BÖHLER KWA-IG

Solid wire high-alloyed, stainless

Classifications

EN ISO 14343-A	EN ISO 14343-B	AWS A5.9
G 17	SS(430)	ER430 (mod.)

Characteristics and typical fields of application

GMAW wire of type G 17 / ER430 suitable for surfacing of sealing faces of gas, water and steam valves and fittings. Service temperatures up to +450°C. Scaling resistant up to +950°C. Also in sulphur containing combustion gas at high temperature. BÖHLER KWA-IG wire is also suited for joint welding of stainless ferritic steels containing 12-17% chromium, and by the request of colour matching weld deposit/base metal. For thick-walled components it is recommendable to use BÖHLER A 7-IG wire for the filler passes in order to improve the ductility behaviour of the joint weld, KWA-IG wire for the cover pass especially in case of sulphur containing combustion gases. Excellent feeding, welding and wetting behaviour of the wire and weld metal are important economical features.

Base materials

surfacings: all weldable backing materials, unalloyed and low-alloyed.

joint welds: corrosion resistant Cr-steels as well as other similar-alloyed steels with C-contents up to 0.20% (repair welding). Be careful with dilution and welding technology.

1.4510 X3CrTi17

AISI 430 Ti, AISI 431

Typical analysis of solid wire (wt.-%)

	C	Si	Mn	Cr
wt.-%	0.06	0.6	0.6	17.5

Mechanical properties of all-weld metal

Condition	Yield strength $R_{p0,2}$	Tensile strength R_m	Elongation A (L_0=5d_0)	Brinell-hardness			
	MPa	MPa	%	HB	1st layer	2nd layer	3rd layer
u				180 – 230	350 – 450	280 – 350	230 – 260
a	≥ 300	≥ 450	≥ 15	**150**			

u untreated, as welded – shielding gas Ar + 8 – 10 % CO_2
a annealed, 800 °C/2 h – shielding gas Ar + 8 – 10 % CO_2

The hardness of the deposit is greatly influenced by the degree of dilution with the base metal (depending on the relevant welding conditions) and by its chemical composition. As a general rule it can be observed that the higher the degree of dilution and the C-content of the base metal, the higher the deposit hardness. Gas mixtures containing CO_2 result in higher deposit hardness then CO_2-free gas mixtures.

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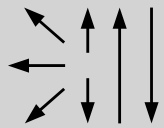
Operating data

	Polarity:	Shielding gases:	ø (mm)
	DC (+)	Argon + 8 – 10 % CO_2 (Argon + 3 % O_2 or max. 5 % CO_2 (shielding gas depends on the application)	1.2

For joint welding preheating to +200 – 300 °C is recommended.
Tempering at +700 – 750 °C to increase toughness.

Approvals

SEPROZ