



All you need

– Elga coated electrodes

The Elga logo, consisting of the word 'Elga' in a white, stylized, cursive font, is set against a solid blue square background.

Still going strong

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.

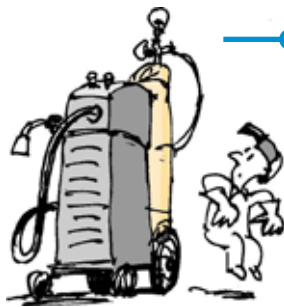


Use coated electrodes



● **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 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.**



Rutile or basic coated electrodes

Rutile electrodes

Advantages

- + User friendly.
- + Easy to strike and re-strike.
- + Produce minimum spatter.
- + Self-detaching slag.
- + Electrodes for both positional and horizontal welding.

Be aware of

- Should not be used for alloy steels with yield strength above 355 MPa because the hydrogen content for rutile electrodes is >20 ml/100 g weld metal.
- Should not be used for welds that are to be stress relieved.

The chemical composition of the electrode coating determines if the electrode is "rutile" or "basic".



DryPac

Many Elga electrodes are packed in DryPac. The special vacuum packaging prevents moisture absorption from the surrounding atmosphere and comes in smaller sizes than normal packets.

Basic electrodes

The most common electrode type

Advantages

- + Can be welded in all positions and are often used as an all-round electrode.
- + High weld quality with excellent toughness and impact strength.
- + Good protection against hydrogen cracking as a result of low moisture content.
- + The only electrodes suitable for un- and low alloyed steels when good impact strength is required at temperatures below -20 °C.

Be aware of

- Not as easy slag detachment as rutile electrodes.
- The surface is not as smooth as rutile electrodes and the profile is often convex.

High recovery electrodes

- A profitable alternative

To increase productivity iron powder is added to the coating, which gives significantly higher recovery and productivity than normal metal recovery electrodes.

Normal metal recovery electrodes:

98-120 % recovery

High recovery electrodes:

120-240 % recovery

High recovery electrodes:

- Preferable for horizontal welding in PA and PB positions.
- Can also be suitable when welding horizontal-vertical (PC position).
- Slightly higher current is necessary compared to normal metal recovery electrodes.

Maxeta

Elga's high recovery electrodes for un- and low alloyed steels have the generic title Maxeta. By using Maxeta you increase productivity and improve profitability.

Selection guide

Steel	Rutile electrodes		Basic electrodes			
	P 45S	Maxeta 11	P 48S	P 48M	Maxeta 20	P 62MR
S235JR / St 37-2 / NVA S275JR / St 44-2 P265GH / St 35.8.1 A106Gr.B						
Welding current	AC/DC	AC/DC	DC	DC	AC/DC	AC/DC
S355N / S355M S355MCD S355J2 / St 52-3						
Welding current			DC	DC	AC/DC	AC/DC

For unalloyed steels, general construction steels up to S355J0.

Rutile electrodes

P 45S

P 45S is a welder friendly all-round electrode. It produces a weld with excellent cosmetic finish using both AC and DC (for DC preferable – pool). Also suitable for tack welding and for welding in thinner materials.

Welding position: Welds in all positions, including vertical down.

Advantages: Minimum spatter, smooth bead surface and self-detaching slag. Easy to strike and re-strike.

Maxeta 11

High recovery

Maxeta 11 is the high recovery alternative to a normal rutile electrode and gives you significantly greater productivity in horizontal welding. It also gives a good result on primed plates.

Application & welding position: Down-hand and horizontal-vertical fillet welds and horizontal butt welds. (N.B. The 4.0 mm electrode requires welding current greater than 180 Amp)

Advantages: Excellent slag removal, minimum spatter, smooth bead surface, easy to strike and re-strike. AC / DC.

For unalloyed and micro alloyed steels.

Also useful for low alloy-high strength steels where undermatching consumables are acceptable.

Basic electrodes

P 48S – all-round electrode

P 48S is an all-round 7018-electrode. Welding with P 48S means problem free welding, as the basic weld metal is tough and contributes to good mechanical properties.

Application & welding position: For all applicable joint types and root passes. All positional, except vertical down. Can also be used for highly restrained joints as it gives a low impurity, tough weld metal.

Advantages: Good welding characteristics, low risk of cold cracks and high productivity for a 7018-electrode.

P 48M SiteMaster™

Excellent all-round electrode for site work and pipe welding.

Application & welding position: Butt- and fillet welds, root- and fill passes in all positions except vertical down.

Advantages: Extremely user friendly with a very stable arc. Easy to strike and re-strike. Insensitive to voltage drops. Ideal for small inverters.

Maxeta 20

High recovery

Maxeta 20 is the high recovery alternative to a normal basic electrode. It is the best choice of high recovery electrode for impact strength requirements down to -20°C and low hydrogen level.

Maxeta 20 gives a good cosmetic finish weld and reduction in post-weld dressing (deslagging/grinding) resulting in good welding economy.

Application & welding position: Butt and fillet welds in PA, PB and PC positions.

Advantages: Produces a smooth, mitre profile fillet and smooth transition with base material as well as self-detaching slag. It is also easy to make extended run lengths.

	Stainless electrodes					
Steel	Cromarod 308L	Cromarod 308LP	Cromarod 316L	Cromarod 316LP	Cromarod Duplex	Cromarod Duplex LP
Stainless steels: 304, 304L, 1.4301, 1.4306						
Welding current	DC/AC	DC/AC			AC/DC	AC/DC
Stainless steels: 316, 316L, 1.4401, 1.4404						
Welding current			AC/DC	AC/DC		
Duplex: 1.4462, 1.4362, S32205, S31803						
Welding current					AC/DC	AC/DC

P 62MR

P 62MR is a basic-coated low hydrogen electrode producing a nominal 0.9 % Ni weld metal. It is designed to give excellent fracture toughness down to -60 °C.

Application & welding position: Flat sections and pipe welding in all positions except vertical down. Constructions with low service temperature and repair of heavy machinery.

Advantages: Excellent characteristics both on AC and DC. Easy to weld, has good slag release and produces minimal spatter. Low risk of cold cracks. High resistance to brittle fracture. High and consistent CTOD values and good impact strength.

Diameter 3.2 mm also available as thin coated version, which is excellent for narrow joints and root passes.



For stainless steel

Rutile coating most common

Cromarod is Elga's electrode family for stainless steel welding. First, you choose electrode to match base material composition. Second, the right type should be chosen i.e. all-round operability electrode or LP-electrode for optimal positionality.

Cromarod all-round electrodes

Cromarod 308L, 316L and Cromarod Duplex are typical all-round electrodes and easy to use.

Application & welding position: Welding of all applicable joint types and root passes in all positions except vertical down.

Operability limitations: Not suitable for root passes on thinner materials. Cromarod LP-electrodes are recommended here instead.

Advantages: Smooth bead surface, self-detaching slag and minimal spatter. Easy to strike and re-strike. DC+ recommended.

Basic Stainless

Elga's basic stainless electrodes are specially designed for higher toughness, low temperature requirements. Increased gas shield due to the higher carbonate content makes them especially suitable for windy conditions on the site.

Cromarod LP-electrodes for positional welding

Cromarod 308LP, 316LP and Cromarod Duplex LP are common LP-electrodes for pipe welding. Its user friendly properties makes Cromarod LP the ultimate choice for stainless steel positional welding.

Application & welding position: Welding of thin sheet and thin walled pipes (down to 2.0 mm). The electrode can be used to advantage for root passes and positional welding in thicker material. Also good for tack welding. Excellent in all positions, even vertically down.

Operability limitations: Not the best choice for fillet welds; use ordinary Cromarod instead.

Advantages: Gives excellent bead shape, self-detaching slag and is easy to strike and re-strike. Cromarod LP is also good at low current levels. DC+ recommended. Easily bridges gaps up to 6.0 mm (using DC-).



The Cromarod electrodes give excellent bead shape and self-detaching slag.

Elga AB

Box 277

433 25 Partille, Sweden

Tel: +46 (0)31 726 46 00

Fax: +46 (0)31 726 47 00

www.elgawelding.com

Your Elga distributor

9999-0730Eng 200806

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