

sif | CONSUMABLES HANDBOOK



Gas Welding

MIG Welding

MMA Welding

TIG Welding

Tungstens

Brazing

Flux



**Downhand
Welding**



**Welding Vertically
Downwards**



**Fillet
Welding**



**Welding in the
Overhead Position**



**For use in
Soldering**



**Welding Vertically
Upward**

The above welding position symbols, which are used within this guide identify the welding position or positions we recommend the consumable be used in.

CONSUMABLES HANDBOOK

A full range of rods, wires and fluxes, for welding, brazing and more.



Weldability SIF operates an ISO 9001:2015 quality-assurance system and has been approved to these standards since 1993. Our customer-focused strategy has helped us develop products, services, and solutions that directly benefit our trading partners and product users. Our strong history of providing quality products is built on a foundation of conformance - we guarantee our products are produced to the required EN standards and, where necessary, carry CE and/or 3rd party approval.

Third-Party Approvals + CE Certification

It is our policy to maintain third-party approvals and/or CE certification on our products as applicable. For the current status on all our product approvals, please take a look at their product information sheet on our website at www.weldability-sif.com using the part numbers detailed inside this book.

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HISTORY

1914

Saw the creation of the Suffolk Iron Foundry by a young Louis Tibbenham. Initially making castings such as flywheels and ploughshares, the company was doing well. Unfortunately, the start of the Great War saw business grind to a halt. Determined to strive, Louis continued to pick up small contracts throughout this period, which saw the company's portfolio expand into a larger market and included making mangles.

After outgrowing their original premises and moving to a new 6-acre site, the Suffolk Iron Foundry were approached by a young experimental engineer to supply cast-iron rods containing extra silicon for use in welding cast-iron with an oxy-acetylene flame.

1925

Taking the initials SIF from Suffolk Iron Foundry and adding 'bronze', the SIFBRONZE technique was born.

Following this, Louis learned of the techniques of low-temperature bronze welding for cast iron, which inspired him to develop a rod, which subsequently was found suitable for welding virtually any metal except aluminium.

Using the initials SIF from Suffolk Iron Foundry and adding 'bronze', the SIFBRONZE technique was born.

1939

During the Second World War, most of the company's work was devoted to war work, largely for the Royal Air Force. The SIFBRONZE technique was used for the fabrication of air frames, amongst other military applications.

1945

Further developments in the welding industry throughout the 1960's produced the demand for both faster and more efficient techniques. This saw the introduction of the semi-automatic MIG welding process which required new, high-quality materials

HISTORY

sif

At this point SIFBRONZE expanded their already growing range of consumables to include a consumable electrode wire, SIFMIG.

“ **When the QE2 was built, over
2,600 miles of SIFMIG was used.**

1967



Upon the popularity and reliability of this new consumable, when the QE2 (Queen Elizabeth 2) was built, over 2,600 miles of SIFMIG was used in welding the 1,200 tons of aluminium of her superstructure.

TODAY

In recent years, the company has taken positive steps to focus on its SIF brand and heritage in the welding industry. The product range of consumables continues to develop and expand to meet the anticipated demands of our marketplace.

Consumables

Why Sif?

Sif offers a comprehensive range of high-quality consumables for every application. You can rest assured that by purchasing a Sif product, you shall receive a quality consumable, which has been rigorously tested to ensure the best product is produced for your procedure. Resting on over 100 years of heritage, the original brazing rod is still within our range, and, like back in 1925, Sif is developing innovative new products to continue to assist the welder for future years.

High Standards

All Sif products comply with the highest European, international, and British standards and, where necessary, have received third-party additional approval. A selection of products has the prestigious TUV Nord approval, therefore guaranteeing reliability and consistent performance.

Extensive Range

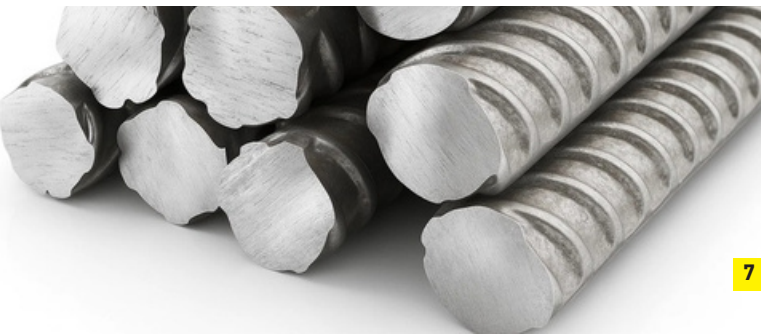
Holding a full range of over 100 consumables and even catering for specialised areas such as Duplex stainless and welding cast iron, Sif can offer you a solution for your application. Constant development and working within the strictest guidelines ensure our entire range is of consistently outstanding quality while expanding to meet the continually developing needs of the industry.

Steel

As a general statement, steel is readily weldable by the majority of welding processes. With alloy steels, it is necessary to select an appropriate filler metal for the material and service situation that the weld will be subjected to. As a guide, carbon content is the first consideration, followed by silicon and manganese. If there are other elements such as chromium, molybdenum, etc, then these will usually take priority over carbon.

In today's world, the first thought for welding steel is to use the MIG process and SIFMIGSG2 wire, or perhaps if a higher UTS is required, SIFMIG SG3. If deposition rate is important, then SIFCORED E71T-1 flux-cored wire should be considered.

Steel can also be MIG brazed, as in the automotive industry, on manganese boron steel with SIFMIG 968. Other copper alloy wires SIFMIG 8 and 328 are also suitable for MIG brazing.



Stainless Steel

Stainless steel is a generic term for a range of steels that contain a minimum of 10.5–12% chromium. However, other elements such as nickel and molybdenum are added to improve corrosion resistance, which is their primary feature and use. Stainless Steels are grouped primarily into four classes depending on their crystal structure: austenitic (301, 302, 304, 316, etc), martensitic (410, 416), ferritic (409, 430) and duplex (2304, 2205, 2507, etc). The groups of stainless steel most commonly welded are austenitic and duplex.

Austenitic steels have austenite as their primary phase (face-centred cubic) structure. Austenite steels make up over 70% of total stainless steel production. They contain a maximum of 0.15% carbon, a minimum of 16% chromium and sufficient nickel and/or manganese to retain an austenitic structure at all temperatures from the cryogenic region to the alloy's melting point.

Duplex Stainless Steels have a mixed microstructure of austenite and ferrite and have roughly twice the strength compared to austenitic stainless steels and also improved resistance to localised corrosion, particularly pitting, crevice corrosion and stress corrosion cracking.

They are characterised by high chromium (19–32%) and molybdenum (up to 5%) and lower nickel contents.

Protect the weld and root from atmospheric contamination to prevent oxidation and discolouration of the weld metal.



Aluminium

Aluminium and its alloys have special properties of lightness, strength, conductivity, malleability, etc., which make it a particularly useful material in a variety of industries. The metal can be either in 'cast' form or extruded (wrought), which then divides into non-heat-treatable and heat-treatable. Generally, it is readily weldable, but it is important to understand some of its characteristics.

In air, aluminium immediately forms an oxide layer on its surface, which will increase in thickness with time. This oxide layer must be controlled during the welding process by chemically and mechanically cleaning the metal, using an aggressive flux or ensuring the arc has reverse polarity (electrode positive).

As aluminium is a very good thermal conductor, it will rapidly disperse heat. Care must be taken to avoid distortion and possibly cracking.

Unlike steel, there is no change in colour as it is being heated. Look out for a 'wet' appearance. For gas brazing, the melting of flux powder is a temperature indicator.



Brass/Bronze

Brass is a generic term covering a wide range of copper alloys containing additions of zinc. All brasses, including gilding metal, can be silver soldered, MIG and TIG welded successfully. However, the addition of lead in free-cutting brass and gunmetal (LG1 & LG2) causes porosity and fume issues during gas-shielded arc welding.

Phosphor Bronze, a copper/tin alloy such as PB2, can be readily brazed or welded. Gas welding of brass is not recommended, as the zinc tends to vaporise, causing fumes (zinc oxide) and porosity. For MIG and TIG welding, a shielding gas of argon or argon/carbon dioxide is used. If preheating is necessary, it must be limited to below 80°C to avoid altering the brass's structure.

For successful bronze welding or sifbronzing, parts must be clean, and for optimum strength, a 60°–90° vee preparation is required. Using the leftward welding technique, the parts should be heated with an oxidising flame to a dull red before introducing the SIFBRONZE rod and flux. Overheating must be avoided, as it leads to porosity and inferior weld quality.

SIFBRONZE flux plays an essential role, not only cleaning the metal but also covering the weld pool surface, preventing further oxidation of the molten bronze.



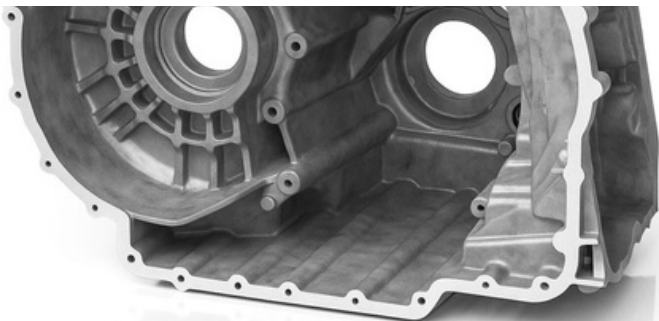
Magnesium

Magnesium alloys, which contain small amounts of aluminium, manganese, zinc, zirconium, and other elements, offer strength comparable to mild steels. They can be rolled into plates, shapes, and strips, and can also be cast, forged, fabricated, and machined.

As a structural metal, magnesium is widely used in the aerospace industry, as well as in the materials-handling and power tool industries, due to its excellent strength-to-weight ratio.

Magnesium can be welded using various arc and resistance welding processes, as well as oxy-fuel gas welding, and it can also be brazed. The standard metallurgical considerations that apply to other metals also apply to magnesium. Being a very reactive metal, its oxidation rate increases with temperature. Although its melting point is close to that of aluminium, the melting point of its oxide is significantly higher, requiring the oxide coating to be removed before welding.

Magnesium has high thermal conductivity and a high coefficient of thermal expansion. While its thermal conductivity is slightly lower than that of aluminium, its expansion rate is nearly identical. The absence of a colour change during heating is not particularly important in arc welding processes.



Copper

Pure copper has high thermal and electrical conductivity. Because it requires about six times more heat than steel for fusion welding (melting point: 1,083°C), particular care must be taken during welding and brazing.

Tough pitch copper, which includes most high-conductivity copper varieties, contains up to 0.5% oxygen (cuprous oxide - Cu_2O) and is not suitable for fusion welding due to its tendency to become brittle and crack. However, it can be brazed. In contrast, deoxidised copper, where oxygen has been removed during manufacture using deoxidising agents, can be fusion welded.

For MIG and TIG welding, preheating is necessary for workpieces over 6 mm thick. The typical shielding gas is argon, though an argon/helium mixture may be used for thicker material to increase arc temperature effectively.

Recommended consumables include SIFMIG 985 and SIFSilCopper No. 985, while SIFSilCopper No. 7 HQ can be used for TIG welding sheets up to 3 mm thick.

Gas welding of copper, such as for whiskey stills or tanks, requires preheating to 600°C and slow cooling after completing the joint. Use of SifSilCopper No. 7 with SifSilCopper flux will produce a joint with an excellent colour match.



Gas Welding

The gas welding process uses heat from a flame generated by a mixture of a fuel gas (predominantly acetylene) and oxygen. The flame can reach a temperature of up to 3200°C, enough to melt the parent material being welded together.

Before welding, the flame profile must be adjusted to produce an un-shadowed cone at the back of the flame, which provides the maximum heating efficiency. Once the flame is optimised, the tip of the inner cone is presented to the joint and held until a molten pool begins to form on the surface of the parent material.

Most gas welding applications require an additional filler material to be added, and this has to be fed into the molten weld pool manually by the welder.

Flame Setting



NEUTRAL FLAME

(BALANCED OXYGEN AND ACETYLENE)

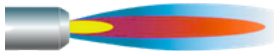
For mild steel and general welding



OXIDISING FLAME

(EXCESS OXYGEN)

For welding brass and 'Sifbronzing'



CARBURISING FLAME

(EXCESS ACETYLENE)

For aluminium, stainless steels and for hardfacing

TYPICAL FLAME TEMPERATURES

Oxy-acetylene	3200°C
Oxy-propane	2500°C
Oxy-natural gas	2200°C
Air-acetylene	2460°C
Air-natural gas	1870°C
Air-propane	1750°C

SIFSILCOPPER - No. 7 C1 Copper Brazing Rod

Our SIFSILCOPPER - No. 7 C1 Copper Brazing Rod is an easy-flowing, high-quality copper rod used for full-fusion welding deoxidised copper sheet. The finished weld is free from porosity and copper oxide inclusions.

This rod can be used for the fabrication of stills for the brewing industry, repairs to copper pipes and castings, calorifiers, fireboxes and copper fittings. It exhibits a viscous weld pool and is typically best used on oxygen-free copper types. Preheating may be required on material thicknesses of >3mm (to a maximum of 60 °C). Use with SIFSILCOPPER Flux for best results.

Positions



For use in all positions.

Suitable Processes

Oxy/Acet Welding

Available Formats

Dia.	1kg	2.5kg	5kg
1.6mm	R0071601	R0071625	R0071650
2.4mm	R0072401	R0072425	R0072450
3.2mm	R0073201	R0073225	R0073250

Typical Weld Metal Composition

Ag 1%

Cu Bal

Typical Mechanical Properties

Melting Point	1060°C
Ultimate Tensile Strength	200 N/mm ²
Hardness	75

Standards

EN ISO 24373: Cu 1897 (CuAg1)
(BS 1453 C1)

SUPERSILICON - No. 9

Cast Iron Gas Welding Rod

This rod is suitable for full fusion welding of cast iron, providing a high-strength weld metal which is easily machinable. It gives an excellent colour match and has the same structure as grey cast iron.

The typical use is for joining castings, building up worn parts, surfacing new castings and for the repair of all cast iron items. Some pre-heating may be required before welding (not quite red hot), and a slow cooling rate is preferred, which may be achieved by wrapping the finished component or immersing it in sand. This rod is cast in a square section. Use with SIF Cast Iron Flux for best results.

SUPERSILICON - No. 9 Cast Iron Gas Welding Rod can also be used in TIG welding if the surface has been ground away and angled to a fine point. Suitable for use in the production and construction industries, particularly the repair and maintenance of cracked, broken or worn cast iron parts. Ideal for joining cast iron to high-alloyed steel or cast iron to manganese steel plates.

Positions



For use in all positions, except overhead fillet.

Suitable Processes

Oxy/Acet Welding

Available Formats

Dia.	5kg
6mm	R0096050

Typical Weld Metal Composition

C 3.3%	Si 3%	Mn 0.7%
S 0.1%	P 0.5%	Fe Bal

Typical Mechanical Properties

Melting Point	1250°C
Ultimate Tensile Strength	200 N/mm ²
Hardness	180

Standards

EN 12536

SIFSTEEL - No. 11 A1 Mild Steel Rod

SIFSTEEL - No. 11 A1 Mild Steel Rod is a low-carbon mild steel rod ideal for all types of mild steel and wrought iron welding. It is free-flowing and produces a high-strength ductile weld. It is copper-coated to ensure long shelf life. Particularly suitable for sheet metal panels, plates, tubes and fittings.

SIFSTEEL A1 Mild Steel Rod can be used to weld structural, boiler or pipe steel. The operating temperature on the workpiece is a maximum of 350 °C.

Positions



For use in general fabrication and construction, repair and maintenance.

Suitable Process

Oxy/Acet Welding

Available Formats

Dia.	1kg	2.5kg	5kg
1.6mm	RO111601	RO111625	RO111650
2.4mm	RO112401	RO112425	RO112450
3.2mm	RO113201	RO113225	RO113250
4.8mm			RO114850

Typical Weld Metal Composition

C 0.06%

Mn 0.4%

Typical Mechanical Properties

Melting Point

1450°C

Ultimate Tensile Strength

350 N/mm²

Hardness

120

Standards

EN 12536

MIG Welding

The MIG welding process utilises an electric arc, which is formed between the parent material and the tip of continually-fed consumable welding wire. The heat from the electric arc causes the parent material to melt, and the consumable wire is transferred to the parent material and consumed into the welding pool. The heat produced by the welding arc is controlled by adjustment of the welding voltage and wire feed speed.

During the welding process, the arc is protected by a shielding gas, which minimises the possibility of atmospheric contamination. High production rates can be achieved as the consumable wire is continually fed from a large spool (commonly 15kg), allowing long, uninterrupted runs to be made.

MIG Brazing

MIG Brazing of pre-aluminised (galvanised) sheet

Zinc, in a galvanised coating, melts at temperatures of around 419.5 °C and vaporises at ~907 °C. This causes unfavourable effects on the welding process as unalloyed SG2 MIG welding wire melts around 1450 °C. The zinc starts to vaporise as soon as the arc is struck; zinc vapours and oxides can lead to porosity and inadequate fusion. An alternative is to use the MIG brazing process, using our copper-silicon alloy wire, SIFMIG 968 (CuSi3). SIFMIG 968 has a relatively low melting point of approximately 980 °C.

On thin sheet steel and galvanised sheet use 0.8mm/1.0mm SIFMIG 968, keeping heat input to a minimum (approx 45-65A (amps)). Select a shielding gas which will maintain a stable arc, such as pure Argon or Argon + 2% CO₂ mix.

Pushing the MIG torch (as conventional MIG welding) will ensure not too deep penetration, avoiding burn through on thin sheet. If the galvanised coating is thick, use dip transfer with a short arc.

For best results, use a programmable inverter MIG machine. This type of system will produce a neat, clean brazed joint, requiring a minimal amount of joint dressing before painting.

SIFMIG 1050

Aluminium MIG Wire

Our SIFMIG 1050 Aluminium MIG Wire is a pure aluminium (99.5% min Al) shaved wire which produces a ductile weld equal to that of the base metal. This wire is highly recommended for alloys that are to be anodised.

The joining of pure aluminium by both MIG and TIG processes of 1050, 1080, 1200, and LM0.

Positions



For use in all positions.

Current Shielding Gas

DC=+
Pure Argon
Argon/Helium

Available Formats

Dia.	6.5kg
0.8mm	W0140865
1.0mm	W0141065
1.2mm	W0141265
1.6mm	W0141665

Typical Weld Metal Composition

Mg	0.021%	Si	0.061%	Mn	0.021%
Fe	0.16%	Zn	0.021%	Al	Bal
Cu	0.022%	Ti	0.013%		

Typical Mechanical Properties

Melting Point	650°C
Ultimate Tensile Strength	90N/mm ²
Hardness	15

Standards

EN ISO 18273: S Al 1050 (Al99.5)
AWS A5.10 - ER1050A

SIFMIG 4043

Aluminium MIG Wire

An aluminium alloy with 5% silicon, giving excellent flow characteristics and penetration. Precision layer-wound for positive uninterrupted feeding. Suitable for use in gas-shielded MIG welding on both semi-automated and fully automated systems.

SIFMIG 4043 Aluminium MIG Wire is ideal for welding duralumin, cast and wrought alloys 6063 (H9), 6061 (H20) and 6082 (H30), as well as other '4 series' aluminium alloys. The resulting weld will discolour if anodised. Pre-heating up to 120 °C may be necessary, subject to material size and thickness. Wire brushing between passes is recommended to remove the build-up of surface oxides.

Ensure that the parent metal surface is cleaned and fully degreased before welding. Clean joints with a stainless steel brush.

Positions



For use in all positions, except vertical down.

Current
Shielding Gas

DC=+
Pure Argon
Argon/Helium

Typical Weld Metal Composition

Si 5% Al Bal

Typical Mechanical Properties

Melting Point	635°C
Ultimate Tensile Strength	120N/mm ²
Hardness	40

Available Formats

Dia.	0.5kg	2kg	6.5kg
0.8mm	W0150805	W0150820	W0150865
1.0mm	W0151005	W0151020	W0151065
1.2mm	W0151205	W0151220	W0151265
1.6mm			W0151665

Standards

EN ISO 18273: S Al 4043 (AlSi5)
AWS A5.10 ER4043
(BS 2901 4043A)



SIFMIG 4047 Aluminium MIG Wire

An aluminium alloy containing 12% Silicon, for high silicon alloys and automotive work. Typically chosen where good colour matching to the parent material is important. Precision layer-wound for positive uninterrupted feeding. Suitable for gas-shielded MIG welding on both semi-automated and fully-automated systems.

SIFMIG 4047 Aluminium MIG Wire is suitable for all types of aluminium castings. Typical applications include repair, surfacing and construction of window frames, tubes, furniture, engine blocks and automotive parts.

Ensure that the parent metal surface is cleaned and fully degreased before welding. Clean joints with a stainless steel brush.

Positions



For use in all positions, except vertical down.

Current Shielding Gas

DC=+
Pure Argon
Argon/Helium

Available Formats

Dia.	2kg	6.5kg
1.0mm	W0161020	W0161065
1.2mm		W0161265
1.6mm		W0161665

Typical Weld Metal Composition

Al Bal Si 12%

Typical Mechanical Properties

Melting Point	585°C
Ultimate Tensile Strength	130N/mm ²
Hardness	50

Standards

EN ISO 18273: S Al 4047A (AlSi12)
(BS 2901 4047A)

SIFMIG 5183

Aluminium MIG Wire

A special aluminium alloy solid MIG wire containing 5% Magnesium and 0.75% Manganese, for improved weld strength and resistance to seawater.

SIFMIG 5183 Aluminium MIG Wire can be used to weld forged and cast aluminium-manganese alloys in applications where high tensile strengths and/or high resistance to seawater are required. Typical applications include ship building, pressure vessel fabrication and general construction. Pre-heating up to 120 °C may be necessary, subject to material size and thickness.

Wire brushing between passes is recommended to ensure the removal of surface oxide build-up. Ensure that the parent metal surface is cleaned and fully degreased before welding. Clean joints with a stainless steel wire brush.

Positions



For use in all positions, except vertical down.

Current Shielding Gas

DC=+
Pure Argon
Argon/Helium

Typical Weld Metal Composition

Mg	5%	Mn	0.75%	Al	Bal
Cr	0.25%	Fe	0.4%		

Typical Mechanical Properties

Melting Point	574°C (solidus) 638°C (liquidus)
Ultimate Tensile Strength	275N/mm ²
Hardness	65

Available Formats

Dia.	6.5kg
1.0mm	W0281065
1.2mm	W0281265

Standards

EN ISO 18273: S Al 5183
(AlMg4.5Mn)



SIFMIG 5356

Aluminium MIG Wire

A general-purpose solid Aluminium wire with 5% Magnesium that has excellent corrosion resistance and high strength. Precision layer wound for positive uninterrupted feeding. Ideal for both semi-automated and fully-automated systems.

Suitable for welding magnesium-bearing aluminium alloys such as 5251 (N4), 5154 (N5), 5454 (N51) and also heat-treatable alloys 6063 (H9), 6061 (H20) and 6082 (H30). Also suitable for welding forged and cast aluminium-magnesium components, and dissimilar aluminium alloy grades containing a maximum of 5% Mg. It can also be used to weld components which are to be subsequently anodised. Pre-heating up to 120 °C may be necessary, subject to material size and thickness.

Wire brushing with a stainless brush between passes is recommended to ensure the removal of surface oxide build-up. Suitable for use on plate, pipe, tube and components. Ensure that the parent metal surface is cleaned and fully degreased before welding.

Positions



For use in all positions, except vertical down.

Current Shielding Gas

DC=+
Pure Argon
Argon/Helium

Available Formats

Dia.	0.5kg	2kg	6.5kg
0.8mm	W0270805	W0270820	W0270865
1.0mm	W0271005	W0271020	W0271065
1.2mm	W0271205	W0271220	W0271265
1.6mm			W0271665

Typical Weld Metal Composition

Mg 5%

Al Bal

Typical Mechanical Properties

Melting Point	640°C
Ultimate Tensile Strength	250N/mm ²
Hardness	60

Standards

EN ISO 18273: S Al 5356 (AlMg5)
AWS A5.10 : ER5356
(BS 2901 5356)



SIFMIG 5556

Aluminium MIG Wire

An Aluminium alloy containing 5.3% Magnesium and a normal 0.8% Manganese. All elements are closely controlled for optimum weld strength. It produces a higher-strength weld metal than standard 5% Mg 5356 alloy.

Normally used on 5083 (N8) and for military applications when the full maintaining strength is required. 5083 is an alloy widely used in structural applications.

Ensure that the parent metal surface is cleaned and fully degreased prior to welding. Clean joints with a stainless steel brush.

Positions



For use in all positions, except vertical down.

Current Shielding Gas

DC=+
Pure Argon
Argon/Helium

Typical Weld Metal Composition

Mg 5.3%	Mn 0.8%	Cr 0.1%
Ti 0.1%	Al Bal	

Typical Mechanical Properties

Melting Point	640°C
Ultimate Tensile Strength	300N/mm ²
Hardness	70

Available Formats

Dia.	0.5kg	2kg	6.5kg
1.0mm	W0371205	W0371220	W0371065
1.2mm			W0371265
1.6mm			W0371665

Standards

EN ISO 18273 S Al 5556A
AWS A5.10 ER5556

SIFMIG C11

Phosphor Bronze Alloy Wire

SIFMIG No. 8

A phosphor bronze wire containing 7% tin, suitable for fusion welding of phosphor bronze castings, copper alloys, and brass. It is also used for MIG brazing on ferrous, stainless, and dissimilar metals, or for applying a bearing surface.

This wire is popularly used on bronze, brass, copper, and copper alloys for applications such as crack repair in castings and for providing a wear-resistant layer on surfaces subject to abrasion.

Where the parent metal contains trace lead (such as LG2), it is advisable to apply SIFMIG C11 Phosphor Bronze Alloy Wire in stages, grinding between passes to remove lead drawn into the joint and to reduce porosity. Ensure that the surfaces of the parent metal are thoroughly cleaned before welding.

Positions



For use in all positions, and particularly useful in hard to reach areas.

Current DC=+
Shielding Gas Pure Argon or 95/5
 ArCO₂ (5% CO₂)

Available Formats

Dia.	12.5kg
0.8mm	W0080812
1.0mm	W0081012
1.2mm	W0081212

Typical Weld Metal Composition

Sn 7% Cu Bal

Typical Mechanical Properties

Melting Point 900-1050°C
 Ultimate Tensile Strength 260N/mm²
 Hardness 80

Standards

EN ISO 24373 Cu 5180A (CuSn6P)
 (BS 2901 C11)

SIFMIG C20/26

Aluminium Bronze Alloy Wire

SIFMIG No. 44

An Aluminium Bronze alloy wire with the addition of nickel, suitable for welding materials of a similar composition and for MIG brazing dissimilar metal joints in maintenance applications, which require increased hardness. The nickel content provides increased wear, cavitation and corrosion resistance, making SIFMIG C20/26 Aluminium Bronze Alloy Wire a popular grade in the marine sector.

It is recommended for use as a combination repair and surfacing metal, to provide wear-resistant surfaces, and for delivering resistance to corrosive media such as salt. SIFMIG C20/26 Aluminium Bronze Alloy Wire can be used on Aluminium bronze alloys and cast Aluminium bronzes. A small amount of pre-heat/warming may be required prior to brazing, depending on the material thickness and Aluminium content.

Suitable for ship building and offshore industries, power generation, repair and maintenance and the chemical industry. Particularly useful in the maintenance of impellers/propellers, car parts, tools and bearings.

Positions



For use in all positions.

Current Shielding Gas

DC=+
Pure Argon
Argon/Helium

Typical Weld Metal Composition

Al 9%	Fe 3.2%	Mn 1.2%
Ni 4.5%	Cu Bal	

Typical Mechanical Properties

Melting Point	1050°C
Ultimate Tensile Strength	700N/mm ²
Hardness	290

Available Formats

Dia.	12.5kg
0.8mm	W0440812
1.2mm	W0441212

Standards

EN ISO 24373 Cu 6328 (CuAl9Ni5Fe3Mn2)
AWS A5.7: ERCuNiAl
(BS 2901 C20/26)

SIFMIG C28

Brass Bronze Alloy MIG Wire

SIFMIG 328

This is a (92% Cu / 8% Al) Aluminium Bronze wire suitable for welding materials of a similar composition and copper alloys. It is ideal for MIG brazing dissimilar metal joints and maintenance applications. Recommended for use as a surfacing metal for wear-resistant surfaces having relatively light loads, for resistance to corrosive media such as salt.

Can be used on Aluminium bronze alloys: CuAl8Fe3, CuAl10FeMn2, CuAl9Mn9 and cast Aluminium bronzes G-CuAl8, G-CuAl10Ni. A small amount of pre-heat/warming may be required before brazing, depending on the material thickness and Aluminium content.

Suitable for use in the shipbuilding and offshore industries, power generation, repair and maintenance, and the chemical industry. Particularly useful in the maintenance of car parts and tools, bearings in general and galvanised steel sheets.

Positions



For use in all positions

Current
Shielding Gas

DC=+
Pure Argon

Typical Weld Metal Composition

Al 8%	Cu Bal	Zn 0.2%
Mn 0.5%	Si 0.2%	

Typical Mechanical Properties

Melting Point	1030°C
Ultimate Tensile Strength	430N/mm ²
Hardness	85

Available Formats

Dia.	4kg	12.5kg
0.8mm	W0320840A	W0320812A
1.0mm	W0321040A	W0321012A
1.2mm	W0321240A	W0321212A

Standards

EN ISO 24373 Cu 6180A (CuAl8)
AWS A5.7 ERCuAl-A1
(BS 2901 C28)

SIFMIG Cu6511 Copper MIG Wire

SIFMIG 967

An easy-to-weld copper wire containing 2% Silicon and 1% Manganese. These properties produce optimised flow characteristics and suitability for variable root gaps, high temperatures and corrosion resistance, as well as good behaviour under compression stresses.

Suitable for brazing of galvanised autobody steel sheets and other steels, as well as copper, copper alloys and cast iron.

Provides excellent gap-fills in automotive parts and pressing applications.

Positions



For use in all positions.

Current
Shielding Gas

DC=+
Pure Argon

Typical Weld Metal Composition

Si 2% Mn 1.0% Cu Bal

Typical Mechanical Properties

Melting Point 1030 - 1050°C
Ultimate Tensile Strength 285N/mm²
Hardness 62

Available Formats

Dia.	4kg	12.5kg	200kg
0.8mm	W0970840	W0970812	W09708200
1.0mm	W0971040	W0971012	W09710200
1.2mm	W0971240	W0971212	W09712200

Standards

EN ISO 24373 Cu 6511 (CuSi2Mn1)

SIFMIG C9 Copper MIG Wire

SIFMIG 968

A Copper wire containing 3% Silicon and 1% Manganese is used for the fusion welding of materials of similar composition, such as copper alloys (brass), and for MIG brazing steels. It is also suitable for surfacing steel and dissimilar metal applications. Silicon and Manganese provide good flow properties and wear resistance.

Frequently used to weld steel and cast-iron to copper, brass and bronze. SIFMIG C9 Copper MIG Wire is the choice material for the manufacture and repair of motor vehicles. Can be used on galvanised and bronze-coated steels. Pulsed MIG is recommended.

Suitable for use in various industries, including shipbuilding and offshore, automotive, heating and ventilation. It can also be used in sculpture making and repair, the manufacture of bronze statues and castings, and tubular products.

Positions



For use in all positions.

Current Shielding Gas

DC=+
Pure Argon
1% O₂ Argon
for MIG brazing

Available Formats

Dia.	0.7kg	4kg	12.5kg
0.8mm	W0960807	W0960840	W0960812
1.0mm	W0961007	W0961040	W0961012
1.2mm		W0961240	W0961212

Typical Weld Metal Composition

Cu Bal Si 3% Mn 1%

Typical Mechanical Properties

Melting Point	980 - 1020°C
Ultimate Tensile Strength	350N/mm ²
Hardness	90

Standards

EN ISO 24373 Cu 6560 (CuSi3Mn1)
AWS A5.7 ERCuSi-A

SIFMIG C7 Copper MIG Wire

SIFMIG 985

A high-quality wire containing a minimum of 98.5% copper with deoxidising elements. Provides resistance to high temperatures and corrosion.

Used in MIG welding of copper, this wire is ideal for joint welding of high-oxygen copper joints and materials. If the material thickness is >6mm, preheat the component to 600 °C, then control cooling after welding to ensure a slow, gradual reduction in heat.

Positions



For use in all positions.

Current
Shielding Gas

DC=+
Pure Argon

Typical Weld Metal Composition

Sn 0.85%	Mn 0.25%	P 0.01%
Si 0.2%	Cu Bal	

Typical Mechanical Properties

Melting Point	1025°C
Ultimate Tensile Strength	220N/mm ²
Hardness	70

Available Formats

Dia.	4kg	12.5kg
0.8mm	WO980840	WO980812
1.0mm	WO981040	WO981012
1.2mm	WO981240	WO981212

Standards

EN ISO 24373 Cu 1898 (CuSn1P)

SIFMIG 308LSi Stainless Steel MIG Wire

Stainless steel filler wire for welding 18/8 (304) austenitic stainless steels, providing good corrosion resistance and wear resistance.

Typical applications include all industries where similar materials (including higher carbon types), as well as ferritic 13% Cr steels, are used. SIFMIG 308LSi Stainless Steel MIG Wire is our solid wire for MAG welding low-carbon 18Cr10Ni austenitic stainless steel grades. SIFMIG 308LSi Stainless Steel MIG Wire is also suitable for Nb (Cb) or Ti-stabilised grades 347 and 321. The weld metal offers excellent resistance to general and intergranular corrosion (up to 350°C), and good resistance to oxidising acids and cold reducing acids.

Base materials to be welded: ASTM/AISI grades 302, 304, 304L, 304LN, 321, 347. WNr 1.4306, 1.4301, 1.4541, 1.4550, 1.4311, 1.4300. CrNi 18/10 and similar stainless steel grades.

Positions



For use in all positions.

Current Shielding Gas

DC=+
M12/M13
(ArCO₂ / ArO₂)

Available Formats

Dia.	1kg	5kg	15kg
0.8mm	W0330810	W0330850	W0330815
1.0mm		W0331050	W0331015
1.2mm		W0331250	W0331215

Typical Weld Metal Composition

Ni 10%	Si 0.8%	Mn 1.5%
Cr 21%		

Typical Mechanical Properties

Melting Point	1440°C
Ultimate Tensile Strength	650N/mm ²
Hardness	180

Standards

EN ISO 14343-A: G 19 9 LSi
AWS A5.9 ER 308LSi
(BS 2901 308 S93)



SIFMIG 309LSi

Stainless Steel MIG Wire

This stainless steel wire contains higher levels of chromium and nickel. It can be used for joining materials of similar composition, as well as dissimilar stainless steels.

Applications include joining high-strength steels, unalloyed and low-alloy heat-treatable steels, stainless steels, ferritic chromium steels, austenitic chrome-nickel steels, and austenitic manganese steels.

SIFMIG 309LSi Stainless Steel MIG Wire is our solid wire for MAG welding corrosion-resistant and heat-resistant CrNi steels, dissimilar metals, and buffering applications. SIFMIG 309LSi Stainless Steel MIG Wire is also suitable for joining clad steels. Its ferrite number (FN 16) ensures good resistance to cracking.

It can be used for welding chemically resistant claddings, ranging from ferritic-pearlitic steels to fine-grain steels, including high-temperature fine-grain steels. It is also used as an intermediate layer on steels before hard-facing.

Positions



For use in all positions.

Current
Shielding Gas

DC=+
M13, ArCO₂

Typical Weld Metal Composition

Ni	12.15%	Si	0.85%	Mn	1.96%
Cr	23.44%	Mo	0.13%	P	0.027%
Cu	0.11%	C	0.026%		

Typical Mechanical Properties

Melting Point	1440°C
Ultimate Tensile Strength	650N/mm ²
Hardness	180

Available Formats

Dia.	5kg	15kg
0.8mm	W0340850	W0340815
1.0mm	W0341050	W0341015
1.2mm	W0341250	W0341215

Standards

EN ISO 14343 23 12 LSi
AWS A5.9 ER 309LSi
(BS 2901 309 S93)



SIFMIG 312 Stainless Steel MIG Wire

This is a 29/9 stainless MIG wire, suitable for difficult-to-weld steels such as manganese steels, tool steels, spring steels, and dissimilar steel grades. It offers high resistance to weld metal cracking.

Typical applications include joining hard manganese steels, spring steels, buffering, and welding dissimilar steel grades. SIFMIG 312 Stainless Steel MIG Wire is our solid wire for MAG welding, considered a problem-solver for all kinds of steel grades, including stainless and other difficult-to-weld steels. SIFMIG 312 Stainless Steel MIG Wire deposits a crack-resistant weld metal with an increased ferrite content of approximately FN 50.

Materials to be welded: High-strength, unalloyed heat-treatable steels; stainless steels; ferritic chromium and austenitic CrNi steels; austenitic manganese steels. Suitable for chemically resistant weld claddings ranging from ferritic-pearlitic steels to fine-grain steels, including high-temperature fine-grain steels.

Positions



For use in all positions.

Current Shielding Gas

DC=+
M12-M13=
ArCO₂/ArO₂

Available Formats

Dia.	15kg
0.8mm	W0350815
1.0mm	W0351015

Typical Weld Metal Composition

C 0.1%	Si 0.4%	Mn 1.7%
Ni 9%	Cr 30%	Mo 0.1%

Typical Mechanical Properties

Melting Point	1440°C
Ultimate Tensile Strength	750N/mm ²
Hardness	200

Standards

EN ISO 14343-A: G 29 9
AWS A5.9: ER312

SIFMIG 316LSi

Stainless Steel MIG Wire

A Molybdenum-bearing stainless steel with low-carbon content, offering excellent corrosion resistance for welding molybdenum-bearing austenitic stainless steels.

It is universally applicable, typically used in industries where superior corrosion resistance is required, such as the textile industry, paper mills, chemical industry, and cellulose production. It provides resistance to general and intergranular corrosion (up to 400°C) and offers good resistance to hot cracking. SIFMIG 316LSi Stainless Steel MIG Wire is our solid wire for MAG welding low-carbon 17Cr12Ni3Mo austenitic, acid-resistant stainless steel grades such as AISI 316 and 316L.

Base materials to be welded: ASTM/AISI grades 316, 316L, 316LN, 316Cb, 316Ti; WNr 1.4583, 1.4435, 1.4436, 1.4401, 1.4571, 1.4580, 1.4406*, 1.4429*; CrNiMo 17-12-3 and similar stainless steel grades.

**Without post-weld quenching.*

Positions



For use in all positions.

Current
Shielding Gas

DC=+
M13 ArCO₂

Typical Weld Metal Composition

C	0.02%	Si	0.8%	Mn	1.5%
Ni	12%	Cr	19%	Mo	2%

Typical Mechanical Properties

Melting Point	1440°C
Ultimate Tensile Strength	650N/mm ²
Hardness	180

Available Formats

Dia.	1 kg	5kg	12.5kg/15kg
0.6mm	W0210610	W0210650	W0210612
0.8mm	W0210810	W0210850	W0210815
1.0mm	W0211010	W0211050	W0211015
1.2mm	W0211210	W0211250	W0211215

Standards

EN ISO 14343-A: G 19 12 3 LSi
AWS A5.9 ER 316LSi
(BS 2901 316 S93)



SIFMIG DUPLEX 2209

Stainless Steel MIG Wire

A continuous, solid, bare duplex stainless steel filler wire for welding austenitic-ferritic alloys, where high resistance to intergranular corrosion, stress corrosion, and pitting is required.

SIFMIG Duplex is increasingly popular due to its excellent strength-to-weight ratio, price stability, and corrosion-resistant properties. It is used in sheet and pipe applications across a wide range of industries, including petrochemical, chemical/pharmaceutical, pulp and paper, mining, and food and beverage.

SIFMIG DUPLEX 2209 Stainless Steel MIG Wire is designed for welding parent materials of similar composition, including 2205 grades. It is commonly used in sour service applications where exposure to corrosive chlorides and hydrogen sulphides may occur.

Positions



For use in all positions.

Current
Shielding Gas

DC=+
Pure Argon

Available Formats

Dia.	15kg
0.8mm	W0220815
1.0mm	W0221015
1.2mm	W0221215

Typical Weld Metal Composition

C 0.02%	Si 0.5%	Mn 1.7%
Ni 8.5%	Cr 22.5%	Mo 3.3%

Typical Mechanical Properties

Melting Point	1440°C
Ultimate Tensile Strength	765N/mm ²
Hardness	240

Standards

EN ISO 14343-A: G 22 9 3 N L
AWS A5.9 ER2209

SIFMIG SG2/A18 G3Si1 Mild Steel MIG Wire

Copper-coated, double-deoxidised mild steel MIG wire for welding unalloyed and low-alloy mild and medium tensile steels, offering impact toughness down to -20°C. Manufactured with a high-quality copper finish for improved wire feeding and precision layer-wound for consistent performance.

Suitable for use on a wide variety of mild steels, including structural steel, fine-grain steel, pipe steel, boiler steel, and cast steel. Ideal for general fabrication, construction, tanks and boilers, repair work, and autobody applications. Contains specific additions of manganese and silicon to provide good mechanical properties.

Positions



For use in all positions.

Current Shielding Gas

DC=+
CO₂, ArCO₂

Typical Weld Metal Composition

C 0.1% Si 0.8% Mn 1.3%
Cr 0.1%

Typical Mechanical Properties

Melting Point 1450°C
Ultimate Tensile Strength 400N/mm²
Hardness 120

Available Formats

Dia.	0.7kg	5kg	15kg	250kg
0.6mm	WA180607	WA180650	WA180615	
0.8mm	WA180807	WA180850	WA180815	WA1808250
1.0mm		WA181050	WA181015	WA1810250
1.2mm			WA181215	WA1812250

Standards

EN ISO 14341-A: G 42 4 C1/M21 G3Si1
AWS A5.18 ER70S-6
(BS 2901: A18)
(DIN SG2)



SIFMIG ZERO SG2/A18 G3Si1 Mild Steel MIG Wire

Double-deoxidised mild steel MIG wire, free from copper coating for use in general construction, automotive components, pressure vessel fabrication and shipbuilding. Manufactured with a high-quality uncoppered finish for improved feeding and conductivity, the absence of copper on the wire surface of SIFMIG ZERO SG2/A18 results in a cleaner deposit and avoids the metallurgical risks of increased copper in the weld pool.

The arc-stability characteristics, low fume emission, low visible fume and improved feedability of the SIFMIG ZERO SG2/A18 make it ideal for robotic or automated processes, where welding steadiness and uniformity are essential in order to avoid welding defects and very expensive cycle interruptions.

Positions



For use in all positions.

Current Shielding Gas

DC=+
CO₂, ArCO₂

Available Formats

Dia.	18kg	250kg
1.0mm	WA201018	WA2010250
1.2mm	WA201218	WA2012250

Typical Weld Metal Composition

C 0.1% Si 0.9% Mn 1.5%

Typical Mechanical Properties

Melting Point	1450°C
Ultimate Tensile Strength	530-580N/mm ²
Impact Value	90J @-20°C
Elongation	26%

Standards

EN ISO 14341-A-G 42 4 C1
AWS A5.18 ER70S-6



SIFMIG SG3/G4Si 70S-6

Mild Steel MIG Wire

Copper-coated double-deoxidised mild steel MIG wire, with increased silicon and manganese content, for welding unalloyed and low-alloyed mild and medium tensile steels requiring good impact toughness down to -20°C. Manufactured with a high-quality copper finish for improved feeding. Precision layer wound. SIFMIG SG3/G4Si 70S-6 Mild Steel MIG Wire typically provides a higher ultimate tensile strength over standard SIFMIG SG2.

Suitable for use in general fabrication, construction, ship building, tanks and boilers, repair and autobody applications. Comprises increased manganese and silicon to provide improved mechanical properties.

This MIG wire can be used on a variety of mild steels, structural steel, fine-grain steel, pipe steel, boiler steel and cast steel. Popular in the construction, power generation and offshore sectors.

Positions



For use in all positions.

Current
Shielding Gas

DC=+
CO₂, ArCO₂

Typical Weld Metal Composition

C 0.1% Si 1.0% Mn 1.75%

Typical Mechanical Properties

Melting Point	1450°C
Ultimate Tensile Strength	550-600N/mm ²
Impact Value	70J@-20°C
Elongation	24%

Available Formats

Dia.	15kg	250kg
0.8mm	WG030815	WG0308250
1.0mm	WG031015	WG0310250
1.2mm	WG031215	WG0312250

Standards

EN ISO 14341-A: G 42 4 M21 4Si1
AWS A5.18: ER70S-6



SIFMIG ZERO SG3/G4Si1 70S-6 Copper Free Steel MIG Wire

Double-deoxidised mild steel MIG wire, free from copper coating, with increased silicon and manganese content. Designed for welding unalloyed and low-alloy mild and medium tensile steels requiring good impact toughness down to -20°C. Manufactured with a high-quality uncoppered finish for improved wire feeding and conductivity.

SIFMIG ZERO SG3/G4Si1 70S-6 Copper Free Steel MIG Wire typically provides a higher ultimate tensile strength than standard SIFMIG Zero SG2 Copper Free Steel MIG Wire. The absence of copper on the wire surface results in a cleaner weld deposit and eliminates the metallurgical risks associated with increased copper content in the weld pool.

The excellent arc stability and enhanced feedability of SIFMIG ZERO SG3/G4Si1 70S-6 Copper Free Steel MIG Wire make it ideal for robotic and automated welding processes, where welding consistency and reliability are critical to avoid defects and costly cycle interruptions. Reduced post-weld clean-up also minimises grinding. It is popular in the construction sector, wind turbine tower fabrication, and the automotive industry.

Positions



For use in all positions.

Current
Shielding Gas

DC=+
CO₂, ArCO₂

Available Formats

Dia.	18kg	250kg
0.8mm	WA190818	
1.0mm	WA191018	WA1910250
1.2mm	WA191218	WA1912250

Typical Weld Metal Composition

C 0.1%	Si 1.0%	Mn 1.75%
Cr 0.1%		

Typical Mechanical Properties

Melting Point	1450°C
Ultimate Tensile Strength	550-600N/mm ²
Impact Value	100J@-20°C
Elongation	24%

Standards

EN ISO 14341-A: G 42 4 M21 4Si1
AWS A5.18: ER70S-6



SIFMIG A31 - ER80S-D2

Low Alloy Steel MIG Wire

A copper-coated, alloy steel wire containing 0.5% Molybdenum, designed for welding low-alloy steels with high tensile strength and creep-resistant steels. Good impact strength at low temperatures.

Suitable for use on pipelines and pressure vessels with operating temperatures of about 500 °C. It can also be used in applications for repairing steel castings.

Positions



For use in all positions.

Current
Shielding Gas

DC=+
ArCO₂

Typical Weld Metal Composition

C	0.1%	Si	0.7%	Mn	1.8%
S	0.01%	P	0.01%	Cu	0.12%
Mo	0.5%				

Typical Mechanical Properties

Melting Point	1450°C
Ultimate Tensile Strength	450N/mm ²
Hardness	180

Available Formats

Dia.	15kg
1.0mm	WA3111015
1.2mm	WA3111215

Standards

EN ISO 14341-A-G4Mo
AWS A5.18 ER80S-D2
(BS 2901 A31)

SIFMIG A32 - ER80S-B2

Low Alloy Steel MIG Wire

A copper-coated alloy steel wire containing 1.25% chromium and 0.5% molybdenum. It is ideal for low-alloy and creep-resistant steels.

Low-alloy copper-coated MIG wire with 1.25% Cr and 0.5% Mo content, to be used for the welding of creep-resistant steel. It is used in the chemical industry and the ammonia synthesis process, for heat exchangers, boilers, piping, and pressure vessels for temperature service up to about 550°C.

It will also find applications in the petrochemical industries, suitable for facing castings and casting repairs.

Positions



For use in all positions.

Current
Shielding Gas

DC=+
Ar/ArCO₂

Available Formats

Dia.	15kg
0.8mm	WA320815
1.0mm	WA321015
1.2mm	WA321215

Typical Weld Metal Composition

C	0.1%	Si	0.5%	Mn	1.0%
Cr	1.25%	Mo	0.5%		

Typical Mechanical Properties

Melting Point	1450°C
Ultimate Tensile Strength	500N/mm ²
Hardness	180

Standards

EN ISO 21952-A: G CrMo1Si
AWS A5.28 : ER80S-B2
(BS 2901 A32)

SIFMIG 80S-Ni2

Mild Steel MIG Wire

A fine-grained, copper-coated low-alloy MIG wire with the addition of nickel for improved performance at low temperatures, where greater toughness is required down to -80 °C.

SIFMIG 80S-Ni2 Mild Steel MIG Wire is used in applications including the repair of heavy machinery, offshore constructions, and components requiring improved abrasion resistance, and where good fracture toughness from as-welded joints is needed. Often used on cryogenic and fine-grain steels in the shipbuilding, offshore, petrochemical, and power-generation sectors.

Positions



For use in all positions.

Current
Shielding Gas

DC=+
Ar/CO₂

Available Formats

Dia.	15kg
1.0mm	WG721015
1.2mm	WG721215

Typical Weld Metal Composition

C 0.10%	Cr 0.08%	Mn 1.0%
Ni 2.3%	Si 0.55%	

Typical Mechanical Properties

Ultimate Tensile Strength	620N/mm ²
Yield Strength	530N/mm ²
Impact Value ISO-V	50J@-60°C
Elongation	26%

Standards

EN ISO 14341-A: G 50 6 M G2Ni2
AWS A5.28 ER80S-Ni2

SIFMIG E71T-GS

Mild Steel Gasless MIG Wire

SIFMIG E71T-GS Mild Steel Gasless MIG Wire is our cored wire for self-shielding, single-pass arc welding of unalloyed and low-alloyed structural steels. The wire is excellent for joining thin sheet metals; size 0.8 mm allows you to weld sheets as thin as 1.2 mm. 0.8 mm and 0.9 mm are ideal for use on light industrial MAG welding machines with a max output range of up to 160–170 A.

Suitable applications include automotive repair, general fabrication, power generation, and repair & maintenance.

Positions



For use in all positions.

Current
Shielding Gas

DC=

Typical Weld Metal Composition

C 0.25%	Si 0.4%	Mn 0.7%
Al 2.4%		

Typical Mechanical Properties

Melting Point	1450°C
Ultimate Tensile Strength	400N/mm ²
Hardness	120

Available Formats

Dia.	0.45kg	0.9kg	4.55kg
0.8mm	WG180805	WG180809	WG180845

Standards

AWS A5.20 E71T-GS

SIFCORED E70C-6M

Metal Cored Steel MIG Wire

A metal-cored wire which produces low-hydrogen weld metal with good mechanical properties. SIFCORED E70C-6M Metal Cored Steel MIG Wire is suitable for welding mild steel and 490 MPa high tensile steels at high rates of deposition.

Well-suited for applications such as steelwork, shipbuilding, bridge construction, trailer manufacturing, and tank building.

Positions



Suitable for use in all positions, and is especially good for high speed vertical down with negative polarity.

Current
Shielding Gas

DC=+/DC=-
ArCO₂

Available Formats

Dia.	5kg	16kg
1.2mm	W0701250	W0701216

Typical Weld Metal Composition

	DC+	DC-
C	0.08%	0.08%
Si	0.52%	0.50%
Mn	1.43%	1.39%
P	0.008%	0.009%
S	0.009%	0.009%
Al	1.0%	1.0%
Ni	2.5%	2.5%

Typical Mechanical Properties

	DC+	DC-
Ult Tensile Strength	600 N/mm ²	604N/mm ²
Yield Strength	510 N/mm ²	523N/mm ²
Impact Values ISO-V	110J@-40°C	116J@-40°C
Elongation	30%	29%

Standards

EN ISO 17632-A-T 46 4 M M 1 H5
AWS A5.18 E70C-6M



SIFCORED E71T-1 Flux Cored Steel MIG Wire

A rutile flux-cored wire for MIG/MAG (GMAW) welding of thin sheet steels or unalloyed/low-alloyed structural steels in all positions, with Argon/CO₂ shielding gases. SIFCORED E71T-1 Flux Cored Steel MIG Wire delivers good mechanical properties, impact toughness down to low temperatures, low spatter, and excellent weldability.

Commonly used in shipyards, offshore, and construction applications for welding mild steel tube, pipe, strip, forgings, and a range of pressure vessel steels, typically to improve productivity when transitioning from low-hydrogen MMA electrode welding.

It can be used on a prime-coated plate and for vertical-down welding of non-critical sheet fabrications.

Positions



For use in all positions, in single- and multi-pass applications under spray-transfer. Produces a smooth even bead with good slag detachability.

Current DC=+
Shielding Gas ArCO₂

Available Formats

Dia.	15kg
1.0 mm	W0711015
1.6mm	W0711615

Typical Weld Metal Composition

C 0.05%	Si 0.48%	Mn 1.22%
P 0.013%	S 0.009%	

Typical Mechanical Properties

Ultimate Tensile Strength	570N/mm ²
Yield Strength	510N/mm ²
Impact Value ISO-V	110J@-20°C
Elongation	30%

Standards

EN ISO 17632-A: T 42 2 P M21 1 H5
AWS A5.20: E71T-1M

SIFCORED E71T-1M

Flux Cored Steel MIG Wire

An all-position flux-cored wire designed for use with Argon-CO₂ gas shielding. It provides weld metal with improved impact resistance and allows easy deposition of vertical beads with slag that is easily removed.

The deposited weld metal contains very low diffusible hydrogen, making it suitable for single- and multi-pass welding of low- and medium-carbon steels.

Positions



For use in all positions, in single- and multi-pass applications under spray-transfer. Produces a smooth even bead with good slag detachability.

Current DC=+
Shielding Gas ArCO₂

Typical Weld Metal Composition

C 0.05%	Si 0.48%	Mn 1.22%
P 0.013%	S 0.009%	

Typical Mechanical Properties

Ultimate Tensile Strength	570N/mm ²
Yield Strength	510N/mm ²
Impact Value ISO-V	110J@-20°C
Elongation	30%

Available Formats

Dia.	15kg
1.2mm	W0711215M

Standards

EN ISO 17632-A: T 42 2 P M21 1 H5
 AWS A5.20: E71T-1M

SIFCORED E71T-C Flux Cored Steel MIG Wire

A flux-cored wire formulated for use with 100% CO₂ shielding gas, designed for welding carbon steels in all positions.

The precision-wound wire delivers good penetration and easy slag removal.

Positions



For use in all positions, in single- and multi-pass applications under spray-transfer. Produces a smooth even bead with good slag detachability.

Current DC=+
Shielding Gas 100% CO₂

Available Formats

Dia.	15kg
1.6mm	W0711615

Typical Weld Metal Composition

C 0.08%	Si 0.88%	Mn 1.49%
Cr 0.022%	S 0.012%	Ni 0.009%
Cu 0.11%		

Typical Mechanical Properties

Ultimate Tensile Strength	551N/mm ²
Yield Strength	440N/mm ²
Impact Value ISO-V	92J@-20°C
Elongation	28%

Standards

EN ISO 17632-A: T 42 4 C1 1 H5
AWS A5.20: E71T-1C

SIFCORED E110C-G

Metal Cored Steel MIG Wire

A metal-cored wire designed for welding 690 N/mm² yield strength steels and 110ksi class high-strength steels, and provides excellent mechanical properties and crack resistance.

Ideal for use in heavy industries such as offshore, pipeline, crane and construction machinery where high-strength steels are used.

Fast deposition and easy slag removal.

Positions



Suitable for use in flat and horizontal positions.

Current DC=+
Shielding Gas ArCO₂

Typical Weld Metal Composition

C 0.06%	Si 0.48%	Mn 1.87%
Ni 2.37%	P 0.008%	S 0.010%

Typical Mechanical Properties

Ultimate Tensile Strength	791 N/mm ²
Yield Strength	720 N/mm ²
Impact Value ISO-V	145 J@-40°C
Elongation	24%

Available Formats

Dia.	12.5kg
1.2mm	W0111212

Standards

EN ISO 18276-A T 69 6 Mn2.5Ni M M 3 H5
AWS A5.28: E110C-G H4

SIFMIG HF600

Hardfacing Steel MIG Wire

A gas-shielded, solid, hard-facing MIG wire for high wear resistance, used in the MIG welding process for applications requiring a combination of impact and abrasion resistance.

Typically used in hardfacing applications in the earthmoving and quarry industries, such as digger buckets, crusher hammers and blades, and in the agricultural sector on ploughshares, etc. Most frequently used on mild and medium tensile steels.

Areas to be hardfaced should be clean and free from oil, grease, and dirt before application. Any base metal showing signs of cracking or previous hardfacing should be removed.

Positions



For use in all positions.

Direction of travel
Shield Gas

Push (R-L [RH])
95/5 ArCO₂ or
Pure Argon

Available Formats

Dia.	15kg
1.0mm	WF601015
1.2mm	WF601215

Typical Weld Metal Composition

C	0.45%	Si	3%	Mn	0.4%
Cr	9.0%				

Typical Mechanical Properties

Melting Point	1450°C
Ultimate Tensile Strength	N/A
Hardness	570-650

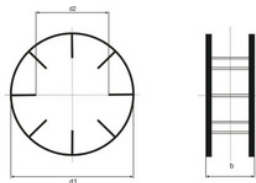
Standards

EN ISO 14700 T Fe8
(DIN 8555 MSG6-GZ-60)

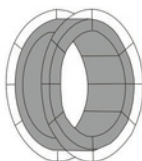
Wire Basket Spool

Wire net weight per spool for:
 non-alloy/low alloy solid wires
 high-alloy solid wires and flux-cored wires
 non-alloy/low-alloy flux-cored wires.

18Kg
 15Kg
 16Kg



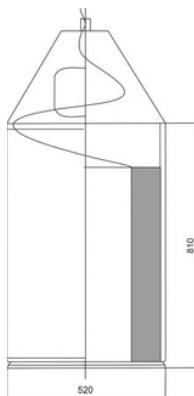
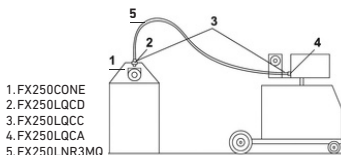
ENISO 544	Outside Diameter d^1	Inside Diameter d^2	External Width b	Kg Wire
B 300	300	180	103	15/16/18



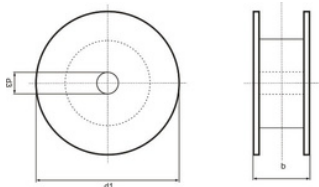
Eco Drum

Ideal bulk pack for 250kg of non-, low- and high alloy welding wires in robotic quality; outstanding for welding robots and other mechanised stations.

FX250CONE	Cone For 250 Kg Mig Wire Drum
FX250LNR3MQ	3m Liner For 250kg Mig Wire Drum
FX250LQCA	Quickpack Wfu Fitting
FX250LQCC	Quickpack Conduit Fitting (Pair)
FX250LQCD	Quickpack Cone Fitting



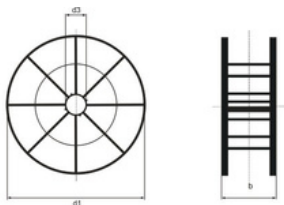
Plastic Spool



EN ISO 544	Outside Diameter d^1	Spindle Hole d^3	External Width b	Tapped Hole Diameter d^4	Distance From Center e^1	Kg Wire
S 100	100	16,5	45	-	-	1,0
S 200	200	50,5	55	10	44,5	5
S 300	300	51,5	103	10	44,5	15

D-Basket Spool

Please enquire if you have specific delivery requests for wire electrodes or other filler metals.



ENISO 544	Outside Diameter d^1	Inside Diameter d^2	External Width b	Kg Wire
B 300	300	50,5	103	15

www.weldability-sif.com



sif
Produced by **Weldability**

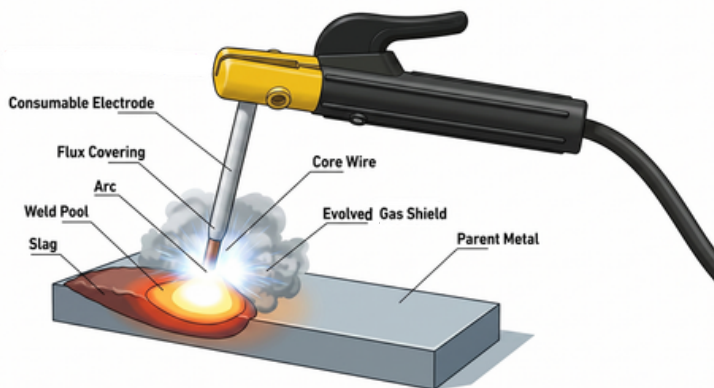
Start with the right wire.
Everything else follows.

MMA Welding

The MMA welding process utilises an electric arc, which is formed between the parent material and the tip of a consumable welding electrode, often referred to as a rod or 'stick'. The heat from the electric arc causes the parent material to melt, and the electrode is transferred across the welding arc and consumed into the welding pool.

The heat of the welding arc is controlled by setting the appropriate current for the diameter of the welding electrode and adjusting the arc length. The electrode has a flux coating that melts as the arc is struck and is used as a protective shield to protect the weld metal from atmospheric contamination. The flux coating can also contain elements to improve the properties of the weld metal.

The molten flux leaves a residual slag on the weld bead after welding, protecting from atmospheric contamination during the solidification phase and during the cooling cycle.



SIFTRODE 6013

Steel MMA Electrode

SIFTRODE 6013 Steel MMA Electrode is a versatile and general-purpose rutile-coated mild steel MMA electrode which runs smoothly and leaves an attractive weld bead. SIFTRODE 6013 offers easy arc ignition, low spatter, and easily lifting slag to reveal a finely-rippled bead.

SIFTRODE 6013 Steel MMA Electrode is ideal for both butt and fillet joints in a wide variety of general fabrication and repair tasks, including platemwork, pipe flanges, frames and tubes, as well as construction, structural steels and pressure vessels.

It can be used in either DC+, DC- or AC (min OCV 50V) currents/polarities, and should be re-dried at 100 °C for 1 hour if required. SIFTRODE 6013 can be confidently used on land-based steel structures and general fabrication alike.

Positions



For use in all positions, except vertical down.

	Current Range
Dia	Amps
2.5mm	60 - 100
3.2mm	85 - 130
4.0mm	130 - 170

Available Formats

Dia.	5kg
2.0mm	RE802050
2.5mm	RE802550
3.2mm	RE803250
4.0mm	RE804050

Each carton contains 3 packs of 5 kg, totalling 15 kg per carton.

Typical Weld Metal Composition

C	0.1%	Si	0.4%	Mn	0.6%
S	0.03%	P	0.03%		

Typical Mechanical Properties

Ultimate Tensile Strength	500N/mm ²
Yield Strength	420N/mm ²
Impact Values	50J@ 0°C
Elongation	24%

Standards

EN ISO 2560-A E 42 0 RC 11
AWS A5.1 E 6013



SIFTRODE 7016

Low Hydrogen MMA Electrode

SIFTRODE 7016 Low Hydrogen MMA Electrode is a vacuum-packed rutile-basic coated low-hydrogen electrode for all positions. The electrode ensures fully penetrated root passes, even under adverse conditions: low moisture content coating and high resistance to moisture reabsorption.

Suitable for mild, medium- and high-tensile, and low-alloy steels, and as a buffer layer on medium- to thick-walled plates and pipes across a range of industries.

Positions



For use in all positions, except vertical down.

Current Range	
Dia	Amps
2.5mm	60 - 115
3.2mm	80 - 150
4.0mm	120 - 185

Available Formats

Dia.	5kg Vac Pack	5kg Non-Vac Pack
2.5mm	RE712550V	RE712550
3.2mm	RE713250V	RE713250
4.0mm	RE714050V	RE714050

Typical Weld Metal Composition

C	0.07%	Si	0.4%	S	0.015%
Mn	1.3%	Cr	0.07%	Ni	0.07%
P	0.025%	Mo	0.02%	Cu	0.07%

Typical Mechanical Properties

Ultimate Tensile Strength	510N/mm ²
Yield Strength	420N/mm ²
Impact Values	150J@-20°C
Elongation	22%

Standards

EN ISO 2560-A: E 42 3 B 32 H10
AWS A5.1 E 7016

SIFTRODE 7018 MMA Electrode

SIFTRODE 7018 MMA Electrode is a basic coated electrode with extremely low hydrogen content and very high efficiency, designed for welding carbon and carbon-manganese steels with tensile strength up to 510 MPa. It is characterised by very good mechanical properties, especially at low temperatures, and offers excellent ignition and smooth deposition.

SIFTRODE 7018 MMA Electrode is used in applications such as tanks, boilers, structural steel works, earth-moving, and construction machinery. SIFTRODE 7018 MMA Electrode provides excellent X-ray results.

This product can be used on carbon steel beams, bridges, earthwork machinery, maintenance, naval yards, pipelines, pressure vessels, shipbuilding, and tanks.

Positions



For use in all positions, except vertical down.

	Current Range
Dia	Amps
2.5mm	60 - 100
3.2mm	85 - 130
4.0mm	130 - 170

Available Formats

Dia.	1.5kg Vac Pack	5kg Non-Vac Pack
2.5mm	RE762501	RE762550
3.2mm	RE763201	RE763250
4.0mm	RE764001	RE764050

Typical Weld Metal Composition

C	0.05%	Si	0.4%	Mn	1.3%
S	0.015%	P	0.02%		

Typical Mechanical Properties

Ultimate Tensile Strength	540N/mm ²
Yield Strength	470N/mm ²
Impact Values	34J@-50°C
Elongation	26%

Standards

EN ISO 2560-A E 42 4 B 31 H5
AWS A5.1: E7018
EN499 E 42 B 42



TIG Welding

The TIG welding process utilises an electric arc, which is formed between the parent material and the tip of a non-consumable tungsten electrode. Most TIG welding machines have both AC and DC modes. When welding aluminium, use AC, and for welding steel, use DC. The heat of the welding arc is controlled by setting the appropriate current for the thickness of the parent material being welded.

Most TIG welding applications require an additional filler material to be added, and this has to be fed into the molten weld pool manually by the welder. During the welding process, the arc is protected by an inert gas shielding, which minimises the possibility of atmospheric contamination. TIG welding offers exceptional control of heat input and is therefore well-suited to the welding of intricate parts or thin-gauge materials.

TIG Brazing

TIG brazing can cover a wide range of applications, from the materials to be joined and joint design to one-off special repair jobs and quantity production. The initial reaction is that TIG is a fusion welding process, and brazing gets obscured with the thought of oxy-acetylene torches, flux powder, etc. In practice, the heat source is the TIG arc, but it runs on a low current so as not to melt the material, with a suitable filler rod fed into the arc.

The filler rod is quite different from the conventional oxy-acetylene 'silicon bronze' brazing rod. As the TIG torch provides a protective gas shroud, there is no need for the addition of flux. TIG brazing is relatively straightforward. The TIG torch requires thoriated or lanthanated tungsten and DC- (electrode negative, DCEN), whereas TIG welding with a 1.6 mm SIFSteel A15 would require 80–95 amps; TIG brazing with SIFSilCopper No. 968 will require less than half that current, more in the order of 35–45 amps. As you can imagine, the welder needs to be comfortably positioned with regard to the parts being joined so that the whole procedure can flow at a relatively fast rate.

Maintaining torch and filler rod angles with respect to the workpiece is key to preventing breakdown of the inert gas envelope and avoiding atmospheric contamination of the joint.

SIFTIG 1050A Aluminium TIG Rod

SIFALUMIN No. 14

A commercially pure aluminium (99.5% minimum) shaved rod which has a maximum of 0.5% alloying elements. This rod produces a ductile weld, often equal in strength to that of the base metal. The weld is capable of being hammered, stretched, and drawn into shape without fracture.

Suitable for welding unalloyed aluminium products, such as aluminium alloy types 1050, 1070, 1200, and equivalents. Used in applications in the electronic, electrical, and construction industries; equipment and containers for the food, chemical, brewing, and atomic energy industries; and decorative assemblies in architecture and transport.

Positions



For use in all positions.

Current
Shielding Gas

AC
Ar/ArHe

Typical Weld Metal Composition

Si	0.25%	Fe	0.4%	Cu	0.05%
Mn	0.05%	Mg	0.05%	Zn	0.07%
Ti	0.05%	Al	99.5%		

Typical Mechanical Properties

Melting Point	650°C
Ultimate Tensile Strength	105N/mm ²
Hardness	35

Available Formats

Dia.	2.5kg
1.6mm	R0141625
2.4mm	R0142425
3.2mm	R0143225

Standards

EN ISO 18273 : S Al 1050A (Al99.5)
(BS 2901 1050 A (GIB)
(BS 1845 (NG3)

SIFTIG 4043A Aluminium TIG Rod

SIFALUMIN No. 15

An aluminium alloy with 5% silicon, offering excellent flow characteristics and penetration. Suitable for welding duralumin cast (LM25) and wrought alloys 6063 (H9), 6061 (H20), and 6082 (H30). The weld will discolour if anodised. Can be used with TIG or Oxy-Acetylene. If used with Oxy-Acetylene, use our SIFALUMINIUM Flux No.12 - (PN: FO120050) aluminium welding flux.

Ensure that the parent metal surface is cleaned and fully degreased before welding. Clean joints with a stainless steel brush.

Positions



For use in all positions.

Current
Shielding Gas

AC
Ar, ArHe

Typical Weld Metal Composition

Al Bal Si 5%

Typical Mechanical Properties

Melting Point	635°C
Ultimate Tensile Strength	120N/mm ²
Hardness	40

Available Formats

Dia.	2.5kg
1.6mm	R0151625
2.4mm	R0152425
3.2mm	R0153225
5.0mm	R0155025

Standards

EN ISO 18273-S Al 4043A (AlSi5)
(BS 2901 4043A)
(BS 1845 (NG21))



SIFTIG 4047A Aluminium TIG Rod

SIFALUMIN No. 16

An aluminium alloy containing 12% silicon, for high-silicon alloys and automotive work. Typically chosen where good colour matching to the parent material is important.

Suitable for all types of aluminium castings. Typical applications include repair, surfacing, and construction of window frames, tubes, furniture, engine blocks, and automotive parts.

Frequently used in the aerospace sector as a brazing alloy on thin-gauge material. Ensure that the parent metal surface is cleaned and fully degreased prior to welding. Clean joints with a stainless steel brush. Can be used in both TIG and Oxy/Acetylene processes. When brazed in Oxy/Acetylene, use our SIFALUMINIUM Flux - No.12 (FO120050) welding flux.

Positions



For use in all positions.

Current
Shielding Gas

AC
Ar, ArHe

Typical Weld Metal Composition

Al Bal Si 12% Mn 0.1%

Typical Mechanical Properties

Melting Point 585°C
Ultimate Tensile Strength 130N/mm²
Hardness 50

Available Formats

Dia.	2.5kg
1.6mm	RO161625
2.4mm	RO162425
3.2mm	RO163225

Standards

EN ISO 18273 S Al 4047A (AlSi12)
(BS 2901 4047A)
(BS 1845 (NG2))

SIFTIG 5356

Aluminium TIG Rod

SIFALUMIN No. 27

A general-purpose aluminium alloy rod containing 5% magnesium that has excellent corrosion resistance and high strength. Suitable for welding magnesium-bearing aluminium alloys such as 5251 (N4), 5154 (N5), 5454 (N51), and also heat-treatable alloys 6063 (H9), 6061 (H20), and 6082 (H30). Can be used in TIG or Oxy/Acetylene. If used in Oxy/Acetylene, use with our SIFALUMINIUM Flux - No. 36 welding flux.

Suitable for welding forged and cast aluminium-manganese/aluminium-magnesium components and dissimilar aluminium alloy grades containing a maximum of 5% Mg. It can also be used to weld components which are to be subsequently anodised. Pre-heating may be necessary, subject to material size and thickness. Wire brushing between passes is recommended to ensure the removal of surface oxide build-up.

Also suitable for use on plates, pipes, tubes, and components. Ensure that the parent metal surface is cleaned and fully degreased before welding.

Positions



For use in all positions, except vertical down.

Current Shielding Gas

AC
Ar, ArHe

Available Formats

Dia.	2.5kg
1.6mm	R0271625
2.4mm	R0272425
3.2mm	R0273225

Typical Weld Metal Composition

Mg 5% Al Bal

Typical Mechanical Properties

Melting Point	640°C
Ultimate Tensile Strength	250N/mm ²
Hardness	60

Standards

EN ISO 18273-S Al 5356 (AlMg5)
(BS 2901 5356)
(BS 1845 (NG6))



SIFTIG 5183 Aluminium TIG Rod

SIFALUMIN No. 28

A special aluminium alloy containing 5% magnesium and 0.75% manganese for improved weld strength and resistance to seawater. Provides excellent feedability and arc control, and the low oxide levels result in superior welds.

Suitable for use in general aluminium fabrication and repairs on boats and ships, bullbars and rollbars, storage tanks, and welding of aluminium alloys where higher strength is required. SIFTIG 5183 Aluminium TIG Rod can also be used on forged and cast aluminium-manganese alloys where high tensile strength and/or high resistance to seawater is required.

Positions



For use in all positions.

Current
Shielding Gas

AC
ArHe

Available Formats

Dia.	2.5kg
1.6mm	R0281625
2.4mm	R0282425
3.2mm	R0283225

Typical Weld Metal Composition

Cu	0.05%	Mn	0.75%	Si	0.25%
Zn	0.25%	Ti	0.15%	Mg	5%
Cr	0.15%	Fe	0.4%	Al	Bal

Typical Mechanical Properties

Melting Point	574°C (solidus) 638°C (liquidus)
Ultimate Tensile Strength	275N/mm ²
Hardness	60

Standards

EN ISO 18273-S Al 5183 (AlMg4.5Mn0.7)
(BS 2901 5183)



SIFTIG 5556 Aluminium TIG Rod

SIFALUMIN No. 37

An aluminium alloy containing 5.3% magnesium for welding aluminium alloys with up to approximately 5% magnesium that are not age-hardenable, and alloys where a higher tensile strength is required. All elements are closely controlled for optimum weld strength.

Suitable for use in the marine environment, where good corrosion resistance is required. Used for marine castings and fabrication, and also on 5083 (N8).

Positions



For use in all positions.

Current
Shielding Gas

AC
Ar, ArHe

Available Formats

Dia.	2.5kg
1.6mm	R0371625
2.4mm	R0372425
3.2mm	R0373225

Typical Weld Metal Composition

Si	0.06%	Mn	0.89%	Cr	0.08%
Cu	0.02%	Ti	0.078%	Zn	0.03%
Fe	0.16%	Mg	5.0%	Al	Bal

Typical Mechanical Properties

Melting Point	620°C
Ultimate Tensile Strength	300N/mm ²
Hardness	70

Standards

EN ISO 18273: S Al 5556A (AlMg5Mn)
(BS 2901 5556)

SIFTIG C1

SIFSILCOPPER No. 7 HQ

An easy-flowing, high-quality, double-cleaned copper rod for full fusion welding of deoxidised high-purity copper sheet. The finished weld is free from porosity and copper oxide inclusions. Suitable for use in the Oxy/Acetylene brazing process (use SIFSILCOPPER FLUX-FO070050). Also commonly used in TIG welding. Suitable for fabrication and repairs to copper pipes, tanks, stills, etc.

The rod can be used for the fabrication of stills for the brewing industry, repairs to copper pipes and castings, calorifiers, fireboxes, and copper fittings. It exhibits a viscous weld pool and is typically best used on oxygen-free copper types. A preheat may be required on thicker materials (to a maximum of 60°C).

Suitable for use in repair and maintenance in the potable water, brewing, offshore, and process industries. This alloy also provides good electrical conductivity and is often used in machinery construction and conductor earthing rail manufacture.

Positions



For use in all positions.

Current
Shielding Gas

DC--
Pure Argon

Typical Weld Metal Composition

Ag 1% Cu Bal

Typical Mechanical Properties

Melting Point	1060°C
Ultimate Tensile Strength	200N/mm ²
Hardness	75

Available Formats

Dia.	5kg
1.6mm	R0071650HQ
2.4mm	R0072450HQ
3.2mm	R0073250HQ

Standards

EN ISO 24373 Cu 1897 (CuAg1)
(BS 1453 C1)

SIFTIG C7 Copper TIG Rod

SIFSILCOPPER No. 985

A high-quality rod containing a minimum of 98.5% copper with deoxidising elements. It is ideal for TIG welding of copper.

Serves as an alternative to SIFTIG C1 in applications where tin is preferable to silver. It is used in the manufacture of grounding/earthing bars and the repair of high-purity deoxidised copper sheet/pipe.

Positions



For use in all positions.

Current Shielding Gas

DC=--
Pure Argon

Available Formats

Dia.	1kg	2.5kg	5kg
1.2mm	R0981201	R0981225	R0981250
1.6mm	R0981601	R0981625	R0981650
2.4mm	R0982401	R0982425	R0982450
3.2mm	R0983201	R0983225	R0983250

Typical Weld Metal Composition

Mn	0.3%	Si	0.3%	Cu	Bal
Sn	0.8%				

Typical Mechanical Properties

Melting Point	1025°C
Ultimate Tensile Strength	225N/mm ²
Hardness	70

Standards

ISO 24373 Cu 1898 (CuSn1)
(BS 2901 C7)

SIFTIG C9 Copper TIG Rod

SIFSILCOPPER 968

A copper rod containing 3% silicon and 1% manganese, used for fusion welding materials of similar composition, copper alloys (brass), and for TIG brazing steels. It is also suitable for surfacing steel and dissimilar metal applications. Offers excellent performance on galvanised steel and provides good corrosion resistance.

For use in the shipbuilding/offshore industries, as well as the heating and ventilation industries, for corrosion resistance and tubular product fabrication. It can also be used for sculpture repair.

When used in Oxy/Acetylene

SIFSilCopper No. 968 can be used for fusion welding of copper alloys and brass. The Oxy-Acetylene gas flame should be slightly oxidising. Keep the weld puddle small to promote fast solidification and minimise cracking. SIFSILCOPPER FLUX - F0070050 should be used both before and during welding. Pre-heating is not recommended.

Positions



For use in all positions.

Current
Shielding Gas

DC--
Pure Argon

Typical Weld Metal Composition

Mn 1% Si 3% Cu Bal

Typical Mechanical Properties

Melting Point	980 - 1020°C
Ultimate Tensile Strength	350N/mm ²
Hardness	90

Available Formats

Dia.	1kg	2.5kg	5kg
1.2mm	R0961201	R0961225	R0961250
1.6mm	R0961601	R0961625	R0961650
2.4mm	R0962401	R0962425	R0962450
3.2mm	R0963201	R0963225	R0963250

Standards

EN ISO 24373 Cu6560 (CuSi3Mn1)
(BS 2901 C9)

SIFTIG C11 Bronze Alloy TIG Rod

SIFPHOSPHORBRONZE No. 8

A phosphor-bronze rod containing 7% tin and suitable for fusion welding of phosphor bronze castings, copper alloys, and brass in TIG and Oxy/Acetylene welding. SIFTIG C11 Bronze Alloy TIG Rod is also used for TIG brazing on ferrous, stainless, and dissimilar metals.

Commonly used on bronze, brass, copper, and copper alloys for applications such as crack repair in castings. The use of flux is normally unnecessary in most applications, but SIFSILCOPPER FLUX - F0070050 can be beneficial in aiding flow when used on copper that is dirty or oxidised.

Weldable in all positions and particularly suitable for welding around pipes (with wall thickness >1.6 mm). Ensure surfaces of the parent metal are cleaned thoroughly before welding.

Positions



For use in all positions.

**Current
Shielding Gas**

DC--
Pure Argon

Typical Weld Metal Composition

Cu Bal Sn 7% P 0.1 - 0.4%

Typical Mechanical Properties

Melting Point 900 - 1050°C
Ultimate Tensile Strength 260N/mm²
Hardness 80

Available Formats

Dia.	1kg	2.5kg	5kg
1.2mm	R0081201	R0081225	R0081250
1.6mm	R0081601	R0081625	R0081650
2.4mm	R0082401	R0082425	R0082450
3.2mm	R0083201	R0083225	R0083250

Standards

EN ISO 24373 Cu 5180a (CuSn6P)
(BS 2901 C11)

SIFTIG C13 Aluminium Bronze Alloy TIG Rod

SIFALBRONZE No. 32

This is a 90/10 aluminium bronze rod suitable for welding materials of a similar composition. It is also used for surfacing and dissimilar metal joints and TIG brazing on ferrous and dissimilar metals.

Can be used on aluminium bronze alloys: CuAl8Fe3, CuAl10FeMn2, CuAl9Mn9, and cast aluminium bronzes G-CuAl8 and G-CuAl10Ni. It can be used to braze some dissimilar metals, including aluminium bronze to steel and copper to steel.

Suitable for use in shipbuilding, offshore power generation, and the repair and maintenance process industry. An excellent alloy for building up or overlapping for wear resistance and corrosion resistance.

Positions



For use in all positions.

Current
Shielding Gas

DC--
Pure Argon

Typical Weld Metal Composition

Al 10% Fe 1% Cu Bal

Typical Mechanical Properties

Melting Point 1030°C
Ultimate Tensile Strength 500N/mm²
Hardness 95

Available Formats

Dia.	1kg	2.5kg	5kg
1.6mm	R0321601	R0321625	R0321650
2.4mm	R0322401	R0322425	R0322450
3.2mm	R0323201	R0323225	R0323250

Standards

EN ISO 24373 : Cu 6180 (CuAl10Fe)
AWS A5.7: ERCuAl-A2
(BS 2901: C13)

SIFTIG C20/26 Brass Bronze Alloy TIG Rod

SIFALBRONZE No. 44

SIFTIG C20/26 Brass Bronze Alloy TIG Rod is a nickel aluminium bronze for AB2 material and marine/corrosive applications, and can be used for the assembly of cupro-aluminium materials of similar composition.

SIFTIG C20/26 Brass Bronze Alloy TIG Rod provides increased resistance against wear and abrasion, for example, when seawater, cavitation, and erosion are simultaneously affecting the welding material.

For use in the following applications: ship propellers, parts for turbines, bearings, valves, sifters, pumps, pipe systems, apparatus engineering, and containers.

Positions



For use in all positions.

Current
Shielding Gas

DC=-
Pure Argon

Typical Weld Metal Composition

Cu	Bal	Al	9%	Ni	4.5%
Fe	3.25%	Mn	1.5%		

Typical Mechanical Properties

Ultimate Tensile Strength	380N/mm ²
Yield Strength	500N/mm ²
Impact Values	68J@20°C
Elongation	16%

Available Formats

Dia.	1 kg	2.5kg	5kg
2.4mm	R0442401	R0442425	R0442450

Standards

EN ISO 24373 : Cu 6328 (CuAl9Ni5Fe3Mn2)
AWS A5.7: ERCuNiAl
(BS 2901: C20/C26)

SIFTIG C27 Bronze Brass Alloy TIG Rod

SIFPHOSPHORBRONZE No. 82

A phosphor bronze rod suitable for all welding positions, with 12% tin for improved colour match on brass and lighter bronzes.

The welding material attains high hardness similar to cast bronzes; therefore, it is to be used for special wear-resistant surfacing, joining, and repair welding of bronzes. Particularly suitable for oven soldering.

Where the parent metal contains trace lead (such as in LG2), it is advisable to use SIFTIG C27 Bronze Brass Alloy TIG Rod in the TIG brazing process, and apply in stages, grinding between passes to remove lead drawn into the joint and reduce porosity.

Positions



For use in all positions.

Current
Shielding Gas

DC--
Pure Argon

Typical Weld Metal Composition

Cu Bal Sn 12% P 0.2%

Typical Mechanical Properties

Melting Point 825 - 990°C
Ultimate Tensile Strength 320N/mm²
Hardness 120

Available Formats

Dia.	1 kg	2.5kg	5kg
1.6mm	R0821601	R0821625	R0821650
2.4mm	R0822401	R0822425	R0822450
3.2mm			R0823250

Standards

EN ISO 24373: Cu 5410 (CuSn12P)
AWS A5.7: ERCuSn-C
(BS 2901: C27)

SIFTIG CuNi10 90/10 Copper Nickel Alloy TIG Rod

SIFALLOY No. 79

A CuNi-alloyed wire/rod for joining and surfacing similar alloys with a nickel content of up to 10%.

Particularly suitable for highly stressed, corrosion-resistant weld surfacing on grey cast iron, as well as on unalloyed and low-alloyed steels. Due to its resistance to seawater, the alloy is ideal for offshore applications, shipbuilding, the chemical and food industries, and oil refineries.

Positions



For use in all positions.

Current
Shielding Gas

DC--
Ar

Available Formats

Dia.	5kg
1.6mm	RT791650
2.4mm	RT792450
3.2mm	RT793250

Typical Weld Metal Composition

Cu Bal Ni 10.2% Fe 1.2%

Typical Mechanical Properties

Melting Point	1120°C
Ultimate Tensile Strength	300N/mm ²
Hardness	80

Standards

EN ISO 24373 : Cu 7061 (CuNi10)

SIFTIG CuNi 90/10

Copper Nickel Alloy TIG Rod

A 90/10 copper-nickel TIG rod designed for welding CuNi10 alloys and for joining copper-nickel to mild steel in marine and offshore environments.

The alloy offers excellent resistance to seawater corrosion, biofouling, and erosion-corrosion. It provides good strength, ductility, and crack resistance with stable arc characteristics and a smooth weld bead appearance.

Positions



For use in all positions.

Current
Shielding Gas

DC=-
Pure Argon

Typical Weld Metal Composition

Cu	90%	Fe	0.4%	Mn	0.2%
Ni	10%	Si	0.1%		

Typical Mechanical Properties

Melting Point	1190°C
Ultimate Tensile Strength	300N/mm ²
Hardness	10

Available Formats

Dia.	5kg
1.6mm	RT791650
2.4mm	RT792450
3.2mm	RT793250

Standards

EN ISO 24373 : Cu 7061 (CuNi10)
AWS A5.7: ERCuNi

SIFTIG 308H Stainless Steel TIG Rod

An austenitic stainless steel filler rod with higher carbon content for improved high-temperature strength.

Used for welding 304H and similar stainless steels in pressure vessels, boilers, and heat exchangers.

Positions



For use in all positions.

**Current
Shielding Gas**

DC=--
Pure Argon

Available Formats

Dia.	2.5kg
1.6mm	R0331625H
2.4mm	R0332425H
3.2mm	R0333225H

Typical Weld Metal Composition

C	0.05%	Si	0.5%	Mn	1.9%
Cr	19.8%	Ni	9.2%		

Typical Mechanical Properties

Melting Point	1420°C
Ultimate Tensile Strength	620N/mm ²
Hardness	20

Standards

EN ISO 14343-A: W 19 9 H
AWS A5.9: ER308H

SIFTIG 308L

Stainless Steel TIG Rod

SIFTIG 308L is a low-carbon 18Cr-8Ni austenitic stainless steel TIG rod designed for welding 304L and similar stainless steel grades.

The low carbon content reduces the risk of intergranular corrosion, making it suitable for service temperatures up to 350°C. The weld metal provides excellent resistance to general corrosion and good resistance to oxidising acids.

It offers stable arc characteristics, smooth weld bead appearance, and consistent mechanical properties.

Positions



For use in all positions.

Current
Shielding Gas

DC=–
Pure Argon

Typical Weld Metal Composition

C	0.02%	Si	0.4%	Mn	1.5%
Ni	10%	Cr	21%		

Typical Mechanical Properties

Melting Point	1440°C
Ultimate Tensile Strength	650N/mm ²
Hardness	180

Available Formats

Dia.	5kg
1.6mm	R0331650
2.4mm	R0332450
3.2mm	R0333250

Standards

EN ISO 14343-A: W 19 9 L
AWS A5.9: ER308L



SIFTIG 309LSi Stainless Steel TIG Rod

SIFTIG 309LSi Stainless Steel TIG Rod is our solid wire for TIG welding corrosion-resistant and heat-resistant CrNi steels, dissimilar metals, and buffering. This stainless rod contains higher levels of chromium and nickel. It can be used for joining materials of similar composition and also dissimilar stainless steels.

Typical applications include joining high-strength steels, unalloyed and low-alloyed heat-treatable steels, stainless, ferritic chromium and austenitic chrome-nickel steels, and austenitic manganese steels. SIFTIG 309LSi Stainless Steel TIG Rod is also suitable for joining clad steels.

Positions



For use in all positions.

Current Shielding Gas

DC=--
Pure Argon

Available Formats

Dia.	5kg
1.6mm	R0341650
2.4mm	R0342450
3.2mm	R0343250

Typical Weld Metal Composition

C	0.1%	Si	1.0%	Mn	1.5%
Ni	13%	Cr	23%		

Typical Mechanical Properties

Melting Point	1440°C
Ultimate Tensile Strength	650N/mm ²
Hardness	180

Standards

EN ISO 14343 23 12 LSi
AWS A5.9 ER 309LSi
(BS 2901 309S93)



SIFTIG 309L

Stainless Steel TIG Rod

An austenitic stainless steel filler rod with low carbon content for welding dissimilar metals, such as mild steel to stainless steel, and for buffer layers on carbon steels.

Offers excellent crack resistance and corrosion performance.

Positions



For use in all positions.

Current
Shielding Gas

DC=--
Pure Argon

Typical Weld Metal Composition

C	0.02%	Si	0.4%	N	0.05%
Cr	23.2%	Ni	13.4%	Cu	0.1%
Mn	1.8%	Mo	0.10%		

Typical Mechanical Properties

Melting Point	1440°C
Ultimate Tensile Strength	650N/mm ²
Hardness	20

Available Formats

Dia.	2.5kg
1.6mm	R0391625
2.4mm	R0392425
3.2mm	R0393225

Standards

AWS A5.9: ER309L
EN ISO 14343-A: S 23 12 L

SIFTIG 309LMo Stainless Steel TIG Rod

A low-carbon, molybdenum-alloyed stainless steel filler rod for joining dissimilar steels and stainless overlays.

Offers improved corrosion resistance and strength compared with ER309L, ideal for chemical and marine applications.

Positions



For use in all positions.

**Current
Shielding Gas**

DC=--
Pure Argon

Available Formats

Dia.	2.5kg
1.6mm	R0341625LMO
2.4mm	R0342425LMO
3.2mm	R0343225LMO

Typical Weld Metal Composition

C	0.01%	Si	0.4%	Mn	1.5%
Cr	21.4%	Ni	14.6%	Mo	2.5%

Typical Mechanical Properties

Melting Point	1440°C
Ultimate Tensile Strength	650N/mm ²
Hardness	20

Standards

EN ISO 14343-A: W 23 12 2 L
AWS A5.9: ER309LMo

SIFTIG 310

Stainless Steel TIG Rod

A high-alloy austenitic stainless steel filler rod designed for welding 310 and similar heat-resistant steels.

Offers excellent oxidation resistance and strength at elevated temperatures, ideal for furnace parts and heat treatment equipment.

Positions



For use in all positions.

Current
Shielding Gas

DC=–
Pure Argon

Available Formats

Dia.	2.5kg
1.6mm	RT701625
2.4mm	RT702425
3.2mm	RT703225

Typical Weld Metal Composition

C	0.10%	Si	0.4%	Cr	25.8%
Mn	1.6%	Ni	20.7%		

Typical Mechanical Properties

Melting Point	1440°C
Ultimate Tensile Strength	650N/mm ²
Hardness	20

Standards

AWS A5.9: ER310
EN ISO 14343-A: S 25 20

SIFTIG 312 Stainless Steel TIG Rod

SIFTIG 312 is a high-alloy 29Cr-9Ni stainless steel TIG rod designed primarily for welding dissimilar steels and difficult-to-weld materials.

The weld metal features high ferrite content, providing excellent resistance to hot cracking and high dilution tolerance. It delivers very high tensile strength combined with good impact resistance and wear resistance.

Often referred to as a "maintenance" or "problem-solving" alloy, it performs reliably when welding steels of unknown composition.

Positions



For use in all positions, except vertical down.

Current
Shielding Gas

DC=-
Pure Argon

Available Formats

Dia.	2.5kg	5kg
1.0mm		R0351050
1.2mm		R0351250
1.6mm	R0351625	R0351650
2.4mm	R0352425	R0352450
3.2mm	R0353225	

Typical Weld Metal Composition

C	0.10%	Si	0.41%	Mn	1.6%
Ni	8.8%	Cr	30.4%	Mo	0.15%

Typical Mechanical Properties

Melting Point	1440°C
Ultimate Tensile Strength	750N/mm ²
Hardness	200

Standards

EN ISO 14343-A: W 29 9
AWS A5.9: ER312

SIFTIG 316L

Stainless Steel TIG Rod

SIFTIG 316L is a molybdenum-bearing austenitic stainless steel TIG filler rod with low carbon content.

It deposits a low-carbon Cr~19%; Ni~12%; Mo~2.6% weld metal, specifically designed for welding 316 and 316L stainless steels. The low carbon level reduces the risk of intergranular corrosion, particularly in welded structures.

The weld metal provides excellent resistance to pitting and crevice corrosion, especially in environments containing chlorides and non-oxidising acids.

Positions



For use in all positions, except vertical down.

Current
Shielding Gas

DC--
Pure Argon / ArH²

Typical Weld Metal Composition

C	0.022%	Si	0.4%	Mn	1.72%
Ni	11.24%	Cr	18.12%	Mo	2.59%

Typical Mechanical Properties

Melting Point	1440°C
Ultimate Tensile Strength	650N/mm ²
Hardness	180

Available Formats

Dia.	5kg
0.8mm	R0210850
1.0mm	R0211050
1.2mm	R0211250
1.6mm	R0211650
2.4mm	R0212450
3.2mm	R0213250

Standards

EN ISO 14343-A: W 19 12 3 L
AWS A5.9: ER316L
(BS 2901 316S92)



SIFTIG 317L Stainless Steel TIG Rod

SIFTIG 317L is a molybdenum-alloyed austenitic stainless steel TIG filler rod with enhanced corrosion resistance compared to 316L grades.

It deposits a low-carbon 18% Cr – 15% Ni – 3–4% Mo weld metal, providing superior resistance to pitting and crevice corrosion, particularly in chloride-containing and acidic environments.

The low carbon content minimises the risk of intergranular corrosion in welded structures.

Positions



For use in all positions.

**Current
Shielding Gas**

DC=–
Pure Argon

Available Formats

Dia.	2.5kg
1.6mm	R0241625
2.4mm	R0242425
3.2mm	R0243225

Typical Weld Metal Composition

C	0.01%	Si	0.4%	Mo	3.6%
Cr	19%	Ni	13.7%		

Typical Mechanical Properties

Melting Point	1420°C
Ultimate Tensile Strength	620N/mm ²
Hardness	20

Standards

EN ISO 14343-A: W 18 15 3 L
AWS A5.9: ER317L

SIFTIG 347

Stainless Steel TIG Rod

A niobium-stabilised stainless steel filler rod engineered to prevent weld decay and provide excellent corrosion resistance. Suitable for use on 18/8-type stainless steels such as 304, 321 and where the weld is subjected to temperatures above 400°C.

Typical applications include all industries where similar materials (including higher carbon types), as well as ferritic 13% Cr steels, are used. The resulting weld metal has excellent resistance to intergranular corrosion.

Suitable for use in shipbuilding, aerospace, turbine and offshore industries, power generation, construction, and for repair and maintenance in the process industries.

Positions



For use in all positions, except vertical down.

Current
Shielding Gas

DC --
Pure Argon

Typical Weld Metal Composition

C	0.039%	Cr	19.66%	S	0.006%
Si	0.47%	Mn	1.78%	Ni	9.53%
Nb	0.47%				

Typical Mechanical Properties

Melting Point	1440°C
Ultimate Tensile Strength	650N/mm ²
Hardness	180

Available Formats

Dia.	1kg	2.5kg	5kg
1.0mm	R0201001	R0201025	R0201050
1.2mm	R0201201	R0201225	R0201250
1.6mm	R0201601	R0201625	R0201650
2.4mm	R0202401	R0202425	R0202450

Standards

EN ISO 14343-A: W 19 9 Nb
AWS A5.9: ER347

SIFTIG 410 Stainless Steel TIG Rod

A martensitic stainless steel filler rod designed for welding Type 410 and similar 12–14% chromium steels.

Provides high strength, good wear resistance, and moderate corrosion resistance. The weld metal is hardenable and may be heat-treated to achieve increased hardness and improved mechanical properties. Preheating and post-weld heat treatment are generally recommended to minimise the risk of cracking.

Commonly used for valves, turbine components, pump shafts, and hard-facing applications where strength and abrasion resistance are required.

Positions



For use in all positions.

Current Shielding Gas

DC=–
Pure Argon

Available Formats

Dia.	2.5kg
1.6mm	R04101625
2.4mm	R04102425
3.2mm	R04103225

Typical Weld Metal Composition

C	0.12%	Si	0.3%	Mn	0.5%
Cr	12.2%				

Typical Mechanical Properties

Melting Point	1480°C
Ultimate Tensile Strength	460N/mm ²
Hardness	35–45

Standards

EN ISO 14343-A: W 13
SFA/AWS A5.9: ER410

SIFTIG 410NiMo

Stainless Steel TIG Rod

A martensitic stainless steel TIG filler rod alloyed with nickel and molybdenum to provide improved toughness, ductility, and corrosion resistance compared to standard 410 grades.

It produces a 13% Cr - 4% Ni weld metal with enhanced resistance to cracking and improved impact properties, particularly after heat treatment.

Ideal for welding 410, 405, and 420 stainless steels used in:

- Turbines
- Pumps
- Valves
- Hydroelectric components
- Power generation equipment

Preheating and post-weld heat treatment are generally recommended to minimise cracking risk.

Positions



For use in all positions.

Current
Shielding Gas

DC--
Pure Argon

Typical Weld Metal Composition

C	0.02%	Si	0.37%	Mn	0.43%
Cr	12.2%	S	0.004%	Mo	0.4%
Ni	4.5%				

Typical Mechanical Properties

Melting Point	1460°C
Ultimate Tensile Strength	650N/mm ²
Hardness	38

Available Formats

Dia.	2.5kg
1.6mm	RT4101625NM
2.4mm	RT4102425NM
3.2mm	RT4103225NM

Standards

EN ISO 14343-A: W 13 4
AWS A5.9: ER410NiMo

SIFTIG 420 Stainless Steel TIG Rod

A high-carbon martensitic stainless steel TIG filler rod designed for welding Type 420 and similar high-carbon 12–14% chromium steels.

Produces very hard, wear-resistant weld deposits with moderate corrosion resistance. The weld metal is fully hardenable and can achieve high hardness levels after heat treatment.

Preheating and post-weld heat treatment are strongly recommended to minimise cracking.

Positions



For use in all positions.

Current Shielding Gas

DC=-
Pure Argon

Available Formats

Dia.	2.5kg
1.6mm	RO4201625
2.4mm	RO4202425
3.2mm	RO4203225

Typical Weld Metal Composition

C	0.4%	Si	0.5%	Mn	0.6%
Cr	14.0%				

Typical Mechanical Properties

Melting Point	1500°C
Ultimate Tensile Strength	490N/mm ²
Hardness	30

Standards

AWS A5.9: ER420
EN ISO 14343-A: W 13 C

SIFTIG 430

Stainless Steel TIG Rod

A ferritic stainless steel TIG filler rod designed for welding Type 430 and similar 16–18% chromium ferritic stainless steels.

Produces ductile, corrosion-resistant weld deposits with good resistance to oxidation and stress corrosion cracking. The weld metal is fully ferritic and offers good formability compared to martensitic grades.

Unlike martensitic fillers, ER430 is non-hardenable and generally does not require post-weld heat treatment.

Positions



For use in all positions.

Current
Shielding Gas

DC=–
Pure Argon

Available Formats

Dia.	2.5kg
1.6mm	R04301625
2.4mm	R04302425
3.2mm	R04303225

Typical Weld Metal Composition

C	0.02%	Si	0.5%	Mn	0.6%
Cr	18.5%	Ni	0.2%		

Typical Mechanical Properties

Melting Point	1500°C
Ultimate Tensile Strength	690N/mm ²
Hardness	45

Standards

AWS A5.9: ER430
EN ISO 14343-A: W 17

SIFTIG 2209

Stainless Steel Duplex TIG Rod

A duplex stainless steel filler rod designed for welding 2205 and similar duplex grades.

Provides high strength, excellent resistance to stress corrosion cracking, and superior pitting resistance in chloride environments.

Positions



For use in all positions.

Current Shielding Gas

DC=-
Pure Argon

Available Formats

Dia.	2.5kg
1.6mm	RT741625
2.4mm	RT742425
3.2mm	RT743225

Typical Weld Metal Composition

C	0.01%	Si	0.5%	Cr	22.7%
Mn	1.5%	Ni	8.5%	Mo	3.2%
N	0.17%				

Typical Mechanical Properties

Melting Point	1440°C
Ultimate Tensile Strength	765N/mm ²
Hardness	24

Standards

AWS A5.9: ER2209
EN ISO 14343-A: W 22 9 3 N L

SIFTIG DUPLEX 2209

Stainless Steel TIG Rod

SIFTIG DUPLEX 2209 Stainless Steel TIG Rod is designed for welding parent material of similar composition and is commonly used in sour applications where exposure to corrosive chlorides and hydrogen sulphides may occur. This is a solid, bare duplex stainless steel TIG filler rod, intended for welding austenitic-ferritic alloys where high resistance to intergranular corrosion, stress corrosion, and pitting is required.

Duplex is a material that is growing in popularity due to its strength-to-weight ratio, price stability, and corrosion-resistant properties. It is used for sheet and pipe applications across a wide range of industry sectors, including petrochemical, chemical/pharmaceutical, pulp & paper, mining, and food & beverage.

Positions



For use in all positions, except vertical down.

Current
Shielding Gas

DC--
Ar, ArHe

Typical Weld Metal Composition

C	0.02%	Si	0.5%	Mn	1.7%
Ni	8.5%	Cr	22.5%	Mo	3.3%
Fe	Bal				

Typical Mechanical Properties

Melting Point	1440°C
Ultimate Tensile Strength	765N/mm ²
Hardness	240

Available Formats

Dia.	5kg
1.6mm	RT741650
2.4mm	RT742450
3.2mm	RT743250

Standards

EN ISO 14343-A : W 22 9 3 N L
AWS A5.9: ER2209

SIFTIG CuNi 70/30 Copper Nickel Alloy TIG Rod

A copper-nickel alloy filler rod (Cu-30Ni) for welding 70/30 and 90/10 Cu-Ni alloys.

Offers excellent resistance to seawater corrosion and erosion, making it ideal for marine, offshore, and desalination applications.

Positions



For use in all positions.

Current
Shielding Gas

DC--
Pure Argon

Available Formats

Dia.	5kg
1.6mm	RT731650
2.4mm	RT732450
3.2mm	RT733250

Typical Weld Metal Composition

Cu	70%	Fe	0.58%	Mn	0.76%
Ni	30%	Si	0.02%	Ti	0.39%

Typical Mechanical Properties

Melting Point	1180°C
Ultimate Tensile Strength	400N/mm ²
Hardness	15

Standards

EN ISO 24373: Cu 7158 (CuNi30Mn1Fe)
AWS A5.7: ERCuNi

SIFTIG 2594

Stainless Steel Duplex TIG Rod

A super duplex stainless steel filler rod for welding 2507 and similar grades.

Provides very high strength and exceptional resistance to pitting, crevice, and stress corrosion cracking in chloride-rich and aggressive environments.

Positions



For use in all positions.

Current
Shielding Gas

DC=--
Pure Argon

Available Formats

Dia.	2.5kg
1.6mm	RT781625
2.4mm	RT782425
3.2mm	RT783225

Typical Weld Metal Composition

C	0.03%	Si	0.62%	Cr	25.34%
Mn	0.95%	Ni	9.68%	Mo	3.59%
N	0.23%	S	0.01%	Cu	0.14%

Typical Mechanical Properties

Melting Point	1440°C
Ultimate Tensile Strength	825N/mm ²
Hardness	28

Standards

EN ISO 14343-A: W 25 9 4 N L
AWS A5.9: ER2594

SIFTIG A15/70S-2 Mild Steel TIG Rod

Our SIFTIG A15/70S-2 is a copper-coated, triple-deoxidised mild steel rod. When used with the TIG process, it enables sound, porosity-free welds on mild and low-alloy steels. Typical applications include pipe welding and root runs on heavy vessels.

It is suitable for use on mild and medium tensile steels and is also ideal for welding rusty and mill-scaled plates. The rod is compatible with Thoriated, Ceriated, or Lanthanated tungsten electrodes and pure argon shielding gas.

Primarily used for single-pass applications on steels, it also performs well on surfaces that have not been cleaned prior to welding.

Positions



For use in all positions, except vertical down.

Current
Shielding Gas

DC=–
Pure Argon

Typical Weld Metal Composition

C	0.1%	Si	0.6%	Mn	1.3%
Al	0.2%				

Typical Mechanical Properties

Melting Point	1450°C
Ultimate Tensile Strength	440N/mm ²
Hardness	120

Available Formats

Dia.	5kg
1.0mm	RA151050
1.2mm	RA151250
1.6mm	RA151650
2.4mm	RA152450
3.2mm	RA153250

Standards

EN ISO 636-A: W 46 2 2
EN 1668 W2Ti
AWS ER70S-2
(BS 2901 A15)



SIFTIG A18/70S-6

Mild Steel TIG Rod

A copper-coated, deoxidised steel rod for TIG welding unalloyed and low-alloyed steels. To be used in combination with Thoriated, Ceriated, or Lanthanated tungsten electrodes.

Suitable for applications in general maintenance and repair, construction, pressure vessel and boiler production, and the automotive industry.

Can be used on structural, boiler, pipe, cast and fine-grain steels.

Positions



For use in all positions, except vertical down.

Current
Shielding Gas

DC--
Pure Argon

Typical Weld Metal Composition

C 0.1% Si 1.0% Mn 1.3%

Typical Mechanical Properties

Melting Point	1450°C
Ultimate Tensile Strength	400N/mm ²
Hardness	120

Available Formats

Dia.	5kg
1.0mm	RA181050
1.2mm	RA181250
1.6mm	RA181650
2.4mm	RA182450
3.2mm	RA183250

Standards

EN ISO 636-A W 46 4 Z W3Si1
AWS A5.18 ER70S-6
(BS 2901 A18)

SIFTIG A31/80S-D2 Alloy Steel TIG Rod

SIFTIG A31/80S-D2 Alloy Steel TIG Rod is our copper-coated alloy steel rod containing 0.5% molybdenum. Suitable for use in low-temperature pressure vessels and pipework applications, this low-alloy solid wire is designed for welding low-carbon steels with high tensile strength and creep-resistant steels.

Suitable for pipelines and pressure vessels with operating temperatures of about 500 °C.

Positions



For use in all positions.

Current Shielding Gas

DC=-
Pure Argon

Available Formats

Dia.	5 kg
1.6mm	RA311650
2.4mm	RA312450

Typical Weld Metal Composition

C	0.1%	Si	0.7%	Mn	1.8%
Mo	0.5%				

Typical Mechanical Properties

Melting Point	1450°C
Ultimate Tensile Strength	460N/mm ²
Hardness	180

Standards

EN ISO 636-B: W 57 A 3
AWS ER 80S-D2
(BS 2901 A31)



SIFTIG A32/80S-B2 Alloy TIG Rod

Our SIFTIG A32/80S-B2 Alloy TIG Rod is a copper-coated low-alloy steel rod containing ~ 1.3% chromium and 0.5% molybdenum. It is ideal for creep-resistant steels of a similar composition.

It is used in the chemical industry and the ammonia synthesis process, for heat exchangers, boilers, piping, and pressure vessels for temperature service up to around 550 °C. It also finds applications in the petrochemical industry.

Suitable for facing on castings and for casting repairs.

Positions



For use in all positions.

**Current
Shielding Gas**

DC=-
Pure Argon

Typical Weld Metal Composition

Cr	1.3%	Si	0.5%	Mn	0.6%
Mo	0.5%				

Typical Mechanical Properties

Melting Point	1450°C
Ultimate Tensile Strength	500N/mm ²
Hardness	180

Available Formats

Dia.	5kg
1.0mm	RA321050
1.2mm	RA321250
1.6mm	RA321650
2.4mm	RA322450

Standards

EN ISO 21952-A: W CrMo1Si
AWS ER80S-B2
(BS 2901 A32)



SIFTIG A33/80S-Ni2 Alloy TIG Rod

SIFTIG A33/80S-Ni2 Alloy TIG Rod is a copper-coated alloy steel rod containing 2.25% chromium and 1.0% molybdenum. It is suitable for high-temperature and high-pressure applications on materials of similar composition and creep-resistant steels.

It is used in the chemical industry and in the ammonia synthesis process, for heat exchangers, boilers, piping, and pressure vessels for temperature service up to around 600 °C. It also finds applications in the petrochemical industry.

Suitable for facing on castings and for casting repairs.

Positions



For use in all positions.

Current Shielding Gas

DC=--
Pure Argon

Available Formats

Dia.	5kg
1.6mm	RA331650
2.4mm	RA332450

Typical Weld Metal Composition

C	0.1%	Si	0.5%	Mn	1%
Cr	2.25%	Mo	1.0%		

Typical Mechanical Properties

Melting Point	1450°C
Ultimate Tensile Strength	525N/mm ²
Hardness	200

Standards

EN ISO 21952-A: W CrMo2Si
ER90S-B3 (A5.28)
(BS 2901 A33)



SIFTIG 80S - Ni2

Nickel TIG Rod

Ni-alloyed solid wire for TIG welding low-alloyed cryogenic steels under argon gas shielding. Typically used in applications requiring sub-zero toughness down to -80 °C.

Suitable for use in the offshore and shipbuilding industries, general fabrication and construction, power generation, and the oil and gas sectors.

It can also be used on fine-grain steels where high tensile strength is required.

Positions



For use in all positions, except vertical down.

Current
Shielding Gas

DC=--
Pure Argon

Available Formats

Dia.	5kg
2.4mm	RT722450
3.2mm	RT723250

Typical Weld Metal Composition

C 0.1%	Ni 2.1%	Mn 1.0%
Si 0.5%		

Typical Mechanical Properties

Ultimate Tensile Strength 620N/mm²

Standards

EN ISO 636A W2Ni2
AWS A5.28 ER80S-Ni2

SIFTIG AZ61A Magnesium TIG Rod

SIFMAGNESIUM No. 23

This magnesium rod containing 6% aluminium is suitable for welding magnesium-aluminium alloy castings of similar composition, e.g., G-Mg-Al 3 to 1, G-Mg-Al 5Mn. This product offers good weldability when used with wrought alloys for ambient conditions.

It is used in the automotive industry, aerospace, and mechanical engineering, specialising in engines and gearboxes, panels, and as a construction material.

Positions



For use in all positions.

**Current
Shielding Gas**

DC=
Ar

Available Formats

Dia.	12 Rod/Pack	1kg
3.0mm	R0233212	R0233201

Typical Weld Metal Composition

Al	6%	Zn	0.6%	Mn	0.15%
Mg	Bal				

Typical Mechanical Properties

Melting Point	600°C
Ultimate Tensile Strength	280N/mm ²

Standards

AWS A5.19 ERAZ61A

SIFTIG Ti5 6-4 Titanium Alloy TIG Rod

SIFALLOY No. 75

This alloy, commonly referred to as '6-4', is used for welding alloyed titanium containing 6% aluminium and 4% vanadium. This wire offers high strength, excellent weldability, fatigue strength, and hardness. SIFTIG Ti5 6-4 Titanium TIG Rod can also be heat-treated.

Suitable for a wide range of applications, including petrochemical equipment, aircraft components, motorsport parts, turbine components and blades, exhaust systems, and heat exchangers.

Positions



For use in all positions.

Current
Shielding Gas

DC=–
Ar/ArHe

Typical Weld Metal Composition

Ti	Bal	Al	5.8%	V	4%
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Typical Mechanical Properties

Melting Point	1668°C
Ultimate Tensile Strength	890N/mm ²
Hardness	334

Available Formats

Dia.	2.5kg
1.0mm	RT751025
1.2mm	RT751225
1.6mm	RT751625
2.4mm	RT752425

Standards

AWS A5.16 ERTi-5
AMS 4954

SIFTIG HF6 Hard Facing TIG Rod

A chromium-molybdenum steel rod with specific additions of vanadium, tungsten, and other hardening alloying elements, designed for the repair and reclamation of machining errors in high-speed steel, tool steels, and die steel, as well as for the hard surfacing of carbon-steel components.

SIFTIG HF6 Hard Facing TIG Rod is a unique alloy that enables the repair welding of die, tool, and high-speed steels using the TIG process. The reduced heat-affected zone provided by TIG helps prevent embrittlement, while the specific addition of vanadium in the SIFTIG HF6 Hard Facing TIG Rod composition ensures compatibility with tool steels.

The weld deposit of SIFTIG HF6 Hard Facing TIG Rod is extremely crack-resistant when repairing difficult-to-weld steels.

Positions



Suitable for butt and fillet welds.

Current
Shielding Gas

DC=–
Pure Argon

Available Formats

Dia.	12 rod/pk	1 kg
1.6mm	ROHF61612	ROHF61601
2.4mm	ROHF62412	ROHF62401

Typical Weld Metal Composition

C	1%	Si	0.5%	Mn	0.3%
Cr	4%	Mo	8%	V	2%
W	1.5%				

Typical Mechanical Properties

Hardness 60

Standards

EN ISO 14700 SFe4
AWS A5.21 ERF6

Tungstens

Available Formats:

ZIRCONIATED

Dia.		Part No
1.6mm	Zirconiated (white tip)	HP16216
2.4mm	Zirconiated (white tip)	HP16224
3.2mm	Zirconiated (white tip)	HP16232



SUPERSTRIKE

Dia.		Part No
1.6mm	Superstrike (blue tip)	HP16716
2.4mm	Superstrike (blue tip)	HP16724
3.2mm	Superstrike (blue tip)	HP16732



CERIATED

Dia.		Part No
1.0mm	Ceriated (grey tip)	HP16310
1.2mm	Ceriated (grey tip)	HP16312
1.6mm	Ceriated (grey tip)	HP16316
2.4mm	Ceriated (grey tip)	HP16324
3.2mm	Ceriated (grey tip)	HP16332



2% THORIATED

Dia.		Part No
1.0mm	Thoriated (red tip)	HP16110
1.2mm	Thoriated (red tip)	HP16112
1.6mm	Thoriated (red tip)	HP16116
2.4mm	Thoriated (red tip)	HP16124
3.2mm	Thoriated (red tip)	HP16132



-  **ZIRCONIATED**
-  **CERIATED**
-  **SUPERSTRIKE**
-  **2% THORIATED**

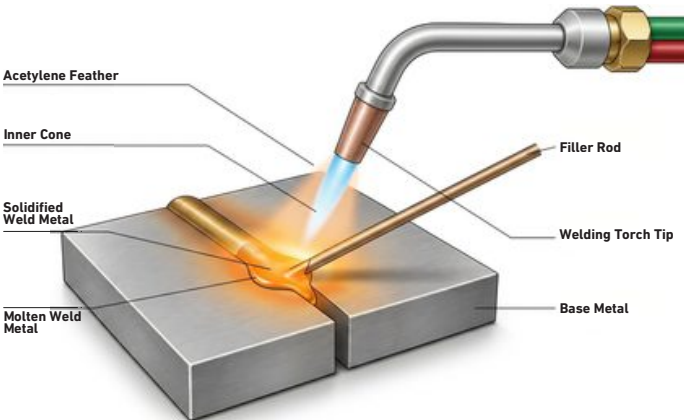
Brazing

SIFBronzing or brazing is a non-fusion metal joining process that uses a filler material with a melting point below that of the parent material. The filler metal is heated slightly above its melting temperature, allowing it to flow over and around the base metal (known as wetting) before cooling to join the workpieces together.

Silver brazing, sometimes called silver soldering or hard soldering, involves brazing using a silver alloy-based filler. These silver alloys contain varying percentages of silver along with other metals such as copper and zinc.

Braze welding uses a bronze or brass filler rod coated with flux to join steel workpieces. The equipment required for braze welding is essentially the same as that used in brazing. Since braze welding typically requires more heat than brazing, acetylene fuel is commonly used. The name derives from the fact that no capillary action is involved.

A flux is required during brazing operations to prevent oxide formation while the metal is heated and to aid the flow of the brazing filler material.



SIFREDICOTE C2 Flux Coated Brazing Rod

SIFREDICOTE No. 1

This rod is SIFBRONZE C2 with a full flux coating, providing the added benefit of faster, continuous brazing through not having to flux-dip. It is ideally suited for general mild steel work, galvanised steel and dissimilar metal applications.

Suited to tubular component manufacturing, casting repair (cast iron) and dissimilar joints. Favoured for fast repair and maintenance applications owing to greater flux coverage.

All joints should be clean and free of dirt, grease, rust and paint/primer prior to brazing.

Positions



For use in downhand and fillet positions.

Suitable Process.

Brazing, Oxy/Acetylene
Oxy/Propane (1.6mm max)

Available Formats

Dia.	1kg	2.5kg	5kg
1.6mm	RR011601	RR011625	
2.4mm	RR012401	RR012425	RR012450
3.2mm	RR013201	RR013225	RR013250

Typical Weld Metal Composition

Cu 60%	Sn 0.3%	Si 0.3%
Zn Bal		

Typical Mechanical Properties

Melting Point	875 - 895°C
Ultimate Tensile Strength	430N/mm ²
Hardness	120

Standards

EN ISO 17672 CU 302
(BS 1845 CZ6A)
(BS 1453 C2)

SIFBRONZE C2

Brass Bronze Alloy Brazing Rod

SIFBRONZE No. 1

The original multi-purpose SIFBRONZE low temperature rod for brazing and bronze welding of steels, cast iron, copper and its alloys. It is a rod favoured throughout industry for its variety of applications and ease of use.

Ideally suited for general mild steel work, galvanised steel and dissimilar metal applications. Widely used in the manufacture of vehicle bodies, bicycle frames and wheelchairs, and for benchwork fabrications of tubular components. Also suitable for the repair of iron castings.

All joints should be clean and free of dirt, grease, rust and paint/primer before brazing. Use SIFBRONZE brazing flux. For flux-coated variants, see SIFREDICOTE and SIFAUTOBRONZE.

Positions



For use in downhand and fillet positions.

Suitable Process.

Brazing, Oxy/Acetylene
Oxy/Propane (1.6mm max)

Available Formats

Dia.	1kg	2.5kg	5kg
1.6mm	R0011601	R0011625	R0011650
2.4mm	R0012401	R0012425	R0012450
3.2mm	R0013201	R0013225	R0013250
4.8mm			R0014850

Typical Weld Metal Composition

Cu 60%	Sn 0.3%	Si 0.3%
Zn Bal		

Typical Mechanical Properties

Melting Point	875 - 895°C
Ultimate Tensile Strength	430N/mm ²
Hardness	120

Standards

EN ISO 17672 CU302
(BS 1845 CZ6A)
(BS 1453 C2)

SIFBRONZE No. 101 Alloy Brazing Rod

A special brazing rod containing specific additions of Manganese and Tin, giving it free-flowing characteristics. It is particularly suitable for use with 'gas flux'. A popular choice in the manufacture of bicycle frames and automotive components.

Specially formulated to provide a faster flow rate in order to deliver increased efficiencies in high production applications.

Favoured by many vehicle manufacturers and widely used with the gas flux process. All joints should be clean and free of dirt, grease, rust and paint/primer prior to brazing. Use SIFBRONZE brazing flux.

Our special blend of chemicals has supported the industry for over 100 years, uniquely classified outside traditional ISO standards.

Positions



For use in downhand and fillet positions.

Suitable Process.

Brazing, Oxy/Acetylene
Oxy/Propane (2.0mm max)

Typical Weld Metal Composition

Cu	60%	Mn	0.2%	Si	0.1%
Sn	0.1%	Zn	Bal		

Typical Mechanical Properties

Melting Point	870 - 890°C
Ultimate Tensile Strength	460N/mm ²
Hardness	130

Available Formats

Dia.	1kg	2.5kg	5kg
1.5mm	RO101501	RO101525	RO101550
2.0mm	RO102001	RO102025	RO102050
2.5mm	RO102501	RO102525	RO102550
3.0mm	RO103001	RO103025	RO103050

SIFCUPRON CP1

Copper Phosphorus Alloy Rod

SIFCUPRON No. 17-15Ag

A silver copper-phosphorus brazing alloy, which is used to braze copper and copper alloys. With 15% silver for stressed applications, it is ideal for poor-fitting joints. It is one of the most ductile of the silver-copper-phosphorus brazing filler metals, and is recommended where a self-fluxing alloy must be used, and joint ductility is a factor.

SIFCUPRON CP1 finds extensive use in electrical engineering applications, where it is used to make electrically conductive joints.

This product is highly suited to pipework and offshore industries, as well as the electrical motor industry. It is ideal for stressed applications where poor-fitting joints are problematic. Rapid heating to the brazing temperature is required to avoid liquation. Use SIFSILCOPPER FLUX (F0070050) when brazing copper alloys, brass, bronze, etc.

Positions



For use in downhand and fillet positions.

Suitable Process.

Brazing, Oxy/Acetylene
Oxy/Propane

Available Formats

Dia.	6 Rod Pack	1kg
1.5mm	R0181506	R0181501

Typical Weld Metal Composition

Ag 15% P 5% Cu Bal

Typical Mechanical Properties

Melting Point	645-700°C
Ultimate Tensile Strength	640N/mm ²
Hardness	185

Standards

EN ISO 17672 CuP 284
(BS 1845 CP1)
EN ISO 17672 CP102
AWS A5.8 BCuP-5

SIFCUPRON CP2 Copper Phosphorus Alloy Rod

SIFCUPRON No. 17-2Ag

A self-fluxing copper phosphorus alloy with the addition of 2% silver to improve ductility and flowing characteristics. Highly resistant to corrosion and not subject to dezincification. It is ideal for pipe cylinders, electric motors and also general maintenance work. For brazing copper to copper, no flux is needed.

This high-quality copper phosphorus rod is recommended for use when brazing seams on hot water cylinders, as it's highly resistant to corrosion. The optimum brazing gap is typically 0.05mm - 0.2mm.

Suitable for use in heating and ventilation industries, refrigeration and offshore and electrical industries. Owing to low ductility, it should only be used with capillary-type joints. 'Bell-mouthed' joints should be avoided.

Positions



For use in downhand and fillet positions.

Suitable Process.

Brazing, Oxy/Acetylene
Oxy/Propane (1.6mm max)

Available Formats

Dia.	1kg	2.5kg	5kg
1.6mm	R0181601	R0181625	R0181650
2.4mm	R0182401	R0182425	R0182450
3.2mm	R0183201	R0183225	R0183250

Typical Weld Metal Composition

Ag 2% P 6% Cu Bal

Typical Mechanical Properties

Melting Point	645-740°C
Ultimate Tensile Strength	430N/mm ²
Hardness	195

Standards

EN ISO 17672 CuP 182
(BS1845 CP2)
EN ISO 17672 CP105
(DIN 8513 L-Ag2P)

SIFCUPRON CP3

Copper Phosphorus Alloy Rod

SIFCUPRON No. 17

SIFCUPRON CP3 Copper Phosphorus Alloy Brazing Rod is a free-flowing copper phosphorus alloy rod, containing a nominal 7% phosphorus. It has good electrical conductivity and corrosion resistance, making it ideal for copper tubing, switchgear, motors, etc. When brazing copper, it has a self-fluxing capability.

This high-quality copper-phosphorus alloy rod has a low melting point and is ideal for brazing joints in non-ferrous metals, such as copper, brass, and bronze. It is self-fluxing on copper, but SIFSILCOPPER FLUX (FO070050) is required when used to join brass or brass to copper.

Not suitable for brazing iron-containing materials like carbon or stainless steels, or nickel-containing materials. Suitable for use in heating and ventilation industries, pipework, and offshore processes. It offers a low level of ductility, so it is not suitable for applications where vibration or deformation is likely.

Positions



For use in downhand and fillet positions.

Suitable Process.

Brazing, Oxy/Acetylene
Oxy/Propane (1.5mm max)

Available Formats

Dia.	1kg	2.5kg	5kg
1.5mm	R0171501	R0171525	R0171550
2.4mm	R0172401	R0172425	R0172450
3.2mm	R0173201	R0173225	R0173250

Typical Weld Metal Composition

P 7% Cu Bal

Typical Mechanical Properties

Melting Point	705-800°C
Ultimate Tensile Strength	500N/mm ²
Hardness	200

Standards

EN ISO 17672 CuP 180
(BS 1845 CP3)
EN ISO 17672 CP201
(DIN 8513 L-Cu7P)

SIFCUPRON CP4 Copper Phosphorus Alloy Rod

SIFCUPRON No. 17-5Ag

A copper/phosphorus alloy with 5% silver, exhibiting ductility and capillary flow characteristics between SIFCUPRON CP1 and SIFCUPRON CP2. It provides the best combination of flow and ductility among all silver-copper-phosphorus-type brazing filler metals.

It is recommended for use in the production of electrical motors, dynamos and the joining of copper pipes in the shipbuilding and offshore industries. It is extensively used in refrigeration, air conditioning and heat-exchanger components for flux-free brazing of copper pipes and tubes.

Not suitable for brazing iron-containing materials like carbon, stainless steel, or materials with a nickel content, as the phosphorus within the filler will form brittle compounds at the joints. For brazing copper to copper, no flux is needed.

Positions



For use in downhand and fillet positions.

Suitable Process.

Brazing, Oxy/Acetylene
Oxy/Propane (1.5mm max)

Typical Weld Metal Composition

Ag 5% P 6% Cu Bal

Typical Mechanical Properties

Melting Point	645-730°C
Ultimate Tensile Strength	600N/mm ²
Hardness	190

Available Formats

Dia.	1kg	2.5kg	5kg
1.5mm	R01815015AG	R01815255AG	R01815505AG
2.5mm	R01825015AG	R01825255AG	R01825505AG

Standards

EN ISO 17672 CuP 282
EN ISO 17672 CP104
AWS A5.8 BCuP-3
(BS 1845 CP4)

SIF Silver Solder 38% Ag 138

SIF Silver Solder No. 39

A general-purpose, cadmium-free silver brazing filler metal. It is suitable for all ferrous and non-ferrous metals except aluminium. It can be used with a range of heat sources. It also offers a combination of medium melting temperature and flow characteristics. Use with SIFSILVER SOLDER FLUX (F0380022 & F0380050).

This solder offers excellent fluidity and wetting characteristics. Ideal for applications within the food and medical equipment industries.

It is used as a general silver brazing filler metal as well as in joining copper to steel in refrigeration and pipe work. SIF Silver Solder 38% Ag 138 can be used to join most common engineering metals, including mild, carbon, tool steel, stainless steels, and low alloy steel.

This alloy should only be used to form capillary joints.

Positions



For use in soldering.

Suitable Process.

Brazing, Oxy/Acetylene
Oxy/Propane (1.5mm max)

Available Formats

Dia.	6 Rod Pack	1kg
1.5mm	RO391506	RX391500

Typical Weld Metal Composition

Ag	38%	Cu	32%	Zn	28%
Sn	2%				

Typical Mechanical Properties

Melting Point	650-725°C
Ultimate Tensile Strength	460N/mm ²
Hardness	140

Standards

EN ISO 17672 Ag 138

SIF Silver Solder 40% Ag 140

SIF Silver Solder No. 40

A popular grade of Silver Solder offering good capillary action and ductility in many applications. It is suitable for all ferrous and non-ferrous metals, except aluminium. It can be used with a range of heat sources. It also offers a combination of medium melting temperature and flow characteristics.

This is a cadmium-free silver solder offering excellent fluidity and wetting characteristics. Ideal for applications within the food and medical industries. It is used as a general silver brazing filler metal as well as in joining copper to steel in refrigeration and pipe work.

SIF Silver Solder 40% Ag 140 can be used to join most common engineering metals - copper, copper alloys including brasses, bronzes, gun metal, nickel silver, aluminium bronze, copper nickel, and steels including mild, carbon, tool steel, stainless steels, and low alloy steel. Use with SIFSILVER SOLDER FLUX (FO380022 & FO380050).

Positions



For use in soldering.

Suitable Process.

Oxy/Acetylene, Oxy/Propane
Butane, Air Butane

Available Formats

Dia.	1kg
1.5mm	RX401500
2.0mm	RX402000

Typical Weld Metal Composition

Ag 40%	Cu 30%	Zn 28%
Sn 2%		

Typical Mechanical Properties

Melting Point	670-710°C
Ultimate Tensile Strength	440N/mm ²
Hardness	130

Standards

EN ISO 17672 Ag 140

SIF Silver Solder 55% Ag 155

SIF Silver Solder No. 43

A highly ductile, fast-flowing, cadmium-free silver brazing filler metal. It is suitable for all ferrous and non-ferrous metals except aluminium. It can be used with a range of heat sources. It also offers a combination of low melting temperature and excellent flow characteristics. Use with SIFSILVER SOLDER FLUX (FO380022 & FO380050).

Ideal for applications within the food and medical industries. It is used as a general silver brazing filler metal as well as in joining copper to steel in refrigeration and pipe work.

SIF Silver Solder 55% Ag 155 can be used to join most common engineering metals and is most suitable for use in heating and ventilation, refrigeration, electrical, and process industries. However, this alloy should only be used to form capillary joints.

Positions



For use in soldering.

Suitable Process.

Oxy/Acetylene, Oxy/Propane
Butane, Air Butane

Available Formats

Dia.	6 Rod Pack	1 kg
1.5mm	RO431506	RX431500

Typical Weld Metal Composition

Ag 55%	Cu 21%	Zn 22%
Sn 2%		

Typical Mechanical Properties

Melting Point	630-660°C
Ultimate Tensile Strength	415N/mm ²
Hardness	145

Standards

EN ISO 17672 Ag 155
(BS 1845 AG14)

SIF Silvercote 55% Ag 155

SIF Silvercote No. 43

This is SIF Silver Solder 55% Ag 155 with a full flux coating and similar characteristics. Suitable for all ferrous and non-ferrous metals except aluminium, it can be used with a wide range of heat sources.

SIF Silvercote 55% Ag 155 offers excellent fluidity and wetting characteristics, making it ideal for applications within the food, process, and medical equipment industries.

It can be used to join most common engineering metals, including copper, copper alloys (brass, bronze, gunmetal, nickel silver, copper-nickel), and steels (mild, carbon, tool, stainless, and low alloy). However, these alloys should only be used to form capillary joints.

Positions



For use in soldering.

Suitable Process.

Oxy/Acetylene, Oxy/Propane
Butane, Air Butane

Available Formats

Dia.	6 Rod Pack	1kg
1.5mm	RR431506	RR431501

Typical Weld Metal Composition

Ag 55%	Cu 21%	Zn 22%
Sn 2%		

Typical Mechanical Properties

Melting Point	630-660°C
Ultimate Tensile Strength	415N/mm ²
Hardness	145

Standards

EN ISO 17672 AG 155
EN 1044 AG 103
(BS 1845 AG14)

SIF 555

Aluminium Solder Self Fluxing Rod

SIF 555 Aluminium Solder Self Fluxing Rod is a self fluxing solder for use on aluminium and its alloys, which reduces the over fluxing problem and makes aluminium soldering quick and easy.

Suitable for use in repair and maintenance, aluminium windows, door manufacturing, marine, aerospace, and automotive industries.

Positions



For use in downhand and fillet positions.

Suitable Process.

Brazing, Oxy/Acetylene,
Oxy/Propane, Air Propane

Available Formats

Dia.	12 Rod Pack	1kg	2.5kg
3.00mm	R0553212	R0553201	R0553225

Typical Weld Metal Composition

Zn 93% Al 4% Cu 3%

Typical Mechanical Properties

Melting Point	380°C
Ultimate Tensile Strength	200N/mm ²
Hardness	100

Flux

In brazing operations, flux is required to prevent oxides from forming while the metal is heated. The flux also serves the purpose of cleaning any contamination left on the brazing surfaces.

Flux can be applied in any number of forms, including flux paste, liquid, powder or pre-made brazing pastes that combine flux with filler metal powder. Flux can also be applied using brazing rods with a coating of flux or a flux core. In either case, the flux flows into the joint when applied to the heated joint and is displaced by the molten filler metal entering the joint.

Excess flux should be removed when the cycle is completed because flux left in the joint can lead to corrosion, impede joint inspection, and prevent further surface finishing operations. On certain applications, due to the material, size or shape of the workpiece, it is necessary to use chemical cleaning. For ferrous metals, use a weak solution of hydrochloric acid, and for copper alloys, use a 10-15% sulphuric acid solution. Whenever using chemicals, ensure that all parts are thoroughly washed after treatment.

Fluxes are generally selected based on their performance on particular base metals. To be effective, the flux must be chemically compatible with both the base metal and the filler metal being used. Phosphorus-containing brazing alloys can be self-fluxing when joining copper to copper.



SIFALUMINIUM FLUX

SIF Aluminium flux powders are designed to facilitate the gas brazing and welding of aluminium and its alloys. Use No.12 for low-melting-point alloys, No.14 for medium-melting-point alloys (eg Si12) and No.36 for higher-melting-point (eg 5356).

This aluminium flux powder complies with EN 1045 - FL10.

Available Formats:

500g Jar

F0120050 - No.12 - Low melting point

F0140050 - No.14 - Medium melting point

F0360050 - No.36 - High melting point



SIFBRONZE FLUX

SIF's most popular flux for general brazing work. Available in 500g jars. This flux is used with SIFBRONZE No. 1 or No. 101 in brazing steels, copper alloys, bronzes, or cast iron.

This powder flux complies with EN 1045 - FH10.

For SIF No. 1, use **F0010050** and for SIF No. 101, use **F0100050**.

Available Formats:

500g Jar

F0010050 - SIF No. 1

F0100050 - SIF No. 101



SIFGASFLUX LIQUID

Specially formulated liquid flux which allows fuel gas (acetylene) to absorb flux into the torch flame. It is a flammable liquid UN No 1993, and is supplied in 3-litre plastic containers. Commonly used with SIFBRONZE No. 101.

SIF gas flux conforms to EN 1045 - FH10.

***COLLECTION ONLY**

Available Formats:

3L Container
FXGF3LS



SIFSILCOPPER FLUX

SIFSILCOPPER FLUX is a powder for brazing and welding of copper alloys. Available in a 500g jar. For use with SIFTIG C9, C1 or C7, or with the SIFCUPRON series on dissimilar materials.

This flux powder complies with EN 1045 - FH11.

Available Formats:

500g Jar
F0070050



SIFSILVER SOLDER FLUX

A commonly used powder flux for silver solder applications. Available in 225g and 500g jars.

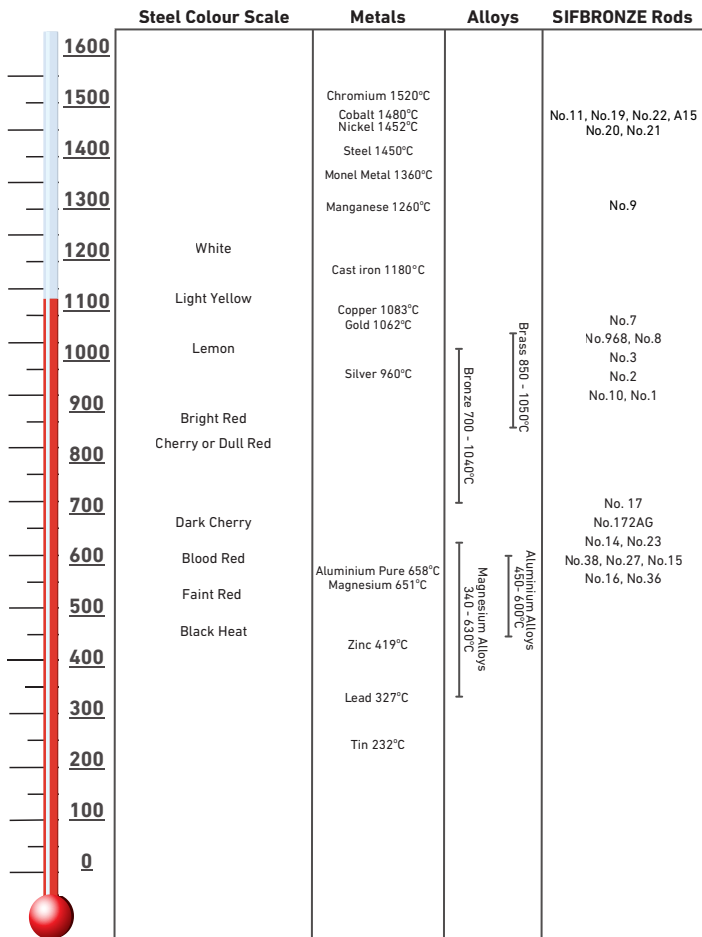
SIFSILVER solder complies with EN 1045 - FH10.

Available Formats:

225g Jar	500g Jar
F0380022	F0380050



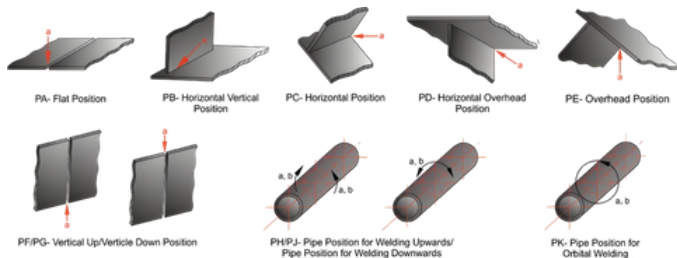
Temperature chart - Melting points



WELDING POSITIONS AND DEFECTS

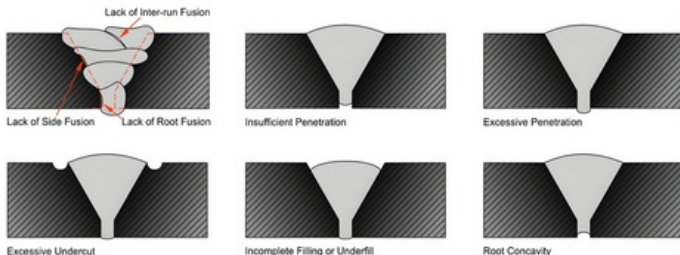
Welding is often done on structures in the position in which they are found. Techniques have been developed to allow welding in any position. Some welding processes have all-position capabilities, while others may be used in only one or two positions. All welding can be classified according to the position of the workpiece or the position of the welded joint on the plates or sections being welded.

WELDING POSITIONS



Any of the common defects illustrated below are potentially disastrous as they can all give rise to high stress intensities, which may result in sudden, unexpected failure. Welding defects can greatly affect weld performance and longevity. Having an understanding of the various defects, their causes and remedies can help to ensure higher-quality and long-lasting welds.

COMMON WELDING DEFECTS



Handling, storage and drying stick electrodes

To ensure satisfactory weld quality, stick must be handled and stored properly before use. Electrode coatings are carefully designed to provide the necessary operating characteristics and weld properties required for each electrode type. Generally, stick electrodes should be stored in their original packaging. The storage facilities should have an infrastructure which makes the 'first in, first out' principle possible. Electrodes are manufactured to be within acceptable moisture limits, consistent with the type of covering and strength of the weld metal. It is recommended to organise the storage room in a way that ensures the electrodes are stored dry and safely. Moisturising units should not be stored in the same area. Open packaging should be stored in specially conditioned areas.

TYPICAL STORAGE CONDITIONS FOR STICK ELECTRODES

Storage of covered electrodes in cardboard boxes typically requires humidity- and temperature-controlled storage areas. Recommended storage conditions include:

- Temperature 18–25°C, relative humidity max. 60%
- Temperature 25–35°C, relative humidity max. 50%

Redrying of stick electrodes is recommended if the electrodes have picked up moisture or are imperatively required for low-hydrogen basic coated electrodes. We advise you to use the electrodes from a quiver after redrying.

TYPICAL REDRYING GUIDELINES FOR STICK ELECTRODES

Electrodes for	Coating type	Redrying recommended	Redry temperature °C	Redrying time / h.
Unalloyed and low alloy structural steel	A, AR, RC, R, RR	No	--	--
	RB, B	Yes	300-350	2 - 10
Pipelines	C	Not allowed!	--	--
Fine grain steel	B	Yes	--	2 - 10
High temperature steel	R	No	300-350	--
	B	Yes	300-350	2 - 10
Stainless and heat resisting steel	R	Yes	120-200	2 - 10
	RB, B	No	--	--
Soft-martensitic steel	B	Yes	300-350	2 - 10
Duplex steel	R, RB	Yes	250-300	2 - 10
Hardfacing	R	No	--	--
	RB, B	Yes	300-350	2 - 10
Ni-base alloys	All types	If necessary	120-300	2 - 10

HANDLING, STORAGE AND DRYING

In certain cases, it may be reasonable to redry electrodes even when they are not mentioned in the 'redrying electrodes' table (bottom of page 119). Should the coating exhibit an excessively high water content as a result of, e.g., improper storage or other adverse influences, reflected by the welding behaviour and by increased spattering or formation of pores, the electrodes may be redried at 100–120°C for one hour. Electrodes in special packaging can be used without redrying and holding in a drying oven within a period of 8 hours after opening. After that, the electrodes can be redried in accordance with the 'redrying electrodes' table.

Handling, storage, drying cored wires

Unalloyed and low-alloyed cored wires are less sensitive to moisture pick-up since a metal sheath mainly covers the internal core. Nevertheless, the working environment may affect the low hydrogen characteristics. For storage, we recommend the same conditions as mentioned for stick electrodes (typical storage conditions for stick electrodes). For redrying, we suggest redrying the wires at 150°C / max. 24 h.

Stainless steel cored wires are more sensitive to moisture pick-up. Therefore, the spools are vacuum-packed. Storage facilities and redrying procedures are the same as for unalloyed and low-alloyed cored wires. For stainless steel cored wires, please remove the spools at the end of the working period and store them in a conditioned area. If needed, you can re-dry the wires at 150°C / max. 24 h.

Weldability SIF has a heritage dating back to 1925 and the origins of the bronze brazing process. For over a century, we have created, innovated and developed a large range of welding products.

We understand that individual customers have their requirements, and that is why Weldability SIF products offer choice across the range. Whether your main buying criteria are price, practicality or performance, you can rest assured you will find a solution to suit you.



SIFBRONZE - ALLOY SELECTION - STRUCTURAL MILD STEEL

ALLOY GRADE		OXY/ACETYL BRAZING	OXY/ACETYL WELDING		TIG BRAZING		TIG WELDING		
(BS 4360: 1986	(BS EN 10025 : 2004	SIF FILLER NO	SIF FILLER NO	SIF FILLER NO	AMPS/ CURRENT	SHIELD GAS	SIF FILLER NO	AMPS/ CURRENT	SHIELD GAS
40A	S235	No1-101	No22	No968	40-210	ARGON	A15-A31	40-180	ARGON
40B	S235JR	No1-101	No22	No968	40-210	ARGON	A15-A31	40-180	ARGON
40C	S235JO	No1-101	No22	No968	40-210	ARGON	A15-A31	40-180	ARGON
40D	S235J2G3	No1-101	No22	No968	40-210	ARGON	A15-A31	40-180	ARGON
43A	S275	No1-101	No22	No968	40-210	ARGON	A15-A31	40-180	ARGON
43B	S275JR	No1-101	No22	No968	40-210	ARGON	A15-A31	40-180	ARGON
43C	S275JO	No1-101	No22	No968	40-210	ARGON	A15-A31	40-180	ARGON
43D	S275J2G3	No1-101	No22	No968	40-210	ARGON	A15-A31	40-180	ARGON
50A	S355	No1-101	No22	No968	40-210	ARGON	A15-A31	40-180	ARGON
50B	S355JR	No1-101	No22	No968	40-210	ARGON	A15-A31	40-180	ARGON
50C	S355JO	No1-101	No22	No968	40-210	ARGON	A15-A31	40-180	ARGON
50D	S355J2G3	No1-101	No22	No968	40-210	ARGON	A15-A31	40-180	ARGON
50D	S355J2G4	No1-101	No22	No968	40-210	ARGON	A15-A31	40-180	ARGON
50DD	S355JK2G3	No1-101	No22	No968	40-210	ARGON	A15-A31	40-180	ARGON
50DD	S355JK2G4	No1-101	No22	No968	40-210	ARGON	A15-A31	40-180	ARGON

SIFBRONZE - ALLOY SELECTION - STRUCTURAL MILD STEEL

ALLOY GRADE		MIG BRAZING			MIG WELDING			MANUAL METAL ARC (STICK)	
(BS 4360 : 1986)	(BS EN 10025 : 2004)	SIF FILLER NO	AMPS /CURRENT	SHIELD GAS	SIF FILLER NO	AMPS /CURRENT	SHIELD GAS	SIF FILLER NO	AMPS /CURRENT
40A	S235	MIG968	40-210	ARGON	SG2/SG3 E71T-1	40-240	ARGON/MIX	6013-7018	60-240
40B	S235JR	MIG968	40-210	ARGON		40-240	ARGON/MIX	6013-7018	60-240
40C	S235J0	MIG968	40-210	ARGON		40-240	ARGON/MIX	6013-7018	60-240
40D	S235J2G3	MIG968	40-210	ARGON		40-240	ARGON/MIX	6013-7018	60-240
43A	S275	MIG968	40-210	ARGON		40-240	ARGON/MIX	6013-7018	60-240
43B	S275JR	MIG968	40-210	ARGON		40-240	ARGON/MIX	6013-7018	60-240
43C	S275J0	MIG968	40-210	ARGON		40-240	ARGON/MIX	6013-7018	60-240
43D	S275J2G3	MIG968	40-210	ARGON		40-240	ARGON/MIX	6013-7018 7016	60-240
50A	S355	MIG968	40-210	ARGON		40-240	ARGON/MIX	6013-7018 7016	60-240
50B	S355JR	MIG968	40-210	ARGON		40-240	ARGON/MIX	6013-7018 7016	60-240
50C	S355J0	MIG968	40-210	ARGON	SG2/SG3 E71T-1	40-240	ARGON/MIX	6013-7018 7016	60-240
50D	S355J2G3	MIG968	40-210	ARGON		40-240	ARGON/MIX	6013-7018 7016	60-240
50D	S355J2G4	MIG968	40-210	ARGON		40-240	ARGON/MIX	6013-7018 7016	60-240
50DD	S355JK2G3	MIG968	40-210	ARGON		40-240	ARGON/MIX	6013-7018 7016	60-240
50DD	S355JK2G4	MIG968	40-210	ARGON		40-240	ARGON/MIX	6013-7018 7016	60-240

SIFBRONZE - ALLOY SELECTION - CAST IRONS

ALLOY GRADE		OXY/ACETYL BRAZING		OXY/ACETYL WELDING		TIG BRAZING		MIG BRAZING		MANUAL METAL ARC (STICK)	
GRADE /STD	TYPE	SIF FILLER NO	SIF FILLER NO	SIF FILLER NO	AMPS/ CURRENT	SHIELD G/AS	SIF FILLER NO	AMPS/ CURRENT	SHIELD G/AS	SIF FILLER NO	AMPS/ CURRENT
(BS1452	MEEHANITE	No1	SUPER SG CAST IRON	No8	40-180	ARGON	MIG8	40-180	ARGON	PURE NICKEL NICKEL IRON	45-180
(BS EN 1561	EN-GJL MEEHANITE SPHEROIDAL GRAPHITE	No1	SUPER SG CAST IRON	No8	40-180	ARGON	MIG8	40-180	ARGON	PURE NICKEL NICKEL IRON	45-180
(BS 2789	EN-GS SPHEROIDAL	No1	SUPER SG CAST IRON	No8	40-180	ARGON	MIG8	40-180	ARGON	PURE NICKEL*	60-180
(BS EN 1563	EN-GS SPHEROIDAL	No1	SUPER SG CAST IRON	No8	40-180	ARGON	MIG8	40-180	ARGON	PURE NICKEL*	60-180

• DIFFICULT TO WELD IN MMA - RESULTS IN BRITTLENESS. REC OXY/ACETYLENE WELDING.

SIFBRONZE - ALLOY SELECTION - CARBON STEELS

ALLOY GRADE	MIG BRAZING		MIG WELDING		MANUAL METAL ARC (STICK)	
	SIF FILLER NO	AMPS/ CURRENT	SHIELD GAS	SIF FILLER NO	AMPS/ CURRENT	AMPS/ CURRENT
EN8	MIG 8	40-160	ARGON	MIG 312	312	60-150
EN9	MIG 8	40-160	ARGON	MIG 312	312	60-150
EN14	MIG 8	40-160	ARGON	MIG 312	312	60-150
EN16	MIG 8	40-160	ARGON	MIG 312	312	60-150
EN19	MIG 8	40-160	ARGON	MIG 312	312	60-150
EN24	MIG 8	40-160	ARGON	MIG 312	312	60-150
EN26	MIG 8	40-160	ARGON	MIG 312	312	60-150
EN30B	MIG 8	40-160	ARGON	MIG 312	312	60-150
EN31	MIG 8	40-160	ARGON	MIG 312	312	60-150
EN32	MIG 8	40-160	ARGON	MIG 312	312	60-150
EN36	MIG 8	40-160	ARGON	MIG 312	312	60-150

SIFBRONZE - ALLOY SELECTION - CARBON STEELS

ALLOY GRADE		MIG BRAZING			MIG WELDING			MANUAL METAL ARC (STICK)	
	SIF FILLER NO	AMPS/ CURRENT	SHIELD GAS	SIF FILLER NO	AMPS/ CURRENT	SHIELD GAS	SIF FILLER NO	AMPS/ CURRENT	
EN40B	MIG 8	40-160	ARGON	MIG 312	60-250	ARGON	312	60-150	
EN41	MIG 8	40-160	ARGON	MIG 312	60-250	ARGON	312	60-150	
EN43	MIG 8	40-160	ARGON	MIG 312	60-250	ARGON	312	60-150	
EN45	MIG 8	40-160	ARGON	MIG 312	60-250	ARGON	312	60-150	
EN47	MIG 8	40-160	ARGON	MIG 312	60-250	ARGON	312	60-150	
AISI 4130	MIG 8	40-160	ARGON	MIG 312	60-250	ARGON	312	60-150	
AISI 4140	MIG 8	40-160	ARGON	MIG 312	60-250	ARGON	312	60-150	
AISI 4145	MIG 8	40-160	ARGON	MIG 312	60-250	ARGON	312	60-150	
AISI 6150	MIG 8	40-160	ARGON	MIG 312	60-250	ARGON	312	60-150	
SAE 8620	MIG 8	40-160	ARGON	MIG 312	60-250	ARGON	312	60-150	
(BS1501 430A	MIG 8	40-160	ARGON	MIG 312	60-250	ARGON	312	60-150	

SIFBRONZE - ALLOY SELECTION - CARBON STEELS

ALLOY GRADE		OXY/ACETYL BRAZING		OXY/ACETYL WELDING		TIG BRAZING			TIG WELDING		
		SIF FILLER NO	SIF FILLER NO	SIF FILLER NO	SIF FILLER NO	AMPS/ CURRENT	SHIELD GAS	SIF FILLER NO	AMPS/ CURRENT	SHIELD GAS	
EN8		No1/Nø39	not suitable	No 8	No 8	40-180	ARGON	HF6	40-140	ARGON	
EN9		No1/Nø39	not suitable	No 8	No 8	40-180	ARGON	HF6	40-140	ARGON	
EN14		No1/Nø39	not suitable	No 8	No 8	40-180	ARGON	HF6	40-140	ARGON	
EN16		No1/Nø39	not suitable	No 8	No 8	40-180	ARGON	HF6	40-140	ARGON	
EN19		No1/Nø39	not suitable	No 8	No 8	40-180	ARGON	HF6	40-140	ARGON	
EN24		No1/Nø43	not suitable	No 8	No 8	40-180	ARGON	HF6	40-140	ARGON	
EN26		No1/Nø43	not suitable	No 8	No 8	40-180	ARGON	HF6	40-140	ARGON	
EN30B		No1/Nø43	not suitable	No 8	No 8	40-180	ARGON	HF6	40-140	ARGON	
EN31		No1/Nø43	not suitable	No 8	No 8	40-180	ARGON	HF6	40-140	ARGON	
EN32		No1/Nø43	not suitable	No 8	No 8	40-180	ARGON	HF6	40-140	ARGON	
EN36		No1/Nø43	not suitable	No 8	No 8	40-180	ARGON	HF6	40-140	ARGON	
EN40B		No1/Nø43	not suitable	No 8	No 8	40-180	ARGON	HF6	40-140	ARGON	
EN41		No1/Nø43	not suitable	No 8	No 8	40-180	ARGON	HF6	40-140	ARGON	
EN43		No1/Nø43	not suitable	No 8	No 8	40-180	ARGON	HF6	40-140	ARGON	
EN45		No1/Nø43	not suitable	No 8	No 8	40-180	ARGON	HF6	40-140	ARGON	

SIFBRONZE - ALLOY SELECTION - CARBON STEELS

ALLOY GRADE	OXY/ACETYL BRAZING		TIG BRAZING		TIG WELDING			
	SIF FILLER NO	SIF FILLER NO	SIF FILLER NO	AMPS /CURRENT	SIF FILLER NO	AMPS/ CURRENT	SHIELD GAS	
EN47	No1 /No4.3	not suitable	No 8	40-180	ARGON	HF6	40-140	ARGON
AISI 4130	No1 /No4.3	not suitable	No 8	40-180	ARGON	HF6	40-140	ARGON
AISI 4140	No1 /No4.3	not suitable	No 8	40-180	ARGON	HF6	40-140	ARGON
AISI 4145	No1 /4.3	not suitable	No 8	40-180	ARGON	HF6	40-140	ARGON
AISI 6150	No1 /No4.3	not suitable	No 8	40-180	ARGON	HF6	40-140	ARGON
SAE 8620	No2 /No4.3	not suitable	No 8	40-180	ARGON	HF6	40-140	ARGON
(BS1501 430A	No1 /No4.3	not suitable	No 8	40-180	ARGON	A33 / HF6	40-180	ARGON

SIFBRONZE - ALLOY SELECTION - COPPERS

ALLOY GRADE		OXY/ACETY WELDING	OXY/ACETY BRAZING	TIG WELDING			MIG WELDING			MANUAL METAL ARC (STICK)	
GRADE(S)	TYPE	SIF FILLER NO	SIF FILLER NO	SIF FILLER NO	AMPS/ CURRENT	GAS	SIF FILLER NO	AMPS/ CURRENT	SHIELD GAS	SIF FILLER NO	AMPS/ CURRENT
AB1 /AB2	ALUMINIUM BRONZE	No39	No32	No32	40-180	ARGON	MIG328	80-240	ARGON	BRONSIL	80-120
AB3	ALUMINIUM SILICON BRONZE	No39	No32	No32	40-180	ARGON	MIG328	80-240	ARGON	BRONSIL	80-120
CC1	TF COPPER CHROMIUM	No17/17-2AG	No7	No7	40-180	ARGON	MIG985	80-240	ARGON	BRONSIL	80-120
CMA1	COPPER MANGANESE ALUM	No39/No43	No32	No32	40-180	ARGON	MIG328	80-240	ARGON	BRONSIL	80-120
CN1 /CN2	COPPER NICKEL CHROMIUM	No43	No44	No44	40-180	ARGON	MIG44	80-240	ARGON	BRONSIL	80-120
CT1 /CT2	COPPER TIN	No17	No8	No8	40-180	ARGON	MIG8	80-240	ARGON	BRONSIL	80-120
DCB1-3	BRASS FOR DIE CASTING	No17	No8	No8	40-180	ARGON	MIG8	80-240	ARGON	BRONSIL	80-120
G1	GUNMETAL	No17/17-2AG	No8	No8	40-180	ARGON	MIG8	80-240	ARGON	BRONSIL	80-120
G3	NICKEL GUNMETAL	No43	No8	No8	40-180	ARGON	MIG8	80-240	ARGON	BRONSIL	80-120
HTB1 -3	HIGH TENSILE BRASS	17/5AG/No43	No8	No8/82	40-180	ARGON	MIG8	80-240	ARGON	BRONSIL	80-120
LB1	LEADED BRONZE	No43	No8	No8	40-180	ARGON	MIG8	80-240	ARGON	BRONSIL	80-120

SIFBRONZE - ALLOY SELECTION - COPPERS

ALLOY GRADE		OXY/ACET WELDING	OXY/ACET BRAZING	TIG WELDING		MIG WELDING		MANUAL METAL ARC (STICK)			
GRADE(S)	TYPE	SIF FILLER NO	SIF FILLER NO	SIF FILLER NO	AMPS/ CURRENT	GAS	SIF FILLER NO	AMPS/ CURRENT	SHIELD GAS	SIF FILLER NO	AMPS/ CURRENT
LB2/LB4	ALUMINIUM BRONZE	No4.3	No8	No8	40/180	ARGON	MIG8	80-240	ARGON	BRONSIL	80-120
LG1-4	ALUMINIUM SILICON BRONZE	No4.3	No8	No8	40/180	ARGON	MIG8	80-240	ARGON	BRONSIL	80-120
LPB1	TF COPPER CHROMIUM	No4.3	No8	No8	40/180	ARGON	MIG8	80-240	ARGON	BRONSIL	80-120
MB1	COPPER MANGANESE ALUM	No101	—	No8/82	40/180	ARGON	MIG8	80-240	ARGON	BRONSIL	80-120
PB1-PB4	COPPER NICKEL CHROMIUM	No17/No4.3	No8	No8	40/180	ARGON	MIG8	80-240	ARGON	BRONSIL	80-120
SCB1-4	COPPER TIN	No17/17-2AG	No8	No8	40/180	ARGON	MIG8	80-240	ARGON	BRONSIL	80-120
HEAT-TREATABLE COPPER ALLOYS NON HEAT-TREATABLE COPPER ALLOYS COPPER-ZINC (BRASS) CORROSION-RESISTANT (CUZN36SN1PB)		No17/17-2AG	No7	No7	40/180	ARGON	MIG985	80-240	ARGON	BRONSIL	80-120
		17/5AG/No4.3	No7	No7	40/180	ARGON	MIG985	80-240	ARGON	BRONSIL	80-120
		No17-2AG/No4.3	No8	No8	40/180	ARGON	MIG8	80-240	ARGON	BRONSIL	80-120
		No4.3	No4.4	No4.4	40/180	ARGON	MIG4.4	80-240	ARGON	BRONSIL	80-120

SIFBRONZE - ALLOY SELECTION - TOOL & DIE STEELS

ALLOY GRADE	OXY/ACTY WELDING		OXY/ACTY BRAZING		TIG BRAZING			TIG WELDING			MIG BRAZING		
	SIF FILLER NO	SIF FILLER NO	SIF FILLER NO	AMPS/ CURRENT	SHIELD GAS	SIF FILLER NO	AMPS/ CURRENT	SHIELD GAS	SIF FILLER NO	AMPS/ CURRENT	SIF FILLER NO	AMPS/ CURRENT	SHIELD GAS
1.27&7 tool steel	No1-No43	not suitable	No 8	40-180	ARGON	HF6	40- 140	ARGON	MIG8	40-160	MIG8	40-160	ARGON
1.2842 tool steel	No1-No43	not suitable	No 8	40-180	ARGON	HF6	40 -140	ARGON	MIG8	40-160	MIG8	40-160	ARGON
100McCrW 4	No1-No43	not suitable	No 8	40-180	ARGON	HF6	40 -140	ARGON	MIG8	40-160	MIG8	40-160	ARGON
40Cr-MnMo7	No1-No43	not suitable	No 8	40-180	ARGON	HF6	40-140	ARGON	MIG8	40-160	MIG8	40-160	ARGON
420 stainless steel	No2-No43	not suitable	No 8	40-180	ARGON	HF6	40-140	ARGON	MIG8	40-160	MIG8	40-160	ARGON
50Cr-V4	No1-No43	not suitable	No 8	40-180	ARGON	HF6	40-140	ARGON	MIG8	40-160	MIG8	40-160	ARGON
60W Cr-V7	No1-No43	not suitable	No 8	40-180	ARGON	HF6	40-140	ARGON	MIG8	40-160	MIG8	40-160	ARGON
90MnCrV8	No1-No43	not suitable	No 8	40-180	ARGON	HF6	40-140	ARGON	MIG8	40-160	MIG8	40-160	ARGON
A2 tool steel	No1-No43	not suitable	No 8	40-180	ARGON	HF6	40-140	ARGON	MIG8	40-160	MIG8	40-160	ARGON
D2 tool steel	No1-No43	not suitable	No 8	40-180	ARGON	HF6	40-140	ARGON	MIG8	40-160	MIG8	40-160	ARGON
D3 tool steel	No1-No43	not suitable	No 8	40-180	ARGON	HF6	40-140	ARGON	MIG8	40-160	MIG8	40-160	ARGON
D6 tool steel	No1-No43	not suitable	No 8	40-180	ARGON	HF6	40-140	ARGON	MIG8	40-160	MIG8	40-160	ARGON
H13 tool steel	No1-No43	not suitable	No 8	40-180	ARGON	HF6	40-140	ARGON	MIG8	40-160	MIG8	40-160	ARGON

SIFBRONZE - ALLOY SELECTION - TOOL & DIE STEELS

ALLOY GRADE	OXY/ACET WELDING	OXY/ACET BRAZING	TIG BRAZING			TIG WELDING			MIG BRAZING		
	SIF FILLER NO	SIF FILLER NO	SIF FILLER NO	AMPS/ CURRENT	SHIELD GAS	SIF FILLER NO	AMPS/ CURRENT	SHIELD GAS	SIF FILLER NO	AMPS/ CURRENT	SHIELD GAS
M2 high speed steel	No1-No43	not suitable	No 8	40-180	ARGON	HF6	40- 140	ARGON	MIG8	40-160	ARGON
M42 high speed steel	No1-No43	not suitable	No 8	40-180	ARGON	HF6	40- 140	ARGON	MIG8	40-160	ARGON
O1 tool steel	No1-No43	not suitable	No 8	40-180	ARGON	HF6	40- 140	ARGON	MIG8	40-160	ARGON
P20 tool steel	No1-No43	not suitable	No 8	40-180	ARGON	HF6	40-140	ARGON	MIG8	40-160	ARGON
S1 tool steel	No2-No43	not suitable	No 8	40-180	ARGON	HF6	40-140	ARGON	MIG8	40-160	ARGON
S6-5-2	No1-No43	not suitable	No 8	40-180	ARGON	HF6	40-140	ARGON	MIG8	40-160	ARGON
X100CrMoV5-1	No1-No43	not suitable	No 8	40-180	ARGON	HF6	40-140	ARGON	MIG8	40-160	ARGON
X155CrVMo12-1	No1-No43	not suitable	No 8	40-180	ARGON	HF6	40-140	ARGON	MIG8	40-160	ARGON
X210Cr12	No1-No43	not suitable	No 8	40-180	ARGON	HF6	40-140	ARGON	MIG8	40-160	ARGON
X210CrW12	No1-No43	not suitable	No 8	40-180	ARGON	HF6	40-140	ARGON	MIG8	40-160	ARGON
X40CrMoV5-1	No1-No43	not suitable	No 8	40-180	ARGON	HF6	40-140	ARGON	MIG8	40-160	ARGON
X42Cr13	No1-No43	not suitable	No 8	40-180	ARGON	HF6	40-140	ARGON	MIG8	40-160	ARGON
X45NiCrMo4	No1-No43	not suitable	No 8	40-180	ARGON	HF6	40-140	ARGON	MIG8	40-160	ARGON

SIFBRONZE - ALLOY SELECTION - TOOL & DIE STEELS

ALLOY GRADE	MIG WELDING			MANUAL METAL ARC (STICK)			MIG WELDING			MANUAL METAL ARC (STICK)		
	SIF FILLER NO	AMPS/ CURRENT	SHIELD GAS	SIF FILLER NO	AMPS/ CURRENT		SIF FILLER NO	AMPS/ CURRENT	SHIELD GAS	SIF FILLER NO	AMPS/ CURRENT	
M2 high speed steel	312	60-250	ARGON	312	60-150	1.2767 tool steel	312	60-250	ARGON	312	60-150	60-150
M42 high speed steel	312	60-250	ARGON	312	60-150	1.2842 tool steel	312	60-250	ARGON	312	60-150	60-150
O1 tool steel	312	60-250	ARGON	312	60-150	100McCrW 4	312	60-250	ARGON	312	60-150	60-150
P20 tool steel	312	60-250	ARGON	312	60-150	40Cr-MnMo7	312	60-250	ARGON	312	60-150	60-150
S1 tool steel	308	60-250	ARGON	308	60-150	420 stainless steel	308	60-250	ARGON	312	60-150	60-150
S6-5-2	312	60-250	ARGON	312	60-150	50CrV4	312	60-250	ARGON	312	60-150	60-150
X100CrMoV5-1	312	60-250	ARGON	312	60-150	60W CrV7	312	60-250	ARGON	312	60-150	60-150
X155CrVMo12-1	312	60-250	ARGON	312	60-150	90MnCrV8	312	60-250	ARGON	312	60-150	60-150
X210Cr12	312	60-250	ARGON	312	60-150	A2 tool steel	312	60-250	ARGON	312	60-150	60-150
X210CrW 12	312	60-250	ARGON	312	60-150	D2 tool steel	312	60-250	ARGON	312	60-150	60-150
X40CrMoV5-1	312	60-250	ARGON	312	60-150	D3 tool steel	312	60-250	ARGON	312	60-150	60-150
X42Cr13	312	60-250	ARGON	312	60-150	D6 tool steel	312	60-250	ARGON	312	60-150	60-150
X45NiCrMo4	312	60-250	ARGON	312	60-150	H13 tool steel	312	60-250	ARGON	312	60-150	60-150

SIFBRONZE - ALLOY SELECTION - TUBE STEELS

ALLOY GRADE	OXY/ACET BRAZING		OXY/ACET WELDING		TIG BRAZING			TIG WELDING			MIG BRAZING			MIG WELDING			MANUAL METAL ARC (STICK)	
	SIF FILLER NO	SIF FILLER NO	SIF FILLER NO	AMPS/ CURRENT	SHIELD GAS	SIF FILLER NO	AMPS/ CURRENT	SHIELD GAS	SIF FILLER NO	AMPS/ CURRENT	SHIELD GAS	SIF FILLER NO	AMPS/ CURRENT	SHIELD GAS	SIF FILLER NO	AMPS/ CURRENT	SIF FILLER NO	AMPS/ CURRENT
(BS3601	No1/No101	No22	No968	40-180	ARGON	A15-A31	40-210	ARGON	MIG968	40-210	ARGON	SG2/SG3 E71T-1	40-210	ARGON MIX	6013-7018 7016	40-220		
(BS3602	No1/No101	No22	No968	40-180	ARGON	A15-A31	40-210	ARGON	MIG968	40-210	ARGON	SG2/SG3 E71T-1	40-210	ARGON MIX	6013-7018 7016	40-220		
EFW	No1/No101	No22	No968	40-180	ARGON	A15-A31	40-210	ARGON	MIG968	40-210	ARGON	SG2/SG3 E71T-1	40-210	ARGON MIX	6013-7018 7016	40-220		
EFW 22	No1/No101	No22	No968	40-180	ARGON	A15-A31	40-210	ARGON	MIG968	40-210	ARGON	SG2/SG3 E71T-1	40-210	ARGON MIX	6013-7018 7016	40-220		
EFW 27	No1/No101	No22	No968	40-180	ARGON	A15-A31	40-210	ARGON	MIG968	40-210	ARGON	SG2/SG3 E71T-1	40-210	ARGON MIX	6013-7018 7016	40-220		
EFW 28	No1/No101	No22	No968	40-180	ARGON	A15-A31	40-210	ARGON	MIG968	40-210	ARGON	SG2/SG3 E71T-1	40-210	ARGON MIX	6013-7018 7016	40-220		
EFW 28S	No1/No101	No22	No968	15-40	ARGON	A15-A31	40-210	ARGON	MIG968	40-210	ARGON	SG2/SG3 E71T-1	40-210	ARGON MIX	6013-7018 7016	40-220		
ERW 22	No1/No101	No22	No968	15-40	ARGON	A15-A31	40-210	ARGON	MIG968	40-210	ARGON	SG2/SG3 E71T-1	40-210	ARGON MIX	6013-7018 7016	40-220		
ERW 27	No1/No101	No22	No968	15-40	ARGON	A15-A31	40-210	ARGON	MIG968	40-210	ARGON	SG2/SG3 E71T-1	40-210	ARGON MIX	6013-7018 7016	40-220		
ERW 27 1)	No1/No101	No22	No968	15-40	ARGON	A15-A31	40-210	ARGON	MIG968	40-210	ARGON	SG2/SG3 E71T-1	40-210	ARGON MIX	6013-7018 7016	40-220		
HFS 22	No1/No101	No22	No968	15-40	ARGON	A15-A31	40-210	ARGON	MIG968	40-210	ARGON	SG2/SG3 E71T-1	40-210	ARGON MIX	6013-7018 7016	40-220		

SIFBRONZE - ALLOY SELECTION - TUBE STEELS

ALLOY GRADE	OXY/ACET/ WELDING		TIG BRAZING		TIG WELDING		MIG BRAZING		MIG WELDING		MANUAL METAL ARC (STICK)		
	SIF FILLER NO	SIF FILLER NO	AMPS/ CURRENT	SHIELD GAS	SIF FILLER NO	AMPS/ CURRENT	SHIELD GAS	SIF FILLER NO	AMPS/ CURRENT	SHIELD GAS		SIF FILLER NO	AMPS/ CURRENT
CDS 22	No1 /No101	No22	No968	40-180	ARGON	A15-A31	40-210	ARGON	MIG968	40-210	ARGON	SG2/SG3 E71 T-1	40-220
HFS 23	No1 /No101	No22	No968	40-180	ARGON	A15-A31	40-210	ARGON	MIG968	40-210	ARGON	SG2/SG3 E71 T-1	40-220
HFS 27	No1 /No101	No22	No968	40-180	ARGON	A15-A31	40-210	ARGON	MIG968	40-210	ARGON	SG2/SG3 E71 T-1	40-220
HFS 27	No1 /No101	No22	No968	40-180	ARGON	A15-A31	40-210	ARGON	MIG968	40-210	ARGON	SG2/SG3 E71 T-1	40-220
CDS 27	No1 /No101	No22	No968	40-180	ARGON	A15-A31	40-210	ARGON	MIG968	40-210	ARGON	SG2/SG3 E71 T-1	40-220
HFS 35	No1 /No101	No22	No968	40-180	ARGON	A15-A31	40-210	ARGON	MIG968	40-210	ARGON	SG2/SG3 E71 T-1	40-220
Reynolds 953	No1 /No101		No968	15-40	ARGON			ARGON	MIG968	20-50	ARGON		40-220
Reynolds 853	No1 /No101		No968	15-40	ARGON			ARGON	MIG968	20-50	ARGON		40-220
Reynolds 631	No1 /No101		No968	15-40	ARGON			ARGON	MIG968	20-50	ARGON		40-220
Reynolds 725	No1 /No101		No968	15-40	ARGON			ARGON	MIG968	20-50	ARGON		40-220
Reynolds 525	No1 /No101		No968	15-40	ARGON			ARGON	MIG968	20-50	ARGON		40-220

SIFBRONZE - ALLOY SELECTION - ALUMINIUM

ALLOY GRADE		OXY/ACETYL BRAZING	OXY/ACETYL WELDING	TIG WELDING		MIG WELDING		MANUAL METAL ARC (STICK)			
GRADE(S)	TYPE	SIF FILLER NO	SIF FILLER NO	SIF FILLER NO	AMPS/ CURRENT	SHIELD GAS	SIF FILLER NO	AMPS/ CURRENT	SHIELD GAS	SIF FILLER NO	AMPS/ CURRENT
1XXX	High Purity	No16	No14	No14	40-180	ARGON	1050	60-220	ARGON	Aluminil Si12	60/150
2XXX	Copper-bearing	No16	difficult to weld		40-180	ARGON					
3XXX	Manganese-bearing	555 AL SOLDER	FLUX CORED AL		40-180	ARGON	4043	60-220	ARGON	Aluminil Si12	60/150
4XXX	Silicon-bearing	No16	FLUX CORED AL	No15	40-180	ARGON	5356	60-220	ARGON	Aluminil Si12	60/150
5XXX	Magnesium-bearing	No16	FLUX CORED AL	No27	40-180	ARGON					
6XXX	Mg & Si-bearing	555 AL SOLDER	FLUX CORED AL								
7XXX	Zinc-bearing	555 AL SOLDER	FLUX CORED AL								
8XXX	Lithium-bearing	not weldable									
1050/1200		No16	FLUX CORED AL	No14	40-180	ARGON	1050	60-220	ARGON	Aluminil Si12	60/150
2014A		555 AL SOLDER									
3103/3003		555 AL SOLDER	FLUX CORED AL								
5083/5182		555 AL SOLDER	No28/No37	No28/No37	40-180	ARGON	5183/5556	60-220	ARGON	Aluminil Si12	60/150
5251/5052		555 AL SOLDER	No27	No27	40-180	ARGON	5356	60-220	ARGON	Aluminil Si12	60/150
5454		555 AL SOLDER	No27	No27	40-180	ARGON	5356	60-220	ARGON	Aluminil Si12	60/150
6005A		555 AL SOLDER	No27	No27	40-180	ARGON					
6061/6082		555 AL SOLDER	No15/No27	No15/No27	40-180	ARGON	4043/5356	60-220	ARGON	Aluminil Si12	60/150
6063		555 AL SOLDER	No15/No27	No15/No27	40-180	ARGON	4043/5356	60-220	ARGON	Aluminil Si12	60/150
7020		555 AL SOLDER	No27/No28	No27/No28	40-180	ARGON	5183/5356	60-220	ARGON	-	-

SIFBRONZE - ALLOY SELECTION - AUSTENITIC STAINLESS STEELS

ALLOY GRADE	OXY/ACTY WELDING		TIG BRAZING		TIG WELDING		MIG BRAZING		MIG WELDING		MANUAL METAL ARC (STICK)					
	SIF FILLER NO	SIF FILLER NO	SIF FILLER NO	AMPS/ CURRENT	SHIELD GAS	SIF FILLER NO	AMPS/ CURRENT	SHIELD GAS	SIF FILLER NO	AMPS/ CURRENT	SHIELD GAS	SIF FILLER NO	AMPS/ CURRENT			
301	No2-No43	308L	No8	40-210	ARGON	308L	20-210	ARGON	MIG8	40-220	ARGON	308LSi	40-220	ARGON	308R	40-180
302HQ	No2-No43	308L	No8	40-210	ARGON	308L	20-210	ARGON	MIG8	40-220	ARGON	308LSi	40-220	ARGON	308R	40-180
303	No2-No43	309	No8	40-210	ARGON	309/312	20-210	ARGON	MIG8	40-220	ARGON	309/312	40-220	ARGON	309/312	40-180
304	No2-No43	308L	No8	40-210	ARGON	308L	20-210	ARGON	MIG8	40-220	ARGON	308LSi	40-220	ARGON	308R	40-180
304L	No2-No43	308/347	No8	40-210	ARGON	308/347	20-210	ARGON	MIG8	40-220	ARGON	308/347	40-220	ARGON	308R	40-180
304H	No2-No43	347	No8	40-210	ARGON	347	20-210	ARGON	MIG8	40-220	ARGON	347	40-220	ARGON	347	40-180
309S	No2-No43	347	No8	40-210	ARGON	309/347	20-210	ARGON	MIG8	40-220	ARGON	309/347	40-220	ARGON	309/347	40-180
310	No2-No43	-	No8	40-210	ARGON	310	20-210	ARGON	MIG8	40-220	ARGON	310	40-220	ARGON	310	40-180
316	No2-No43	-	No8	40-210	ARGON	316L	20-210	ARGON	MIG8	40-220	ARGON	316LSi	40-220	ARGON	316R	40-180
316L	No2-No43	-	No8	40-210	ARGON	316L	20-210	ARGON	MIG8	40-220	ARGON	316LSi	40-220	ARGON	316R	40-180
317L	No2-No43	-	No8	40-210	ARGON	317	-	ARGON	MIG8	40-220	ARGON	317	-	ARGON	317	-
321	No2-No43	308	No8	40-210	ARGON	308	20-210	ARGON	MIG8	40-220	ARGON	308	40-220	ARGON	308R	40-180
347	No2-No43	308	No8	40-210	ARGON	347	20-210	ARGON	MIG8	40-220	ARGON	347	40-220	ARGON	308R	40-180

SIFBRONZE - ALLOY SELECTION - OTHER STAINLESS STEELS

ALLOY GRADE	OXY/ACETYL BRAZING	OXY/ACETYL WELDING	TIG BRAZING		TIG WELDING		MIG BRAZING		MIG WELDING		MANUAL METAL ARC (STICK)		
	SIF FILLER NO	SIF FILLER NO	SIF FILLER NO	AMPS/ CURRENT	SHIELD GAS	SIF FILLER NO	AMPS/ CURRENT	SHIELD GAS	SIF FILLER NO	AMPS/ CURRENT	SIF FILLER NO	AMPS/ CURRENT	
410	NO2-NO43	308	NO8	40-210	ARGON	308/309	20-210	ARGON	308/309	40-220	ARGON	308/309	40-180
416	NO2-NO43	308	NO8	40-210	ARGON	308/309	20-210	ARGON	308/309	40-220	ARGON	308/309	40-180
420	NO2-NO43	308	NO8	40-210	ARGON	308/309	20-210	ARGON	308/309	40-220	ARGON	308/309	40-180
431	NO2-NO43	308	NO8	40-210	ARGON	308/309	20-210	ARGON	308/309	40-220	ARGON	308/309	40-180

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Weldability SIF

Unit 2, The Orbital Centre, Icknield Way, Letchworth Garden City, Hertfordshire, SG6 1ET

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