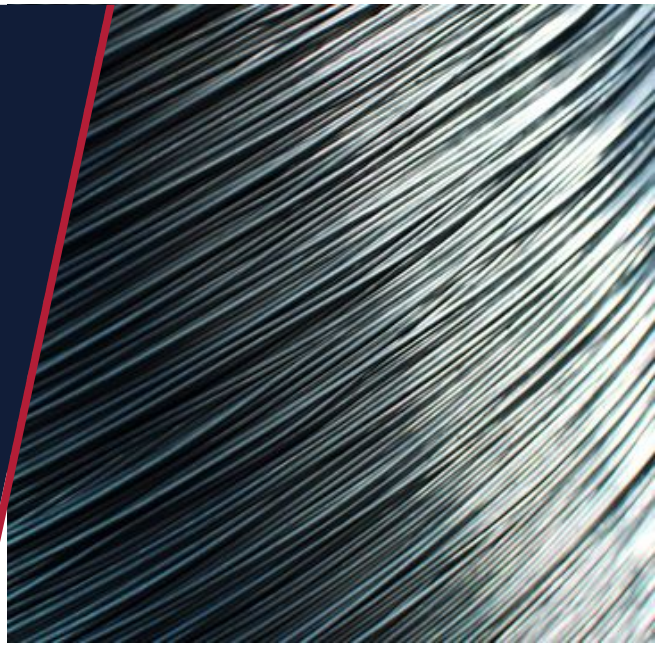
I A BARNES & CO LTD

IABCO
FILLER WIRES

MIG, TIG and submerged arc
Specialist alloys, strip and flux

PREDOMINANTLY EUROPEAN MILL PRODUCTION



CHOOSE BY MATERIAL OR PROCESS

RANGE	APPLICATION	PAGE
Aluminium & titanium	Aluminium fabrication, castings, marine alloys and CP titanium	02
Copper, brazing & cast iron	Bronzes, cupronickels, joining and repair	03
Carbon & Mn-Mo steels	Mild steel fabrication and Mn-Mo engineering steels	04
Creep-resistant steels	CrMo, P/T23, P/T24, P/T91 and P/T92	05–06
High-strength, low-temp. & weathering	Structural, impact-tough and weathering steel fillers	07–08
Submerged arc & pipemill	Structural SAW grades and longitudinal pipe seams	09
Stainless steel	Austenitic, duplex, dissimilar and specialist grades	10–11
Nickel & high-temperature alloys	Corrosion-resistant nickel alloys and heat-resistant castings	12
Hardfacing & tool repair	Build-up, abrasion resistance and tool rebuilding	13
Fluxes & cladding strip	SAW and ESW consumables for specified combinations	14
Packaging & ordering	Spool sizes, pack weights and enquiry checklist	15

Predominantly European mill production

IABCO sources predominantly from European wire mills, with some North American production. Finished product is held in the UK. Request the country of origin, cast traceability and any required approvals for the exact line when ordering.

IABCO standard product index

© R H Davey Welding Supplies Ltd · Design and editorial content

NON-FERROUS FILLERS

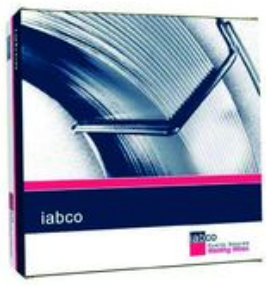
Aluminium & Titanium

Select an aluminium filler for the parent alloy, service environment and finish. ERTi-2 is a separate commercially pure titanium grade.

IABCO GRADE	PROCESS	EN ISO / AWS CLASSIFICATION	APPLICATION	SOURCE
ER1050	MIG, TIG	EN ISO 18273: Nearest S Al 1070 (Al99.7) AWS A5.10: Nearest ER1100	High-purity aluminium and compatible 1xxx grades. Useful where anodised appearance matters.	Data sheet
ER4043	MIG, TIG	EN ISO 18273: S Al 4043 (AlSi5) AWS A5.10: ER4043	AlSi5 for compatible aluminium castings and 6xxx alloys. Check the parent alloy before selection.	Data sheet
ER5183	MIG, TIG	EN ISO 18273: S Al 5183 - AlMg4.5Mn0.7(A) AWS A5.10: ER5183	Al-Mg marine fabrication where strength and seawater resistance matter, including 5083.	Data sheet
ER5356	MIG, TIG	EN ISO 18273: S Al 5356 - AlMg5Cr(A) AWS A5.10: ER5356	General Al-Mg filler for compatible 5xxx and 6xxx alloys, with good anodised colour match.	Data sheet
ER5556	MIG, TIG	EN ISO 18273: S Al 5556A - AlMg5Mn1(A) AWS A5.10: ER5556	Higher-strength Al-Mg-Mn filler for compatible 5xxx alloys.	Data sheet
ERTi-2	TIG	EN ISO 24034: S Ti 0120 (Ti99.6) AWS A5.16: ERTi-2	Commercially pure Grade 2 titanium and compatible CP titanium grades.	Data sheet

Order aluminium and titanium by form

FORM	STANDARD PACK
Aluminium TIG rods	2.5 kg carton
Aluminium MIG wire	Normally 7 kg on a BS300 spool
ERTi-2 TIG rods	1 kg tube



Specify the pack

Quote the grade, diameter and pack weight. For anodised parts, include the parent alloy and finish requirement.

IABCO Product Summary, packaging

© R H Davey Welding Supplies Ltd · Design and editorial content

COPPER ALLOYS & REPAIR

Copper, Brazing & Cast Iron

Choose between fusion welding, braze welding and cast-iron repair by the parent material and required joint properties.

IABCO GRADE	PROCESS	EN ISO / AWS CLASSIFICATION	APPLICATION	SOURCE
C11	MIG, TIG	EN ISO 24373: Cu5180A (CuSn6P) AWS A5.7: ERCuSn-A (nearest)	6% tin phosphor bronze for joining compatible bronzes and surfacing.	Data sheet
C13	MIG, TIG	EN ISO 24373: Cu6180 (CuAl10Fe) AWS A5.7: ERCuAl-A2	Aluminium bronze for wear and corrosion resistance in marine and engineering components.	Data sheet
C16	TIG	EN ISO 24373: S Cu 7061 (CuNi10) —	90/10 copper-nickel filler for matching alloys in marine systems.	Data sheet
C26	Confirm form	EN ISO 24373: Cu6328 (CuAl9Ni5Fe3Mn2) AWS A5.7: ERCuNiAl	Nickel aluminium bronze for marine components exposed to wear or seawater.	Data sheet
C28	MIG, TIG	EN ISO 24373: Cu6100 (CuAl7) AWS A5.7: ERCuAl-A1	Aluminium bronze for surfacing and compatible aluminium bronze alloys.	Data sheet
C29	MIG, TIG	EN ISO 24373: Cu6327 (CuAl8Ni2Fe2Mn2) —	Nickel-bearing aluminium bronze for matching copper alloys and wear-resistant surfacing.	Data sheet
C7	MIG, TIG	EN ISO 24373: Cu1898 (CuSn1) AWS A5.7: ERCu	Deoxidised copper filler for compatible copper grades.	Data sheet
C9	MIG, TIG	EN ISO 24373: Cu6560 (CuSi3Mn1) AWS A5.7: ERCuSi-A	Silicon bronze for copper alloys, surfacing and suitable braze-welding work.	Data sheet
ERCuNi	TIG	EN ISO 24373: S Cu 7158 (CuNi30Mn1FeTi) AWS A5.7: ERCuNi	70/30 copper-nickel for compatible cupronickel alloys and seawater service.	Data sheet
C27	MIG, TIG	EN ISO 24373: Cu5410 (CuSn12P) —	12% tin bronze for matching bronze and wear surfaces such as gears.	Data sheet
Cu48ZnNi10	Brazing	EN ISO 17672: Cu 773 AWS A5.8: RBCuZn-D	Nickel-silver brazing rod for strong, corrosion-resistant joints and carbide tips.	Data sheet
Cu59ZnSn	Brazing	EN ISO 17672: Cu 470 24373: Cu 4700 AWS A5.8: RBCuZn-A	Tin- and silicon-bearing brass rod for general brazing and braze welding.	Data sheet
Cu59ZnSnMn	Brazing	EN ISO 17672: ~Cu471/Cu 681 24373: ~Cu 4701 —	Copper-zinc rod with tin, silicon and manganese for flow in brazed joints.	Data sheet
Flux Impregnated	Brazing	EN ISO 17672: ~Cu 470 24373: Cu 4700 AWS A5.8: RBCuZn-A	Brass rod with flux-filled grooves. 500 mm rods in a 2.5 kg tube.	Data sheet
FN55	MIG, TIG	EN ISO 1071: S C NiFe-1 AWS A5.15: ENiFe-CI Nearest no directly equivalent classification for solid wire	Ni-Fe filler for repair or joining of cast and ductile iron.	Data sheet

Use the process column for product form. A tilde or “nearest” indicates an approximate classification.

© R H Davey Welding Supplies Ltd · Design and editorial content

FERROUS FILLERS

Carbon & Mn-Mo Steels

Compare wire chemistry and form when specifying fillers for mild steel fabrication or higher-strength Mn-Mo engineering steels.

IABCO GRADE	PROCESS	EN ISO / AWS CLASSIFICATION	APPLICATION	SOURCE
ER70S-2 MIG	MIG	EN ISO 14341-A: G2Ti / G 46 A M21 2Ti AWS A5.18: ER70S-2	Triple-deoxidised filler for mild steel fabrication and repair.	Data sheet
ER70S-2 TIG	TIG	EN ISO 636-A: W 2Ti / W 46 2 2Ti AWS A5.18: ER70S-2	Triple-deoxidised filler for mild steel fabrication and repair.	Data sheet
ER70S-3 MIG	MIG	EN ISO 14341-A: G2Si1 / G 42 A M21 2Si1 AWS A5.18: ER70S-3	General mild and carbon-manganese steel fabrication.	Data sheet
ER70S-3 TIG	TIG	EN ISO 636-A: W 2Si / W 42 2 2Si AWS A5.18: ER70S-3	General mild and carbon-manganese steel fabrication.	Data sheet
ER70S-6 MIG	MIG	EN ISO 14341-A: G 3Si1 / G 42 5 M21 3Si1 AWS A5.18: ER70S-6	3Si1 filler for mild steel and general construction.	Data sheet
ER70S-6 TIG	TIG	EN ISO 636-A: W 3Si1 / W 46 5 3Si1 AWS A5.18: ER70S-6	3Si1 filler for mild steel and general construction.	Data sheet
SG3 MIG	MIG	EN ISO 14341-A: G 4Si1 / G 46 4 C1 4Si1 AWS A5.18: ER70S-6	Higher Si/Mn mild steel filler for structural fabrication.	Data sheet
SG3 TIG	TIG	EN ISO 636-A: W4Si1 / W 46 4 4Si1 AWS A5.18: ER70S-6	Higher Si/Mn mild steel filler for structural fabrication.	Data sheet
SUPER-ER70S6 MIG	MIG	EN ISO 14341-A: G 3Si1; G 42 4 M21/C1 3Si1 AWS A5.18: ER70S-6	Uncoppered 3Si1 MIG wire for standard carbon-manganese structural steels.	Data sheet
SUPER-SG3 MIG	MIG	EN ISO 14341-A: G 4Si1; G 46 4 M21/C1 4Si1 AWS A5.18: ER70S-6	Uncoppered 4Si1 MIG wire for mild and carbon-manganese steels.	Data sheet
A31 MIG	MIG	EN ISO 14341-A: G 4Mo / G 50 7 M21 4Mo 14341-B: G S4M31 AWS A5.28: ER80S-D2 / ER90S-D2	Mn-Mo filler for high-strength engineering steels, including stress-relieved applications.	Data sheet
A31 TIG	TIG	EN ISO 636-B: W 4M31 / W 57 A 3 4M31 AWS A5.28: ER80S-D2 / ER90S-D2	Mn-Mo filler for high-strength engineering steels, including stress-relieved applications.	Data sheet

Use the process column for product form. A tilde or “nearest” indicates an approximate classification.

© R H Davey Welding Supplies Ltd · Design and editorial content

FERROUS FILLERS / CRMO

Creep-Resistant Steels

Match the exact CrMo base grade and the required EN ISO or AWS classification. Several wires serve similar alloys with different classifications.

IABCO GRADE	PROCESS	EN ISO / AWS CLASSIFICATION	APPLICATION	SOURCE
A30 MIG	MIG	EN ISO 14341-A: G 2Mo / G 42 2 C1 2Mo / G 46 6 M21 2Mo 21952-A: G MoSi AWS A5.28: ER70S-A1/ER80S-G	0.5% Mo creep-resistant steels for pressure equipment and hot service.	Data sheet
A30 TIG	TIG	EN ISO 636-A: W 46 4 2Mo 21952-A: W MoSi AWS A5.28: ER70S-A1 ER80S-G	0.5% Mo creep-resistant steels for pressure equipment and hot service.	Data sheet
A32 MIG	MIG	EN ISO 21952-A: G CrMo1Si AWS A5.28: ER80S-G	1.25Cr–0.5Mo creep-resistant steels, with the CrMo1Si designation.	Data sheet
A32 TIG	TIG	EN ISO 21952-A: W CrMo1Si AWS A5.28: ER80S-G	1.25Cr–0.5Mo creep-resistant steels, with the CrMo1Si designation.	Data sheet
ER80S-B2 MIG	MIG	EN ISO 21952-B: G 55 M 1CM AWS A5.28: ER80S-B2	AWS B2 filler for matching P11-type 1.25Cr–0.5Mo steels.	Data sheet
ER80S-B2 TIG	TIG	EN ISO 21952-B: W 55 1CM AWS A5.28: ER80S-B2	AWS B2 filler for matching P11-type 1.25Cr–0.5Mo steels.	Data sheet
A33 MIG	MIG	EN ISO 21952-A: G CrMo2Si AWS A5.28: ER90S-G	2.25Cr–1Mo creep-resistant steels, with the CrMo2Si designation.	Data sheet
A33 TIG	TIG	EN ISO 21952-A: W CrMo2Si AWS A5.28: ER90S-G	2.25Cr–1Mo creep-resistant steels, with the CrMo2Si designation.	Data sheet
ER90S-B3 MIG	MIG	EN ISO 21952-B: G 62 M 2C1M AWS A5.28: ER90S-B3	AWS B3 filler for matching P22-type 2.25Cr–1Mo steels.	Data sheet
ER90S-B3 TIG	TIG	EN ISO 21952-B: W 62 2C1M AWS A5.28: ER90S-B3	AWS B3 filler for matching P22-type 2.25Cr–1Mo steels.	Data sheet
ER80S-B6 MIG	MIG	EN ISO 21952-A: GCrMo5Si AWS A5.28: ER80S-B6	Matching 5Cr–0.5Mo creep-resistant steels for refinery and process plant.	Data sheet
ER80S-B6 TIG	TIG	EN ISO 21952-A: WCrMo5Si AWS A5.28: ER80S-B6	Matching 5Cr–0.5Mo creep-resistant steels for refinery and process plant.	Data sheet
ER80S-B8 MIG	MIG	EN ISO 21952-A: GCrMo9 AWS A5.28: ER80S-B8	Matching 9Cr–1Mo steels. Check the procedure for the specific base grade.	Data sheet
ER80S-B8 TIG	TIG	EN ISO 21952-A: WCrMo9 AWS A5.28: ER80S-B8	Matching 9Cr–1Mo steels. Check the procedure for the specific base grade.	Data sheet

Use the process column for product form. A tilde or “nearest” indicates an approximate classification.

© R H Davey Welding Supplies Ltd · Design and editorial content

FERROUS FILLERS / P91, P92 & SAW

Creep-Resistant Steels

Match P/T grade, process and applicable specification. For submerged arc, qualify the wire with the specified flux.

IABCO GRADE	PROCESS	EN ISO / AWS CLASSIFICATION	APPLICATION	SOURCE
2CrWV	MIG, TIG, SAW	EN ISO 21952-A: G/W ZCrWV 2 1.5 MIG & TIG 24958-A: S ZCrWV 2 1.5 Sub-arc AWS A5.23: ~EB23 Sub-arc A5.28: ER90S-G MIG & TIG	Modified 2.25Cr–1.5W creep-resistant steel, including P23/T23 applications.	Data sheet
P24 Sub-Arc	SAW	EN ISO 24598-A: SZCrMo2VNb AWS A5.23: EB24	Modified 2.25Cr–1Mo T24 creep-resistant steel.	Data sheet
P24 TIG	TIG	EN ISO 21952-A: WZCrMo2VNb AWS A5.28: ER90S-G	Modified 2.25Cr–1Mo T24 creep-resistant steel.	Data sheet
ER90S-B9 MIG	MIG	EN ISO 21952-A: G CrMo91 AWS A5.28: ER90S-B9	AWS B9 filler for matching modified P91/T91 creep-resistant steels.	Data sheet
ER90S-B9 TIG	TIG	EN ISO 21952-A: W CrMo91 AWS A5.28: ER90S-B9	AWS B9 filler for matching modified P91/T91 creep-resistant steels.	Data sheet
9CrWV SAW	SAW	EN ISO 24598-A: S ZCrMoWVNb9 0.5 1.5 AWS A5.23: EG	P92/T92 modified 9Cr creep-resistant steels for high-temperature plant.	Data sheet
9CrWV TIG-MIG	MIG, TIG	EN ISO 21952-A: G/W ZCrMoWVNb9 0.5 1.5 AWS A5.28: ER90S-G	P92/T92 modified 9Cr creep-resistant steels for high-temperature plant.	Data sheet
S2Mo	SAW	EN ISO 14171-A: S2Mo 24598-A: SMo AWS A5.23: EA2	Submerged-arc wire for matching 0.5% Mo steels.	Data sheet
S3Mo	SAW	EN ISO 14171-A: S3Mo 24598-A: SMnMo AWS A5.23: EA4	Submerged-arc wire for matching 0.5% Mo steels.	Data sheet
EB2	SAW	EN ISO 24598-A: S CrMo1 AWS A5.23: EB2R	CrMo submerged-arc wire for 1.25Cr–0.5Mo steel.	Data sheet
EB3	SAW	EN ISO 24598-A: S CrMo2 AWS A5.23: EB3R	CrMo submerged-arc wire for 2.25Cr–1Mo steel.	Data sheet
S1CrMo5	SAW	EN ISO 24598-A: SCrMo5 AWS A5.23: ~EB6	Submerged-arc wire for matching 5Cr–0.5Mo creep-resistant steel.	Data sheet
EB91	SAW	EN ISO 24598-A: S CrMo91 AWS A5.23: EB91	P91/T91 modified 9Cr–1Mo submerged-arc wire.	Data sheet

Use the process column for product form. A tilde or “nearest” indicates an approximate classification.

© R H Davey Welding Supplies Ltd · Design and editorial content

FERROUS FILLERS / STRUCTURAL

High-Strength Steels

Match the filler to the specified yield strength, parent alloy and impact requirement. The higher-strength grades are intended for suitably qualified procedures.

IABCO GRADE	PROCESS	EN ISO / AWS CLASSIFICATION	APPLICATION	SOURCE
FK1 MIG	MIG	EN ISO 16834-A: G Mn3Ni1CrMo / G 69 4 M21 Mn3Ni1CrMo AWS A5.28: ER100S-G / ER110S-G	High-strength low-alloy fabrication, including suitable 690 MPa yield steels.	Data sheet
FK1 TIG	TIG	EN ISO 16834-A: W Mn3Ni1CrMo / W 69 4 Mn3Ni1CrMo AWS A5.28: ER100S-G / ER110S-G	High-strength low-alloy fabrication, including suitable 690 MPa yield steels.	Data sheet
FK2 MIG	MIG	EN ISO 16834-A: G ZMn3Ni1Mo G 69 4 M21 ZMn3Ni1Mo / G 62 4 C ZMn3Ni1Mo AWS A5.28: ER100S-G / ER110S-G	High-strength low-alloy structural steels up to the 690 MPa yield class.	Data sheet
FK2 TIG	TIG	EN ISO 16834-A: W ZMn3Ni1Mo / W 69 5 W ZMn3Ni1Mo AWS A5.28: ER100S-G / ER110S-G	High-strength low-alloy structural steels up to the 690 MPa yield class.	Data sheet
FK800 MIG	MIG	EN ISO 16834-A: GMn4Ni1.5CrMo G 69 6 M21 Mn4Ni1.5CrMo AWS A5.28: ER110S-G	High-strength low-alloy MIG wire for suitable 690 MPa yield steels.	Data sheet
FK1000 MIG	MIG	EN ISO 16834-A: G Mn4Ni2CrMo G 89 6 M21 Mn4Ni2CrMo AWS A5.28: ER120S-G	High-strength steel applications up to the 890 MPa yield class.	Data sheet
FK1000 TIG	TIG	EN ISO 16834-A: W 89 5 WMn4Ni2CrMo AWS A5.28: ER120S-G	High-strength steel applications up to the 890 MPa yield class.	Data sheet
15CDV6	MIG, TIG	— —	Filler for matching 15CDV6 and similar high-strength steel compositions.	Data sheet
ER100S-1	MIG	EN ISO 16834-A: GMn4Ni1.5CrMo G 69 6 M21 Mn4Ni1.5CrMo AWS A5.28: ER100S-1	AWS ER100S-1 filler for high-strength low-alloy fabrication.	Data sheet
S3 1Ni¼Mo TIG	TIG	EN ISO 636-A: W 0 636-B: W 0 (nearest WN1) AWS A5.28: ER80S-G A5.23: ENi5	Sonder grade for high-strength quenched and tempered steels, pressure vessels and offshore structures.	Data sheet
SD3 1Ni0.5Mo TIG	TIG	EN ISO 16834-A: W Z (nearest Mn3Ni1Mo) 16834-B: W 0 (nearest N2M3) AWS A5.28: ER90S-G A5.23: EF3	Ni-Mo TIG wire for high-strength steels where low-temperature impact properties matter.	Data sheet

Use the process column for product form. A tilde or “nearest” indicates an approximate classification.

© R H Davey Welding Supplies Ltd · Design and editorial content

FERROUS FILLERS / TOUGHNESS & CORROSION

Low Temperature & Weathering

Check the impact requirement at the specified test temperature. Use weathering grades where the joint needs matching atmospheric corrosion performance.

IABCO GRADE	PROCESS	EN ISO / AWS CLASSIFICATION	APPLICATION	SOURCE
ER80S-Ni1 MIG	MIG	EN ISO 14341-A: G 3Ni1 / G 46 6 M21 3Ni1 AWS A5.28: ER80S-Ni1	1% Ni filler for steels with impact requirements around −50 °C.	Data sheet
ER80S-Ni1 TIG	TIG	EN ISO 636-A: W 3Ni1 / W 46 6 3Ni1 AWS A5.28: ER80S-Ni1	1% Ni filler for steels with impact requirements around −50 °C.	Data sheet
ER80S-Ni2 MIG	MIG	EN ISO 14341-A: G 2Ni2 / G 46 4 M21 2Ni2 AWS A5.28: ER80S-Ni2	2.5% Ni filler for steels with impact requirements around −75 °C.	Data sheet
ER80S-Ni2 TIG	TIG	EN ISO 636-A: W 2Ni2 / W 42 9 W2Ni2 AWS A5.28: ER80S-Ni2	2.5% Ni filler for steels with impact requirements around −75 °C.	Data sheet
ENi3 TIG-MIG	MIG, TIG	EN ISO 14171-A: S2Ni3 636-B: Nearest WN7 AWS A5.23: ENi3 A5.28: ER80S-G	3.5% Ni wire for fine-grain structural steels requiring low-temperature impact toughness.	Data sheet
NiCu MIG	MIG	EN ISO 14341-A: G 42 2 M21 Z AWS A5.28: ER80S-G	Weathering steel joints where matching atmospheric corrosion performance is required.	Data sheet
NiCu TIG	TIG	EN ISO 636-A: W 42 4 Z AWS A5.28: ER80S-G	Weathering steel joints where matching atmospheric corrosion performance is required.	Data sheet
S3 1Ni½Mo TIG (S3NiMo1)	TIG	W Z AWS A5.28: ER90S-G	Summary designation for Ni-Mo TIG filler for pressure vessels and offshore steels. Confirm exact designation on enquiry.	Summary

Use the process column for product form. A tilde or “nearest” indicates an approximate classification.

© R H Davey Welding Supplies Ltd · Design and editorial content

FERROUS FILLERS / SAW

Submerged Arc & Pipemill

Select the wire and flux together for the target strength, toughness and heat treatment. S2MoTiB is for multi-arc double-submerged-arc pipe seams.

IABCO GRADE	PROCESS	EN ISO / AWS CLASSIFICATION	APPLICATION	SOURCE
S1	SAW	EN ISO 14171-A: S1 AWS A5.17 / A5.23: ~EL12	Submerged-arc welding of mild and carbon-manganese structural steel.	Data sheet
S2	SAW	EN ISO 14171-A: S2 AWS A5.17 / A5.23: EM12	Submerged-arc welding of mild and carbon-manganese structural steel.	Data sheet
S2Si	SAW	EN ISO 14171-A: S2Si AWS A5.17 / A5.23: EM12K	Silicon-bearing carbon-manganese submerged-arc wire for structural steel.	Data sheet
EM13K	SAW	EN ISO 14171-A: ~S2Si2 14171-B: SU25 AWS A5.17 / A5.23: EM13K	Carbon-manganese structural steel for fabrication and shipbuilding.	Data sheet
S3	SAW	EN ISO 14171-A: S3 AWS A5.17 / A5.23: EH10K	Manganese-bearing submerged-arc wire for structural carbon steel.	Data sheet
S3Si	SAW	EN ISO 14171-A: S3Si AWS A5.17 / A5.23: EH12K	Fine-grain structural steel, including offshore fabrication.	Data sheet
S2 1NiCrMo	SAW	EN ISO 14171-A / 26304-A: SZ AWS A5.23: EG	High-strength quenched and tempered steel. Select the flux with the procedure.	Data sheet
S3 1Ni¼Mo (Sonder)	SAW	EN ISO 14171-A: S3Ni1Mo0.2 AWS A5.23: ENi5	Sonder grade for high-strength quenched and tempered steels, pressure vessels and offshore structures.	Data sheet
S3NiMo1	SAW	EN ISO 14171-A: S3Ni1Mo 26304-A: S3Ni1Mo AWS A5.23: EF3	Ni-Mo submerged-arc wire for offshore structural and pressure-vessel steels.	Data sheet
S3NiCrMo 2.5	SAW	EN ISO 26304-A: S3Ni2.5CrMo AWS A5.23: ~EM4	High-strength quenched and tempered steel, including 690 MPa yield applications.	Data sheet
S2Ni1	SAW	EN ISO 14171-A: S2Ni1 AWS A5.23: ENi1	1% Ni submerged-arc wire for low-temperature impact requirements around −50 °C.	Data sheet
S2Ni2	SAW	EN ISO 14171-A: S2Ni2 AWS A5.23: ENi2	2.5% Ni submerged-arc wire for low-temperature impact requirements around −75 °C.	Data sheet
ENi3 SAW	SAW	EN ISO 14171-A: S2Ni3 AWS A5.23: ENi3	3.5% Ni wire for fine-grain structural steels requiring low-temperature impact toughness.	Data sheet
S2NiCu1	SAW	EN ISO 14171-A: S2Ni1Cu AWS A5.23: EG	Ni-Cu submerged-arc wire for weathering steels.	Data sheet
S2MoTiB	SAW	EN ISO 14171-A: S2MoTiB AWS A5.23: EA2TiB	Longitudinal seam welding of line pipe using multi-arc double submerged arc.	Data sheet

Use the process column for product form. A tilde or “nearest” indicates an approximate classification.

© R H Davey Welding Supplies Ltd · Design and editorial content

STAINLESS FILLERS

Austenitic Stainless Steel

Choose low-carbon, low-ferrite or high-temperature grades to suit the parent material and service requirements. Si variants offer a more fluid weld pool.

IABCO GRADE	PROCESS	EN ISO / AWS CLASSIFICATION	APPLICATION	SOURCE
ER16-8-2	MIG, TIG	EN ISO 14343-A: G/W 16 8 2 AWS A5.9: ER16-8-2	High-temperature 18Cr–8Ni stainless joints where a ductile, stable deposit is needed.	Data sheet
ER19-10H	MIG, TIG	EN ISO 14343-A: G/W 19 9 H AWS A5.9: ER19-10H	High-carbon austenitic stainless steels, including 304H for elevated service.	Data sheet
ER308H	MIG, TIG, SAW	EN ISO 14343-A: G/W/S 19 9 H AWS A5.9: ER308H (ER19-10H possible on request)	High-carbon austenitic stainless steels, including 304H for elevated service.	Data sheet
ER308L	MIG, TIG, SAW	EN ISO 14343-A: G/W/S 19 9 L AWS A5.9: ER308L	304L and compatible 18Cr–8Ni stainless fabrication.	Data sheet
ER308LSi	MIG, TIG	EN ISO 14343-A: G/W 19 9 L Si AWS A5.9: ER308LSi	Higher-silicon 308L for improved weld-pool flow and toe wetting.	Data sheet
ER316H	MIG, TIG	EN ISO 14343-A: G/W 19 12 3 H AWS A5.9: ER316H	Matching 316H-type austenitic stainless for elevated service.	Data sheet
ER316L	MIG, TIG, SAW	EN ISO 14343-A: G/W/S 19 12 3 L AWS A5.9: ER316L	316L and compatible molybdenum-bearing austenitic stainless steels.	Data sheet
ER316LSi	MIG, TIG	EN ISO 14343-A: G/W 19 12 3 L Si AWS A5.9: ER316LSi	Higher-silicon 316L for improved weld-pool flow.	Data sheet
ER316LMn (1.4455)	MIG, TIG	EN ISO 14343-A: G/W 20 16 3 Mn L AWS A5.9: ER316LMn	Fully austenitic deposit for specified cryogenic or low-magnetic applications.	Data sheet
ER317L	MIG, TIG	EN ISO 14343-A: G/W 18 15 3 L G/W 19 13 4 L AWS A5.9: ER317L	317L and compatible higher-molybdenum austenitic stainless steels.	Data sheet
ER347	MIG, TIG, SAW	EN ISO 14343-A: G/W/S 19 9 Nb AWS A5.9: ER347	Niobium-stabilised filler for compatible 321/347-type stainless steels.	Data sheet
ER347Si	MIG, TIG	EN ISO 14343-A: G/W 19 9 Nb Si AWS A5.9: ER347Si	Higher-silicon Nb-stabilised filler for compatible stainless steels.	Data sheet
ER347H	MIG, TIG, SAW	EN ISO 14343-A: G/W/S 19 9 Nb AWS A5.9: ER347	High-carbon stabilised stainless steels for elevated-temperature service.	Data sheet
ER347HSi	MIG, TIG	EN ISO 14343-A: G/W 19 9 Nb Si AWS A5.9: ER347Si	Higher-silicon version for high-carbon stabilised stainless steels.	Data sheet
ER320LR	MIG, TIG	— AWS A5.9: ER320LR	Matching Alloy 20 corrosion-resistant base materials.	Data sheet
ER308L-LF	MIG, TIG	EN ISO 14343-A: G/W 19 9 L AWS A5.9: ER308L	Low-ferrite 308L for specified cryogenic work.	Summary
ER316L-LF	MIG, TIG	EN ISO 14343-A: G/W 19 12 3 L AWS A5.9: ER316L	Low-ferrite 316L for specified cryogenic work.	Summary

Use the process column for product form. A tilde or “nearest” indicates an approximate classification.

© R H Davey Welding Supplies Ltd · Design and editorial content

DUPLEX / DISSIMILAR / MARTENSITIC

Specialist Stainless Steel

Match duplex and superduplex grades to the parent alloy. For dissimilar joints, cladding and repair, consider dilution and any post-weld heat treatment.

IABCO GRADE	PROCESS	EN ISO / AWS CLASSIFICATION	APPLICATION	SOURCE
ER2209	MIG, TIG, SAW	EN ISO 14343-A: G/W/S 22 9 3 N L AWS A5.9: ER2209	2205 and related 22% Cr duplex stainless grades.	Data sheet
ER2553	MIG, TIG	— AWS A5.9: ER2553	High-copper superduplex stainless steel, including compatible 2553-type grades.	Data sheet
ER2594	MIG, TIG, SAW	EN ISO 14343-A: G/W/S 25 9 4 N L AWS A5.9: ER2594	Superduplex stainless steels such as 2507 and S32760.	Data sheet
ER307Si	MIG, TIG	EN ISO 14343-A: G/W 18 8 Mn AWS A5.9: Nearest classification ER307	Austenitic Mn-bearing filler for dissimilar joints, buffers and build-up.	Data sheet
ER309	MIG, TIG	EN ISO 14343-A: G/W 22 12 H AWS A5.9: ER309	Matching high-carbon 309-type castings and heat-resistant grades.	Data sheet
ER309L	MIG, TIG, SAW	EN ISO 14343-A: G/W/S 23 12 L AWS A5.9: ER309L	Stainless-to-carbon steel joints, buffer layers and suitable ferritic stainless.	Data sheet
ER309LSi	MIG	EN ISO 14343-A: G 23 12 L Si AWS A5.9: ER309LSi	Higher-silicon 309L for dissimilar joints and improved wetting.	Data sheet
ER309LMo	MIG, TIG, SAW	EN ISO 14343-A: G/W/S 23 12 2 L AWS A5.9: ~ER309LMo (nearest classification)	Mo-bearing filler for dissimilar joints and buffer layers, including 316-type overlays.	Data sheet
ER310	MIG, TIG	EN ISO 14343-A: G/W 25 20 AWS A5.9: ER310	25Cr–20Ni heat-resistant stainless steels.	Data sheet
ER312	MIG, TIG	EN ISO 14343-A: G/W 29 9 AWS A5.9: ER312	Dissimilar joints, buffer layers and difficult-to-weld steels.	Data sheet
ER410	MIG, TIG	EN ISO 14343-A: G/W 13 AWS A5.9: ER410	Matching 410-type martensitic stainless steel and suitable surfacing.	Data sheet
ER410NiMo	MIG, TIG, SAW	EN ISO 14343-A: G/W/S 13 4 AWS A5.9: ER410NiMo (normally conforms to AWS but this must be specified if critical)	Soft martensitic stainless castings such as CA6NM, including turbine applications.	Data sheet
ER420	MIG, TIG	EN ISO 14343-B: SS420 AWS A5.9: ER420	Matching higher-carbon 12% Cr martensitic grades and specified overlays.	Data sheet
ER430	MIG, TIG	EN ISO 14343-A: G/W 17 AWS A5.9: ER430	Matching 17% Cr ferritic stainless steel.	Data sheet
FV520	MIG, TIG	No relevant standard stated —	Precipitation-hardening stainless such as FV520 where post-weld heat treatment is specified.	Data sheet
ER253MA	MIG, TIG	EN ISO 14343-A: ~ W/G 21 10 N —	Matching 253 MA-type heat-resistant stainless steels.	Data sheet
FV520-B	MIG, TIG	— —	Summary designation for precipitation-hardening stainless, including FV520 and 17-4 PH. Confirm grade on enquiry.	Summary

Use the process column for product form. A tilde or “nearest” indicates an approximate classification.

© R H Davey Welding Supplies Ltd · Design and editorial content

CORROSION & HOT SERVICE

Nickel & High-Temperature Alloys

Select nickel filler by alloy family and service environment. Use the separate 21.33, 25.35 and 35.45 grades for matching heat-resistant alloys and castings.

IABCO GRADE	PROCESS	EN ISO / AWS CLASSIFICATION	APPLICATION	SOURCE
ERNi-1	MIG, TIG	EN ISO 18274: S Ni2061 (NiTi3) AWS A5.14: ERNi-1	Commercially pure nickel filler for Alloy 200/201 and suitable dissimilar joints.	Data sheet
ERNiCr-3	MIG, TIG, SAW	EN ISO 18274: S Ni6082 AWS A5.14: ERNiCr-3	Alloy 82 for nickel-chromium alloys, dissimilar joints and suitable overlays.	Data sheet
ERNiCrCoMo-1	MIG, TIG	EN ISO 18274: SNi6617 (NiCr22Co12Mo9) AWS A5.14: ERNiCrCoMo-1	Alloy 617 for matching nickel alloys in high-temperature service.	Data sheet
ERNiCrMo-10	MIG, TIG	EN ISO 18274: SNi6022 (NiCr21Mo13Fe4W3) AWS A5.14: ERNiCrMo-10	Alloy C-22 for matching corrosion-resistant nickel alloys and suitable overlays.	Data sheet
ERNiCrMo-13	MIG, TIG	EN ISO 18274: SNi6059 (NiCr23Mo16) AWS A5.14: ERNiCrMo-13	Alloy 59 for matching nickel alloys and demanding corrosive service.	Data sheet
ERNiCrMo-3	MIG, TIG, SAW	EN ISO 18274: S Ni6625 (NiCr22Mo9Nb) AWS A5.14: ERNiCrMo-3	Alloy 625 for matching nickel alloys, dissimilar joints and corrosion-resistant cladding.	Data sheet
ERNiCrMo-4	MIG, TIG, SAW	EN ISO 18274: SNi6276 (NiCr15Mo16Fe6W4) AWS A5.14: ERNiCrMo-4	Alloy C-276 for matching corrosion-resistant nickel alloys.	Data sheet
ERNiCu-7	MIG, TIG	EN ISO 18274: S Ni4060 (NiCu30Mn3Ti) AWS A5.14: ERNiCu-7	Filler metal 60 for Alloy 400 and compatible nickel-copper alloys.	Data sheet
ERNiFeCr-1	MIG, TIG	EN ISO 18274: SNi8065 AWS A5.14: ERNiFeCr-1	Alloy 825 for matching and suitable dissimilar corrosion-resistant joints.	Data sheet
80.20	TIG	EN ISO 18274: ~S Ni6076 - NiCr20 (Nearest) AWS A5.14: ~ERNiCr-6 (Nearest)	80Ni–20Cr TIG wire for compatible heating-element alloys and other matching work.	Data sheet
21.33	MIG, TIG	EN ISO 14343: G/W Z 21 33 Mn Nb —	Matching Alloy 800H and compatible heat-resistant materials for furnace and process plant.	Data sheet
25.35	MIG, TIG	EN ISO 14343: G/W Z 25 35 —	Microalloyed filler for matching HP40Nb heat-resistant castings.	Data sheet
35.45	MIG, TIG	EN ISO 18274: S Ni Z Cr35Fe15Nb —	Microalloyed filler for matching 35/45Nb high-temperature castings.	Data sheet

IABCO high-temperature technical guide

High-temperature stock formats in the technical guide: 2.4mm × 1,000mm TIG rods in 5 kg tubes and 1.2mm MIG on 15 kg BS300 spools. The guide also lists 3.2mm TIG for 21.33 and 25.35.

© R H Davey Welding Supplies Ltd · Design and editorial content

WEAR RESISTANCE / BUILD-UP

Hardfacing & Tool Repair

Specify the wear mechanism, substrate and finishing method. A build-up layer and a hard final deposit can call for different consumables.

IABCO GRADE	PROCESS	EN ISO / AWS CLASSIFICATION	APPLICATION	SOURCE
HF350	MIG	EN ISO 14700: ~SFe1. 21952-A: ~GCrMo5Si AWS A5.21: ~ERFe1. A5.28: ~ER80S-B6	Build-up and buffer layers, including under harder overlays.	Data sheet
HF4	TIG	EN ISO 14700: SFe3 AWS A5.21: ~ERFe8	H11-type TIG rod for repairing and surfacing hot-work tools.	Data sheet
HF6	TIG	EN ISO 14700: SFe4 AWS A5.21: ~ERFe6	TIG rod for rebuilding high-speed cutting tools and wear surfaces.	Data sheet
HF600	MIG	EN ISO 14700: SFe8 AWS A5.21: ~ERFe3	Abrasion-resistant overlay for mixers, crushers and earthmoving parts.	Data sheet
HF650	MIG, TIG	EN ISO 14700: SFe3 AWS A5.21: ERFe8	Hardfacing and repair of hot-work tools.	Data sheet
MAR 250	TIG	EN ISO 14700: SFe5 —	Maraging-steel filler for suitable tooling, dies and high-strength repairs.	Data sheet
RC3	TIG	EN ISO 14700: SFe8 AWS A5.21: ~ERFe-8	TIG hardfacing rod for repairing and surfacing hot-work tools.	Data sheet
Alloy 6 TIG	TIG, gas	EN ISO 14700: RCo2 AWS A5.21: ERCoCr-A	Cobalt-based rod for valve seats, pumps and hot-wear surfaces.	Data sheet

IABCO hardfacing selection guide

Specify the wear and finishing requirements

For buildup, give the base material and thickness to restore. For the final layer, identify abrasion, impact or hot wear and specify whether the deposit must be machinable.

© R H Davey Welding Supplies Ltd · Design and editorial content

SUBMERGED ARC / ELECTROSLAG

Fluxes & Cladding Strip

Match the wire or strip and flux to the qualified combination. AWS classifications for flux depend on the wire paired with it.

IABCO GRADE	PROCESS	EN ISO / AWS CLASSIFICATION	APPLICATION	SOURCE
1907 Flux	SAW flux	EN ISO 14174: S A AF 2 64 AC H5 —	Agglomerated aluminate-fluoride-basic SAW flux for welding and surfacing.	Data sheet
1928 Flux	SAW flux	EN ISO 14174: S A FB 1 55 AC H5 AWS A5.23: wire/flux combinations	Fluoride-basic agglomerated SAW flux for structural and pressure-vessel work.	Data sheet
1938 Flux	SAW flux	EN ISO 14174: S A AF 2 5644 DC H5 —	Agglomerated aluminate-fluoride-basic flux for DC submerged-arc welding and surfacing.	Data sheet
1944 Flux	ESW flux	EN ISO 14174: ES A FB 2B 5664 —	High-basicity electroslag flux for cladding with stainless strip.	Data sheet
1995 Flux	SAW flux	EN ISO 14174: SA AB 1 67 AC H5 AWS A5.23: F7A4-EM12K / F6TA2-EM12K with S2Si	Neutral agglomerated flux for longitudinal multi-arc pipe welding.	Data sheet
EQ309L	ESW, SAW	EN ISO 14343-A: B 23 12 L AWS A5.9: EQ309L	309L strip for dissimilar buffer or first cladding layers.	Data sheet
EQ309LMo	ESW, SAW	EN ISO 14343-A: B 21 13 3 L 14343-B: BS 309LMoD AWS A5.9: Nearest EQ316L or EQ309LMo	Mo-bearing 309L strip for cladding and buffer layers.	Data sheet
EQ309LNb	ESW, SAW	EN ISO 14343-A: B 23 12 Nb 14343-B: BS 309LNb —	Niobium-bearing 309L strip for specified cladding systems.	Data sheet
EQ316L	ESW, SAW	EN ISO 14343-A: B 19 12 3 L AWS A5.9: EQ316L	316L stainless overlay with suitable strip-cladding flux.	Data sheet
EQ347	ESW, SAW	EN ISO 14343-A: B 19 9 Nb 14343-B: BS 347L AWS A5.9: EQ347	Niobium-stabilised stainless overlay for specified cladding systems.	Data sheet

Specify the combination

Quote the wire or strip grade, flux grade and applicable standard. Confirm the strip dimensions and flux pack on enquiry.

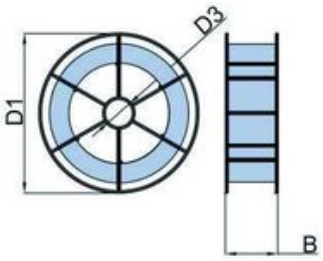
© R H Davey Welding Supplies Ltd · Design and editorial content

STANDARD PACKS & ENQUIRIES

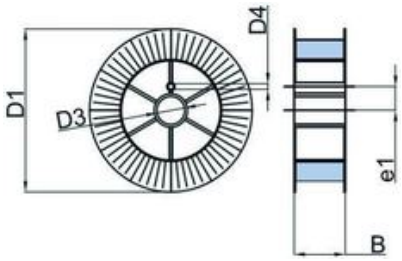
Packaging and Ordering

Specify IABCO grade, process, diameter and pack format. Standard packaging below is a guide to the available formats. Confirm the exact variant for the grade.

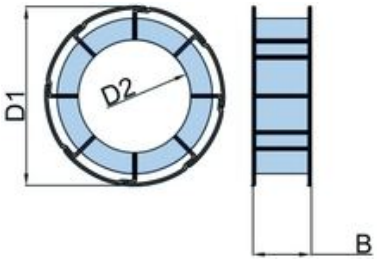
FORM	PACK / SPOOL	DIMENSIONS OR NOTES
TIG rods, ferrous / nickel / copper	Normally 5 kg tube	Specify rod diameter and length.
Aluminium TIG / titanium TIG	2.5 kg carton / 1 kg tube	Specify grade, diameter and length.
Brazing rods	Most 5 kg tubes	Flux Impregnated: 500mm rods in a 2.5 kg tube.
MIG basket spool	BS300, normally 15 kg	300mm outside diameter, 50.5mm bore, 103mm width. Aluminium normally 7 kg.
MIG plastic spool	S100, S200 or S300	Outside diameters 100, 200 and 300mm. Nominal weights 0.7/1 kg, 5 kg and 15 kg respectively.
SAW spool	B450, normally 25 kg	415–435mm outside diameter, 308mm D2, 100 mm width.



BS300 MIG basket spool



Plastic MIG spool profile



B450 SAW spool

What to include in an enquiry

Quote the IABCO grade, parent material, process and wire diameter. Add rod length or spool type, pack weight, quantity, and any required approval, test certificate or origin. For submerged arc, include the wire and flux combination.

IABCO also offers made-to-order analyses and packaging. The linked technical sheets give composition, typical deposit properties and procedure guidance. Follow the qualified welding procedure and project requirements.

IABCO standard products and data sheets

IABCO Product Summary

© R H Davey Welding Supplies Ltd · Design and editorial content