I.A.Barnes & Co Ltd
Unit 21, Gunnels Wood Park
Gunnels Wood Road
Stevenage, Hertfordshire
SG1 2BH, UK
Tel: +44 (0)1438 354972
Fax: +44 (0)1438 741530
www.iabco.co.uk

1907

Sub-arc welding flux

Product name	IABCO 1907
Classification EN ISO	14174: S A AF 2 64 AC H5
Classification AWS	--
Boniszewski index	~1.6
Grain size, EN ISO 14174	2-20
Applications	IABCO 1907 is an agglomerated, aluminate-fluoride-basic, flux for submerged arc welding and surfacing. The flux can be used in combination with a wide range of austentic and duplex stainless steels, and nickel base alloys. IABCO 1907 is metallurgically neutral (low Si pick-up and low Mn burn-out) with no Cr compensation. The flux produces smooth flat weld beads, with a self-releasing slag. The flux can be used with single or multi-wire systems and has a current capacity of 700A on a single wire.
Base materials	300 series austenitic stainless steels using suitable wires (AWS A5.9 and EN ISO 14343) including Nb stabilised grades. Duplex (S31803/S32205) and superduplex (S32750/S32760) ferritic-austenitic stainless steels using IABCO ER2209 and IABCO ER2594 wires. Nickel base alloys using suitable wires (AWS A5.14 and EN ISO 18274). Dissimilar joints between mild/low alloy steels and stainless steels using suitable wires (eg. ER309L/S 23 12 L or ER309LMo/S 23 12 2 L).
Typical weld procedure (1)	The weld procedure will be specific to the wire being used and base material being welded. As a general guideline for many stainless steels and nickel alloys: Preheat: Generally not required. Interpass temperature: 250°C, for some alloys (eg. superduplex stainless) 100°C may be required. Heat input: May need to be controlled for some alloys eg. duplex/superduplex stainless and nickel alloys. PWHT: Generally not required.

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Typical analysis of weld deposit, wt %		C	Si	Mn	Cr	Ni	Mo	Other
	ER308L	0.02	0.5	1.4	19	9.5	-	-
	ER2209	0.02	0.6	1.3	22	8.5	3.0	N: 0.15
	ER2594	0.02	0.4	0.6	25	9.0	3.5	N: 0.21 Cu: 0.6 W: 0.6
	ERNiCrMo-3	0.02	0.3	0.2	21	Bal	8.5	Nb: 3.2

Mechanical properties of weld deposit (2)		Rp0.2% MPa	Rm MPa	A5 %	CVN, +20°C J	CVN, -50°C J
	ER308L	≥320	≥520	≥30	≥80	≥60
	ER2209	≥450	≥690	≥20	≥75	≥27
	ER2594	≥550	≥760	≥20	≥50	≥27
	ERNiCrMo-3	≥400	≥700	≥30	≥75	≥45
Redry of flux	250-400°C for 1-3 hours.					
Other products	--					

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.