BÖHLER Ni 2-UP // BB 24

SAW wire/flux-combination, low-alloyed, cryogenic

Classifications

SAW solid wire:		SAW flux:
EN ISO 14171-A	**AWS A5.23**	**EN ISO 14174**
S2Ni2	ENi2	SA FB 1 65 DC H5

SAW wire/flux combination

EN ISO 14171-A	**EN ISO 14171-B**	**AWS A5.23**	**AWS A5.23M**
S 46 6 FB S2Ni2	S55A6 FB SUN5	F8A8-ENi2-Ni2	F55A6-ENi2-Ni2

Characteristics and typical fields of application

The weld deposit of the wire/flux combination (as welded and stress relieved condition) is distinguished by excellent welding characteristic, cryogenic toughness and ageing resistance with low hydrogen content in the deposit. Under optimum conditions (heat input below 18 kJ/cm or after stress relieving) impact strength transition temperature at –80 °C (ISO-V specimen) can be achieved. The flux reacts metallurgically Mn-neutral. The sub-arc wire/flux combination produces very good low temperature impact properties down to –60 °C. Excellent slag detachability, smooth beads, good wetting and low hydrogen contents (≤ 5 ml/100 g) are further important features. The combination is ideally suited for multi-pass welding of thick plates. For information regarding the sub-arc welding flux BÖHLER BB 24 see our detailed data sheet.

Base materials

Cryogenic constructional steels and Ni-steels
10Ni14, 12Ni14, 13MnNi6-3, 15NiMn6, S275N-S460N, S275NL-S460NL, S275M-S460M, S275ML-S460ML, P275NL1-P460NL1, P275NL2-P460NL2
ASTM A 203 Gr. D, E; A 333 Gr. 3; A334 Gr. 3; A 350 Gr. LF1, LF2, LF3; A 420 Gr. WPL3, WPL6; A 516 Gr. 60, 65; AA 529 Gr. 50; A 572 Gr. 42, 65; A 633 Gr. A, D, E; A 662 Gr. A, B, C; A 707 Gr. L1, L2, L3; A 738 Gr. A; A 841 A, B, C

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

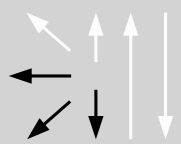
	C	Si	Mn	Ni
SAW wire wt-%	0.10	0.12	1.05	2.3
all-weld metal %	0.07	0.25	1.15	2.2

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	–20 °C	–60 °C
u	**480** (≥ 460)	**580** (550 – 740)	**22** (≥ 20)	**160**	**100**	≥ 47

u untreated, as welded

Operating data



Polarity:	**Redrying of sub-arc flux:**	**ø (mm)**
DC (+) / DC (–)	300 – 350 °C, 2 –10 h	2.5 3.0

Approvals

Wire: TÜV (2603.), KTA 1408.1 (8058.), DB (52.014.10), SEPROZ, CE