Selected by **Professionals**

CONSUMABLES 2023-24

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Super 6®

The extensive range of **Super 6** consumables for welding and brazing covers products for joining large fabrications through to DIY use. SWP supply high quality products from manufacturers who have been validated at source and Test Certificates can be found on our website.

The **Super 6** range is made up of six product groups:

ZERTIFIKAT ◆ CERTIFICATE ◆ 證書 ◆ СЕРТИФИКАТ ◆ CERTIFICADO ◆ CERTIFICAT

TÜV SÜD Industrie Service

Certificate of conformity of the factory production control

0036 - CPR - S 128.2020.003

In compliance with Regulation 305/2011/EU of the European Parliament and of the Council of March 09th, 2011 (Construction Products Regulation - CPR), this certificate applies to the construction product

filler metals acc. to EN ISO 14341, EN ISO 14343, EN ISO 18273 und EN ISO 17632

produced by or for

Specialised Welding Products Ltd
Unit 1 Withins Point
Haydock WA11 9UD, UK

This certificate attests that all provisions concerning the assessment and verification of constancy of performance described in annex ZA of the harmonised standard

EN 13479:2017

under system 2+ are applied and

the factory production control fulfils all the prescribed requirements set out above.

This certificate was first issued on 2020-12-07 and recurring on 2023-05-25 and will remain valid as long as the test methods and/or factory production control requirements included in the harmonised standard, used to assess the performance of the declared characteristics, do not change, and the product, and the manufacturing conditions in the plant are not modified significantly and latest on 2023-12-06.

Further information about the product parameters and description of the products are included in the annex 1 to this certificate.

In order to adhere the validity an annual surveillance audit is required.

Munich, 2023-05-25

Notified Body, Nr. 0036

DAkkS

TÜV SÜD Industrie Service GmbH 00 36

(S. Loibl)
Certification Body
Material and Welding Technology

EQ3056245

TÜV SÜD Industrie Service GmbH, Westendstr. 199, 80686 Munich, Germany

Aluminium
The Aluminium products are supplied for both MIG and TIG in all grades – 4043 and 5356 being the most popular.

Copper
A large range of products for use across many industries and for general repair and maintenance work.

Stainless Steel
Stainless Steel is a generic term for a range of steels that contain a minimum of 12% Chromium. Nickel and Molybdenum are added to improve corrosion resistance.

Steel
This section offers a large range of products including solid and flux cored wires as well as gasless cored wire for the DIY market.

Gas Welding & Brazing
Our copper coated mild steel rod is suitable for all types of mild steel welding and is particularly suited to welding mild steel sheet.

Electrodes
The electrodes range offer two brands: Super 6 and Super Optimal. Super Optimal are manufactured by our trading partner Superon.

CONTENTS

Guide to Symbols

Filler Wires for Joining Similar/Dissimilar Aluminium Alloys

A: Max Strength **B:** Max Corrosion Resistance **C:** Freedom from Cracking **D:** Best Colour Match when Anodising

Base Material	1050A				1080A				1200				3105				5005				5251				5154A				5454				5083				6101A				6061				6063				6082				7020
	A	B	C	D	A	B	C	D	A	B	C	D	A	B	C	D	A	B	C	D	A	B	C	D	A	B	C	D	A	B	C	D	A	B	C	D	A	B	C	D	A	B	C	D	A	B	C	D	A	B	C	D
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ALUMINIUM WIRE

4043

Aluminium alloy containing 5% silicon, for welding duraluminium, cast and wrought alloys. Typically used in general fabrication and construction, shipbuilding, automotive industry, repair and maintenance.

Al
95.0
Si
5.00

Mig 0.5kg spool		Mig 2.0kg spool		Mig 6.0kg spool		Tig 2.5kg tube	
Part No	Diameter	Part No	Diameter	Part No	Diameter	Part No	Diameter
7004	0.8mm	**7008**	0.8mm	**7012**	0.8mm	**7050**	1.6mm
7005	1.0mm	**7009**	1.0mm	**7013**	1.0mm	**7051**	2.4mm
7006	1.2mm	**7010**	1.2mm	**7014**	1.2mm	**7052**	3.2mm
				7015	1.6mm		

AWS : A5.10 ER 4043
EN ISO 18273 S AL 4043A (Al Si 5)

4047

Aluminium alloy with 12% silicon, excellent corrosion resistance and a low melting point which allows thin sheet to be successfully welded, automotive, shipbuilding and offshore, repair and maintenance.

Al
88.0
Si
12.00

Mig 6.0kg spool		Mig 2.5kg spool	
Part No	Diameter	Part No	Diameter
7018	0.8mm	**7054**	1.6mm
7019	1.0mm	**7055**	2.4mm
7020	1.2mm	**7056**	3.2mm

AWS : A5.10 ER 4047
EN ISO 18273 S AL 4047A (Al Si 12)

5183

Special Aluminium alloy offering improved strength, used when high seawater corrosion resistance is required. Typically used in the Shipbuilding and offshore, cryogenic plants, power generation and railway industry.

Al
94.0
Mg
5.00
Mn
0.75

Mig 6.0kg spool		Tig 2.5kg tube	
Part No	Diameter	Part No	Diameter
7040	1.0mm	**7060**	1.6mm
7041	1.2mm	**7061**	2.4mm
		7062	3.2mm

AWS : A5.10 ER 5183
EN ISO 18273 S AL 5183 (Al Mg 4.5 Mn 0.7)

5356

A general purpose Aluminium wire containing 5% magnesium giving excellent corrosion resistance and high joint strength. Typically used in the shipbuilding, offshore, power generation and repair maintenance industries.

Al
95.0
Mg
5.00

Mig 0.5kg spool		Mig 2.0kg spool		Mig 6.0kg spool		Tig 2.5kg tube	
Part No	Diameter	Part No	Diameter	Part No	Diameter	Part No	Diameter
7023	0.8mm	**7030**	0.8mm	**7034**	0.8mm	**7057**	1.6mm
7024	1.0mm	**7031**	1.0mm	**7035**	1.0mm	**7058**	2.4mm
7025	1.2mm	**7032**	1.2mm	**7036**	1.2mm	**7059**	3.2mm

AWS : A5.10 ER 5356
EN ISO 18273 S AL 5356 (Al Mg 5)

ALUMINIUM WIRE

5556

TIG

Aluminium alloy containing 5.3% Magnesium with all elements closely controlled for optimum weld strength. Typically used in the military industry, power generation, shipbuilding and offshore.

Al
93.0
Mg
5.30
Mn
0.80
Cr
0.10
Ti
0.01

Tig 2.5kg tube	
Part No	Diameter
7063	1.6mm
7064	2.4mm
7065	3.2mm

AWS : A5.10 ER 5556
EN ISO 18273 S AL 5556A (Al Mg 5 Mn)

1050

TIG

A pure Aluminium (99.5%) rod producing a ductile weld that can be stretched, drawn, or hammered without fracture. Typically used in the food, and electronics industries.

Al
99.5
Fe
0.40
Cu
0.10

Mig 0.7kg spool	
Part No	Diameter
7047	1.6mm
7048	2.4mm
7049	3.2mm

AWS : A5.10 ER 1050
EN ISO 18273-S AL 1050 (Al 99.7)

COPPER WIRE

C7

High quality rod containing a minimum of 98.5% copper with deoxidizing elements suitable for joining oxygen free copper and copper materials subject to high strain. Generally found in the brewing industry and power generation.

Cu
99.5
Mn
0.25
Si
0.25

Mig 12.5kg spool		Tig 5.0kg tube	
Part No	Diameter	Part No	Diameter
7120	0.8mm	**7158**	1.6mm
7121	1.0mm	**7159**	2.4mm
7122	1.2mm	**7160**	3.2mm

AWS : A5.7 ER Cu
EN ISO 24373 S Cu 1898 (Cu Sn 1)

C9

Ideal for fusion welding materials of similar composition e.g. copper alloys (brass). Frequently used in artistic foundries where good colour match is required, also for MIG brazing zinc coated steel sheets in the automotive industry.

Cu
96.0
Mn
1.00
Si
3.00

Mig 4.0kg spool		Mig 12.5kg spool		Tig 5.0kg tube	
Part No	Diameter	Part No	Diameter	Part No	Diameter
7126	0.8mm	**7129**	0.8mm	**7154**	1.6mm
7127	1.0mm	**7130**	1.0mm	**7155**	2.4mm
7128	1.2mm	**7131**	1.2mm	**7156**	3.2mm

AWS : A5.7 ER Cu Si-A
EN ISO 24373 S Cu 6560 (Cu Si 3 Mn 1)

C11

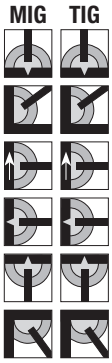
Phosphor bronze rod containing 7% tin, produced for fusion welding phosphor bronze casting where food colour match is required and for building up worn bearing surfaces. Also ideal for TIG brazing and welding dissimilar joints. Industries include shipbuilding, processing and artistic foundries.

Cu
93.0
Sn
7.00

Mig 4.0kg spool		Mig 12.5kg spool		Tig 5.0kg tube	
Part No	Diameter	Part No	Diameter	Part No	Diameter
7104	0.8mm	**7106**	0.8mm	**7140**	1.6mm
7105	1.0mm	**7107**	1.0mm	**7141**	2.4mm
		7108	1.2mm	**7142**	3.2mm

AWS : A5.7 ER Cu Sn-A
EN ISO 24373 S Cu 5180 (Cu Sn 6P)

C13



Copper based wire for Aluminium bronze containing 9% aluminium, often used for overlays on aluminium bronze alloys and CMn steels. Also suitable for dissimilar joints. Uses include pumps, casting eat exchanges marine and mining industries.

Cu
89.00
Al
10.00
Fe
1.00

Mig 4.0kg spool		Mig 12.5kg spool		Tig 5.0kg tube	
Part No	Diameter	Part No	Diameter	Part No	Diameter
7150	0.8mm	**7153**	0.8mm	**7147**	1.6mm
7151	1.0mm	**7157**	1.0mm	**7148**	2.4mm
7152	1.2mm	**7173**	1.2mm	**7149**	3.2mm

AWS : A5.7 ER E Cu Al-A2
EN ISO 24373 S Cu 6180 (Cu Al 10 Fe)

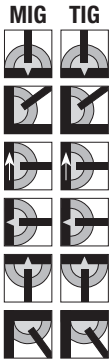
Filler Wires for Joining Similar/Dissimilar Grades Of Stainless Steels

A: 1st Choice **B:** 2nd Choice **C:** 3rd Choice **D:** 4th Choice

Base Material	301	302/B	303/Se	304H	304/L	309/S	310/S	316H	316/L	317/L	321 347	410	420	430
430	308L 309L - -	308L 309L - -	308L 309L - -	308L 309L - -	308L 309L - -	308L 309L - -	308L 309L - -	316H 309L - -	316L 309L - -	316L 309L - -	347 309L - -	430 308L - -	430 308L - -	430 308L - -
420	308L 309L - -	308L 309L - -	308L 309L - -	308L 309L - -	308L 309L - -	308L 309L - -	308L 309L - -	316H 309L - -	316L 309L - -	316L 309L - -	347 309L - -	430 308L - -	430 308L - -	
410	308L 309L - -	308L 309L - -	308L 309L - -	308L 309L - -	308L 309L - -	308L 309L - -	308L 309L - -	316H 309L - -	316L 309L - -	316L 309L - -	347 309L - -	410 308L - -		
321 347	347 308L - -	347 308L - -	347 308L - -	347 308L - -	347 308L - -	347 309 309L -	310 347 - -	316 308 347 -	316 347 - -	316 347 - -	347 308L - -			
317/L	317 308L - -	317 308L - -	317 308L - -	317 308L - -	317 308L - -	316L 309L - -	310 317L - -	317 316L - -	317 316L - -	317L - -				
316/L	316H 308L - -	316H 308L - -	316H 308L - -	316H 308L - -	316H 308L - -	309L 316L - -	310 316L - -	316L 316H - -	316 316LSi - -					
316H	316H 308L - -	316H 308L - -	316H 308L - -	316H 308L - -	316H 308L - -	309L 316L - -	310 316L - -	316H - - -						
310/H	310 308L - -	310 308L - -	312 - - -	310 308H - -	310 308L - -	310 309 - -	310 - - -							
309/S	309 309L 309LSi -	309 309L 309LSi -	309 309L 309LSi -	309 309L 309LSi -	309 309L 309LSi -	309 309L 309LSi -								
304/L	308 308LSi - -	308 308LSi - -	308 308LSi - -	308 308LSi - -	308 308LSi - -									
304H	308 308LSi - -	308 308LSi - -	308 308LSi - -	308H - - -										
303/Se	308 308LSi - -	308 308LSi - -	312 - - -											
302/B	308 308LSi - -	308 308L 308LSi -												
301	308 308L 308LSi -													

307Si
307

Stainless steel wire for dissimilar welding between steel and stainless steel, armour plate and high manganese austenitic steels. Also used for buffer layers and difficult to weld steels.



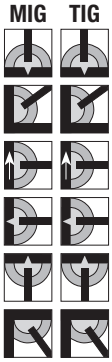
C
0.07
Mn
6.8
Ni
7.7
Si
0.08
Cr
18.6

Mig 15kg spool		Tig 5.0kg tube	
Part No	Diameter	Part No	Diameter
7161	0.8mm	**7164**	1.6mm
7162	1.0mm	**7165**	2.4mm
7163	1.2mm	**7166**	3.2mm

AWS : A5.9 Nearest ER 307
EN ISO 14343-A G W 18 8 Mn

308LSi
308

For welding 18/8 (304) austenitic stainless steels providing good corrosion and wear resistance often used in the chemical and food industries.



C
0.02
Si
0.80
Mn
1.50
Ni
10.0
Cr
21.0

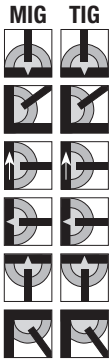
Mig 0.7kg spool		Mig 5.0kg spool		Mig 15kg spool		Tig 5.0kg tube	
Part No	Diameter	Part No	Diameter	Part No	Diameter	Part No	Diameter
7183	0.6mm	**7186**	0.6mm	**7190**	0.8mm	**7216**	1.6mm
7184	0.8mm	**7187**	0.8mm	**7191**	1.0mm	**7217**	2.4mm
7185	1.0mm	**7188**	1.0mm	**7192**	1.2mm	**7218**	3.2mm
		7189	1.2mm				

AWS : A5.9 ER 308 LSI
EN ISO 14343-A G 19 9 LSI

AWS : A5.9 ER 308 L
EN ISO 14343-A W 19 9 L

309LSi
309

Ideal wire for joining material of similar composition and dissimilar stainless steel. Generally found in the chemical, power generation and repair maintenance industries.



C
0.10
Si
0.40
Mn
1.50
Ni
13.0
Cr
26.0

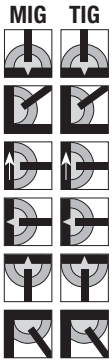
Mig 5.0kg spool		Mig 15kg spool		Tig 5.0kg tube	
Part No	Diameter	Part No	Diameter	Part No	Diameter
7193	0.8mm	**7195**	0.8mm	**7219**	1.6mm
7194	1.0mm	**7196**	1.0mm	**7220**	2.4mm
		7197	1.2mm	**7221**	3.2mm

AWS : A5.9 ER 309 LSI
EN ISO 14343-A G 23 12 LSI

AWS : A5.9 ER 309 L
EN ISO 14343-A W 23 12 L

310

Welding wire for similar heat resistant 25/20 CrNi steels for working temperatures up to 1200°C. Typical applications include heat shield, ducting and furnace parts.



C
0.01
Mn
1.80
Ni
21.0
Cr
26.0

Mig 15kg spool		Tig 5.0kg tube	
Part No	Diameter	Part No	Diameter
7175	0.8mm	**7229**	1.6mm
7176	1.0mm	**7230**	2.4mm
7177	1.2mm	**7231**	3.2mm

AWS : A5.9 ER 310
EN ISO 14343-A G W 25 20

STAINLESS STEEL WIRE

312

A 29.9 stainless steel wire suitable for joining difficult to weld steel such as tool, spring steel and dissimilar materials also has a high resistance to weld cracking.

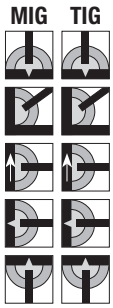
C
0.10
Si
0.40
Mn
1.70
Ni
9.00
Cr
30.0
Mo
0.10

Mig 5.0kg spool		Mig 15kg spool		Tig 15kg tube	
Part No	Diameter	Part No	Diameter	Part No	Diameter
7208	0.8mm	**7210**	0.8mm	**7227**	1.6mm
7209	1.0mm	**7211**	1.0mm	**7228**	2.4mm

AWS : A5.9 ER 312
EN ISO 14343-A G W 29 9

316LSi
316L

Stainless steel wire for dissimilar welding between steel and stainless steel, armour plate and high manganese austenitic steels. Also used for buffer layers and difficult to weld steels.



C
0.02
Si
0.80
Mn
1.50
Ni
12.0
Cr
19.0
Mo
2.00

Mig 0.7kg spool		Mig 5.0kg spool		Mig 15kg spool		Tig 5.0kg tube	
Part No	Diameter	Part No	Diameter	Part No	Diameter	Part No	Diameter
7198	0.8mm	**7201**	0.6mm	**7204***	0.6mm	**7222**	1.0mm
7199	1.0mm	**7202**	0.8mm	**7205**	0.8mm	**7223**	1.2mm
7200	1.2mm	**7203**	1.0mm	**7206**	1.0mm	**7224**	1.6mm
				7207	1.2mm	**7225**	2.4mm
				*Supplied on 12.5kg spool		**7226**	3.2mm

AWS : A5.9 ER 316 LSI
EN ISO 14343-A G 19 12 3 LSI

AWS : A5.9 ER 316 L
EN ISO 14343-A W 19 12 3 L

317

Good general corrosion resistance alloy. Applications include chemical, petro chemical food and paper industries.

C
0.01
Si
0.40
Mn
1.50
Cr
19.0
Ni
14.5
Mo
3.60

Tig 5.0kg tube	
Part No	Diameter
7167	1.6mm
7168	2.4mm
7169	3.2mm

AWS : A5.9 ER 317
EN ISO 14343-A W 19 13 4 L

318

Suitable for welding 316Ti and 316Nb stainless steels. Often found in chemical and textile industries.

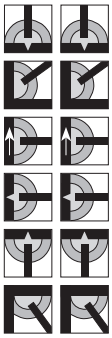
C
0.035
Si
0.45
Mn
1.7
Cr
19.5
Ni
11.4
Mo
2.7

Tig 5.0kg tube	
Part No	Diameter
7170	1.6mm
7171	2.4mm
7172	3.2mm

AWS : A5.9 ER 318
EN ISO 14343-A W 19 12 3 Nb

347

MIG TIG



Niobium stabilised wire suitable for 18/8 stainless steel types 321 and 347. Applications include food, brewery, pharmaceutical equipment and general fabrication.

C
0.04
Si
0.40
Mn
1.50
Ni
10.0
Cr
20.0
Nb
0.60

Mig 15kg spool		Tig 5.0kg tube	
Part No	Diameter	Part No	Diameter
7180	0.8mm	**7213**	1.2mm
7181	1.0mm	**7214**	1.6mm
		7215	2.4mm

AWS : A5.9 ER 347
EN ISO 14343-A W 19 9 Nb

410

TIG

Commonly used wire for welding overlay on carbon steels resistant to corrosion or abrasion. Also used to weld chromium steels.

C
0.09
Si
0.4
Mn
0.5
Cr
12.2

Tig 5.0kg tube	
Part No	Diameter
7174	1.6mm
7173	2.4mm
7172A	3.2mm

AWS : A5.9 ER 410
EN ISO 14343-A W 13

2209

MIG TIG

Stainless steel alloy wire designed for welding 22% chromium duplex stainless steels. The weld deposits exhibit high tensile strength, improved resistance to corrosion cracking and pitting.

Cr
22.95
Ni
8.55
Mo
3.11

Mig 15kg spool		Tig 5.0kg tube	
Part No	Diameter	Part No	Diameter
7818	1.0mm	**7821**	1.6mm
7819	1.2mm	**7820**	2.4mm
		7822	3.2mm

AWS : A5.9 ER 2209
EN ISO 14343-A W 22 9 3 N L

2594

TIG

A super duplex wire for welding S32750 and S32760 alloys as it has excellent corrosion properties. Widely used in the offshore, oil and gas industries.

Cr
25.5
Ni
9.4
Mo
3.60

Tig 5.0kg tube	
Part No	Diameter
7823	1.6mm
7824	2.4mm
7825	3.2mm

AWS : A5.9 ER 2594
EN ISO 14343-A W 25 9 4 N L

SPECIAL ALLOYS

TIG

ERNiCrMo-3

Commonly referred to alloy 625 is used for a range of applications with service temperatures over 1000°C. Uses include welding heat resisting nickel base alloys for applications in furnace and high temperature equipment.

C
0.10
Mn
0.50
Ni
60.00
Ti
0.40
Si
0.50
Cr
20.00

Tig 5.0kg tube	
Part No	Diameter
7790	1.6mm
7805	2.4mm

AWS : ER NiCrMo-3
EN ISO S Ni6625 (NiCr22Mo9Nb)

TIG

ERNiCr-3

Also known as alloy 82 used for a wide range of service temperatures from -196°C to over 900°C. Uses include welding heat resisting nickel base alloys for applications in furnace and high temperature equipment.

C
0.05
Mn
3.50
Ni
7.00
Ti
0.75
Si
0.50
Cr
22.00
Fe
3.00

Tig 5.0kg tube	
Part No	Diameter
7798	1.6mm
7802	2.4mm
7799	3.2mm

AWS : ER NiCr-3
EN ISO 18274-Ni6082

TIG

ERNiCu-7

Nickel copper base wire referred to as filler metal 60, used for welding matching alloy 400 Monel. It has good corrosion to sea water, salts applications include heat exchangers, piping, process vessels in the chemical, offshore and marine industries.

C
0.01
Mn
3.4
Fe
0.7
Cu
30.0
Si
0.10

Tig 5.0kg tube	
Part No	Diameter
7783	1.6mm
7814	2.4mm
7784	3.2mm

AWS : A5.14 ER NiCu-7
EN ISO 18274-S NiCuMn3Ti

SG2

MIG

A copper coated mild steel MIG wire for welding mild and medium tensile steels. Used in general construction, shipbuilding and automotive industries.

C
0.10
Si
0.80
Mn
1.30

Mig 0.7kg spool		Mig 5.0kg spool		Mig 15kg spool		Mig 250kg spool	
Part No	Diameter	Part No	Diameter	Part No	Diameter	Part No	Diameter
7300	0.6mm	**7303**	0.6mm	**7306**	0.6mm	**7312**	0.8mm
7301	0.8mm	**7304**	0.8mm	**7307**	0.8mm	**7313**	1.0mm
7302	1.0mm	**7305**	1.0mm	**7308**	1.0mm	**7314**	1.2mm
				7309	1.2mm		
				7310	1.6mm		

AWS : A5.18 ER 70 S-6
EN ISO 14341-A-G 42 4 C1/M21 3 Si1

SG2 Wire Basket

MIG

A copper coated mild steel MIG wire for welding mild and medium tensile steels. Used in general construction, shipbuilding and automotive industries.

C
0.10
Si
0.80
Mn
1.30

Mig 15kg spool	
Part No	Diameter
7307WB	0.8mm
7308WB	1.0mm
7309WB	1.2mm

AWS : A5.18 ER 70 S-6
EN ISO 14341-A-G 42 4 C1/M21 3 Si1

SG3

MIG

A copper coated steel MIG wire with increased silicon and manganese for improved UTS. Used in general fabrication, shipbuilding and power generation.

C
0.10
Si
1.00
Mn
1.30

Mig 15kg spool		Mig 250kg spool	
Part No	Diameter	Part No	Diameter
7320	0.8mm	**7341**	1.0mm
7321	1.0mm	**7342**	1.2mm
7322	1.2mm		

AWS : A5.18 ER 70 S-6
EN ISO 14341-A-G-46 4 M21/42 4 C1 4 Si1

E71T-1

MIG

A rutile flux cored wire for welding structures fabricated in mild and low alloyed structural steel in all positions. Often used in shipbuilding, offshore and general fabrication sectors.

C
0.05
Si
0.60
Mn
1.30

Mig 15kg spool	
Part No	Diameter
7332	1.2mm

AWS : E 71 T-1
EN ISO 17632-A-T 42 4 R C/M 2 H10

E71T-GS

MIG

A self shielding steel flux cored wire. Ideal for DIY use automotive repair, general repair and maintenance.

C
0.25
Si
0.40
Mn
0.70
Al
2.40

Mig 0.45kg spool		Mig 1.0kg spool		Mig 4.5kg spool	
Part No	Diameter	Part No	Diameter	Part No	Diameter
7335	0.8mm	**7337**	0.8mm	**7338**	0.8mm
7336	0.9mm			**7339**	0.9mm

AWS : E 71 T-GS

600S

MIG

Solid hard facing MIG wire for high wear resistance. Ideal for agricultural, earth moving and stone crushing industries.

C
0.45
Si
3.00
Mn
0.40
Cr
9.00

Mig 15kg spool	
Part No	Diameter
7435	1.0mm
7436	1.2mm

DIN 8555 MSG 6-GZ-60
EN 14700 S Fe 8

A15

TIG

A copper coated mild steel rod with a high level of deoxidants (triple deoxidised) to enable sound porosity free welds. Used in general fabrication, power generation and chemical industries.

C
0.06
Si
0.60
Mn
1.30
Al
0.10

Tig 5.0kg tube	
Part No	Diameter
7350	1.0mm
7351	1.2mm
7352	1.6mm
7353	2.4mm
7354	3.2mm

AWS : A5.18 ER 70 S-2
EN ISO 636-A W2Ti

A17

TIG

Low carbon double deoxidised rod for TIG welding mild steel. Used for general fabrication and shipbuilding.

C
0.11
Si
0.30
Mn
1.00

Tig 15kg tube	
Part No	Diameter
7356	1.6mm
7357	2.4mm

BS 2901 A17
EN ISO 636-A : 2008 W2 Si Z

A18

Copper coated deoxidised steel TIG rod for welding mild steel. Used for general fabrication and shipbuilding.

TIG

C
0.10
Si
1.00
Mn
1.30

Tig 5.0kg tube	
Part No	Diameter
7360	1.0mm
7361	1.2mm
7362	1.6mm
7363	2.4mm
7364	3.2mm

AWS : ER 70 S-6
EN ISO 636-A : W 3 Si 1

A30

A copper coated heat-resisting wire containing 0.5% molybdenum. Designed for welding low alloy creep resistant steels that require a high tensile strength. Typically used on creep steels for construction steam boilers, pressure tanks, gas pipes, shipbuilding sector, petrochemical industry, heat exchangers, building of cranes and bridges etc.

TIG

C
0.10
Si
0.60
Mn
1.10
P
0.015
S
0.01
Cu
0.35

Tig 5.0kg tube	
Part No	Diameter
7377	0.8mm
7378	1.0mm
7379	1.2mm

AWS : A5.28 ER 70 S-A1
EN ISO 636-A-W 2 Mo

A31

Copper coated heat resistant wire containing 0.5% molybdenum. Typically used on steam boilers, gas pipe, pressure vessels and heat exchangers.

TIG

C
0.10
Si
0.70
Mn
1.80
Mo
0.50

Tig 5.0kg tube	
Part No	Diameter
7366	1.6mm
7367	2.4mm
7368	3.2mm

AWS : A5.28 ER 80 S-D2
EN ISO 636-B: W 4 M 3 1 / W 57 A 3 4 M 3 1

A32

Low alloy copper coated wire with 1.25% Cr and 0.5% Mo content used for the welding of heat-resistant steels. Designed for high temperature power generation applications. Typically used in the chemical industry and in the ammonia synthesis process, heat exchangers, boilers, pipes, pressure vessels and petrochemical industries etc.

MIG TIG

C
0.10
Si
0.55
Mn
1.00
Cr
1.30
Mo
0.5

Mig 15kg spool		Tig 5.0kg tube	
Part No	Diameter	Part No	Diameter
7328	0.8mm	**7370**	1.6mm
7329	1.0mm	**7371**	2.4mm
7330	1.2mm	**7372**	3.2mm

AWS : A5.28 ER 80 S-G
EN ISO 21952-A Cr Mo 1 Si

AWS : A5.28 ER 80 S-B2
EN ISO 21952-1 CM

90S-B3

A copper coated wire for TIG welding 2.25% Cr-1% Mo for welding heat resistant steels. Main areas of application include steam chest, boiler superheaters, turbine casting and valve bodies.

TIG

C
0.09
Si
0.55
Mn
0.55
Cr
2.50
Mo
1.05

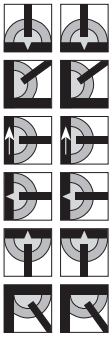
Tig 5.0kg tube	
Part No	Diameter
7380	1.6mm
7381	2.4mm
7382	3.2mm

AWS : A5.28 ER 90 S-B3
EN ISO 21952-B 2C1M

100S-G

A welding wire for high strength low alloy steels. Typically used in the construction and structural sector. Ideal for bridges, tanks, mining industry and shipbuilding etc.

MIG TIG



C
0.07
Mn
1.7
Ni
1.6
Ti
0.05
Si
0.50
Cr
0.2
Mo
0.45

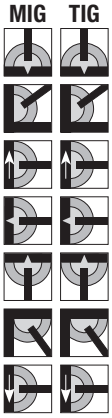
Mig 15kg spool		Tig 5.0kg tube	
Part No	Diameter	Part No	Diameter
7290	0.8mm	**7383**	1.6mm
7291	1.0mm	**7384**	2.4mm
7292	1.2mm	**7385**	3.2mm

AWS : A5.28 ER 100 S-G
EN ISO 16834-A G Mn 3 Ni Cr Mo **EN ISO 16834-A W Mn 3 Ni Cr Mo**

110S-G

Copper coated low-alloy wire with Ni-CrMo suitable for single pass or multi-pass welding of low-alloy steels. It can also be used when good toughness characteristics in low temperature are required.

MIG TIG



C
0.080
Si
0.60
Mn
1.60
Ni
1.50
Mo
0.50

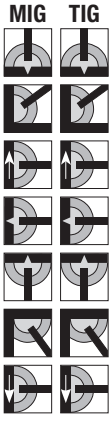
Mig 15kg spool		Tig 5.0kg tube	
Part No	Diameter	Part No	Diameter
7295	0.8mm	**7386**	1.6mm
7296	1.0mm	**7387**	2.4mm
7297	1.2mm	**7388**	3.2mm

AWS : A5.28 ER 110 S-G
EN ISO 16834-A G 69-2 M21 **EN ISO 16834-A W Z Mn 3 Ni 1 Cr Mo**

80S-Ni1

Fine-grained low alloy steels and also austempering steels. Ideal for building up of cranes, transport, tanks, industrial facilities, equipment in general, pipelines and shipbuilding, etc.

MIG TIG



C
0.08
Si
0.80
Mn
1.00
Ni
1.00
Mo
0.35

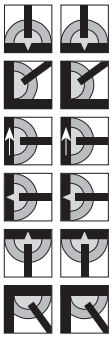
Mig 15kg spool		Tig 5.0kg tube	
Part No	Diameter	Part No	Diameter
7317	0.8mm	**7389**	1.6mm
7318	1.0mm	**7390**	2.4mm
7319	1.2mm	**7391**	3.2mm

AWS : A5.28 ER 80 S-Ni 1
EN ISO 14341-A- G 3 Ni 1 **EN ISO 636-A- W 3 Ni 1**

80S-Ni25

Copper coated Ni alloy wire for low temperature fine grained steel. Ideal for plates, storage tanks, pipelines and equipment for cryogenic use.

MIG TIG



C
0.01
Si
0.6
Mn
1.1
Ni
2.4

Mig 15kg spool		Tig 5.0kg tube	
Part No	Diameter	Part No	Diameter
7325	0.8mm	**7392**	1.6mm
7326	1.0mm	**7393**	2.4mm
7327	1.2mm	**7394**	3.2mm

SFA-AWS : A5.28 ER 80 S-Ni 2
EN ISO 14341-A- G 50 9 M 2 Ni 2 **EN ISO 636-A- W 2 Ni 2**

CORTEN

Excellent resistance to atmospherical agents thanks to the presence of Cu, Cr, Ni. Suitable for bridges, cranes, ground moving machines, boilers, building structures, petrochemical sector, fans, and gas pipes etc.

MIG

Cu
0.40
Cr
0.28
Ni
0.80

Mig 15kg spool	
Part No	Diameter
7800	1.0mm
7801	1.2mm

SFA-AWS : A5.28 ER 80 S-G
EN ISO 14341-A-G 50 4 C 1/M 21 Z 3 Ni 1

CCMS

TIG

An oxygen/ acetylene copper coated mild steel rod for all types of mild steel and wrought iron welding. Particularly suitable for welding sheet metal panels, plates and tubes.

C
0.07
Si
0.10
Mn
0.40

Tig 5.0kg tube	
Part No	Diameter
7460	1.6mm
7461	2.4mm
7462	3.2mm

AWS : A5.2 / A5.2M R45
BS 1453.A1

Silicon Bronze C2

TIG

A multi purpose silicon bronze brazing rod suited to all types of fabrication work involving steel, cast iron, copper and dissimilar metals joints. Used in general brazing flux for best results . Often used in the automotive, wheelchair, tubular furniture, bicycle industries, repair and maintenance.

Cu
60.0
Si
0.30
Sn
0.30
Zn
34.0

Tig 2.5kg tube	
Part No	Diameter
7468	1.6mm
7469	2.4mm
7470	3.2mm

EN 1044 : Cu 302
BS 1845 CZ6A 1453 C2

Flux Coated Bronze C2FC

TIG

Flux coated silicon bronze rod for continuous brazing through not having to flux dip the rod. Ideal for general mild steel, galvanised steel, dissimilar joints and DIY enthusiasts. Suitable for automotive, tubular furniture and repair maintenance DIY.

Cu
60.0
Si
0.30
Sn
0.30
Zn
34.0

Tig 2.5kg tube	
Part No	Diameter
7473	2.4mm
7474	3.2mm

EN 1044 : Cu 302
BS 1845 CZ6A 1453 C2

Bronze C2 K

TIG

A flux impregnated silicon bronze rod which is perfect for brazing clean mild steel components. Ideally suited for use in the motor body shops and sheet metal fabrications suitable for automotive and tubular furniture.

Cu
60.0
Si
0.30
Sn
0.30
Zn
34.0

Tig 2.5kg tube	
Part No	Diameter
7476	2.4mm
7477	3.2mm

EN 1044 : Cu 302
BS 1845 CZ6A 1453 C2

Bronze MN

TIG

A brazing rod with additions of manganese and tin giving a free flowing characteristic. Use a general brazing flux or liquid gas flux. Suitable for automotive, wheel chair and bicycle industries.

Cu
60.0
Fe
1.20
Si
0.15
Mn
0.50
Sn
1.10
Zn
37.0

Tig 5.0kg tube	
Part No	Diameter
7480	1.5mm
7481	2.0mm
7482	2.5mm
7483	3.0mm

AWS RB Cu Zn-c

Bronze C5

TIG

Nickel bronze rod for use on cast iron, copper alloy, stainless steel and alloy steels. Gives excellent wearing properties and is ideal for structures requiring a high tensile strength. Use a general brazing flux or stainless steel brazing flux.

Cu
48.0
Si
0.30
Ni
10.0
Zn
39.0

Tig 5.0kg tube	
Part No	Diameter
7485	1.6mm
7486	2.4mm
7487	3.2mm

EN 1044 : Cu 305
BS 1845 CZ6A 1453 C5

Bronze C5 FC

TIG

A flux coated nickel bronze for use on cast iron, copper alloys, stainless steel and alloy steel. The nickel content makes this ideal for joints requiring high strength. Suitable for tubular structures, repair and maintenance industries.

Cu
48.0
Si
0.30
Ni
10.0
Zn
39.0

Tig 5.0kg tube	
Part No	Diameter
7530	2.5mm
7531	3.0mm

EN 1044 : Cu 305
BS 1845 CZ8 1453 C5

CP2

TIG

A copper phosphorous rod with 2% silver to give improved ductility and easier flowing characteristics. Its also highly resistant to corrosion. The rod is self fluxing on copper but a copper flux is required on brass joints. Used on hot water cylinders, electric motors and copper/brass fabrication.

Ag
2.00
P
6.00
Cu
92.0

Tig 1.0kg tube	
Part No	Diameter
7537	2.5mm
7538	3.0mm

AWS B Cu P-6
EN 1044 : CP105

CP3

TIG

A copper phosphorous rod with good electrical conductivity and corrosion resistance. Its self fluxing on copper but a copper flux is required for brass joints. Used for General copper and brass fabrication.

P
7.00
Cu
93.0

Tig 1.0kg tube	
Part No	Diameter
7533	1.5mm
7534	2.5mm
7535	3.0mm

AWS : B Cu P-2
EN 1044 : CP 201

CP4

TIG

A copper phosphorous rod with 5% silver to give excellent flow and ductility. The rod is self fluxing on copper but a copper flux is required when joining brass. Ideal for copper/brass fabrications.

Ag
5.00
P
6.00
Cu
89.0

Tig 1.0kg tube	
Part No	Diameter
7499	1.5mm
7500	2.5mm

AWS : B Cu P-3
EN 1044 : CP 104

Silver AG28

Cadmium-free 40% silver solder suitable for all ferrous and none ferrous metals except aluminium and its alloys. Ideal for artistic foundries, power generation and general copper/brass fabrications.

Ag
40.0
Cu
30.0
Zn
28.0
Sn
2.00

0.25kg tube		1.0kg tube	
Part No	Diameter	Part No	Diameter
7503	1.5mm	**7505**	1.5mm
7504	2.5mm	**7506**	2.5mm

AWS : A5.8-92 B Ag-28
EN 1044 : AG 105

Silver AG14

Cadmium free 55% silver solder which is free flowing and ideal for close fitting capillary joints. It gives a good colour match on stainless steel. Ideally used in the power generation, food industry and artistic foundries.

Ag
55.0
Cu
21.0
Zn
22.0
Sn
2.00

0.25kg tube		1.0kg tube	
Part No	Diameter	Part No	Diameter
7515	1.5mm	**7508**	1.5mm
7516	2.5mm	**7509**	2.5mm

AWS : A5.8-92 B Ag-7
EN 1044 : AG 103

Silver AG14FC

Cadmium free 55% silver flux coated solder which is free flowing and ideal for close fitting capillary joints. It gives a good colour match on stainless steel. Ideally used in the power generation, food industry and artistic foundries.

Ag
55.0
Cu
21.0
Zn
22.0
Sn
2.00

0.25kg tube		1.0kg tube	
Part No	Diameter	Part No	Diameter
7517	1.5mm	**7511**	1.5mm
7518	2.5mm	**7512**	2.5mm

AWS : A5.8-92 B Ag-7
EN 1044 : AG 103

BS 1845 AG 14

Flux Powder

Part No	Product	Weight	Description
7520	Aluminium Welding Flux	500g	***Powder Flux for Gas Welding Aluminium***
7521	Aluminium Brazing Flux	500g	***Powder Flux for Gas Brazing Aluminium and its alloys***
7522	General Brazing Flux	500g	***Powder Flux for Gas Brazing Steel and Cast Iron***
7523	Copper Welding & Brazing Flux	500g	***Powder Flux for Welding and Brazing Copper and its alloys***
7524	Silver Solder Flux	500g	***Powder Flux (boric acid and borate free) for Silver Solder operations***

E6013

A rutile cellulose flux coated mild steel electrode for all positional welding except vertical down. Offering a smooth stable arc in both AC and DC. Designed for general fabrication, ship building and general construction.

C
0.12
Si
0.40
Mn
0.60

1.0kg			2.5kg			5.0kg		
Part No	Diameter	Length	Part No	Diameter	Length	Part No	Diameter	Length
7397	2.5mm	350mm	**4500**	2.5mm	350mm	**7400**	2.0mm	300mm
7398	3.2mm	350mm	**4501**	3.2mm	350mm	**7401**	2.5mm	350mm
7399	4.0mm	400mm	**4502**	4.0mm	400mm	**7402**	3.2mm	350mm
						7403	4.0mm	400mm
						7404	5.0mm	400mm

AWS : E6013
EN ISO 2560 : E420 RC11

E7018

Universal basic coated low hydrogen electrode for applications where high demands on impact values are required. Excellent welding characteristics in all positions except vertical down. Applications include ship building and power generation.

C
0.12
Si
0.40
Mn
0.60

5.0kg		
Part No	Diameter	Length
7408	2.5mm	350mm
7409	3.2mm	350mm
7410	4.0mm	400mm
7411	5.0mm	400mm

AWS : E7018
EN ISO 2560 : E42 5 B 32H5

Optimal 6013

Rutile all positional medium coated electrode. Used for the welding of large structures and process pipe work in ship building and construction industries. SUPER OPTIMAL 6013 is a quality electrode designed to give high impact toughness properties.

C
0.07
Si
0.20
Mn
0.50
P
0.03
S
0.03

5.0kg		
Part No	Diameter	Length
7601	2.5mm	350mm
7602	3.2mm	350mm
7603	4.0mm	350mm
7604	5.0mm	350mm

AWS : A5.1 E6013
EN ISO 2560-A: E38 0 R 12

Optimal E6013 SWMF

Premium medium coated electrode used for the welding of large structure and process pipe work in the shipbuilding and construction industries where precise fit ups are difficult to achieve. Designed to give high impact toughness properties, superior weldability, finely rippled smooth weld beads and superior slag detachability, soft arc, and radiographic quality welds.

C
0.07
Si
0.20
Mn
0.50
P
0.03
S
0.03

5.0kg		
Part No	Diameter	Length
7608	2.5mm	350mm
7609	3.2mm	350mm
7610	4.0mm	450mm

AWS : A5.1 : E 6013
EN ISO 2560-A : E38 0 R 12

* Items in orange are Superon branded

Optimal 7016

Basic coated, low hydrogen electrode for producing tough and crack free weld joints. Good operating characteristics when positional welding. Excellent for joints access making electrodes suitable for root welding. Weld metal has good toughness properties down to -50°C. Suitable for most heavy industries.

C
0.07
Si
0.30
Mn
1.30
P
0.020
S
0.025

5.0kg		
Part No	Diameter	Length
7412	2.5mm	350mm
7413	3.2mm	350mm
7414	4.0mm	350mm

AWS : A5.1 E7016 - H4
EN ISO 2560-A : E42 5 B 1 2 H5

Optimal 7018 S

Basic heavy coated electrode for producing tough and crack free welded joints even on steels having a carbon content up to 0.40%. Good operating characteristics when positional welding. Weld metal has good toughness properties down to -50°C. Suitable for heavy steel fabrications, shipbuilding and pressure vessels.

C
0.07
Si
0.30
Mn
1.40
P
0.0025
S
0.020

5.0kg		
Part No	Diameter	Length
7605	2.5mm	350mm
7606	3.2mm	350mm
7607	4.0mm	450mm

AWS : A5.1 E7018-1 H4
EN ISO 2560: E42 5 B 32 H5

Optimal 7024

High efficiency iron powder electrode designed for outstanding deposition rates with efficiency of approximately 140-150%. Excellent arc stability, soft fusion, fine ripples self releasing slag ,very low spatter. Suitable for heavy steel structures, storage tanks, bridge girders, earth moving equipment and fabrication.

C
0.10
Si
0.40
Mn
0.90
P
0.020
S
0.025

5.0kg		
Part No	Diameter	Length
7415	3.2mm	350mm
7416	4.0mm	350mm
7417	5.0mm	350mm

AWS : A5.1 E7024
EN ISO 2560-A : E42 0 RR 53

Optimal 6010

Cellulosic coated deep penetration electrode for welding of pipe and pipelines in all positions using conventional and stove pipe techniques. Characterised by deeply penetrating, forceful and spray type arc. Excellent arc striking and re-striking. Its suitable for welding rooty passes, fill and cover passes.

C
0.10
Si
0.20
Mn
0.60

5.0kg		
Part No	Diameter	Length
7405	2.5mm	350mm
7406	3.2mm	350mm
7407	4.0mm	350mm

AWS : A5.1: E6010
EN ISO 2560-A : E38 3 C 21

* Items in orange are Superon branded

Cutting/ Gouging

Ideal for cutting, grooving and gouging steels, stainless steel, copper alloys, cast iron and cast steels.

5.0kg		
Part No	Diameter	Length
7420S	3.2mm	350mm
7421S	4.0mm	350mm
7422S	5.0mm	350mm

650

High alloyed air hardening type electrode depositing non machinable weld metal, the deposit is free from cracks, porosities and slag inclusions. Recommended for rock drills, drill bits, coal cutter blades, bulldozer blades, excavator teeth, bucket lips and other metal to metal wear.

C
0.50
Si
0.60
Mn
0.60
Cr
7.50
Fe
Balance

5.0kg		
Part No	Diameter	Length
7423S	2.5mm	350mm
7424S	3.2mm	350mm
7425S	4.0mm	350mm

DIN 8555 E6-UM-60S

Ultima

Nickel electrode for welding of grey iron, malleable iron, cast iron and for welding on fatigued casted parts. For rectification of casting. Ultima gives perfect welding results, even with low amperages. The arc is smooth and intensive, low spatters with easy removal of slag. This weld is soft machinable.

C
1.00
Si
0.50
Mn
0.35
Cr
97.50
Fe & Others
Balance

2.0kg		
Part No	Diameter	Length
7430S	2.5mm	350mm
7431S	3.2mm	350mm
7432°	4.0mm	350mm

°Supplied 1kg Pack

AWS : A5.1 5 : ENI-CI

NiFe

Graphite basic coated electrode with Ferro-Nickel alloy deposit for joining and repairing nodular cast iron. Particularly recommended for dissimilar welding of cast iron to steels and constructions of cast iron. This weld is machinable.

Ni
56.0

2.0kg		
Part No	Diameter	Length
7434S	2.5mm	350mm
7435S	3.2mm	350mm
7436S	4.0mm	350mm

AWS : A5.1 5 : E NiFe-C1
DIN 8573 E NiFe-1 BG11

* Items in orange are Superon branded

Optimal 308L-17

Low carbon Rutile-silica-coated 19cr, 10Ni austenitic stainless steel electrode with controlled ferrite approximately 6-8% for maximum resistance to cracking and corrosion. Very low moisture pick up, soft fusion with out spatters, easy slag removal and exceptional weld bead.

C
0.03
Si
0.90
Mn
0.80
Cr
19.00
Ni
9.50
Mo
0.10

2.0kg		
Part No	Diameter	Length
7438S	2.5mm	350mm
7439S	3.2mm	350mm
7440S	4.0mm	350mm

AWS : A5.4 : E308L-17
EN ISO 3581 : E 19 9 L R 23

Optimal 309L-17

Rutile type low carbon electrode for joining dissimilar steels (austenitic to ferrite steels) and for cladding of austenitic steels. Weld metal consists of austenite with approximately 15% delta ferrite. Cladding on unalloyed and low alloy steels are corrosion resistant in the first layer.

C
0.03
Si
0.90
Mn
0.90
Cr
23.80
Ni
12.80
Mo
0.10

2.0kg		
Part No	Diameter	Length
7442S	2.5mm	350mm
7443S	3.2mm	350mm
7444S	4.0mm	350mm

AWS : A5.4 : E309L-17
EN ISO 3581 : E 23 12 LR 23

Optimal 309 MOL-17

TIG

Low carbon rutile basic coated 23Cr 12Ni 2Mo stainless steel electrode, used to weld AISI 309 & 316L and dissimilar joints between construction, mild steel and stainless steels.

C
0.03
Si
0.90
Mn
1.00
Cr
23.50
Ni
13.10
Mo
2.50

2.0kg		
Part No	Diameter	Length
7446S	2.5mm	350mm
7447S	3.2mm	350mm
7448S	4.0mm	350mm

AWS : A5.4 : E 309 LMo-17
EN ISO 3581 : E23 12 2 LR 23

Optimal 312-17

Electrode for high strength welding and surfacing of similar and equal steels or cast steels, for joint welding tensile unalloyed steels, high manganese steels, spring steels and joints between dissimilar steels with high alloyed stainless steels.

C
0.10
Si
0.90
Mn
1.00
Cr
29.00
Ni
9.00
S
0.012

2.0kg		
Part No	Diameter	Length
7454S	2.5mm	350mm
7455S	3.2mm	350mm
7456S	4.0mm	350mm

AWS : A5.4 : E312-17
EN ISO 3581 : E29 9

* Items in orange are Superon branded

Optimal 316L-17

Rutile silica coated Mo austenitic stainless steel electrode with approx 6-8% ferrite. Coating with a very low moisture pick up. Soft fusion, without spatters, very easy slag removal, exceptional bead appearance.

C
0.04
Si
0.90
Mn
0.80
Cr
18.50
Ni
11.60
Mo
2.30

2.0kg Part No	Diameter	Length
7450S	2.5mm	350mm
7451S	3.2mm	350mm
7452S	4.0mm	350mm

AWS : A5.4 : E316L-17
EN ISO 3581 : E19 12 3 R 23

Electrode Selection Guidelines

As a general rule, the selection of an electrode is straight forward,in that it is only a matter of selecting an electrode of similar composition to the parent metal. However, for some metals there is a choice of several electrodes, each of which has particular properties to suit specific classes of work. It is recommend to consult your welding supplier for the correct selection of electrode.

Electrode Size

Average Thickness of Material	Maximum Recommended Electrode Diameter
1.0-2.0mm	2.5mm
2.0-5.0mm	3.2mm
5.0-8.0mm	4.0mm
>8.0mm	5.0mm

The size of the electrode generally depends on the thickness of the section being welded, and the thicker the section the larger the electrode required. The table gives the maximum size of electrodes that maybe used for various thickness's of section based on using a general purpose type 6013 electrode.

Welding Current (Amperage)

Electrode Size Ø mm	Current Range (Amps)
2.5mm	60-95
3.2mm	100-130
4.0mm	130-165
5.0mm	165-260

Correct current selection for a particular job is an important factor in arc welding. With the current set too low, difficulty is experienced in striking and maintaining a stable arc.
The electrode tends to stick to the work, penetration is poor and beads with a distinct rounded profile will be deposited.

Too high current is accompanied by overheating of the electrode resulting undercut and burning through of the base metal and producing excessive spatter. Normal current for a particular job may be considered as the maximum, which can be used without burning through the work, over-heating the electrode or producing a rough spattered surface. The table shows current ranges generally recommended for a general purpose type 6013 electrode.

* Items in orange are Superon branded

Quivers & Ovens

EN 60974-1

1120 -110 VOLT
1120 -240 VOLT
300°C Oven
Internal Dimensions (D x W x H):
500 x 430 x 400 mm

- Robust construction
- Digital temperature control over a range of 100-300°C
- Capacity: 200kg
- Weight: 65.8kg

1126 -110 VOLT
1126 -240 VOLT
500°C Oven
Internal Dimensions (D x W x H):
500 x 430 x 400 mm

- Robust construction
- Digital temperature control over a range of 0-500°C
- Capacity: 200kg
- Weight: 81.5kg

1141
Dual Voltage Quiver
Overall Dimensions (D x W x H): 500 x 120 x 110 mm

- Designed for use on installations with a 110 or 240v supply - ideal for site work
- Will maintain an even temperature of 100°C
- Capacity: 5kg

1122
300°C Portable Oven 110/240v
Internal Dimensions (D x W x H):
150 x 150 x 460 mm

- Designed to operate in rugged site conditions
- Thermostatically controlled temperature range of 100-300°C
- Capacity: 22.7kg

Industrial Storage Containers

The Industrial Storage Container is ideal for carrying Welding Electrodes.

It features a quarter turn cap for easy removal and a pressure-fitted o-ring to keep out dirt and moisture. Highly visible and with an optional adjustable carrying strap, it is also suited to a wide variety of other uses.

Part No	Description
1119	Holds up to 4.5kg of 350mm Welding Electrodes
1125	Holds up to 6.8kg of 450mm Welding Electrodes

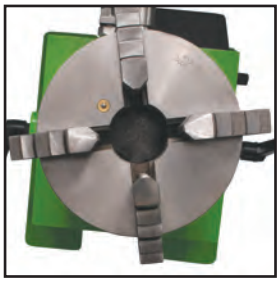
To purchase optional Carrying Strap order Part No. **STRAP**

BATTERY POWERED TURNTABLE

A BATTERY POWERED TURNTABLE FOR CIRCUMFERENTIAL PIPE WELDING AND PIPE–FLANGE QUALITY WELDING APPLICATIONS

Technical Data

Power supply- 18V DC Battery
CE certification, RoHS compliant
Weight- 23Kg. Dimensions (LxWxH) 380 x 330 x 420mm
Planetary gear motor 70 Watt I 4.5A, DC 24V
16mm I 28mm locating holes for fixing to welding tables
Ground connection: 300A A C/DC directly on the chuck, at 60% duty cycle
Tilt- 0 – 90°
Speed- 0 – 14 rpm (stepless) Forward and Reverse
Can be operated with a foot pedal
4 jaw chuck clamping range:
Inner jaw clamping range: 3-55mm
Inner jaw clamping range 50-160mm
Clamping range of outer jaws 55-145mm
Load capacity when fixed to a welding table:
Vertical: 20kg using a 'pipe-stand' support 85Kg:
Horizontal 100kg:
Torque 300kg·cm



The Cordless Tilting Turntable has been especially developed for circumferential pipe welding and pipe–flange quality welding applications.

It is the first battery welding positioner on the market for TIG and MIG/MAG welding of circumferential weld seams.

This extremely mobile positioner is compatible with all commercially standalone welding tables. Or by fixing with 16mm - 28mm locating slots contributing further to the flexibility of automated circumferential welding.

Weighing only 23Kg with stepless speed and angle selection this industrious robust system will bring enormous advantages to those demanding circumferential welding tasks whether in-house or on site.

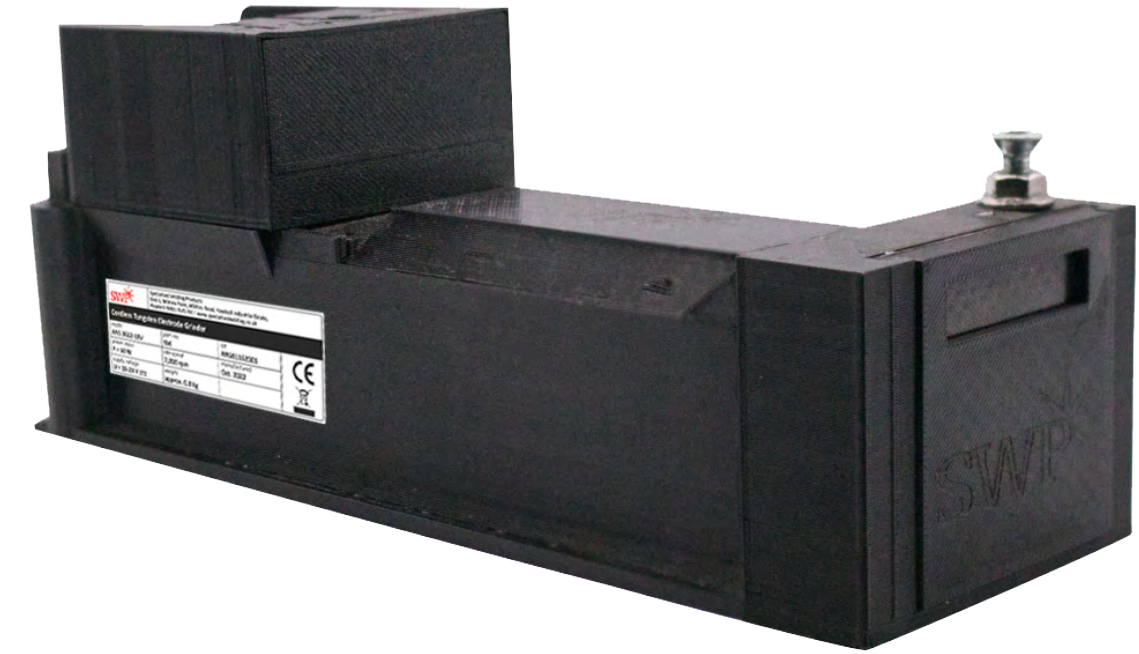
Self-centering 4-jaw chuck.
Compatible to use with major 18V battery-pack systems.
H.F. Protected. Electronic battery pack protection included.
Foot pedal (optional).
Inexpensive and Powerful.
Ideal for industry, trade crafts and educational institutions.

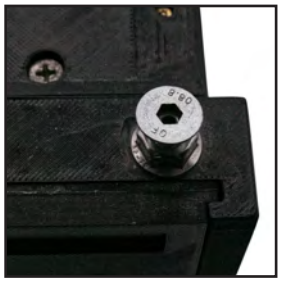
Compatible with the following battery pack systems

- ☐ BOSCH
- ☐ MILWAUKEE
- ☐ MAKITA
- ☐ MIGHTY SEVEN
- ☐ METABO
- ☐ DEWALT

Contact our dedicated sales team for more information

CORDLESS TIG ELECTRODE GRINDER





Large diamond-grinding wheel for the best service life.
Cool-grind technology with optimised rpm for lowest heat load of the tungsten-electrode.
Grinding angle 15°— 60°, stepless adjustable, longitudinal grind for perfect ignition and arc stability.
Maximum operator safety: capturing sanding dust, quick drawer system for easy and safe cleaning. Safe stand.
Portable, lightweight, practical - fits in every toolbox.
Sustainable and resource-saving: use your own 18v-battery pack!
Compatible to use with major 18v battery-pack systems. Electronic battery pack protection included.

Specifications

Use with TIG-electrodes Ø 1.0 - 1.6 - 2.0 - 2.4 - 3.2mm
Grinding angle: 15°–60°, stepless adjustable
Weight: 0,8 kg; Dimensions: 230 x 80 x 75mm
Ø - Diamond wheel: 50mm
Idle speed: 7.000 rpm

Included

Tungsten-electrode grinder 2100 - 18V
Diamond grinding wheel 50mm
Comes complete with 2.4 collet
Tungsten electrode holder (Ø to be specified with order)
Battery pack adapter for 18V-battery pack

Compatible with the following battery pack systems

- ☐ BOSCH
- ☐ MILWAUKEE
- ☐ MAKITA
- ☐ MIGHTY SEVEN
- ☐ METABO
- ☐ DEWALT

Electrode Holder - Ø
(Extra)

- ☐ 1.6mm
- ☐ 2.0mm
- ☐ 2.4mm
- ☐ 3.2mm

Contact our dedicated sales team for more information

TUNGSTEN ELECTRODES

Tungsten is a rare metallic element used in the manufacturing TIG welding electrodes. The TIG process relies on the tungsten's hardness and high-temperature resistance to carry the welding current to the arc. Tungsten has the highest melting point of any metal, 3,410 degrees Celsius. Tungsten electrodes are non-consumable and come in a variety of sizes, they are made from pure tungsten or an alloy of tungsten and other rare earth elements. Choosing the correct tungsten depends on the material being welded, amps required and whether you are using AC or DC welding current. Tungsten electrodes are colour-coded at the end for easy identification.

2% Thoriated (Colour Code: Red)

Most popular for Carbon/Stainless Steel

0.8% Zirconiated (Colour Code: White)

Most popular for Aluminium

2% Ceriated (Colour Code: Grey)

Most popular for Carbon/Stainless Steel

1% Lanthanated (Colour Code: Black)

Most popular for Nickel/Alloy/Titanium/Stainless Steel

Multi-type (Colour Code: Gold)

Suitable for Any Material

Pure Tungsten (Colour Code: Green)

Most popular for Aluminium/Magnesium

E3 Rare Earth (Colour Code: Purple)

Most popular for High Alloy Steel/Titanium/Nickel/Copper

WR02 Tungsten (Colour Code: Turquoise)

Most popular for Copper/Stainless Steel/Titanium

2% Lanthanated (Colour Code: Blue)

Most popular for Titanium/Aluminium/Magnesium

Tungsten Electrodes Rating for Welding Currents Guidelines

Tungsten Diameter mm	DC Current Amps Torch Negative 2% Thoriated	AC Current Amps Un-Balanced 0.8% Zirconiated	AC Current Amps Balanced Wave 0.8% Zirconiated
1.0mm	15-80	15-80	20-60
1.6mm	70-150	70-150	60-120
2.4mm	150-250	140-235	100-180
3.2mm	250-400	225-325	160-250
4.0mm	400-500	300-400	200-320

Electrode Diameter (mm)	2% Thoriated Red	0.8% Zirconiated White	2% Ceriated Grey	1% Lanthanated Black	Multi-type Gold	Pure Tungsten Green	E3 Rare Earth Purple	WR02 Tungsten Turquoise	2% Lanthanated Blue	Pack Qty
1.0	**1104**	**1121**	**1094**	**1132**	**1560**	**1895**	-	**1894**	**1155**	10
1.2	**1105**	**1123**	**1095**	**1142**	**1561**	-	-	-	-	10
1.6	**1106**	**1111**	**1097**	**1170**	**1562**	**1933**	**1990**	**1994**	**1156**	10
2.0	**1117**	**1124**	**1096**	**1143**	**1149**	**1932**	**1991**	**1995**	**1159**	10
2.4	**1107**	**1112**	**1098**	**1171**	**1563**	**1934**	**1992**	**1996**	**1157**	10
3.2	**1108**	**1113**	**1099**	**1172**	**1564**	**1935**	**1993**	**1997**	**1158**	10
4.0	**1109**	**1114**	**1100**	**1173**	**1565**	**1936**	-	-	-	10
4.8	**1110**	**1115**	**1101**	**1174**	**1566**	-	-	-	-	5
6.4	**1118**	**1116**	**1102**	**1175**	**1567**	-	-	-	-	5
Material	Stainless or Mild Steel	Aluminium & Alloys	Any Material	Any Material	Any Material	Aluminium & Magnesium	Any Material	Any Material	Any Material	
Current	**DC**	**AC**	**AC - DC**	**AC - DC**	**AC - DC**	**AC**	**AC - DC**	**AC - DC**	**AC - DC**	

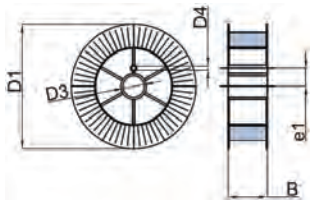
PACK MEASUREMENTS

Carbon Steel	Wire Diameter				
Spool Size	0.6mm	0.8mm	1.0mm	1.2mm	1.6mm
0.7kg	313m (per spool)	176m (per spool)	113m (per spool)	-	-
5.0kg	2267m (per spool)	1989m (per spool)	2449m (per spool)	567m (per spool)	-
15kg	6801m (per spool)	3826m (per spool)	-	1700m (per spool)	956m (per spool)
250kg	-	-	40809m (per spool)	28339m (per spool)	15941m (per spool)

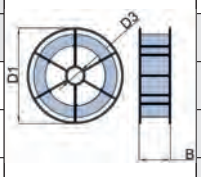
Stainless Steel	Wire Diameter				
Spool Size	0.6mm	0.8mm	1.0mm	1.2mm	1.6mm
0.7kg	317m (per spool)	179m (per spool)	114m (per spool)	-	-
5.0kg	2238m (per spool)	1259m (per spool)	806m (per spool)	-	-
15kg	6715m (per spool)	3777m (per spool)	2418m (per spool)	1679m (per spool)	944m (per spool)
200kg	-	50365m (per spool)		-	
250kg	-	-	40292m (per spool)	27981m (per spool)	15739m (per spool)

Aluminium	Wire Diameter				
Spool Size	0.6mm	0.8mm	1.0mm	1.2mm	1.6mm
0.5kg	368m (per spool)	236m (per spool)	164m (per spool)	-	-
2.0kg	2620m (per spool)	1474m (per spool)	643m (per spool)	655m (per spool)	-
6.0kg	7859m (per spool)	4421m (per spool)	2929m (per spool)	1965m (per spool)	-
7.0kg	9169m (per spool)	5158m (per spool)	3301m (per spool)	2292m (per spool)	-

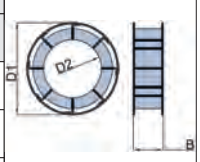
GMAW	Wire Diameter		
Spool Size	D100	D200	D300
D1	100mm	200mm	300mm
D3	16.5mm	50.5mm	50.5mm
B	45mm	55mm	103mm



GMAW	Wire Diameter
Spool Size	BS300
D1	300mm
D3	50.5mm
B	103mm



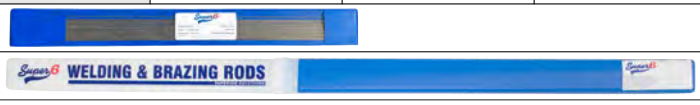
SAW	Wire Diameter
Spool Size	D100
D1	415-435mm
D2	308mm
B	100mm



Note - Adapter Needed

Pallets	
Material	**Quantity**
MILD STEEL	72 Spools
STAINLESS STEEL	72 Spools
ALUMINIUM	84 Spools

Welding & Brazing Rods			
Material	Brazing	Gas Welding	TIG
Length	500mm	1000mm	1000mm



PACK MEASUREMENTS & WELDING POSITIONS

Carbon Steel	Wire Diameter				
Pack Weight	1.0mm	1.2mm	1.6mm	2.4mm	3.2mm
5kg	408 (pcs per pack)	283 (pcs per pack)	159 (pcs per pack)	71 (pcs per pack)	40 (pcs per pack)

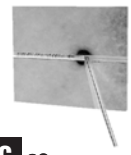
Stainless Steel	Wire Diameter				
Pack Weight	1.0mm	1.2mm	1.6mm	2.4mm	3.2mm
5kg	403 (pcs per pack)	280 (pcs per pack)	157 (pcs per pack)	70 (pcs per pack)	39 (pcs per pack)

Aluminium	Wire Diameter				
Pack Weight	1.0mm	1.2mm	1.6mm	2.4mm	3.2mm
2.5kg	-	-	461 (pcs per pack)	205 (pcs per pack)	115 (pcs per pack)

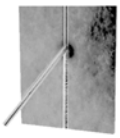
Welding Positions

Butt Welds

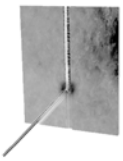
PA 1G



PC 2G



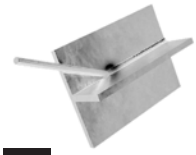
PF 3Gu



PG 3Gd

PE 4G

Fillet Welds

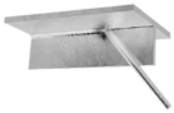


PA 1F

PC 2F

PF 3Fu

PG 3Fd



PE 4F

Pipe Welds

PA 1Gr

PC 2G

PH 5Gu

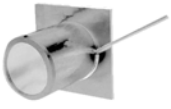
PJ 6Gd

PA 1Fr

PB 2F

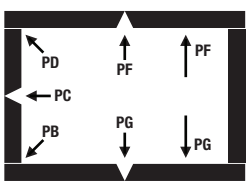
PB 3Fr

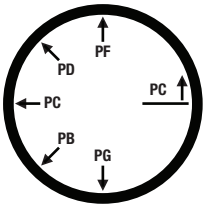
PD 4F



PH 5Fu

PJ 5Fd





SUPERIOR TECHNOLOGY I SUPERIOR PERFORMANCE

Superon Schweisstechnik India Ltd., founded in 2004, stands as a leading manufacturer and exporter of welding consumables and stainless steel wires in world. The company was established with the goal of providing top-quality products to global customers at a fair price, and this vision has been the driving force behind its success.

With a commitment to excellence and innovation, Superon Schweisstechnik India Ltd. has earned a reputation as a trusted provider of world-class welding solutions & stainless steel wires. Its product line and unwavering commitment to innovation, quality, and customer satisfaction have made it not only a well-known name in India but also a recognised brand in over 100 countries worldwide. Regardless of the size of your welding project, the company possesses the knowledge and resources necessary to provide the appropriate solution for your requirements, whether you require welding consumables and stainless steel wires for an extensive industrial endeavour or for a minor welding task.

Code	Diameter	Length	Grade	Pcs/Per 2kg	Pcs/Per 5kg
7601	2.5mm	350mm	Super Optimal 6013	-	276 +/-2
7602	3.2mm	350mm	Super Optimal 6013	-	167 +/-2
7603	4.0mm	350mm	Super Optimal 6013	-	109 +/-2
7604	5.0mm	350mm	Super Optimal 6013	-	55 +/-2
7605	2.5mm	350mm	Super Optimal 7018 S	-	228 +/-2
7606	3.2mm	350mm	Super Optimal 7018 S	-	142 +/-2
7607	4.0mm	350mm	Super Optimal 7018 S	-	190 +/-2
7405	2.5mm	350mm	Super Optimal 6010	-	270 +/-2
7406	3.2mm	350mm	Super Optimal 6010	-	177 +/-2
7407	4.0mm	350mm	Super Optimal 6010	-	110 +/-2
7412	2.5mm	350mm	Super Optimal 7016	-	251 +/-2
7413	3.2mm	350mm	Super Optimal 7016	-	165 +/-2
7414	4.0mm	350mm	Super Optimal 7016	-	83 +/-2
7415	3.2mm	350mm	Super Optimal 7024	-	106 +/-2
7416	4.0mm	350mm	Super Optimal 7024	-	70 +/-2
7417	5.0mm	350mm	Super Optimal 7024	-	61 +/-2
7420S	3.2mm	350mm	Cutting / Gouging	-	164 +/-2
7421S	4.0mm	350mm	Cutting / Gouging	-	107 +/-2
7422S	5.0mm	350mm	Cutting / Gouging	-	74 +/-2
7423S	2.5mm	350mm	Superhard 650	-	246 +/-2
7424S	3.2mm	350mm	Superhard 650	-	154 +/-2
7425S	4.0mm	350mm	Superhard 650	-	102 +/-2

Code	Diameter	Length	Grade	Pcs/Per 2kg	Pcs/Per 5kg
7430S	2.5mm	350mm	Supercast Ultima	-	250 +/-2
7431S	3.2mm	350mm	Supercast Ultima	-	156 +/-2
7432	4.0mm	350mm	Supercast Ultima	-	104 +/-2
7434S	2.5mm	350mm	Supercast NiFe	-	278 +/-2
7435S	3.2mm	350mm	Supercast NiFe	-	164 +/-2
7436S	4.0mm	350mm	Supercast NiFe	-	108 +/-2
7438S	2.5mm	350mm	Super Optimal 308L-17	89 +/-2	-
7439S	3.2mm	350mm	Super Optimal 308L-17	57 +/-2	-
7440S	4.0mm	350mm	Super Optimal 308L-17	38 +/-2	-
7442S	2.5mm	350mm	Super Optimal 309L-17	89 +/-2	-
7443S	3.2mm	350mm	Super Optimal 309L-17	56 +/-2	-
7444S	4.0mm	350mm	Super Optimal 309L-17	77 +/-2	-
7446S	3.2mm	350mm	Super Optimal 309MoL-17	-	218 +/-2
7447S	4.0mm	350mm	Super Optimal 309MoL-17	-	138 +/-2
7448S	5.0mm	350mm	Super Optimal 309MoL-17	-	97 +/-2
7450S	3.2mm	350mm	Super Optimal 316L-17	90 +/-2	-
7451S	4.0mm	350mm	Super Optimal 316L-17	57 +/-2	-
7452S	5.0mm	350mm	Super Optimal 316L-17	37 +/-2	-
7454S	2.5mm	350mm	Super Optimal 312-17	90 +/-2	-
7455S	3.2mm	350mm	Super Optimal 312-17	57 +/-2	-
7456S	4.0mm	350mm	Super Optimal 312-17	37 +/-2	-

Arc Length

To strike the arc, the electrode should be gently scraped on the work until the arc is established. There is a simple rule for the proper arc length; it should be the shortest arc that gives a good surface to the weld. An arc too long reduces penetration, produces spatter and gives a rough surface finish to the weld. An excessively short arc will cause sticking of the electrode and result in poor quality welds. General rule of thumb for down hand welding is to have an arc length no greater than the diameter of the core wire.

Electrode Angle

The angle that the electrode makes with the work is important to ensure a smooth, even transfer of metal. When welding in down hand, fillet, horizontal or overhead the angle of the electrode is generally between 5 and 15 degrees towards the direction of travel. When vertical up welding the angle of the electrode should be between 80 and 90 degrees to the work piece.

Travel Speed

The electrode should be moved along in the direction of the joint being welded at a speed that will give the size of run required. At the same time, the electrode is fed downwards to keep the correct arc length at all times. Excessive travel speeds lead to poor fusion, lack of penetration etc, while too slow a rate of travel will frequently lead to arc
instability, slag inclusions and poor mechanical properties.

Material and Joint Preparation

The material to be welded should be clean and free of any moisture, paint, oil, grease, mill scale, rust or any other material that will hinder the arc and contaminate the weld material. Joint preparation will depend on the method used include sawing, punching, shearing, machining, flame cutting and others. In all cases edges should be clean and free of any contaminates. The type of joint will be determined by the chosen application.

MMA Welding Troubleshooting

The following chart addresses some of the common problems of MMA welding. In all cases of equipment malfunction, the manufacturer's recommendations should be strictly adhered to and followed.

No.	Trouble	Possible Reason	Suggested Remedy
1	No ARC	Incomplete welding circuit	Check earth lead is connected. Check all cable connections
		No power supply	Check that the machine is switched on and has a power supply
		Wrong mode selected	Check the MMA selector switch is selected
2	Porosity - small cavities or holes resulting from gas pockets in weld metal	Arc length too long	Shorten the Arc length
		Work piece dirty, contaminated or moisture	Remove moisture and materials like paint, grease, oil, and dirt, including mill scale from base metal
		Damp electrodes	Use only dry electrodes
3	Excessive Spatter	Amperage too high	Decrease the amperage or choose a larger electrode
		Arc length too long	Shorten the arc length
4	Weld sits on top, lack of fusion	Insufficient heat input	Increase the amperage or choose a larger electrode
		Work piece dirty, contaminated or moisture	Remove moisture and materials like paint, grease, oil, and dirt, including mill scale from base metal
		Poor welding technique	Use the correct welding technique or seek assistance for the correct technique
5	Lack of penetration	Insufficient heat input	Increase the amperage or choose a larger electrode
		Poor welding technique	Use the correct welding technique or seek assistance for the correct technique
		Poor joint preparation	Check the joint design and fit up, make sure the material is not too thick. Seek assistance for the correct joint design and fit up
6	Excessive penetration - burn through	Excessive heat input	Reduce the amperage or use a smaller electrode
		Incorrect travel speed	Try increasing the weld travel speed
7	Uneven weld appearance	Unsteady hand, wavering hand	Use two hands where possible to steady up, practice your technique
8	Distortion – movement of base metal during welding	Excessive heat input	Reduce the amperage or use a smaller electrode
		Poor welding technique	Use the correct welding technique or seek assistance for the correct technique
		Poor joint preparation and or joint design	Check the joint design and fit up, make sure the material is not too thick. Seek assistance for the correct joint design and fit up
9	Electrode welds with different or unusual arc characteristic	Incorrect polarity	Change the polarity, check the electrode manufacturer for correct polarity

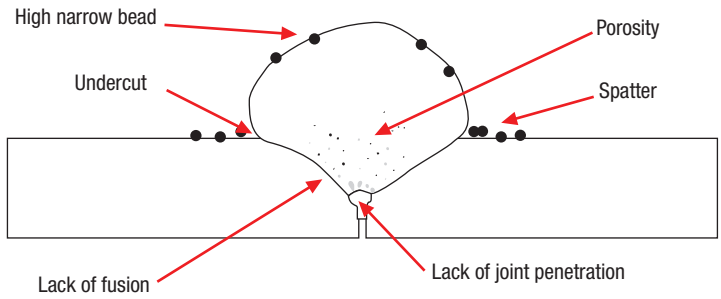
Travel Speed

Travel speed is the rate that the gun is moved along the weld joint and is usually measured in mm per minute. Travel speeds can vary depending on conditions and the welder's skill and is limited to the welder's ability to control the weld pool. Push technique allows faster travel speeds than Drag technique. Gas flow must also correspond with the travel speed, increasing with faster travel speed and decreasing with slower speed. Travel speed needs to match the amperage and will decrease as the material thickness and amperage increase.

Too Fast Travel Speed

A too fast travel speed produces too little heat per mm of travel resulting in less penetration and reduced weld fusion, the weld bead solidifies very quickly trapping gases inside the weld metal causing porosity. Undercutting of the base metal can also occur and an unfilled groove in the base metal is created when the travel speed is too fast to allow molten metal to flow into the weld crater created by the arc heat.

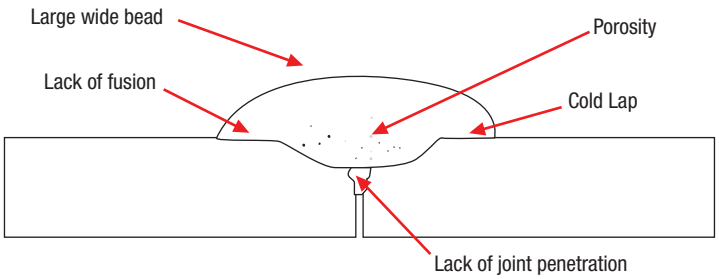
Too Fast Travel Speed



Too Slow Travel Speed

A too slow travel speed produces a large weld with lack of penetration and fusion. The energy from the arc dwells on top of the weld pool rather than penetrating the base metal. This produces a wider weld bead with more deposited weld metal per mm than is required resulting in a weld deposit of poor quality.

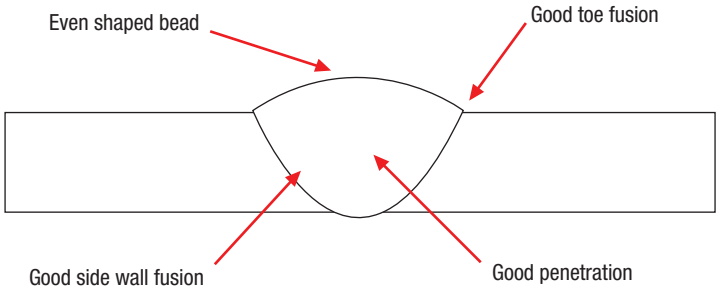
Too Slow Travel Speed



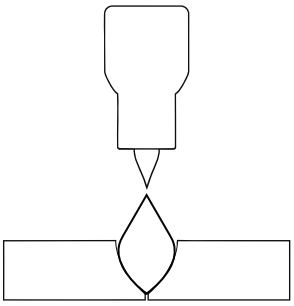
Correct Travel Speed

The correct travel speed keeps the arc at the leading edge of the weld pool allowing the base metal to melt sufficiently to create good penetration, fusion and wetting out of the weld pool producing a weld deposit of good quality.

Correct Travel Speed

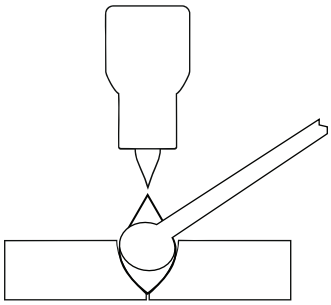


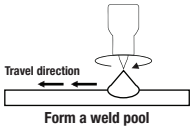
TIG Welding Fusion Technique

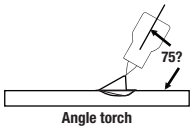


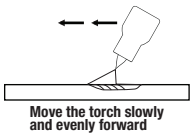
Manual TIG welding is often considered the most difficult of all the welding processes. Because the welder must maintain a short arc length, great care and skill are required to prevent contact between the electrode and the work piece. Similar to Oxygen Acetylene torch welding, Tig welding normally requires two hands and in most instances requires the welder to manually feed a filler wire into the weld pool with one hand while manipulating the welding torch in the other. However, some welds combining thin materials can be accomplished without filler metal like edge, corner, and butt joints. This is known as Fusion welding where the edges of the metal pieces are melted together using only the heat and arc force generated by the TIG arc. Once the arc is started the torch tungsten is held in place until a weld pool is created, a circular movement of the tungsten will assist is creating a weld pool of the desired size. Once the weld pool is established tilt the torch at about a 75° angle and move smoothly and evenly along the joint while fusing the materials together.

TIG Welding with Filler Wire Technique

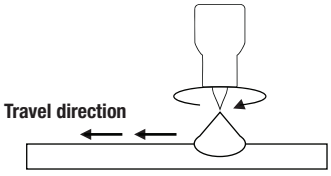




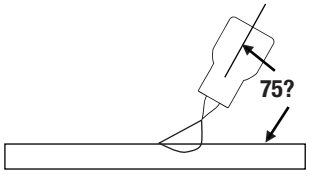




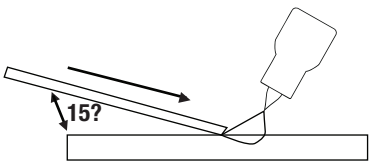
It is necessary in many situations with TIG welding to add a filler wire into the weld pool to build up weld reinforcement and create a strong weld. Once the arc is started the torch tungsten is held in place until a weld pool is created, a circular movement of the tungsten will assist is creating a weld pool of the desired size. Once the weld pool is established tilt the torch at about a 75° angle and move smoothly and evenly along the joint. The filler metal is introduced to the leading edge of the weld pool. The filler wire is usually held at about a 15° angle and fed into the leading edge of the molten pool, the arc will melt the filler wire into the weld pool as the torch is moved forward. Also a dabbing technique can be used to control the amount of filler wire added, the wire is fed into the molten pool and retracted in a repeating sequence as the torch is moved slowly and evenly forward. It is important during the welding to keep the molten end of the filler wire inside the gas shield as this protects the end of the wire from being oxidized and contaminating the weld pool.



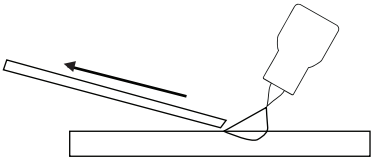
Form a weld pool



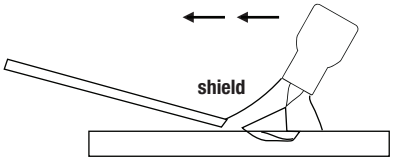
Angle torch



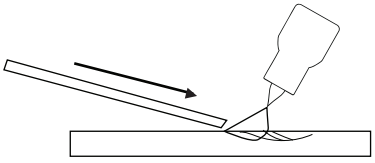
Add Tig filler wire



Retract the filler wire



Move the torch forward to the front of the weld pool



Repeat the process