-10
LNS NiCro 60/20	0.006	0.1	0.4	21.5	64.5	8.7		3.8			
LNS NiCroMo 60/16	0.01	0.4	0.2	15	57.5	15.6				3.2	
LNS 4455	0.025	6	0.5	18.5	15	2.6	0.15				
LNS 4500	0.03	1.5	0.6	19	25	4.1			1.2		

MECHANICAL PROPERTIES, TYPICAL, ALL WELD METAL

Wire grade	Condition*	Yield strength (MPa)	Tensile strength (MPa)	Elongation (%)	Impact ISO-V (J)		
					-20°C	-40°C	-196°C
LNS 304L	AW	390	550	35	80	75	40
LNS 309L	AW	400	580	33		70	
LNS 316L	AW	400	560	33	75	70	45
LNS NiCro 60/20	AW	520	780	40			100
LNS NiCroMo 60/16	AW	470	730	43			80**

* AW = As welded

** Lateral expansion: 0.95 mm in AC polarity

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FLUX CHARACTERISTICS

Current type	DC(+/-)
Basicity (Boniszewski)	1.6
Solidification speed	High
Density (kg/dm ³)	1.2
Grain size (EN ISO 14174)	2 -20

PACKAGING AND AVAILABLE SIZES

Packaging	Weight (kg)	Item number
SRB BAG	25.0	FXP2007-25SRB