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ER307Si / ER307

MIG/GMAW and TIG/GTAW wire for dissimilar welding

Product name	IABCO ER307Si / ER307
Classification EN ISO	14343-A: G/W 18 8 Mn
Material No.	1.4370
Classification AWS	A5.9: Nearest classification ER307
Approvals	CE.
Applications	IABCO ER307/ER307Si is an excellent welding wire for applications involving dissimilar joints, buffer layers and difficult to weld steels. The weld metal exhibits good ductility and resistance to cracking in a wide range of situations including welds in mild, low alloy, armour, hardenable and stainless steels. The weld metal has good properties over service temperatures ranging from -50°C up to ~500°C, with good scaling resistance up to ~850°C. IABCO ER307/ER307Si weld metal can also be subjected to PWHT without significant loss of ductility or toughness. The wire is also used for surfacing and repairs on 13%Mn 'Hadfield' steels. The Weld metal will work-harden to ~400HV providing a useful surfacing alloy, and weld metal for joining wear resistant steels. Very versatile wire for fabrication, repair and maintenance applications.
Base materials	CMn, low alloy, armour plate, engineering, hardenable, Q+T, stainless and 13%Mn Hadfield steels. Dissimilar welds and buffer layers. Wear resistant steels: eg. Hardox (SSAB), ABRAZO (Tata Steel).
Typical analysis of wire, weight %	C: 0.07 Si: 0.8 (ER307 = 0.4%) Mn: 6.8 Cr: 18.6 Ni: 7.7
Typical heat treatment (1)	Welding procedure requirements, including preheat, interpass temperature and PWHT, will be dependent on the base material being welded.
Mechanical properties of weld deposit (2)	0.2% proof stress, Rp0.2%: ≥350MPa. Tensile strength, Rm: ≥500MPa. Elongation, 4d/5d: ≥25%. Hardness, HV: ~200HV as-deposited & ~400HV work-hardened.

Notes (1) Application codes and project specifications should always be referred to for specific requirements.

(2) Actual mechanical properties will be dependent on specific welding procedure (including shielding gas, flux, PWHT etc) and should always be confirmed by approval of an appropriate welding procedure.