

Classifications

EN ISO 3581-A	EN ISO 3581-B	AWS A5.4
E 23 12 Nb B 2 2	ES309Nb-15	E309Nb-15

Characteristics and typical fields of application

Basic electrode with controlled alloying elements to meet the metallurgical requirements of buffer layers. Excellent welding properties, stable arc, well detaching slag without residuals. Stringer bead technique is recommended. Normally used in combination with different corrosion resistant surfacing, depending on the base material also with an additional PWHT. For service temperatures up to +400°C.

Base Materials

For buffer layers on weld able unalloyed, high tensile, high temperature or alloyed base metals up to the fine grained steel P460N. Also for creep resistant steels like 16Mo3, 13CrMo4-5, 10CrMo9-10 and creep resistant fine grained steels like 22NiMoCr3-7, 20MnMoNi5-5 und GS-18 NiMoCr 3 7

Typical analysis of all-weld metal (wt.-%)

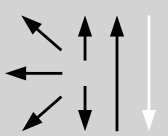
	C	Si	Mn	Cr	Ni	Nb
wt-%	0.03	0.4	1.0	24.2	12.5	0.85

Mechanical properties of all-weld metal

Condition	Yield strength R _{p0,2}	Tensile strength R _m	Elongation A (L ₀ =5d ₀)	Impact work ISO-V KV J
	MPa	MPa	%	+20 °C
u	505 (≥ 350)	690 (≥ 550)	29 (≥ 25)	95

u untreated, as welded

Operating data

	Polarity:	Redrying if necessary:	Electrode identification:	∅ (mm)	L mm	Amps A
	DC (+)	300 – 350 °C, min. 2 h	FOX CN 24/13 Nb 309 Nb-15 E 23/12 Nb B	3.2 4.0	350 350	95 – 115 120 – 145

Preheating and interpass temperature acc. the base materials.

Approvals

TÜV (00141.), CE