Elga®

BEYOND STANDARDS

ITW Welding

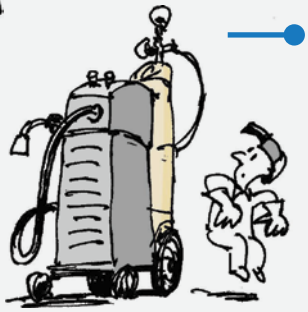
QUICK-GUIDE
Welding Consumables

STICK ELECTRODE WELDING

Welding with ”stick” electrodes is a traditional and reliable welding method.
It has many advantages and is superior to MIG/MAG/TIG welding, when used under the right circumstances.

USE COATED ELECTRODES

When you don’t want to handle shielding gas at the site.
– The cost of shielding gas can be as large as the cost of the welding consumable.



When you don’t want to use advanced and heavy welding machines.
– Large and complicated welding machines are often expensive. They also require maintenance of wear parts and conduits.

When you want great flexibility and short set-up times.
– The light and simple equipment is portable and easy to move between different work places and work levels.

When you work in restricted spaces
– With coated electrodes and a small inverter it’s easier to weld when it’s cramped.

When it’s hard to protect the site
– MIG/MAG/TIG-welding requires the working site to be protected from the wind, which can be both time consuming and costly.

ALL YOU NEED

Coated electrodes from Elga
and a small inverter.

STICK ELECTRODE WELDING

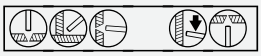
BASIC ELECTRODES For steel types S235 (St-37), S275 (St-44), S355 (St-52), NVA, NVA 32/36, NVD, NVD 32/36.
Provides a strong and tough weld and therefore has a wide range of usage.

You need to weld: non-alloyed structural steel

P 47D: easy to use
Double coated basic electrode, very easy to strike, also when used on small welding transformers. Suitable for thin-walled pipes, <8 mm. Installation, repair and maintenance work. Superb in root. DC+, AC OCV > 55 V.

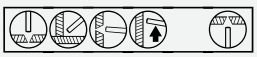
P 51 / P 48S / P 48M: excellent impact properties
Basic universal electrodes for plates and tubes. Fast filling and good slag detachability in joints.
P 51: DC+/(-), AC OCV > 70 V. For root passes: DC-.
P 48S: DC+/(-)
P 48M: DC+/(-)

P 52T: the red electrode for tack welding
Basic coated tack welding electrode. Very easy to strike/re-strike. Also for general maintenance welding. DC+, AC OCV > 50 V



DRYPAC® – MEANS A LOT TO YOUR CUSTOMERS...
- means dry electrodes...
- means all new resealing possibilities...
- makes electrodes easier to store and handle...
- makes recycling easier and reduces waste of resources.

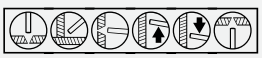
P 62MR: low temperature applications
For -60°C-steel. Optimised welder-appeal, especially in the vertical up position, producing a finely rippled bead surface and good slag detachability. DC+/(-), AC OCV > 70 V. For root passes: DC-.



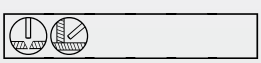
RUTILE ELECTRODES For steel types S235 (St-37), S275 (St-44), NVA.
These electrodes are very easy to strike/re-strike.

P 43: smooth arc, nice bead profile
Rutile all positional multi-purpose electrode, smooth arc, self detaching slag, nice bead profile. Suitable for a wide application range in mild steel. DC+/(-), AC OCV > 50 V. For root passes: DC-.

P 45S: fully positional multi purpose
Rutile fully positional multi-purpose electrode which everybody can weld with. Suitable for a wide application range in mild steel. It is relatively insensitive to rust, dirt and surface coatings. DC+/(-), AC OCV > 50 V. For root passes: DC-.



Maxeta 11: high speed fillet weld
Very fast welding electrode, high recovery. Use 700 mm electrode for increased productivity. Particularly suitable for high speed fillet welding in the downhand and horizontal-vertical positions as well as downhand butt welds. Minimum 250 A power source. DC+/- AC OCV > 50 V.



STICK ELECTRODE WELDING

STAINLESS STEEL 304L, 316L.

You need to weld: stainless steel

Cromarod® 316L: smooth bead profile

Multi-purpose stainless steel electrode.
Operability is excellent with smooth low spatter and self-releasing slag. DC+. AC OCV > 39 V.

Cromarod® 316LP: all positions

Fully positional rutile flux coated electrode designed especially for welding thin walled pipes (down to 1.5 mm). Very easy to strike/re-strike - good for tack welding. Recommended for root runs on plates and pipes. DC+, AC OCV > 39 V.

CROMAROD® FAMILY: PERFECT WELD

- Self-detaching slag
- Clean, bright bead
- Smooth bead profile
- Absolute minimum spatter

HIGH DEGREE OF TRACEABILITY:

- The lot number is printed on each electrode

METAL CAN THE HIGHEST POSSIBLE PROTECTION:

- Hermetically-sealed cans keep electrodes protected and ready to use when opened
- Easy open pull-tab with plastic lid to protect product after opening
- Very resistant to shocks
- No moisture pick up in any environment
- Small packing:
  2.5-3 kg per can / 7.5-10 kg a box

You need to weld: non-alloyed structural steel and stainless steel

Cromarod® 309L or 309MoL: dissimilar joint

Dissimilar joints between stainless and mild, low alloy or medium carbon steels. Very good weld bead appearance and self releasing slag.
DC+, AC OCV > 39 V.

You need to weld: repair & maintenance

Elgaloy Hard 60: moderate shock and abrasion

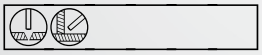
High recovery electrode for overlay welding. Produce a hardness of about 57-60 HRC.
Excellent for excavator teeth, bulldozer blades, swing hammers, crusher jaws, scrapers etc. Must be sanded, no machining. DC+, AC.

Cromarod® 312: the blue electrode, the problem solver

Excellent tolerance to dilution from dissimilar and difficult-to-weld materials, high carbon hard enable tool, die and spring steels without hot cracking.
230 HV to 450 HV, can be machined. DC+, AC OCV > 39 V.

Elgaloy Mix 18: buffer layer

High recovery electrode for productive welding. For joining and buffering on manganese steel. Plain welding on rails, rail crossings, crane wheels, etc.
The deposit work hardens from 200 HV to 450 HV. Can be machined. DC+, AC.



Elgaloy Cast-NiFe: cast iron

Cast iron electrode. Also suitable for joining cast iron against mild, low alloy and stainless steel. Machine bases, transmission housings, gear boxes, engine blocks and pump bodies etc. DC+/-, AC.

MIG/MAG WELDING

You need to weld: non-alloyed structural steel

Elgamatic 100
For all un-alloy steels. Copper-coated solid wire. Reliable wire feed characteristics.
Shielding gas: Argon + 20% CO_2, 100% CO_2.

You need to weld: stainless steel

Cromamig 316LSi
Solid wire for welding 304L and 316L steel (stainless / acid resistant).
Supplied on wire coil with no adapter needed. Good wire feed characteristics.
Shielding gas: Argon + 2% CO_2.

You need to weld: non-alloyed structural steel and stainless steel

Cromamig 309LSi
Solid wire for welding 304L and 316L steel (stainless/acid resistant) against mild steel.
Supplied on wire coil with no adapter needed. Good wire feed characteristics.
Shielding gas: Argon + 2% CO_2.

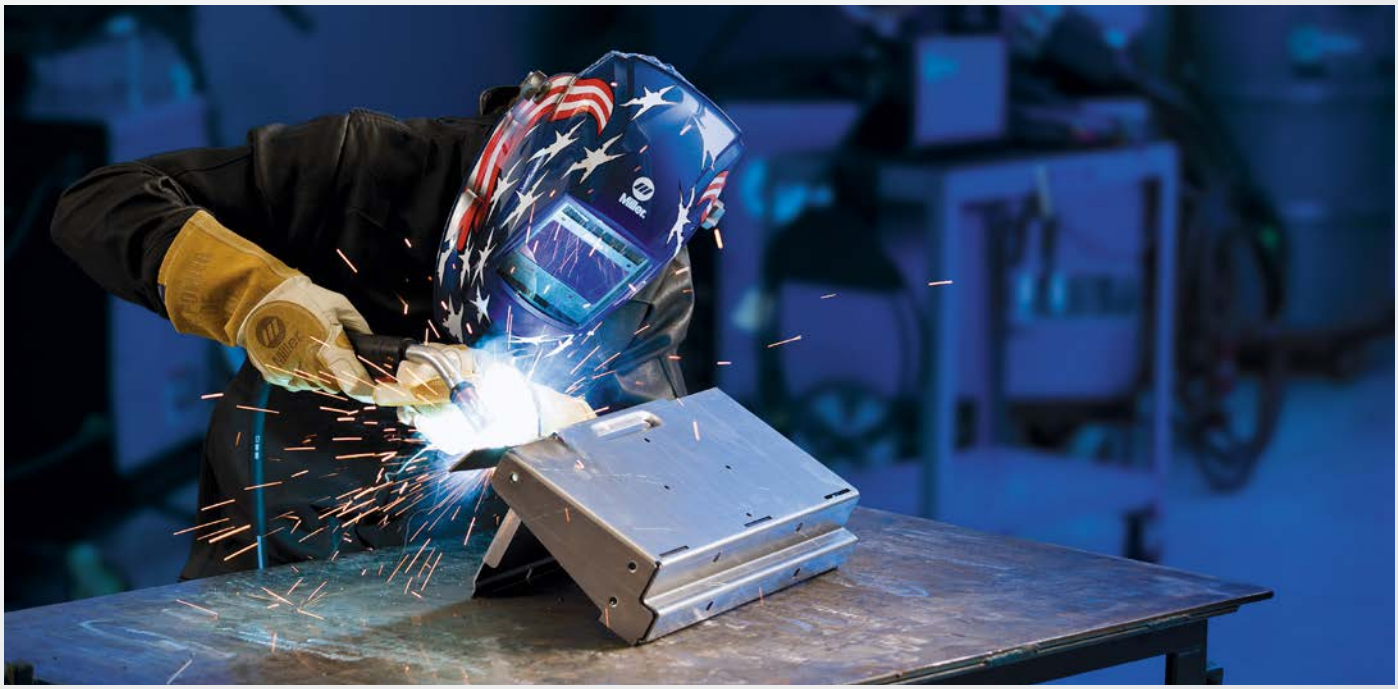
You need to weld: repair & maintenance

Elgaloy Hard M60
Excellent for excavator teeth, cutters for construction machines, crushers etc. Must be sanded, no machining.
Shielding gas: Argon + 15-25% CO_2.

Cromamig 307Si
For joining and buffering on manganese steel. Plain welding on rails, crane wheels, etc. Can be heat treated after welding.
The deposit work hardens from 200 HV to 450 HV. Can be machined.
Shielding gas: Argon + 2% CO_2.

You need to weld: aluminium

Alumig Mg5
For corrosion resistant aluminium (5356). 5% Manganese.
Shielding gas: Argon



TIG WELDING

You need to weld: non-alloyed structural mild steel

Elgatig 100
For un-alloy steel, plates and pipes.
Shielding gas: Argon.

You need to weld: stainless steel

Cromatig 316L or 316LSi
For 304L and 316L steel (stainless/acid resistant). Stamped at both ends, traceability also when the thread is cut.
Shielding gas: Argon 99.99%.

You need to weld: non-alloyed structural and stainless steel

Cromatig 309L or 309LSi
For 304L and 316L steel (stainless/acid resistant) against mild steel. Stamped at both ends, traceability also when the thread is cut.
Shielding gas: Argon 99.99%.

You need to weld: aluminium

Alutig Mg5
For corrosion resistant aluminium (5356). 5% Manganese.
Shielding gas: Argon

TIGPAC 1000:
- Hard case tube that withstands rough handling
- Moisture proof
- Resealable lids
- Improved protection of the rods
- Quality assurance—always perfect TIG rod condition
- Environmental friendly—recyclable fiber tube
- All Elga® TIG rod grades available in the new tube
- Octagonal lid for keeping the tubes from rolling on flat surfaces

CORED WIRE WELDING: MEGAFIL®

Guaranteed no moisture pick-up

MEGAFIL® seamless flux- and metal-cored wires are hermetically sealed and totally insensitive to moisture absorption, even under extreme climatic conditions with tropical temperatures and very high relative humidity. The filling remains dry throughout the entire process of storage and use in welded fabrication, preventing hydrogen induced cracking caused by moisture in the consumable. MEGAFIL® cored wires require no special storage conditions. Re-drying prior to use is never recommended.

The special MEGAFIL® manufacturing technology enables production of cored wires with these and other unique advantages for end users:

- Prevention of hydrogen-induced cracking. Weld metal hydrogen content tested according to EN and AWS is below 4 ml/100 g weld metal. Typical values below 3 ml/100 g weld metal.
- No special storage conditions required. Can be stored like solid wires for an extended period, with a minimized risk of moisture absorption.
- Resistance to moisture pick-up when mounted on wire feeder, out of packaging.
- Continuity in the filling. Dependable weld metal properties.
- Copper coating for optimal current transfer from contact tip to wire and for reduced contact tip wear.
- Carefully controlled cast, helix and diameter gives good wire feeding and straight delivery at contact tip. Ideal for robotic welding.

MEGAFIL® flux- and metal-cored wires are available for all construction steel qualities with a wide range of approvals from authorities such as ABS, DNV, LR and TÜV. Wires can be supplied with 3.1 certificates for chemical composition and mechanical properties.

You need to weld: non-alloyed structural steel

MEGAFIL® 713 R: all positions

Rutile multi-purpose flux cored wire with good wire feed characteristics.
Easy to use in all welding positions.
Shielding gas: Argon + 15-25% CO_2, 100% CO_2.

MEGAFIL® 710 M: high mechanical properties

Metal cored wire with very good wire feed characteristics.
High-productivity welding.
Preferably for horizontal welding.
Shielding gas: Argon + 8-25% CO_2.

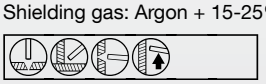
MEGAFIL® 819 R: all positions – low temperature applications

Rutile multi-purpose flux cored wire with 1%Ni providing excellent impact properties down to -60°C.
Easy to use in all welding positions.
Shielding gas: Argon +15-25% CO_2, 100% CO_2.

You need to weld: repair & maintenance

MEGAFIL® A 760 M

Well suited for wear resisting parts subject to heavy impact.
Good reignition characteristics.
Virtually no slag coverage.
Smooth arc characteristic.
Shielding gas: Argon + 15-25% CO_2.

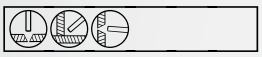


CORED WIRE WELDING

You need to weld: non-alloyed structural steel

Elgacore® MATRIX: excellent feeding properties, excellent bead appearance

Metal cored wire with ultra consistent performance, excellent feeding capability, exceptional bead appearance.
High-productivity welding in automatic application. Preferably for downhand welding.
Shielding gas: Argon + 15-25% CO_2.



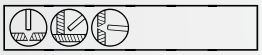
ELGA® PROPAC: THE ROBOT'S BEST FRIEND

When shifting to ProPac in your robotised or mechanised welding, downtime for spool changes can be reduced by up to 90% (250 kg ProPac compared to 15 kg standard spool) – time you can use to increase arc time factor and improve productivity.

You need to weld: stainless steel

Cromacore® 316LT0
Cromacore® 316LT1

Rutile flux cored wires for 304L and 316L steel (stainless / acid resistant).
Very good welding properties.
Shielding gas: Argon + 20% CO_2, 100% CO_2.

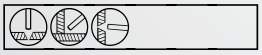

Cromacore® 316LT0


Cromacore® 316LT1

You need to weld: non-alloyed structural and stainless steel

Cromacore® 309LT1 / LT0
Cromacore® 309MoLT1

Rutile flux cored wires for dissimilar joints between stainless and mild or low alloy steels.
Very good welding properties.
Shielding gas: Argon + 18-25% CO_2, 100% CO_2.


Cromacore® 309LT0


Cromacore® 309MoLT1 / 309LT1

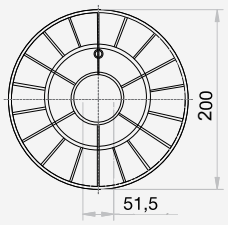
SELECTION CHART

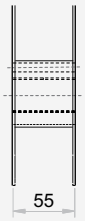
Select the right consumables according to type of steels and welding process:

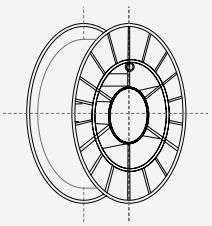
		Electrodes	MIG/MAG	TIG	Cored Wires
Unalloyed steel	Types of steel: S235 (St-37), S275 (St-44), S355 (St-52), NVA, NVA 32/36, NVD, NVD 32/36.	P 47D P 51 P 48S P 48M P 52T P 62MR Maxeta 21	Elgamatic 100	Elgatig 100	MEGAFIL® 713 R MEGAFIL® 710 M Elgacore® MATRIX
	Types of steel: S235 (St-37), S275 (St-44), NVA	P 45S Maxeta 11	Elgamatic 100	Elgatig 100	MEGAFIL® 713 R MEGAFIL® 710 M Elgacore® MATRIX
Stainless steel	Types of steel: 304L, 316L	Cromarod® 316L Cromarod® 316LP	Cromamig 316LSi	Cromatig 316LSi	Cromacore® 316LT1 Cromacore® 316LT0
Non-alloyed structural steel towards stainless steel		Cromarod® 309MoL	Cromamig 309LSi Cromamig 309MoL	Cromatig 309LSi	Cromacore® 309LT0 Cromacore® 309LT1 Cromacore® 309MoLT1
Repair and maintenance		Elgaloy Hard 60 Cromarod 312 Elgaloy Mix 18 Elgaloy Cast-NiFe	Elgaloy Hard M60 MEGAFIL® 760 M Cromamig 307Si		

SPOOL TYPES

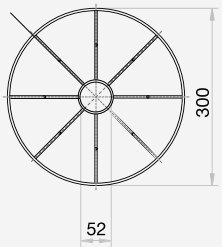
Plastic or wire basket spools

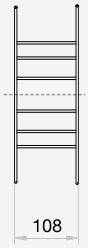


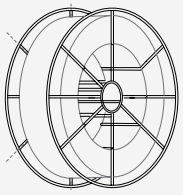




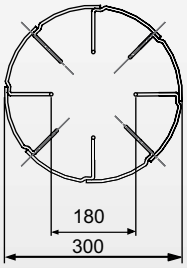
Plastic spool D 200
Diameter: 200 mm
Width: 55 mm
Suitable for a 50 mm hub







Basket spool S 300 & BS 300
Diameter: 300 mm
Width: 108 mm
Suitable for a 50 mm hub

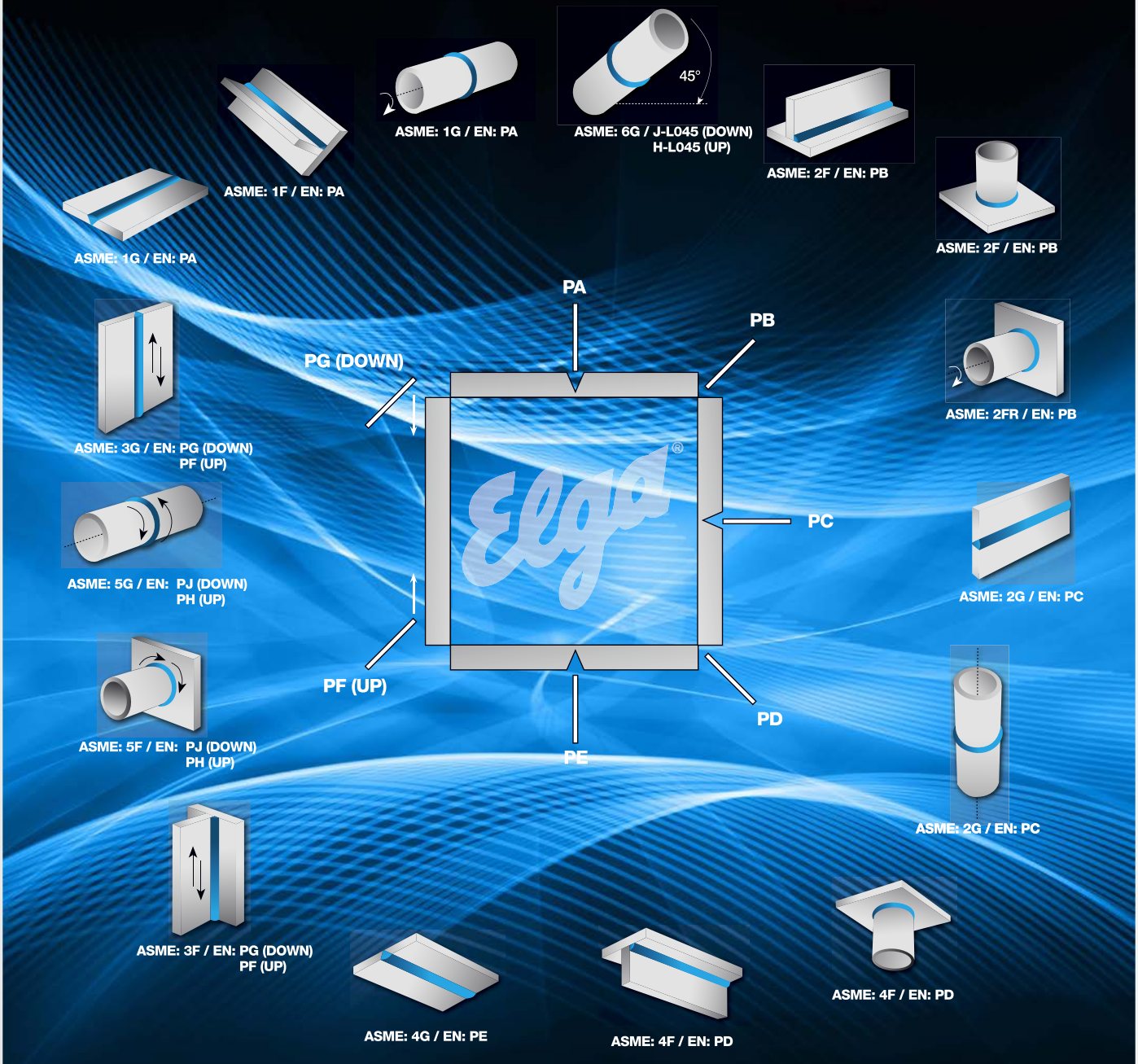


Basket rim K 300 (B 300)
Diameter: 300 mm
Width: 100 mm
Suitable for a 50 mm hub, but an adaptor is needed.

WELDING TECHNOLOGY

WELDING POSITIONS

ACCORDING TO AWS A3.0, ASME SECTION IX AND EN ISO 6947



IMPROVING YOUR WELDING PERFORMANCE
WITH PRODUCTS THAT PROVIDE MAXIMUM UPTIME AND WELD QUALITY IN THE MOST DEMANDING APPLICATIONS.

VISIT WWW.ELGA.SE FOR MORE TECHNICAL INFORMATION

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BEYOND STANDARDS

Elga® develops and manufactures reliable consumables for welding applications that deliver exceptional performance, even in some of the world's most rugged and extreme environments. We keep YOU working, with welding consumables that meet the high demands of your work and workplace.
Elga® products support all welding processes with all kinds of base materials, from standard Carbon Manganese steels to exclusive Nickel alloys. In addition to standard welding consumables, Elga® also creates custom solutions to meet specific customer needs.

Welcome to our world!




ElgaWelding
Elga-Welding

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