

998N / 998N-P

CLASSIFICATION

Flux	Flux/wire		
ISO 14174 S A AB 1 67 AC H5	998N / LNS 140A	AWS A5.23	ISO 14171-A : TR
	998N / LNS140TB (LA-81)	F9TA6-G-EA2TiB	S 4T 2 AB S2Mo
	998N / LNS133TB	F9TA6-G-EG	S 5T 5 AB S2MoTiB

GENERAL DESCRIPTION

Flux designed for longitudinal multi-arc welding pipe mill station also suitable for spiral welds

High end pipe mill applications up to X80

Superior resistance to undercuts on thin metal sheet work at high speed

Designed to operate on all the range of pipe thickness (6 to 50 mm)

Nitrogen controlled weld metal providing good impact toughness on arctic grade pipes

Superior resistance to surface defects

Very low diffusible hydrogen level in the weld deposit

998N-P is a coarser size distribution of 998N for flux consumption reduction

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

Base material	Wire grade	C	Mn	Si	P	S	Mo	Ti	B	N
X65	LNS 140TB (LA-81)	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
X80	LNS 140TB (LA-81)	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 (N/mm ²)	Tensile strength (N/mm ²)	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

998N: rev. C-EN24-01/02/16

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EXAMPLES OF MATERIALS TO BE WELDED

Code	Type / Steel grades	Two-run		
		LNS 140TB (LA-81)	LNS 140A (L-70)	LNS 133TB
Ship plates				
	A to E	✓	✓	✓
	A 32 to FH40	✓	✓	✓
General structural steels				
EN 10137	500 to 550 A & AL	✓	✓	✓
EN 10025 part 3/4	S275 to S460 all qualities	✓	✓	✓
EN 10149	S315 to S650 all qualities	✓	✓	✓
EN 10025 part 2	S185 to S355 all qualities	✓	✓	✓
	E295 to E360	✓	✓	✓
Boiler & pressure vessel steels				
EN 10028	P235 to P460G all qualities	✓	✓	✓
	P235 to P275	✓	✓	✓
	A37 to A52 all qualities	✓	✓	✓
	PF24 to PF36 all qualities	✓	✓	✓
	P265 to P460 all qualities	✓	✓	✓
	A37 to A52, CP	✓	✓	✓
	X42 to X70	✓	✓	✓
	X42 to X80	✓	✓	✓

FLUX CHARACTERISTICS

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

PACKAGING AND AVAILABLE SIZES

Unit	Net weight (kg)
Bag	25
Sahara ReadyBag™ (SRB)	25
Metal drum	200
Big Bag	500 / 600 / 1000