

MILD STEEL & IRON POWDER ELECTRODES

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GP 6012

45
OCVDC
AC

- ▲ General Purpose Versatile Electrode.
- ▲ High Operator Appeal!
- ▲ All Positional Welding Capabilities.
- ▲ Ideal for the Vertical-Down Welding of Thin Steel Sections.
- ▲ Quite, Smooth Arc Action.
- ▲ Excellent for welding joints with poor fit-up.

Classifications:

AS/NZS 1553.1: E4112-0.
AWS/ASME-SFA A5.1: E6013.

Description and Applications:

GP 6012 is a versatile, user friendly, G.P. electrode, suitable for welding in all positions. GP 6012 has a unique flux coating that offers exceptional welder appeal and makes for easy welding of the most difficult jobs.

Features include:

- ◆ Quick freezing, self releasing slag for exceptional control when welding in the vertical-down and other difficult positions.
- ◆ Excellent slag detachability under high heat build-up conditions.
- ◆ Superb for welding joints with poor fit-up (gaps and misalignment etc).
- ◆ Easy arc starting and stability on low voltage (greater than 45 O.C.V.) AC current welding machines.
- ◆ Medium penetrating arc, useful for welding thin and light gauge steels.
- ◆ Impressive touch welding capabilities.

Due to GP 6012's host of versatile features it is suitable for a wide range of welding applications in the light to medium structural steel industry including,

- ◆ Wrought iron furniture,
- ◆ Mild steel plate, sheet metal and galvanised iron sheet,
- ◆ Rolling stock and railway maintenance work,
- ◆ Square or rectangular hollow tube sections (RHS etc),
- ◆ Pipes and low pressure pipelines,
- ◆ Ducting, hoppers and tanks,
- ◆ Plus a wide range of G.P. welding applications such as, gates, security grills, barbecues, trolleys, letter boxes, trestles, billy carts, shelved storage units etc.

Packaging and Operating Data:

AC (minimum 45 O.C.V.), DC+ or DC- polarity.

Electrode Size mm	Electrode Length mm	Approx No. Rods/kg	Current Range (amps)	Packet	Carton	Part No
2.5	300	55	55-80	5kg	15kg - 3 x 5kg	611142
2.5	300	55	55-80	2.5kg	15kg - 6 x 2.5kg	612142
3.2	380	30	90-130	5kg	15kg - 3 x 5kg	611143
3.2	380	30	90-130	2.5kg	15kg - 6 x 2.5kg	612143
4.0	380	19	130-180	5kg	15kg - 3 x 5kg	611144

APPROVALS:

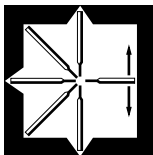
Lloyds Register of Shipping	Grade 2.
American Bureau of Shipping	Grade 2.
Det Norske Veritas	Grade 2.

TYPICAL ALL WELD METAL MECHANICAL PROPERTIES:

Yield Stress	430 MPa
Tensile Strength	490 MPa
Elongation	29%
CVN Impact Values	80J av @ 0°C.

TYPICAL ALL WELD METAL ANALYSIS:

C: 0.07%	Mn: 0.45%	Si: 0.30%
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All positional - welding

- ▲ General Purpose "XP series" Electrode.
- ▲ Easy Striking - Hot or Cold!
- ▲ Xtra smooth Performance (XP).
- ▲ Versatile - All Positional Capabilities.
- ▲ Ideal for Vertical Down Fillet Welding.
- ▲ RED flux colour for easy I.D.

Classifications:

AS/NZS 1553.1: E4112-0.
 AWS/ASME-SFA A5.1: E6013.

Description and Applications:

Ferrocraft 12XP is an Xtra smooth Performance (XP) general purpose electrode manufactured at CIGWELD's Welding Consumables Plant. It offers smooth, stable running and superb fillet shapes in all welding positions including vertical-down/up and overhead.

Ferrocraft 12XP is recommended for all your general purpose repair, maintenance and fabrication welding jobs around the home, workshop, farm, fabshop and jobbing shop. It is the ideal vertical-down fillet welding electrode producing a fast freezing viscous slag.

Typical applications of Ferrocraft 12XP include the all positional fillet welding of steel furniture, plates, fences, gates, pipes and tanks etc.

APPROVALS:

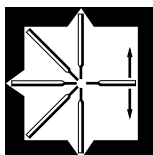
Lloyds Register of Shipping	Grade 2, 2Y.
American Bureau of Shipping	Grade 2, 2Y.
Det Norske Veritas	Grade 2.
American Bureau of Shipping	AWS A5.1 E6013.

TYPICAL ALL WELD METAL MECHANICAL PROPERTIES:

Yield Stress	460 MPa
Tensile Strength	500 MPa
Elongation	27%
CVN Impact Values	75J av @ 0°C.

TYPICAL ALL WELD METAL ANALYSIS:

C: 0.07% Mn: 0.60% Si: 0.50%



All positional - welding

Packaging and Operating Data:

AC (minimum 45 O.C.V.), DC+ or DC- polarity.

Electrode Size mm	Length mm	Approx Rods/Kg	Current Range (amps)	Packet	Carton	Easyweld Handipack	Part No
2.0	300	95	40-70	half pack 2.5kg	15kg - 6 x 2.5kg	90 Rods	612231 322128
2.5	300	55	60-100	5kg	15kg - 3 x 5kg		611232
2.5	300	55	60-100	half pack 2.5kg	15kg - 6 x 2.5kg	50 Rods	612232 322129
3.2	380	30	90-130	5kg	15kg - 3 x 5kg		611233
3.2	380	30	90-130	half pack 2.5kg	15kg - 6 x 2.5kg	25 Rods	612233 322138
4.0	380	19	130-180	5kg	15kg - 3 x 5kg		611234

Easyweld Blister Pack:

10 x 2.5mm/5 x 3.2mm rod Ferrocraft 12XP Blister Pack 322213

MUREX™

- ★ Speedex™ 12 is a user friendly E4112/E6013 electrode.
- ★ For fillet and butt welding in all positions including vertical down.
- ★ Ideal for the welding of thin steel.
- ★ Speedex™ 12 produces a quiet smooth arc with low spatter loss.
- ★ Excellent for misaligned joints.
- ★ Quick freezing, self detaching slag.
- ★ For use on welding machines with a 45 O.C.V. rating or greater.
- ★ Suitable for welding mild steel, sheet metal, galvanised iron, wrought iron, RHS tubing.
- ★ Uses for Speedex™ 12 include tanks, gates, trailers, ornamental iron work, back yard projects, frames etc.

CLASSIFICATIONS:

AS/NZS 1553.1:	E4112-0.
AWS A5.1:	E6013.

MECHANICAL PROPERTIES (TYPICAL):

Yield Stress	430 MPa
Tensile Strength	490 MPa
Elongation	29%
CVN Impact Values	80J av @ 0°C

CHEMICAL ANALYSIS (TYPICAL):

C: 0.07%	Mn: 0.45%
Si: 0.30%	

PART NUMBERS:

2.5mm (5kg)	SP1225
2.5mm (2.5kg)	SP12125
3.2mm (5kg)	SP1232
3.2mm (2.5kg)	SP12132
4.0mm (5kg)	SP1240

WELDING POSITIONS



DOWNHAND



HORIZONTAL



VERTICAL



OVERHEAD

HORIZONTAL/
VERTICALVERTICAL
DOWN

OPERATING PARAMETERS & PACKAGING DETAILS:

Ø (mm)	Amperage	Polarity	OCV	Length (mm)	Pk	Carton
2.5	55-80	AC /DC electrode +/-	45A min	300	5kg	15kg
2.5	55-80			300	2.5kg	15kg – 6 x 2.5kg
3.2	90-130	AC /DC electrode +/-	45A min	380	5kg	15kg
3.2	90-130			380	2.5kg	15kg – 6 x 2.5kg
4.0	130-180	AC /DC electrode +/-	45A min	380	5kg	15kg

- ▲ General Purpose, Rutile Type Electrode.
- ▲ Outstanding Operator Appeal!
- ▲ Versatile - All Positional Capabilities.
- ▲ Smooth Mitre Fillet Welds with Low Spatter.
- ▲ BLUE flux colour for instant I.D.

Classifications:

AS/NZS 1553.1: E4113-0.
AWS/ASME-SFA A5.1: E6013.

Description and Applications:

Flat, horizontal-vertical, vertical-up and overhead - you can weld in any position with Satincraft 13.

That's the beauty of Australia's most popular G.P. electrode.

Operating with either AC (min 45 O.C.V.) or DC current, Satincraft 13 produces smooth professional mitre fillet welds in all positions (except vertical-down) with very low spatter levels, positive re-strike (hot or cold) and self-releasing slag.

Applications include the general workshop, field and structural welding of mild or galvanised steel components such as pipes, tanks, frames, fences and gates etc. Satincraft 13 is particularly recommended for the lap and fillet welding of thin walled galvanised and mild steels where the low spatter levels and excellent edge wetting produce superior results.

APPROVALS:

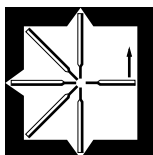
Lloyds Register of Shipping	Grade 2.
American Bureau of Shipping	Grade 2.
Det Norske Veritas	Grade 2.
American Bureau of Shipping	AWS A5.1 E6013.

TYPICAL ALL WELD METAL MECHANICAL PROPERTIES:

Yield Stress	460 MPa
Tensile Strength	520 MPa
Elongation	28%
CVN Impact Values	60J av @ 0°C.

TYPICAL ALL WELD METAL ANALYSIS:

C: 0.07%	Mn: 0.60%	Si: 0.50%
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All positional - except vertical down

Packaging and Operating Data:

AC (minimum 45 O.C.V.), DC+ or DC- polarity.

Electrode Size mm	Electrode Length mm	Approx No. Rods/kg	Current Range (amps)	Packet	Carton	Easyweld Handipaks	Part No
2.5	300	53	55-90	5kg	15kg - 3 x 5kg		611182
2.5	300	53	55-90	half pack 2.5kg	15kg - 6 x 2.5kg		612182
						50 rod	322135
3.2	380	29	90-135	5kg	15kg - 3 x 5kg		611183
				half pack 2.5kg	15kg - 6 x 2.5kg		612183
						25 rod	322136
4.0	380	20	135-180	5kg	15kg - 3 x 5kg		611184

Easyweld Blister Pack:

10 x 2.5mm/5 x 3.2mm rod Satincraft Blue Blister Pak	322203
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WELDCRAFT

45
OCVDC
AC

- ▲ Rutile - Basic Type Electrode.
- ▲ Higher Radiographic Quality.
- ▲ Improved Grade 2 Impact Properties.
- ▲ Versatile "Out-Of-Position" Capabilities.

Classifications:

AS/NZS 1553.1: E4113-2.
AWS/ASME-SFA A5.1: E6013.

Description and Applications:

Weldcraft is a popular, rutile - basic type electrode which combines excellent all positional welding capabilities (except vertical-down) with improved radiographic weld deposit soundness and impact toughness.

Weldcraft gives better control of the weld pool in vertical-up and overhead welding applications.

As a direct result superior weld profile, edge wetting, penetration and slag lift are consistently achieved. Weld contours in the flat and horizontal-vertical positions are slightly convex and free from undercut.

Weldcraft is suitable for "on site" and workshop welding where better mechanical properties are required and the work cannot be re-positioned to allow welding in the downhand. The electrode is recommended for welding joints subjected to radiographic examination in pressure vessel, ship building, bridge and storage tank fabrications.

Packaging and Operating Data:

AC (minimum 50 O.C.V.), DC+ or DC- polarity.

Electrode Size mm	Electrode Length mm	Approx No. Rods/kg	Current Range (amps)	Packet	Carton	Part No
2.5	300	51	60-95	5kg	15kg - 3 x 5kg	611202
3.2	380	27	95-135	5kg	15kg - 3 x 5kg	611203
4.0	380	17	130-185	5kg	15kg - 3 x 5kg	611204

APPROVALS:

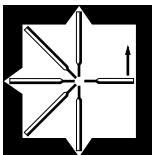
Lloyds Register of Shipping	Grade 3.
American Bureau of Shipping	Grade 3.
Det Norske Veritas	Grade 3.

TYPICAL ALL WELD METAL MECHANICAL PROPERTIES:

Yield Stress	420 MPa
Tensile Strength	490 MPa
Elongation	28%
CVN Impact Values	60J av @ -20°C.

TYPICAL ALL WELD METAL ANALYSIS:

C: 0.07%	Mn: 0.60%	Si: 0.50%
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All positional - except
vertical down

MUREX™

- ★ Speedex™ 13 is an easy running E4113/E6013 general purpose electrode.
- ★ For fillet and butt welding in all positions except vertical down.
- ★ Self-lifting slag with low spatter loss.
- ★ Speedex™ 13 is recommended for welding thin sections of mild steel and galvanised steels.
- ★ Easy to re-start.
- ★ Speedex™ 13 is ideal for general purpose work such as frames, tanks, gates and light structural work.

CLASSIFICATIONS:

AS/NZS 1553.1:	E4113-0.
AWS A5.1:	E6013.

MECHANICAL PROPERTIES (TYPICAL):

Yield Stress	430 MPa
Tensile Strength	500 MPa
Elongation	28%
CVN Impact Values	60J av @ 0°C

CHEMICAL ANALYSIS (TYPICAL):

C: 0.08%	Mn: 0.43%
Si: 0.35%	

PART NUMBERS:

2.5mm	SP1325
3.2mm	SP1332
4.0mm	SP1340

WELDING POSITIONS



DOWNHAND



HORIZONTAL



VERTICAL



OVERHEAD

HORIZONTAL/
VERTICAL

OPERATING PARAMETERS & PACKAGING DETAILS:

Ø (mm)	Amperage	Polarity	OCV	Length (mm)	Pk	Carton
2.5	60-90	AC /DC electrode +/-	45A min	300	5kg	15kg
3.2	90-135	AC /DC electrode +/-	45A min	380	5kg	15kg
4.0	135-180	AC /DC electrode +/-	45A min	380	5kg	15kg

FERROCRAFT 21

45
OCVDC
AC

- ▲ Rutile Type, Medium Iron Powder Electrode.
- ▲ Excellent Operator Appeal!
- ▲ Versatile - All Positional Capabilities.
- ▲ Easy Striking - Hot or Cold!
- ▲ Ideal for Vertical Down Fillet Welding.
- ▲ Reliable Impact Toughness to -20°C.

Classifications:

AS/NZS 1553.1: E4814-2.
AWS/ASME-SFA A5.1: E7014.

Description and Applications:

Ferrocraft 21 is a popular rutile type, medium iron powder electrode developed and manufactured in Australia by CIGWELD. It offers many features including smooth stable AC / DC running on low O.C.V. welding machines, excellent fillet shapes in all welding positions (including vertical-down/up and overhead) and a higher electrode efficiency of 110%. In addition, Ferrocraft 21 produces good radiographic quality, a self releasing slag and improved "Grade 2" (min 47J) av @ -20°C) impact properties.

Ferrocraft 21 is suitable for workshop or 'on-site' repair, maintenance and fabrication welding jobs where the iron powder addition gives improved usability over conventional E4112 rutile type electrodes.

It is the ideal vertical-down fillet welding electrode for thinner steel sections using "Touch Welding" techniques. It produces a controllable fast freezing slag with outstanding slag lift and minimum undercut.

APPROVALS:

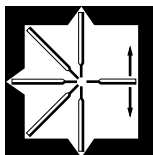
Lloyds Register of Shipping	Grade 3.
American Bureau of Shipping	Grade 3.
Det Norske Veritas	Grade 3.
American Bureau of Shipping	AWS A5.1 E7014.

TYPICAL ALL WELD METAL MECHANICAL PROPERTIES:

Yield Stress	430 MPa
Tensile Strength	500 MPa
Elongation	30%
CVN Impact Values.	90J av @ -20°C.

TYPICAL ALL WELD METAL ANALYSIS:

C: 0.06%	Mn: 0.65%	Si: 0.30%
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All positional - welding[#]

Packaging and Operating Data:

AC (minimum 45 O.C.V.), DC+ or DC- polarity.

Electrode Size mm	Electrode Length mm	Approx No. Rods/kg	Current Range (amps)	Packet	Carton	Easyweld Handipacks	Part No
2.5	300	50	55-100	5kg	15kg - 3 x 5kg		611242
2.5	300	50	55-100			50 rod	322130
3.2	380	26	95-140	5kg	15kg - 3 x 5kg		611243
4.0	380	17	140-195	5kg	15kg - 3 x 5kg		611244
5.0	450	9	200-260	5kg	15kg - 3 x 5kg		611245

Easyweld Blister Pack:

10 x 2.5mm/5 x 3.2mm rod Ferrocraft 21 Blister Pack	322205
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-5.0mm Ferrocraft 21 is not recommended for out-of-position (ie vertical or overhead) welding applications.

- ▲ Rutile Type High Iron Powder Electrode.
- ▲ High Productivity Fillet and Butt Welding in All Downhand Positions.
- ▲ Self Releasing Slag.

Classifications:

AS/NZS 1553.1: E4824-0.
 AWS/ASME-SFA A5.1: E7024.

Description and Applications:

Ferrocraft 22 is a rutile type high iron powder electrode for the higher productivity fillet and butt welding of mild steel in all downhand (flat and horizontal-vertical) positions.

Slag lift and "side wall" wash at weld toes are superb and welding speeds are approximately double those of conventional electrodes of equal size and length.

Ferrocraft 22 is recommended for high production welding where large standing fillet welds are required. It is the ideal electrode for heavy structural welding applications such as tanks, frames, girders and beams, ship structures and rolling stock and general fabrication in the workshop or on-site.

APPROVALS:

Lloyd's Register of Shipping	Grade 2Y.
American Bureau of Shipping	Grade 2.
Det Norske Veritas	Grade 2.
American Bureau of Shipping	AWS A5.1 E7024.

TYPICAL ALL WELD METAL MECHANICAL PROPERTIES:

Yield Stress	440 MPa
Tensile Strength	512 MPa
Elongation	25%
CVN Impact Values	60J av @ 0°C.

TYPICAL ALL WELD METAL ANALYSIS:

C: 0.05%	Mn: 0.75%	Si: 0.25%
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Packaging and Operating Data:

AC (minimum 45 O.C.V.), DC+ or DC- polarity.

Electrode		Approx No. Rods/kg	Current Range (amps)	Packet	Carton	Part No
Size mm	Length mm					
2.5	350	34	85-120	5kg	15kg – 3 x 5kg	611252
3.2	380	18	130-170	5kg	15kg – 3 x 5kg	611253
4.0	450	11	185-235	5kg	15kg – 3 x 5kg	611254
5.0	450	7	260-320	5kg	15kg – 3 x 5kg	611255

- Ferrocraft 22 is formulated to operate with AC (min 45 O.C.V.), DC+ or DC- polarity. The preferred polarity for DC fillet welding is DC+.

FERROCRAFT 11

65
OCVDC
AC

- ▲ Cellulose Pipe Welding Electrode.
- ▲ All Positional, AC / DC Capabilities.
- ▲ High Penetration, Root Pass Applications.
- ▲ WHITE flux colour for easy I.D.

Classifications:

AS/NZS 1553.1: E4111-2.
AWS/ASME-SFA A5.1: E6011.

Description and Applications:

Ferrocrafft 11 is a cellulose electrode suitable for high penetration welding applications using both AC and DC power sources.

The deep penetration and fast freezing weld metal of Ferrocrafft 11 make it ideal for the all positional (including vertical up/down and overhead) root pass welding of full penetration joints. A small iron powder addition to the Ferrocrafft 11 flux coating gives it improved arc stability and smoother arc transfer.

Ferrocrafft 11 is recommended for root pass welding where the 'stovepipe' or 'flick' techniques can be used to achieve full root penetration. Typical applications include the root, hot, fill and capping pass welding of pipelines, pressure vessels, storage tanks, workshop and field constructions.

APPROVALS:

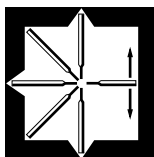
Lloyds Register of Shipping	Grade 3, 3Y.
American Bureau of Shipping	Grade 3.
Det Norske Veritas	Grade 3.
American Bureau of Shipping	AWS A5.1 E6011.

TYPICAL ALL WELD METAL MECHANICAL PROPERTIES:

Yield Stress	415 MPa
Tensile Strength	500 MPa
Elongation	28%
CVN Impact Values	90J av @ -20°C.

TYPICAL ALL WELD METAL ANALYSIS:

C: 0.12%	Mn: 0.47%	Si: 0.10%
S: 0.007%	P: 0.011%	



All positional - welding

Packaging and Operating Data:

AC (minimum 65 O.C.V.), DC+ or DC- polarity.

Size mm	Electrode		Approx No. Rods/kg	Current Range (amps)	Packet	Carton	Part No
	Length mm						
2.5	300		62	65-85	5kg	15kg - 3 x 5kg	611132
3.2	380		33	95-125	5kg	15kg - 3 x 5kg	611133
4.0	380		22	130-160	5kg	15kg - 3 x 5kg	611134

PIPEARC 6010P



- ▲ User Friendly Pipe Welding Electrode.
- ▲ Quieter, Forceful, Deep Penetrating Arc.
- ▲ Lower Spatter Levels and Easy Slag Removal.
- ▲ Finer Ripples with Consistent Bead Shape.
- ▲ Excellent Reverse Bead Formation on Butts.
- ▲ Versatile "Out-of-Position" Capabilities.
- ▲ Batch Numbered for On-the-Job Traceability.

Classifications:

AS/NZS 1553.1: E4110-2.
AWS/ASME-SFA A5.1: E6010.

Description and Applications:

PipeArc 6010P is a user friendly, high cellulose type electrode for welding mild steel in all welding positions. PipeArc 6010P exhibits a quiet and forceful deep penetrating arc, quick freeing slag, extra low spatter levels and easy slag removal.

PipeArc 6010P is designed specifically for pipe line welding using Direct Current Electrode Positive (DC+). It can be used for the root, fill and capping pass welding of full penetration joints in a wide range of steels using "stovepipe" and "flick" techniques. Root passes (root runs) in single "V" butt preparations completed with PipeArc 6010P produce full and uniform penetration with excellent reverse bead formation.

This electrode can be used for a wide range of applications such as, site fabrication work in the oil, LPG and LNG gas industries, shipbuilding, maintenance and general purpose work. PipeArc 6010P is used to weld out (root, fill and cap) steel pipes such as API 5L, 5LX grades X42 to X52.

For the welding of "V" butt (groove weld) joints in higher strength steels, including 5LX grades X60, X65 and X70, PipeArc 6010P is recommended for root pass welding only. The fill and capping passes should be completed with PipeArc 7010P for X60 & X65 grades and PipeArc 8010P for X70 grades.

Packaging and Operating Data:

DC+ (Direct Current Electrode Positive) polarity.

Electrode		Approx No. Rods/kg	Current Range (amps)	Packet	Carton	Part No
Size mm	Length mm					
2.5	300	66	45-85	5kg	15kg - 3 x 5kg	615602
3.2	350	39	70-125	5kg	15kg - 3 x 5kg	615603
4.0	350	25	120-190	5kg	15kg - 3 x 5kg	615604
4.8	350	18	160-250	5kg	15kg - 3 x 5kg	615605

APPROVALS:

American Bureau of Shipping	AWS A5.1 E6010.
American Bureau of Shipping	Grade 3.
Det Norske Veritas	Grade 3.
Lloyd's Register of Shipping	Grade 3.

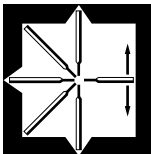
TYPICAL ALL WELD METAL ANALYSIS:

C: 0.11%	Mn: 0.46%	Si: 0.15%
S: 0.011%	P: 0.012%	

TYPICAL ALL WELD METAL MECHANICAL PROPERTIES:

Yield Stress	400 MPa
Tensile Strength	510 MPa
Elongation	30%
CVN Impact Values	65J av @ -20°C. 40J av @ -30°C.

The results quoted in this data sheet are obtained from the listed Shipping Societies (ABS, DNV, LRS) Conformance Tests and Procedures. Actual weld metal mechanical properties achieved with PipeArc 6010P are influenced by many factors including, base metal analysis, welding parameters / heat input used, number of weld passes and run placement etc. On the job mechanical tests may produce different results.



All positional - welding

The only choice for the serious welder



As market leader CIGWELD has been at the forefront of electrode research, development, and manufacturing. Working

closely with industry we have developed a comprehensive range of electrode products to meet their demands. Many of these products have brand

names that you may already know and trust such as Satincraft, Ferrocrafter, Alloycraft, Castcraft, Weldall and Satincrome. So, if you're

serious about the quality and performance of your welding electrodes use CIGWELD every time and get the job done properly.

Email: cigweldsales@cigweld.com.au

CIGWELD
A THERMADYNE Company