

iabco



Quality Assured
Welding Wires

Quality Assured Welding Wires to the Welding Industry

Product Summary

I.A.Barnes & Co Ltd

www.iabco.co.uk

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I A Barnes & Co Ltd (IABCO) is an established and leading supplier of solid welding wire to the welding industry. IABCO was established in 1982 by Ian Barnes and it is still a family owned company run by Mandy Barnes, Ian's daughter.

The IABCO welding wire product range comprises in excess of 100 wire analyses manufactured as spooled MIG/GMAW and submerged arc welding wires, and as cut length TIG/GTAW welding rods.

At both the warehouse in Stevenage, and at the manufacturing facilities in Europe, quality control is paramount. There are systems in place that incorporate an extremely comprehensive number of quality controls, from the selection of raw material through the entire production process to final inspection and packaging.

IABCO offers an extensive range of welding wire products including: general purpose mild steels for repair and maintenance, low alloy high strength, medium alloy, high toughness, creep resisting and weathering steels. The full range now extends to include: stainless steels, nickel base, aluminium, copper, titanium, brazing, high temperature and hardfacing alloys.

IABCO can pack and label products to customers' requirements, using the customer's brand name, or products can be supplied under the IABCO brand. Standard packaging is shown at the end of the brochure.

Quality Assured Approach

IABCO run an ISO 9001 accredited Quality Management System, which covers the full range of products and services offered, and has been accredited since 1994. IABCO has also been audited and verified as a manufacturer of welding filler material according to VdTÜV 1153.

All products that IABCO offer are manufactured in approved, quality controlled factories. The products are manufactured predominantly in European wire mills with some use of North American facilities.

Full traceability is maintained from rod through all stages of production and for any bespoke packaging operations carried out for individual customers.

Approvals & CE Marking

In addition to the Quality Management System, a number of the products in the range also carry third party approvals and the CE Mark in accordance with the European Union (EU) Construction Products Regulation (305/2011).

The majority of the mild steel and low alloy wires are TÜV approved, a full up to date list of third party approved products can be obtained by contacting IABCO.

IABCO have been audited by TÜV Nord to EN 13479 (for CE Marking) and allocated the factory production control number: 0045-CPR-1887. Full details of the products that IABCO can CE Mark and the relevant Declaration of Performance can be obtained by contacting IABCO.

Product Range

The following pages summarise the main product range that is available. In addition IABCO also have the ability to get specials and non-standard items manufactured to order so if you have any specific requirements please do not hesitate to contact us.

MIG/GMAW & TIG/GTAW Wires

Product Name	AWS	EN ISO	Applications
Mild Steel			
ER70S-2	ER70S-2	G/W 2Ti	Triple de-oxidised MIG/TIG wire for mild steel, previously called A15.
ER70S-3	ER70S-3	G/W 2Si1	MIG/TIG wire for mild steel.
ER70S-6	ER70S-6	G/W 3Si1	MIG/TIG wire for mild steel & general construction, previously called A18.
SG3	ER70S-6	G/W 4Si1	MIG/TIG wire for mild steel.
Low Alloy Steel – CrMo Steels			
A30	ER70S-A1	G/W MoSi	0.5%Mo MIG/TIG wire for matching creep resisting steels.
A31	ER90S-D2	G4Mo	MnMo MIG/TIG wire for general purpose engineering steels.
A32	ER80S-G	G/W CrMo1Si	1Cr-0.5Mo EN ISO conforming MIG/TIG wire for welding matching creep-resisting steels.
ER80S-B2	ER80S-B2	G/W 1CM	1Cr-0.5Mo AWS/ASME conforming MIG/TIG wire for welding matching P11 creep-resisting steels.
A33	ER90S-G	G/W CrMo2Si	2.25Cr-1Mo EN ISO conforming MIG/TIG wire for matching creep-resisting steels.
ER90S-B3	ER90S-B3	G/W 2CM	2.25Cr-1Mo AWS/ASME conforming MIG/TIG wire for welding matching P22 creep-resisting steels.
ER80S-B6	ER80S-B6	G/W CrMo5Si	5Cr-0.5Mo MIG/TIG wire for matching creep resisting steels.
ER80S-B8	ER80S-B8	G/W CrMo9Si	9Cr-1Mo MIG/TIG wire for matching creep resisting steels.
ER90S-B9 (P91)	ER90S-B9 / EG	G/W CrMo91	Modified 9%CrMo P91 wire for matching creep resisting steels.
P92	ER90S-G / EG	W ZCrMoWVNb 9 0.5 1.5	P92 wire for welding matching creep resisting base material.
Low Alloy Steel – High Toughness, High Strength & Weathering Steel			
ER80S-Ni1	ER80S-Ni1	G/W 3Ni1	1%Ni MIG/TIG wire for (-50°C) low temperature applications.
ER80S-Ni2	ER80S-Ni2	G/W 2Ni2	2.5%Ni MIG/TIG wire for (-75°C) low temperature applications.
ENi3	ER80S-G (ENi3)	~WN7 (S2Ni3)	3.5%Ni TIG wire for cryogenic service.
NiCu	ER80S-G	G/W Z	MIG/TIG wire for weathering steels eg. Corten.
FK1	ER100S-G ER110S-G	G/W Mn3Ni1CrMo	High strength wire for 690MPa (~100ksi) yield strength steels.
FK2	ER100S-G	G/W ZMn3Ni1Mo	High strength wire for 690MPa (~100ksi) yield strength steels.
FK800	ER110S-G	G Mn4Ni1.5CrMo	High strength wire for 690MPa (~100ksi) yield strength steels.
FK1000	ER120S-G	G/W ZMn4Ni2CrMo	High strength wire for 890MPa (~130ksi) yield strength steels.
S3 1Ni¼Mo Sonder	ER80S-G	W 0	High strength 1%Ni-0.25% TIG wire used for pressure vessels and offshore structural steel, commonly called Sonder.
S3 1Ni½Mo (S3NiMo1)	ER90S-G	W Z	High strength 1%N-0.5%Mo TIG wire used for pressure vessels and offshore structural steel.

MIG/GMAW & TIG/GTAW Wires - Continued

Product Name	AWS	EN ISO	Applications
Hardfacing			
HF4	~ERFe8	SFe3	H11 TIG wire for hot work tool steels.
HF6	~ERFe6	SFe4	TIG wire for high speed tool steels.
HF350	~ERFe1	~SFe1	350HV MIG wire for hardfacing and build-up.
HF600	~ERFe3	SFe8	General purpose hardfacing MIG wire nominally 600HV; for a wide range of hardfacing including earth moving equipment and crushers.
HF650	ERFe8	SFe3	MIG/TIG wire for hot work tools steels.
Stainless Steel - Martensitic & Ferritic			
ER410	ER410	G/W 13	13%Cr MIG/TIG wire for plain 410 martensitic stainless steel.
ER410NiMo	~ER410NiMo	G/W 13 4	MIG/TIG wire matching soft martensitic CA6NM castings.
ER420	ER420	--	MIG/TIG for higher carbon 12%Cr cutlery steels, also used for surfacing.
ER430	ER430	G/W 17	MIG/TIG wire matching 17%Cr ferritic stainless steels.
FV520-B	--	--	MIG/TIG wire for precipitation hardening (PH) stainless steels such as FV520 and 17.4.PH.
Stainless Steel - Austenitic			
ER308H	ER308H	G/W 19 9	High carbon 308 MIG/TIG wire for matching 304H base materials with service temperatures up to ~800°C.
ER308L	ER308L	G/W 19 9 L	General purpose austenitic stainless MIG/TIG/Sub-Arc wire for 304L.
ER308LSi	ER308LSi	G 19 9 L Si	Higher silicon 308L MIG wire for matching 304L austenitic stainless steels.
ER308L-LF	ER308L	G/W 19 9 L	308L wire with low ferrite; applications include cryogenic service.
ER347Si	ER347Si	G/W 19 9 Nb Si	Nb stabilised stainless MIG/TIG wire for 321 and 347 base material.
ER316L	ER316L	G/W 19 12 3 L	General purpose austenitic stainless steel MIG/TIG/Sub-Arc wire for 316L base material.
ER316LSi	ER316LSi	G 19 12 3 L Si	Higher silicon 316L MIG wire for matching austenitic stainless steels.
ER316L-LF	ER316L	G/W 19 12 3 L	316L wire with low ferrite; applications include cryogenic service.
ER317L	ER317L	G/W 19 13 4 L	317L wire, similar to 316L, with enhanced Mo for improved pitting corrosion performance.
ER316LMn	ER316LMn	G/W 20 16 3 Mn N L	Fully austenitic wire for cryogenic (-269°C) and non-magnetic and applications, known as 1.4455.
ER307Si	ER307Si	G 18 8 Mn Si	MIG wire for dissimilar joints, build-up applications and difficult to weld steels.
ER309L	ER309L	G/W 23 12 L	MIG/TIG/Sub-Arc wire for dissimilar joints and buffer layers on cladding.
ER309LSi	ER309LSi	G 23 12 L Si	Higher Si version of ER309L for MIG/GMAW.
ER309LMo	~ER309LMo	G/W 23 12 2 L	'309LMo' wire for dissimilar joints, buffer layers and difficult to weld steels.
ER310	ER310	G/W 25 20	25.20 high temperature MIG/TIG wire for matching steels.
ER312	ER312	G/W 29 9	29.9 MIG/TIG wire for wide range of dissimilar applications and difficult to weld steels.
Stainless Steel – Duplex & Superduplex			
ER2209	ER2209	G/W 22 9 3 N L	Standard 22%cr duplex wire for 2205 base material.
ER2594	ER2594	G/W 25 10 4 N L	25%Cr superduplex wire for S32750 & S32760 base materials.
ER2553	ER2553	--	High copper superduplex wire.

MIG/GMAW & TIG/GTAW Wires - Continued

Product Name	AWS	EN ISO	Applications
Nickel Alloys			
ERNi-1	ERNi-1	S Ni2061	Pure nickel MIG/TIG wire for alloy 200; also finds applications in cladding and welding cast iron.
ERNiCr-3	ERNiCr-3	S Ni6082	Nickel base 82 wire that finds a wide range of uses including high temperature dissimilar joints.
ERNiCrMo-3	ERNiCrMo-3	S Ni6625	Alloy 625 wire for matching base material and a wide range of other high temperature and low temperature applications.
ERNiCrMo-4	ERNiCrMo-4	S Ni6276	Corrosion resistant wire matching alloy C276 base material.
ERNiCrMo-10	ERNiCrMo-10	S Ni6022	Corrosion resistant wire matching alloy C22 base material.
ERNiCrCoMo-1	ERNiCrCoMo-1	S Ni6617	High temperature 617 wire.
ERNiCu-7	ERNiCu-7	S Ni4060	Monel wire, commonly called filler metal 60, for matching alloy 400.
FN55	Similar to ENiFe-CI	S C NiFe-1	Ni-Fe wire for welding cast and ductile iron.
Copper Alloys			
C7	ERCu	S Cu1898	Pure copper MIG/TIG wire.
C9	ERCuSi-A	S Cu6560	Silicon bronze MIG/TIG wire.
C11	ERCuSn-A	S Cu5180	Tin bronze MIG/TIG wire.
C13	ERCuAl-A2	S Cu6180	Aluminium bronze MIG/TIG wire.
C16	--	S Cu7061	90/10 cupro-nickel wire for matching alloys.
C27	--	S Cu5410	High strength tin bronze (12% Sn) widely used for gears and bearings.
C28	ERCuAl-A1	S Cu6100	Aluminium bronze MIG/TIG wire predominantly used for surfacing.
ERCuNi	ERCuNi	S Cu7158	70/30 cupro-nickel for welding cupro-nickel alloys.
Aluminium Alloys			
ER1050	~ER1100	S Al1070	Pure aluminium MIG/TIG wire, previously called GIB and ER1050A.
ER4043	ER4043	S Al4043	5%Si aluminium MIG/TIG wire, previously called NG21.
ER5183	ER5183	S Al5183	High strength Al-Mg MIG/TIG wire.
ER5356	ER5356	S Al5356	5% Mg aluminium MIG/TIG wire, previously called NG6.
High Temperature Alloys			
21.33	--	G/W Z 21 33 Mn Nb	MIG/TIG wire for matching alloy 800 & 800HT base materials.
25.35	--	G/W Z 25 35	MIG/TIG wire for high temperature HP40Nb base material.
35.45	--	S Ni Z Cr35Fe15Nb	MIG/TIG wire for matching 35%Cr-45%Ni alloys.
Titanium Alloy			
ERTi-2	ERTi-2	S Ti 0120	Commercially pure titanium TIG wire, commonly called grade 2.
Brazing Rods			
Cu59ZnSnMn	--	~S Cu4701	Copper-zinc brazing rod with tin, silicon and manganese additions to promote flow.
Flux Impregnated	RBCuZn-A	S Cu4700	Copper-zinc brazing rod with tin and silicon additions to promote flow. Rod has flux filled micro notches so no separate flux is required.

Submerged Arc Welding Wires

Product Name	AWS	EN ISO	Applications
Mild Steel			
S1	~EL12	S1	Mild steel sub-arc wire.
S2	EM12	S2	Mild steel sub-arc wire.
S2Si	EM12K	S2Si	Mild steel sub-arc wire.
S3	EH10K	S3	Mild steel sub-arc wire.
S3Si	EH12K	S3Si	CMn sub-arc wire used for structural steel and offshore structures.
Low Alloy Steel – CrMo Steels			
S2Mo	EA2	S2Mo	0.5%Mo sub-arc wire for matching steels.
S3Mo	EA4	S3Mo	0.5%Mo sub-arc wire for matching steels.
EB2	EB2R	SCrMo1	Sub-arc wire for 1Cr-0.5Mo creep-resisting steels.
EB3	EB3R	SCrMo2	Sub-arc wire for 2.25Cr-1Mo creep-resisting steels.
S1CrMo5	~EB6	SCrMo5	5Cr-0.5Mo sub-arc wire for matching creep resisting steels.
EB91	E91	S CrMo91	Modified 9%CrMo P91 wire for matching creep resisting steels.
P92	EG	S ZCrMoWVNb 9 0.5 1.5	P92 wire for welding matching creep resisting base material.
Low Alloy Steel – High Toughness, High Strength & Weathering Steel			
S2Ni1	ENi1	S2Ni1	1%Ni sub-arc wire for low temperature (-50°C) applications.
S2Ni2	ENi2	S2Ni2	2.5%Ni sub-arc wire for low temperature (-75°C) applications.
ENi3	ENi3	S2Ni3	3.5%Ni sub-arc wire for cryogenic service.
S2NiCu1	EG	S2NiCu1	Sub-Arc wire for weathering steels eg. Corten.
S2 1NiCrMo	EG	SZ	High strength sub-arc wire.
S3 1Ni¼Mo Sonder	ENi5	S3Ni1Mo0.25	High strength 1%Ni-0.25% sub-arc wire used for pressure vessels and offshore structural steel, commonly called Sonder.
S3 1Ni½Mo (S3NiMo1)	EF3	S3Ni1Mo	High strength 1%N-0.5%Mo sub-arc wire used for pressure vessels and offshore structural steel.
S3 NiCrMo2.5	~EM4	S3Ni2.5CrMo	High strength sub-arc wire for 690MPa yield applications.
Stainless Steel - Austenitic			
ER308L	ER308L	S 19 9 L	General purpose austenitic stainless sub-arc wire for 304L.
ER316L	ER316L	S 19 12 3 L	General purpose austenitic stainless steel sub-arc wire for 316L base material.
ER309L	ER309L	S 23 12 L	sub-arc wire for dissimilar joints and buffer layers on cladding.
ER309LMo	~ER309LMo	S 19 12 3 L	'309LMo' wire for dissimilar joints, buffer layers and difficult to weld steels.
Stainless Steel – Duplex & Superduplex			
ER2209	ER2209	S 22 9 3 N L	Standard 22%cr duplex wire for 2205 base material.
ER2594	ER2594	S 25 10 4 N L	25%Cr superduplex wire for S32750 (2507) & S32760 (Zeron 100) base materials.
Nickel Alloys			
ERNiCrMo-3	ERNiCrMo-3	S Ni6625	Alloy 625 wire for matching base material and a wide range of other high temperature and low temperature applications.
ERNiCrMo-4	ERNiCrMo-4	S Ni6276	Corrosion resistant wire matching alloy C276 base material.

Packaging

Standard Tubes & Spools

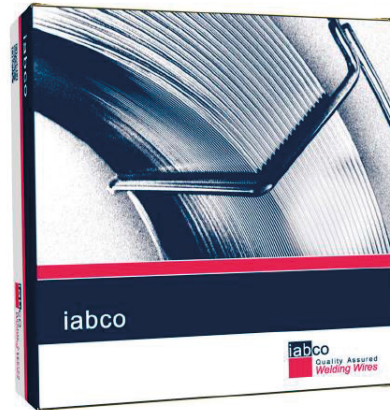
Cut TIG/GTAW wires for ferrous, nickel and copper alloys are packed in black plastic tubes; the standard pack weight being 5kg.

Aluminium wires are in 2.5kg card packs.

Titanium wires are in 1kg tubes.

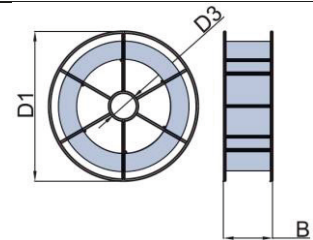
Most brazing rods are in 5kg tubes, apart from the flux impregnated wire which is 500mm long and packed in 2.5kg tubes.

The nominal spool dimensions for standard MIG/GMAW and SAW spools are shown below. If spool type, or dimensions, are critical for a particular application, project or welding machine, then this should be confirmed at the time of order.



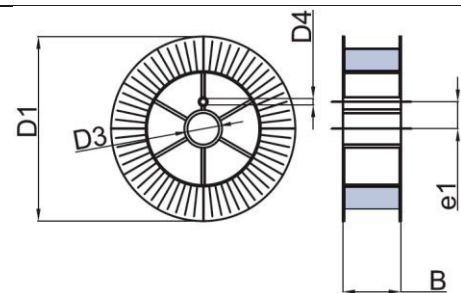
Standard MIG/GMAW Spool EN ISO 544: BS300

D1:	300mm
D3:	50.5mm
B:	103mm
Wt:	Normally 15kg (7kg for aluminium)



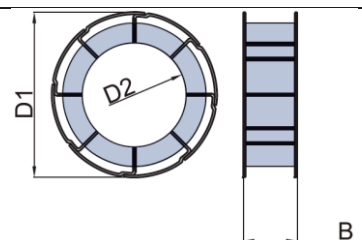
Plastic MIG/GMAW Spool EN ISO 544: S100/S200/S300

	D100	D200	D300
D1:	100mm	200mm	300mm
D3:	16.5mm	50.5mm	50.5mm
B:	45mm	55 mm	103mm
Wt:	0.7/1kg	5kg	15kg



SAW Spool EN ISO 544: B450

D1:	415-435mm
D2:	308mm
B:	100mm
Wt:	Normally 25kg



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Quality Assured Welding Wires to the Welding Industry

- ❖ **IABCO established in 1982**
- ❖ **A leading supplier of quality welding wires**
- ❖ **Extensive stocks held in the UK**
- ❖ **ISO 9001 accredited supplier**
- ❖ **EN 13479 accredited factory control 0045-CPR-1887**
- ❖ **Packaging, labelling & branding to customer requirements**
- ❖ **Flexible systems ensure rapid response times**
- ❖ **Market leading quality products**
- ❖ **Wide range of spool types and packaging options**
- ❖ **Full cast and production traceability**
- ❖ **For specials and non-standard items please contact us**



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