

Wire:
 DIN 1736: UP-NiCr20Nb
 DIN ISO 18274:2004: S Ni 6082
 (NiCr20Mn3Nb)
 AWS 5.14-97: ER NiCr-3
 Flux:
 DIN EN 760:1996: SA-FB 2 AC

BÖHLER
NIBAS 70/20-UP/BB 444

SAW wire / flux-combination
 nickel base

Description

For SAW wire flux combination welding of Ni base alloy metals and special metals if the use of wire electrodes with high Ni content is requested. The weld metals show excellent mechanical properties with high hot cracking resistance. It is applicable for chemical apparatus construction on high temperature metals as well as in low temperature sections up to -196 °C. BB 444 is an agglomerated fluoride basic welding flux with high basic slag characteristics.

Typical Composition of Solid Wire and All-weld Metal

	C	Si	Mn	Cr	Ni	Nb	Fe	Ti
SAW wire wt-%	0.010	0.15	3.2	20.5	bal.	2.6	<2.0	0.35
all-weld metal %	0.012	0.25	3.0	20.0	bal.	2.2	0.8	0.15

Mechanical Properties of All-weld Metal

	u	
(*) yield strength R_e N/mm ² :	370	
tensile strength R_m N/mm ² :	600	
elongation A (L ₀ =5d ₀) %:	40	
impact work ISO-V KV J	+20 °C:	120
	-196 °C:	100

(*) u untreated, as-welded

Operating Data



Redrying of sub arc flux:
 400-450 °C/2 h

ø mm
 2.4



Preheat and interpass temp. as required by the base metal

Base Materials

2.4816 Ni Cr 15 Fe, 2.4817 LC-NiCr 15 Fe, Alloy 600, Alloy 600 L, UNS N06600, ASTM B168 nickel and nickel alloys, low-temperature steels up to 5 % Ni-steels, unalloyed and alloyed, high-temperature, creep resisting, high-alloy Cr- and CrNiMo-steels particularly for joint welding of dissimilar steels, and nickel to steel combinations; also recommended for Alloy 800

Approvals and Certificates

TÜV-D (applied)

Same Alloy Filler Metals

SMAW: FOX NIBAS 70/20
 GTAW rod: NIBAS 70/20-IG
 GMAW solid wire: NIBAS 70/20-IG
 GMAW flux cored wire: NIBAS 70/20-FD