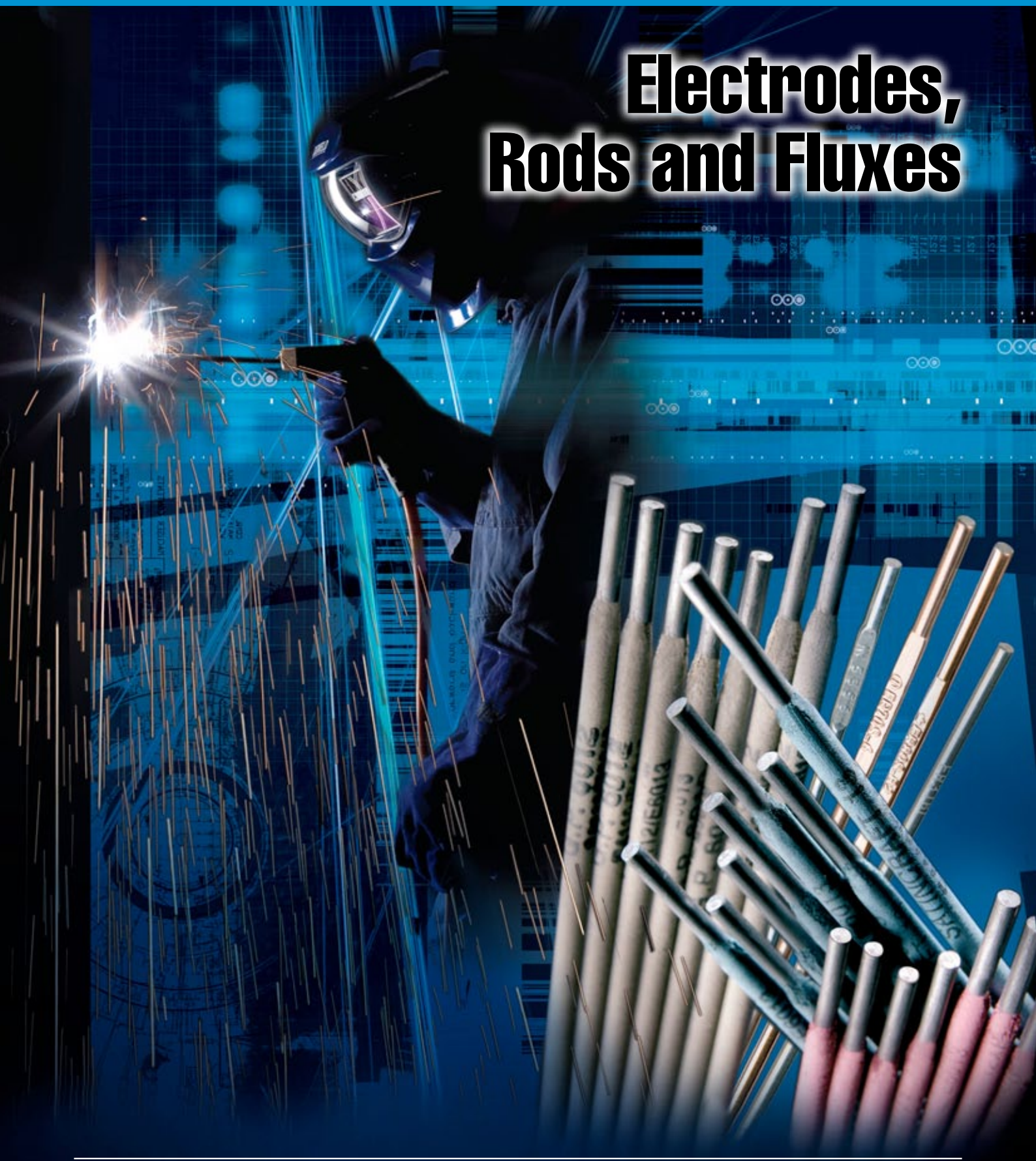
CIGWELD Professional

Electrodes, Rods and Fluxes



FMEMAN Rev 1

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CIGWELD
Professional

Introduction

CIGWELD Professional:
when welding is your business

At Thermadyne we distinguish ourselves from our competitors through superior features, dependable products, technical innovation and excellence in customer service and technical support.

Our range of high performance electrodes, rods and fluxes offers an optimum solution for every welding application.

So if you're serious about performance, cost and ease of use the CIGWELD Professional range has the answer.

Key to Icons

DC AC	Alternating or direct current - either polarity
AC DC+	Alternating or direct current - electrode positive
AC DC–	Alternating or direct current - electrode negative
DC +	Direct current electrode positive
DC –	Direct current electrode negative
45 ocv	Open circuit voltage rating
HV30 780	Weld metal hardness
10.9%	IACS electrical conductivity %
630° C	Melting point
	Gas Welding
	TIG/GTAW welding
	All positions except vertical down
	All positions
	Downhand only
	Downhand & horizontal

Contents

Mild Steel & Iron Powder Electrodes

Hydrogen Controlled Electrodes

Stainless Steel & Special Electrodes

Cobalarc Hardfacing Electrodes

Contents

Gas & TIG Welding Consumables

Silver Brazing Alloys, Solders & Fluxes

Mild Steel and Iron Powder Electrodes

GP6012

45 ocv | DC AC

- Versatile General Purpose Electrode
- All Positional Welding Capabilities
- Ideal for the Vertical-Down Welding of Thin Steel Sections
- Wrought iron furniture
- Suitable for welding Mild steel plate, sheet metal and galvanised iron sheet, ducting, hoppers, tanks, pipes and low pressure pipelines
- Pipes and low pressure pipelines
- Excellent for welding joints with poor fit-up

Classifications:

AS/NZS 4855: (new)	B 4313 A
AS/NZS 1553.1: (old)	E4112-0
AWS/ASME-SFA A5.1:	E6013

Packaging and Operating Data:

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
3.2	380	30	90 – 130	5kg	15kg – 3 x 5kg	611143
4.0	380	19	130 – 180	5kg	15kg – 3 x 5kg	611144

AC (miniumum 45 OCV) DC+ or DC- polarity

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%

Approvals:

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

Ferrocraft 12XP

45 ocv | DC AC

- Versatile General Purpose Electrode
- All Positional Welding Capabilities
- Ideal for the Vertical-Down Welding of Thin Steel Sections
- Wrought iron furniture
- Suitable for welding Mild steel plate, sheet metal and galvanised iron sheet, ducting, hoppers, tanks, pipes and low pressure pipelines
- Pipes and low pressure pipelines
- Excellent for welding joints with poor fit-up

Classifications:

AS/NZS 4855: (new)	B 4313 A
AS/NZS 1553.1: (old)	E4112-0
AWS/ASME-SFA A5.1:	E6013

Packaging and Operating Data:

Electrode Size mm	Electrode Length mm	Approx No. Rods/kg	Current Range (amps)	Packet	Carton	Hang-tube	Part No
2.0	300	95	40 – 70	2.5kg	15kg - 6x2.5kg		612231
2.0	300	95	40 – 70	–	12kg - 12x1kg	1kg	322128
2.5	300	55	60 –100	5kg	15kg - 3x5kg		611232
2.5	300	55	60 – 100	2.5kg	15kg - 6x2.5kg		612232
2.5	300	55	60 – 100	–	12kg - 12x1kg	1kg	322129
3.2	380	30	90 – 130	5kg	15kg - 3x5kg		611233
3.2	380	30	90 – 130	2.5kg	15kg - 6x2.5kg		612233
3.2	380	30	90 – 130	–	12kg - 12x1kg	1kg	322138
4.0	380	19	130 – 180	5kg	15kg - 3x5kg		611234
Easyweld Blister Pack:							
10 x 2.5mm/5 x 3.2mm rod Ferrocraft 12XP Blister Pack							322213

AC (miniumum 45 OCV) DC+ or DC- polarity

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%

Approvals:

Lloyds Register of Shipping	Grade 2, 2Y
American Bureau of Shipping	Grade 2, 2Y
Det Norske Veritas	Grade 2

Satincraft 13

45 OCV | DC AC

- General Purpose, Rutile Type Electrode
- Outstanding Operator Appeal!
- Versatile – All Positional Capabilities
- Smooth Mitre Fillet Welds with Low Spatter
- BLUE flux colour for instant ID
- General workshop, field and structural welding of mild or galvanised steel components such as pipes, tanks, frames, fences and gates, etc.

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%

Approvals:

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

Classifications:

AS/NZS 4855: (new)	B E4313 A
AS/NZS 1553.1: (old)	E4113-0
AWS/ASME-SFA A5.1:	E6013

Packaging and Operating Data:

Electrode Size mm	Electrode Length mm	Approx No. Rods/kg	Current Range (amps)	Packet	Carton	Hang-tube Handipack	Part No
2.5	300	53	55 – 90	5kg	15kg - 3x5kg		611182
2.5	300	53	55 – 90	2.5kg	15kg - 6x2.5kg		612182
2.5	300	53	55 – 90	–	12kg - 12x1kg	1kg	322135
3.2	380	29	90 – 135	5kg	15kg - 3x5kg		611183
3.2	380	29	90 – 135	2.5kg	15kg - 6x2.5kg		612183
3.2	380	29	90 – 135	–	12kg - 12x1kg	1kg	322136
4.0	380	19	130 – 180	5kg	15kg - 3x5kg		611184
Easyweld Blister Pack:							
10 x 2.5mm/5 x 3.2mm rod Satincraft Blue Blister Pack							322203

AC (miniumum 45 OCV) DC+ or DC- polarity

Weldcraft

45 OCV | DC AC

- Rutile, basic type electrode
- Higher radiographic quality
- Excellent mechanical properties
- Versatile 'out of position' capabilities
- '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 subject to radiographic examination in pressure vessel, ship building, bridge and storage tank fabrications.

Typical All Weld Metal Mechanical Properties:

Yield Stress	420 MPa
Tensile Strength	490 MPa
Elongation	28%
CVN Impact Values	60J av @ 0°C.

Typical All Weld Metal Analysis:
C: 0.07% Mn: 0.60% Si: 0.50%

Approvals:

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

Classifications:

AS/NZS 4855: (new)	B E4303 A U
AS/NZS 1553.1: (old)	E4113-2
AWS/ASME-SFA A5.1:	E6013

Packaging and Operating Data:

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

AC (miniumum 45 OCV) DC+ or DC- polarity

Ferrocraft 21

45 OCV | DC 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.
- Workshop or "on-site" repair, maintenance and fabrication welding jobs where the iron powder addition gives improved usability over conventional E4112 rutile type electrodes.
- Ideal vertical-down fillet welding electrode for thinner steel sections using "Touch Welding" techniques.

Typical All Weld Metal Mechanical Properties:

Yield Stress	430 MPa
Tensile Strength	500 MPa
Elongation	30%
CVN Impact Values	90J av @ 0°C.

Typical All Weld Metal Analysis:
C: 0.06% Mn: 0.65% Si: 0.30%

Approvals:

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

Classifications:

AS/NZS 4855: (new)	B E4914 A U
AS/NZS 1553.1: (old)	E4814-2
AWS/ASME-SFA A5.1:	E7014

Packaging and Operating Data:

Electrode Size mm	Electrode Length mm	Approx No. Rods/kg	Current Range (amps)	Packet	Carton	Hang-tube	Part No
2.5	300	50	55 – 100	5kg	15kg - 3x5kg		611242
3.2	380	26	95 – 140	5kg	15kg - 3x5kg		611243
4.0	380	17	140 – 195	5kg	15kg - 3x5kg		611244
#5.0	450	9	200 – 260	5kg	15kg - 3x5kg		611245
Easyweld Blister Pack:							
10 x 2.5mm/5 x 3.2mm rod Ferrocraft 21 Blister Pack							322205

AC (miniumum 45 OCV) DC+ or DC- polarity

5.0mm Ferrocraft 21 is not recommended for out of position (ie. vertical or overhead) welding applications.

Mild Steel and Iron Powder Electrodes

Ferrocraft 22

45 OCV | DC AC

- Rutile Type High Iron Powder Electrode
- High Productivity Fillet and Butt Welding in All Downhand Positions
- Self Releasing Slag
- Recommended for high production welding where large standing fillet welds are required
- Ideal electrode for heavy structural welding – tanks, frames, girders, beams, ship structures, rolling stock and general fabrication in the workshop or "on-site"

Classifications:

AS/NZS 4855: (new)	B E4924 A
AS/NZS 1553.1: (old)	E4824-0
AWS/ASME-SFA 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%

Approvals:

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

Packaging and Operating Data:

Electrode Size mm	Length mm	Approx No. Rods/kg	Current Range (amps)	Packet	Carton	Part No
2.5	350	34	85 – 120	5kg	15kg – 3 x 5kg	611252
3.2	380	18	90 – 135	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 (miniumum 45 OCV) DC+ or DC- polarity.
The preferred polarity for DC fillet welding is DC+.

Pipearc 6010P

DC +

- User Friendly Pipe Welding Electrode
- Lower Spatter Levels and Easy Slag Removal
- Excellent Reverse Bead Formation on Butts
- Versatile "Out-of-Position" Capabilities
- Batch Numbered for On-the-Job Traceability
- Used to weld out (root, fill and cap) steel pipes such as API 5L, 5LX grades X42 to X52
- Welding of "V" butt (groove weld) joints in higher strength steels, including 5LX grades X60, X65 and X70. Recommended for root pass welding only.

Classifications:

AS/NZS 4855: (new)	B E4310 A
AS/NZS 1553.1: (old)	E4110-2
AWS/ASME-SFA A5.1:	E6010

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

Typical All Weld Metal Analysis:
C: 0.11% Mn: 0.46% Si: 0.15%
S: 0.011% P: 0.012%

Approvals:

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

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. Please consult your CIGWELD Area Manager or Customer Service for welding procedure recommendations.

Packaging and Operating Data:

Electrode Size mm	Length mm	Approx No. Rods/kg	Current Range (amps)	Packet	Carton	Part No
2.5	300	66	45 – 85	5kg	15kg – 3 x 5kg	615602
3.2	350	39	90 – 135	5kg	15kg – 3 x 5kg	615603
4.0	350	25	135 – 180	5kg	15kg – 3 x 5kg	615604

DC+ (Direct Current Electrode Positive) polarity

Ferrocraft 11

65 OCV | DC AC

- Cellulose Pipe Welding Electrode
- All Positional, AC / DC Capabilities
- High Penetration, Root Pass Applications
- WHITE flux colour for easy ID
- Recommended for root pass welding where the "stovepipe" or "flick" techniques can be used to achieve full root penetration
- The root, hot fill and capping pass welding of pipelines, pressure vessels, storage tanks, workshop and field construction

Classifications:

AS/NZS 4855: (new)	B E4311 A
AS/NZS 1553.1: (old)	E4111-2
AWS/ASME-SFA 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%

Approvals:

Lloyds Register of Shipping	Grade 3, 3Y
American Bureau of Shipping	Grade 3
Det Norske Veritas	Grade 3

Packaging and Operating Data:

Electrode Size mm	Length mm	Approx No. Rods/kg	Current Range (amps)	Packet	Carton	Part No
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

AC (miniumum 65 OCV) DC+ or DC- polarity.

Storage & Reconditioning of CIGWELD Hydrogen Controlled Electrodes

Storage Environments:
Undamaged packs/cartons of Ferrocraft and Alloycraft electrodes stored at 50% R.H. or less and kept at 10-15°C (50-60°F) above ambient temperature with a maximum of 40°C (105°F) stored off the ground and away from walls in cupboards, containers or warehouses are expected to maintain their designated hydrogen levels indefinitely.

Moisture Re-absorption:
Cardboard packs/cartons of Ferrocraft and Alloycraft may lose their designated hydrogen status due to moisture re-absorption from poor storage environments. Where electrodes have been exposed to moisture or where hydrogen control is important, the following procedures are recommended for reconditioning.

Hermetically Sealed:
Hermetically sealed, hydrogen controlled electrodes are packaged with an air tight seal to maintain product in an original "FACTORY FRESH" condition for an indefinite period provided the seal is unbroken.

Reconditioning and Hydrogen/Moisture Requirements:

AS/NZS 1553.1 low "H10" hydrogen status and AWS A5.1 "H8" hydrogen status.	AS/NZS 1553.1 very low "H5" hydrogen status and AWS A5.1 "H4" very low hydrogen status.
FERROCRAFT 16 Twincoat	FERROCRAFT 61 H4
FERROCRAFT 7016	FERROCRAFT 61 Ni H4
FERROCRAFT 55U	ALLOYCRAFT 80-B2
FERROCRAFT 61	ALLOYCRAFT 90
	ALLOYCRAFT 110
	ALLOYCRAFT 80-C1
	ALLOYCRAFT 90-B3
Rebake for maximum of 2 hrs @ 300°C (570°F) in a vented oven and thereafter use from a hot box set at 100 - 120°C (210 - 250°F).	Rebake for maximum of 2 hrs @ 350°C (660°F) in a vented oven and thereafter use from a hot box set at 100 - 120°C (210 - 250°F).

Ferrocraft 16 Twincoat

45 OCV | DC AC

- Unique dual or twin coated flux for easy arc starting
- Ultra smooth performance in all welding positions
- Reliable Grade 3 weld metal properties
- Ideal electrode for a wide range of maintenance jobs, including the repair of earthmoving equipment and as a buffer layer prior to the application of hardfacing.

Classifications:

AS/NZS 4855: (new)	B E4916 A U H10
AS/NZS 1553.1: (old)	E4816-2 H10
AWS/ASME-SFA A5.1:	E7016 H8

Typical All Weld Metal Mechanical Properties:

Yield Stress	460 MPa
Tensile Strength	550 MPa
Elongation	27%
CVN Impact Values	90J av @ -20°C

Typical All Weld Metal Analysis:
C: 0.07% Mn: 1.2% Si: 0.65%
S: 0.010% P: 0.015%

Typical Diffusible Hydrogen Levels to AS3752*:
7.0-7.5 mls of hydrogen/100gms of deposited weld metal.
*Reconditioned for 2 hours max. @ 300°C

Approvals:

Lloyds Register of Shipping	Grade 3, 3Y H10
American Bureau of Shipping	Grade 3H10, 3Y

Packaging and Operating Data:

Electrode Size mm	Electrode Length mm	Approx No. Rods/kg	Current Range (amps)	Pack	Carton	Part No
2.5	350	53	50 – 90	5kg	15kg – 3 x 5kg	611752
3.2	350	31	85 – 140	5kg	15kg – 3 x 5kg	611753
4.0	350	21	135 – 190	5kg	15kg – 3 x 5kg	611754

Ferrocraft 7016

50 OCV | DC AC

- Fully Basic Hydrogen Controlled E4816 / E7016 Type Electrode.
- Excellent Operator Appeal in All Positions.
- Ideal for Fill and capping passes.
- Excellent Impact Toughness to -30°C.
- Applications include pressure vessel fabrication, bridge, ship building, equipment repair and maintenance work.

Classifications:

AS/NZS 4855: (new)	B 4916 A U H10
AS/NZS 1553.1: (old)	E4816-3 H10
AWS/ASME-SFA A5.1:	E7016 H8

Typical All Weld Metal Mechanical Properties:

Yield Stress	480 MPa
Tensile Strength	570 MPa
Elongation	25%
CVN Impact Values	125J av @-20°C 100J av @-30°C

Typical All Weld Metal Analysis:
C: 0.08% Mn: 1.10% Si: 0.65%
S: 0.009% P: 0.019%

Typical Diffusible Hydrogen Levels to AS3752*:
5.0-6.0 mls of hydrogen/100gms of deposited weld metal.
*Reconditioned for 2 hours max. @ 300°C

Approvals:

Lloyds Register of Shipping	Grade 3Y H10
American Bureau of Shipping	Grade 3H10, 3Y
Det Norske Veritas	Grade 3Y H10

Packaging and Operating Data:

Electrode Size mm	Electrode Length mm	Approx No. Rods/kg	Current Range (amps)	Packet	Carton	Part No
3.2	380	29	90 – 130	5kg	15kg - 3 x 5kg	611743
4.0	380	19	120 – 180	5kg	15kg - 3 x 5kg	611744

Ferrocraft 7016 is formulated to operate with AC (minimum 50 OCV) DC+ or DC- polarity. The preferred polarity of fillet welding and fill and capping passes is DC+.

Hydrogen Controlled Electrodes

Ferrocraft 55U

70 OCV | DC AC

- Basic, Hydrogen Controlled E4816 / E7016 Type Electrode.
- Thin Coated for Easier Joint Access.
- Purple End Tip Colour for instant I.D.
- Designed specifically for the all positional (except vertical down) root pass welding of steel pipes and plates.

Classifications:

AS/NZS 4855: (new)	B E4916 A U H10
AS/NZS 1553.1: (old)	E4816-2 H10
AWS/ASME-SFA A5.1:	E7016 H8

Typical All Weld Metal Mechanical Properties:

Yield Stress	460 MPa
Tensile Strength	570 MPa
Elongation	29%
CVN Impact Values	70J av @-20°C

Typical All Weld Metal Analysis:
C: 0.07% Mn: 0.80% Si: 0.77%
S: 0.007% P: 0.013%

Typical Diffusible Hydrogen Levels to AS3752*:
7.0-7.5 mls of hydrogen/100gms of deposited weld metal.
*Reconditioned for 2 hours max. @ 300˚C

Approvals:

Lloyds Register of Shipping	Grade 3, 3Y H15
Det Norske Veritas	Grade 3Y H10

Packaging and Operating Data:

Electrode Size mm	Electrode Length mm	Approx No. Rods/kg	Current Range (amps)	Packet	Carton	Part No
2.5	350	53	40 – 90	5kg	15kg - 3 x 5kg	611492
3.2	380	29	90 – 130	5kg	15kg - 3 x 5kg	611493
4.0	380	19	120 – 180	5kg	15kg - 3 x 5kg	611494

Ferrocraft 55U is formulated to operate on low welding current to accommodate poor joint fit up and large root gaps. The electrode is suitable for AC (minimum 70 OCV) DC+ or DC- polarity. The preferred polarity for root pass welding is DC-. To maximise weld metal toughness fill and capping passes should be deposited with DC+ polarity.

Ferrocraft 61

55 OCV | DC AC

- Basic Coated, Hydrogen Controlled E4818 / E7018 Type Electrode.
- Excellent Out-of-Position Welding.
- Reliable Impact Properties to -30˚C.
- BATCH NUMBER Identification.
- Designed for all positional (especially vertical-up) fillet and butt welding applications on heavier steel sections under high restraint such as machinery parts, pressure vessels, mining equipment, pipework, ship construction and all maintenance & repair work.

Classifications:

AS/NZS 4855: (new)	B E4918 A U H10
AS/NZS 1553.1: (old)	E4818-3 H10
AWS/ASME-SFA A5.1:	E7018

Typical All Weld Metal Mechanical Properties:

Yield Stress	450 MPa
Tensile Strength	545 MPa
Elongation	29%
CVN Impact Values	160J av @-20°C
	130J av @-30˚C

Typical All Weld Metal Analysis:
C: 0.06% Mn: 1.45% Si: 0.45%
S: 0.010% P: 0.012%

Typical Diffusible Hydrogen Levels to AS3752*:
8.5-9.0 mls of hydrogen/100gms of deposited weld metal.
*Reconditioned for 2 hours max. @ 300˚C

Approvals:

Lloyds Register of Shipping	Grade 3, 3Y H15
American Bureau of Shipping	Grade 3H15, 3Y
Det Norske Veritas	Grade 3Y H10

Packaging and Operating Data:

Electrode Size mm	Electrode Length mm	Approx No. Rods/kg	Current Range (amps)	Packet	Carton	Part No
2.5	350	42	65 – 100	5kg	15kg - 3 x 5kg	611342
3.2	380	24	95 – 150	5kg	15kg - 3 x 5kg	611343
3.2	380	29	95 – 150	2.5kg	15kg - 6 x 2.5kg	612343
4.0	380	16	145 – 220	5kg	15kg - 3 x 5kg	611344
5.0	450	9	195 – 270	5kg	15kg - 3 x 5kg	611345

Ferrocraft 61 is formulated to operate with AC (minimum 55 OCV), DC+ or DC- polarity. The preferred polarity for fillet welding and fill and capping passes is DC+.

Ferrocraft 61 H4 - Hermetically Sealed

70 OCV | DC AC

- Ultra-Seal vacuum packs.
- Highly Basic, E4918-1/ E7018-1 Type Hydrogen controlled electrode.
- Advanced moisture resistant flux coating.
- Very low "H5 / H4" diffusible hydrogen class.
- C-Mn weld deposit for reliable impact properties to -40˚C.
- Recommended for critical DC welding applications.
- Batch Number Identification.

Classifications:

AS/NZS 4855: (new)	B E4918-1 A U H5
AS/NZS 1553.1:	E4818-5 H5R
AWS/ASME-SFA A5.1:	E7018-1 H4R

Typical All Weld Metal Mechanical Properties:

Yield Stress	460 MPa
Tensile Strength	550 MPa
Elongation	28%
CVN Impact Values	110J av @-40°C

Typical All Weld Metal Analysis:
C: 0.06% Mn: 1.45% Si: 0.45%
S: 0.010% P: 0.012%

Typical Diffusible Hydrogen Levels to AS3752:
3.0-3.5 mls of hydrogen/100gms of deposited weld metal.

Approvals:

Lloyds Register of Shipping	Grade 3, 3Y H5
American Bureau of Shipping	Grade 3H5, 3Y
Det Norske Veritas	Grade 3Y H5

Packaging and Operating Data:

Electrode Size mm	Electrode Length mm	Approx No. Rods/kg	Current Range (amps)	Pack	Carton	Part No
2.5	350	42	65 – 100	2.5kg	15kg – 6x2.5kg	612912
3.2	350	26	95 – 150	2.5kg	15kg – 6x2.5kg	612913
4.0	350	18	145 – 220	2.5kg	15kg – 6x2.5kg	619914

AC (miniumum 55 OCV) DC+ or DC- polarity.

Ferrocraft 61 Ni H4 - Hermetically Sealed

70 ocv | DC AC

- Ultra-Seal vacuum packs.
- Highly Basic, E4818-G / E7018-G Type Hydrogen controlled electrode.
- Very Low "H5 / H4" Diffusible Hydrogen Class.
- C-Mn-Ni Weld Deposit for Reliable Impact Properties to -50°C.
- BATCH NUMBER Identification.
- Recommended for the critical welding of C-Mn, microalloyed and low alloy structural steels in the 350-450 MPa yield strength class.
- Applications include the all positional (except vertical down) fillet and butt welding of pressure vessels, offshore platforms, pipes, earth moving equipment.

Typical All Weld Metal Mechanical Properties:

Yield Stress	450 MPa
Tensile Strength	560 MPa
Elongation	27%
CVN Impact Values	130J av @-20°C
	80J av @ -40°C
	60J av @ -50°C

Typical All Weld Metal Analysis:
C: 0.07% Mn: 1.20% Si: 0.25%
Ni: 0.9% S: 0.007% P: 0.012%

Typical Diffusible Hydrogen Levels to AS3752:
3.0-3.5 mls of hydrogen/100gms of deposited weld metal.

Approvals:

Lloyds Register of Shipping	Grade 3, 3Y H5
American Bureau of Shipping	Grade 3H10, 3Y
Det Norske Veritas	Grade 3Y H5

Classifications:

AS/NZS 4855: (new)	B E4918-N2 A U H5
AS/NZS 1553.2: (old)	E4818-G
AWS/ASME-SFA A5.5:	E7018-G

Packaging and Operating Data:

Electrode Size mm	Length mm	Approx No. Rods/kg	Current Range (amps)	Pack	Carton	Part No
2.5	350	42	65-100	2.5kg	15kg – 6x2.5kg	612812
3.2	350	28	110 – 145	2.5kg	15kg – 6x2.5kg	612813
4.0	350	18	140 – 200	2.5kg	15kg – 6x2.5kg	612814

Ferrocraft 61 Ni H4 is formulated to operate with AC (miniumum 70 OCV) DC+ or DC- polarity. The preferred polarity of fillet welding and fill and capping passes is DC+.

Alloycraft 80-B2 - Hermetically Sealed

70 ocv | DC AC

- Ultra-Seal vacuum packs.
- Improved High Strength, Low Alloy Steel Electrode.
- Advanced Flux Coating.
- Very Low "H5/H4" Diffusible Hydrogen Class.
- 550 MPa Tensile Class
- BATCH NUMBERED for On-the-Job Traceability.
- Recommended for the all positional (except vertical down) welding of Chromium and Chromium – Molybdenum bearing steels as used in elevated temperature applications.

Typical All Weld Metal Mechanical Properties:

0.2% Proof Stress	570 MPa
Tensile Strength	670 MPa
Elongation	24%

Typical All Weld Metal Analysis:
C: 0.07% Mn: 0.9% Si: 0.25%
Mo: 0.65% S: 0.007% P: 0.012%
Cr: 1.40%

Typical Diffusible Hydrogen Levels to AS3752:
3.0-3.5 mls of hydrogen/100gms of deposited weld metal.

Comparable CIGWELD Products:

Autocraft CrMo1	GMAW
Comweld CrMo1	GTAW

Classifications:

AS/NZS 4856: (new)	B E5518-1CM H5
AS/NZS 1553.2: (old)	E5518-B2
AWS/ASME-SFA A5.5:	E8018-B2 H4

Packaging and Operating Data:

Electrode Size mm	Length mm	Approx No. Rods/kg	Current Range (amps)	Pack	Carton	Part No
2.5	350	40	65 – 100	2.5kg	15kg – 6x2.5kg	612922
3.2	350	27	105 – 150	2.5kg	15kg – 6x2.5kg	612923
4.0	350	17	145 – 200	2.5kg	15kg – 6x2.5kg	612924

AC (miniumum 70 OCV) DC+ or DC- polarity.

Alloycraft 80-C1 - Hermetically Sealed

70 ocv | DC AC

- Ultra-Seal vacuum packs.
- Improved High Strength, Low Alloy Steel Electrode.
- Very Low "H5/H4" Diffusible Hydrogen Class.
- 550 MPa Tensile Class, Reliable Impact Toughness to -60°C.
- BATCH NUMBERED for On-the-Job Traceability.
- Suitable for the full or under matching strength welding of high strength nickel bearing steels as used for low temperature applications.

Typical All Weld Metal Mechanical Properties:

0.2% Proof Stress	570 MPa
Tensile Strength	670 MPa
Elongation	24%

Typical All Weld Metal Analysis:
C: 0.05% Mn: 1.10% Si: 0.39%
Ni: 2.45% S: 0.013% P: 0.015%

Typical Diffusible Hydrogen Levels to AS3752:
3.0-3.5 mls of hydrogen/100gms of deposited weld metal.

Comparable CIGWELD Products:

Verti-Cor 81Ni2	FCAW
Autocraft CrMo1	GMAW

Classifications:

AS/NZS 4855: (new)	B E5518-N5 A U H5
AS/NZS 1553.2:	E5518-C1
AWS/ASME-SFA A5.5:	E8018-C1 H4

Packaging and Operating Data:

Electrode Size mm	Length mm	Approx No. Rods/kg	Current Range (amps)	Pack	Carton	Part No
3.2	350	24	110 – 145	2.5kg	15kg - 6x2.5kg	612833
4.0	350	15	140 – 200	2.5kg	15kg - 6x2.5kg	612834
5.0	350	10	190 – 270	2.5kg	15kg - 6x2.5kg	612835

Alloycraft 80-C1 is formulated to operate with AC (miniumum 70 OCV) DC+ or DC- polarity. The preferred polarity for DC welding is DC+.

Hydrogen Controlled Electrodes

Alloycraft 90-B3 - Hermetically Sealed

70 OCV | DC AC

- Hermetically Sealed Ultra-Seal vacuum packs.
- Improved High Strength, Low Alloy Steel Electrode.
- Very Low "H5/H4" Diffusible Hydrogen Class.
- 620 MPa Tensile Class.
- BATCH NUMBERED for On-the-Job Traceability.
- Recommended for the all positional (except-down) welding of Cr-Mo and Cr-Mo-V bearing steels as used for high temperature applications.

Typical All Weld Metal Mechanical Properties:

0.2% Proof Stress	630 MPa
Tensile Strength	720 MPa
Elongation	20%

Typical All Weld Metal Analysis:
C: 0.08% Mn: 0.82% Si: 0.39%
Mo: 1.05% Cr: 2.20% S: 0.013%
P: 0.015%

Typical Diffusible Hydrogen Levels to AS3752:
3.0-3.5 mls of hydrogen/100gms of deposited weld metal.

Classifications:

AS/NZS 4856: (new)	B E6218-2C1M H5
AS/NZS 1553.2: (old)	E6218-B3
AWS/ASME-SFA A5.5:	E9018-B3 H4

Packaging and Operating Data:

Electrode Size mm	Electrode Length mm	Approx No. Rods/kg	Current Range (amps)	Pack	Carton	Part No
3.2	350	27	105 – 150	2.5kg	15kg - 6x2.5kg	612963
4.0	350	17	145 – 200	2.5kg	15kg - 6x2.5kg	612964

AC (miniumum 70 OCV) DC+ or DC- polarity.

Alloycraft 90 - Hermetically Sealed

70 OCV | DC AC

- Hermetically Sealed Ultra-Seal vacuum packs.
- Improved High Strength, Low Alloy Steel Electrode.
- Very Low "H5/H4" Diffusible Hydrogen Class.
- 550 MPa Tensile Class, Reliable Impact Toughness to -40°C.
- BATCH NUMBERED for On-the-Job Traceability.
- Applications include the full or under matching strength welding of high strength steels, including Bisalloy 60, 70 and 80, Welten 60 and 80, AS2074 Gr L6, Comsteel 023/026. ASTM A514 and A517 used in structural, transport, mining and earthmoving applications.

Typical All Weld Metal Mechanical Properties:

0.2% Proof Stress	590 MPa
Tensile Strength	680 MPa
Elongation	26%
CVN Impact Values	90J av @-40°C

Typical All Weld Metal Analysis:
C: 0.07% Mn: 1.0% Si: 0.40%
Ni: 1.6% Mo: 0.3%

Typical Diffusible Hydrogen Levels to AS3752:
3.0-3.5 mls of hydrogen/100gms of deposited weld metal.

Comparable CIGWELD Products:
Verti-Cor 91 K2 H4 (AWS A5.20: E91T1-K2)

Classifications:

AS/NZS 4857: (new)	B 6218-N3M1 A H5
AS/NZS 1553.2: (old)	E6218-M
AWS/ASME-SFA A5.5:	E9018-M H4

Packaging and Operating Data:

Electrode Size mm	Electrode Length mm	Approx No. Rods/kg	Current Range (amps)	Pack	Carton	Part No
3.2	350	28	110 – 145	2.5kg	15kg - 6x2.5kg	612873
4.0	350	18	140 – 200	2.5kg	15kg - 6x2.5kg	612874
5.0	350	12	190 – 270	2.5kg	15kg - 6x2.5kg	612875

Alloycraft 90 is formulated to operate with AC (miniumum 70 OCV) DC+ or DC- polarity.
The preferred polarity for DC welding is DC+.

Alloycraft 110 - Hermetically Sealed

70 OCV | DC AC

- Hermetically Sealed Ultra-Seal vacuum packs.
- Improved High Strength, Low Alloy Steel Electrode.
- Very Low "H5/H4" Diffusible Hydrogen Class.
- 760 MPa Tensile Class, Reliable Impact Toughness to -40°C.
- BATCH NUMBERED for On-the-Job Traceability.
- Applications include the full strength welding of high strength steels, including Bisalloy 80, USST1 and T1A, welten 80, HY80, AS2074 Grade L6A and ASTM A533 type A, A514 and A517 grades used in structural transport, mining and earthmoving applications.

Typical All Weld Metal Mechanical Properties:

0.2% Proof Stress	710 MPa
Tensile Strength	820 MPa
Elongation	22%
CVN Impact Values	60J av @-50°C

Typical All Weld Metal Analysis:
C: 0.07% Mn: 1.5% Si: 0.45%
Ni: 2.1% Mo: 0.4% Cr: 0.2%

Typical Diffusible Hydrogen Levels to AS3752:
3.0-3.5 mls of hydrogen/100gms of deposited weld metal.

Comparable CIGWELD Products:
Tensi-Cor 110 TXP H4 (AWS A5.20: E110T5-K4)
Verti-Cor 111K3 H4 (AWS A5.20: E111T1-K3)

Classifications:

AS/NZS 4857: (new)	B 7618-N5CM3 A H5
AS/NZS 1553.2: (old)	E7618-M
AWS/ASME-SFA A5.5:	E11018-M H4

Packaging and Operating Data:

Electrode Size mm	Electrode Length mm	Approx No. Rods/kg	Current Range (amps)	Pack	Carton	Part No
3.2	350	28	110 – 145	2.5kg	15kg - 6x2.5kg	612893
4.0	350	18	140 – 200	2.5kg	15kg - 56x2.5kg	612894

Alloycraft 110 is formulated to operate with AC (miniumum 70 OCV) DC+ or DC- polarity.
The preferred polarity for DC welding is DC+.

Bronzecraft AC-DC

45 OCV | AC DC–

- Phosphor Bronze electrode containing 7% Tin.
- For Welding Copper and Copper Alloys.
- Also for Joining Copper and Copper Alloys to Steel.
- Easy to use, High Quality Weld Deposit Appearance.

Classifications:

AS/NZS 2576:	E 6200-A2
AWS/ASME-SFA A5.6:	E Cu-Sn-C

Typical All Weld Metal Mechanical Properties:

0.2% Proof Stress	315 MPa
Tensile Strength	460 MPa
Elongation	22%
Hardness	120 HV_{30}

Typical All Weld Metal Analysis:

Mn: 0.02% Sn: 7.5% Al: 0.008%
P: 0.26% Fe: 0.20% Cu: Bal

Comparable CIGWELD Products:

Autocraft Silicon Bronze Copper Alloy MIG Wire
AWS A5.7: ERCuSi-A

Comweld Silicon Bronze Copper Alloy TIG Wire
AWS A5.7: RCuSi-A

Packaging and Operating Data:

Electrode Size mm	Electrode Length mm	Approx No. Rods/kg	Current Range (amps)	Packet	Carton	Part No
3.2	350	30	70 – 110	2.5kg	15kg - 6 x 2.5kg	611783

AC (miniumum 45 OCV) DC- polarity.

Satincrome 308L-17

45 OCV | AC DC+

- Hermetically Sealed Ultra-Seal vacuum packs.
- Rutile Type, Stainless Steel Electrode.
- Outstanding Operator Appeal. Improved slag lift.
- All Positional (except vertical down) Welding Capabilities.
- Applications include the single and multi-pass welding of 19Cr/10Ni type stainless steel grades including 201, 202, 301, 302, 303, 304, 304L, 305, 308 etc.

Classifications:

AS/NZS 4854: (new)	B ES308L-17
AS/NZS 1553.3: (old)	E308L-17
AWS/ASME-SFA A5.4:	E308L-17

Typical All Weld Metal Mechanical Properties:

0.2% Proof Stress	500 MPa
Tensile Strength	630 MPa
Elongation	40%
CVN Impact Values	75J av @+20°C

Typical All Weld Metal Analysis:

C: 0.025% Mn: 0.76% Si: 0.87%
Cr: 20.4% Ni: 9.8% S: 0.010%
P: 0.071%

Ferrite Number:

3.0-10.0 FN*

Approvals:

American Bureau of Shipping AWS A5.4:
E308L-17

Comparable CIGWELD Products:

Autocraft 308LSi GMAW wire
AWS A5.9: ER308LSi

Comweld 308L Gas/TIG wire
AWS A5.9: ER308L

Verti-Cor 308LT & FCAW wires
AWS A5.22: E308LT1-1/4

*using Severn Gauge

Packaging and Operating Data:

Electrode Size mm	Electrode Length mm	Approx No. Rods/kg	Current Range (amps)	Packet	Carton	Part No
2.5	300	47	40 – 70	2.5kg	15kg - 6 x 2.5kg	611602
3.2	350	28	75 – 110	2.5kg	15kg - 6 x 2.5kg	611603
4.0	350	18	110 – 150	2.5kg	15kg - 6 x 2.5kg	611604

AC (miniumum 45 OCV) DC+ polarity.

Satincrome 309Mo-17

45 OCV | AC DC+

- Hermetically Sealed Ultra-Seal vacuum packs.
- Rutile Type, Stainless Steel Electrode.
- Outstanding Operator Appeal. Improved slag lift.
- All Positional (except vertical down) Welding Capabilities.
- Applications include the single and multi-pass welding of matching 309 and 309L stainless steels. Also suitable for the dissimilar welding of other “300 series” austenitic stainless steels and selected “400 series” ferritic grades to mild or low alloy steels.

Classifications:

AS/NZS 4854: (new)	B ES309Mo-17
AS/NZS 1553.3: (old)	E309Mo-17
AWS/ASME-SFA A5.4:	E309Mo-17

Typical All Weld Metal Mechanical Properties:

0.2% Proof Stress	500 MPa
Tensile Strength	620 MPa
Elongation	35%
CVN Impact Values	60J av @+20°C

Typical All Weld Metal Analysis:

C: 0.05% Mn: 0.75% Si: 0.9%
Cr: 23.0% Ni: 13.0% Mo: 2.2%
S: 0.012% P: 0.017%

Ferrite Number:

15.0-20.0 FN*

Approvals:

American Bureau of Shipping AWS A5.4:
E309Mo-17

Comparable CIGWELD Products:

Autocraft 309LSi GMAW wire
AWS A5.9: ER309LSi

Comweld 309L Gas/TIG wire
AWS A5.9: ER309L

Verti-Cor 309LT & FCAW wires
AWS A5.22: E309LT1-1/4

*using Severn Gauge

Packaging and Operating Data:

Electrode Size mm	Electrode Length mm	Approx No. Rods/kg	Current Range (amps)	Packet	Carton	Part No
2.5	300	52	40 – 70	2.5kg	15kg - 6 x 2.5kg	611692
3.2	350	30	75 – 110	2.5kg	15kg - 6 x 2.5kg	611693
4.0	350	19	110 – 150	2.5kg	15kg - 6 x 2.5kg	611694

AC (miniumum 45 OCV) DC+ polarity.

Satincrome 316L-17

45 OCV | AC DC+

- Hermetically Sealed Ultra-Seal vacuum packs.
- Rutile Type, Stainless Steel Electrode.
- Outstanding Operator Appeal. Improved slag lift.
- All Positional (except vertical down) Welding Capabilities.
- Applications include the single and multi-pass welding of 19Cr/10Ni type stainless steel grades including 201, 202, 301, 302, 303, 304, 304L, 305, 308 etc.

Classifications:

AS/NZS 4854: (new)	B ES316L-17
AS/NZS 1553.3: (old)	E316L-17
AWS/ASME-SFA A5.4:	E316L-17

Typical All Weld Metal Mechanical Properties:

0.2% Proof Stress	480 MPa
Tensile Strength	600 MPa
Elongation	40%
CVN Impact Values	30J av @-120°C

Typical All Weld Metal Analysis:

C: 0.025%	Mn: 0.8%	Si: 0.85%
Cr: 19.4%	Ni: 11.5%	Mo: 2.5%
S: 0.011%	P: 0.017%	

Ferrite Number:
3.0-10.0 FN*

Approvals:
American Bureau of Shipping AWS A5.4: E316L-17

Comparable CIGWELD Products:
Autocraft 316LSi GMAW wire
AWS A5.9: ER316LSi

Comweld 316L Gas/TIG wire
AWS A5.9: ER316L

Verti-Cor 316LT & FCAW wires
AWS A5.22: E316LT1-1/4

*using Severn Gauge

Packaging and Operating Data:

Electrode Size mm	Electrode Length mm	Approx No. Rods/kg	Current Range (amps)	Packet	Carton	Part No
2.0	300	87	35 – 55	2.5kg	15kg - 6 x 2.5kg	611661
2.5	300	46	40 – 70	2.5kg	15kg - 6 x 2.5kg	611662
3.2	350	28	75 – 110	2.5kg	15kg - 6 x 2.5kg	611663
4.0	350	18	110 – 150	2.5kg	15kg - 6 x 2.5kg	611664

Easyweld Blister Pack:

10 x 2.5mm/5 x 3.2mm rod Satincrome 316L-17 Blister Pack	322214

AC (miniumum 45 OCV) DC+ polarity.

Satincrome 318-17

45 OCV | AC DC+

- Hermetically Sealed Ultra-Seal vacuum packs.
- Rutile Type, Stainless Steel Electrode.
- Outstanding Operator Appeal. Improved slag lift.
- All Positional (except vertical down) Welding Capabilities.
- Applications include the all positional (except vertical-down) fillet and butt welding of stabilised and unstabilised 19Cr/10Ni type stainless steels, such as 316, 318 and 321.

Classifications:

AS/NZS 4854: (new)	B ES318-17
AS/NZS 1553.3: (old)	E318-17
AWS/ASME-SFA A5.4:	E318-17

Typical All Weld Metal Mechanical Properties:

0.2% Proof Stress	490 MPa
Tensile Strength	610 MPa
Elongation	36%

Typical All Weld Metal Analysis:

C: 0.025%	Mn: 0.8%	Si: 0.85%
Cr: 19.4%	Ni: 11.5%	Mo: 2.5%
S: 0.011%	P: 0.017%	

Ferrite Number:
5.0-10.0 FN*

*using Severn Gauge

Packaging and Operating Data:

Electrode Size mm	Electrode Length mm	Approx No. Rods/kg	Current Range (amps)	Packet	Carton	Easyweld Handipaks	Part No
2.5	300	46	40 – 70	2.5kg	15k -6x2.5kg		611652
						20 rod	322105
3.2	350	28	75 – 110	2.5kg	15kg-6x2.5kg		611663

AC (miniumum 45 OCV) DC+ polarity.

CIGWELD Professional

Weldall

45 OCV | AC DC+

- Hermetically Sealed Ultra-Seal vacuum packs.
- Easy-to-Use Rutile Type, High Alloy Electrode.
- Outstanding Operator Appeal!
- WELDS ALL Steels!
- Ideal for Repair & Maintenance jobs.
- Easy Arc Starting and Excellent Stability on Low O.C.V. Welding Machines.
- Not Recommended for Welding Cast Irons.

Typical All Weld Metal Mechanical Properties:

0.2% Proof Stress	630 MPa
Tensile Strength	780 MPa
Elongation	25%
CVN Impact Values	30J av@ +20˚C

Typical All Weld Metal Analysis:

C: 0.11% Mn: 0.60% Si: 0.88%
Cr: 27.0% Ni: 9.10% S: 0.011%
P: 0.020%

Comparable CIGWELD Products:

Murex Speedex 312-16
AWS A5.4: E312-16

Classifications:

AS/NZS 4854: (new)	B ES312-17
AS/NZS 1553.3: (old)	E312-17
AWS/ASME-SFA A5.4:	E312-17

Packaging and Operating Data:

Electrode Size mm	Electrode Length mm	Approx No. Rods/kg	Current Range (amps)	Packet	Carton	Easyweld Handipaks	Part No
2.5	300	57	40 – 80	2.5kg	15k -6x2.5kg		611702
				–	–	20 rod	322105
3.2	350	30	75 – 110	2.5kg	15kg-6x2.5kg		611703
				–	–	15 rod	322102
4.0	350	20	110 – 150	2.5kg	15kg-6x2.5kg		611704

Easyweld Blister Pack:

10 x 2.5mm/5 x 3.2mm rod Weldall Blister Pack	322216

AC (miniumum 45 OCV) DC+ polarity.

Castcraft 55

45 OCV | AC DC–

- Maintenance Welding of S.G. Cast Irons.
- Higher Strength Nickel / Iron Deposit.
- Easy starting and Stable Running on Portable 240V Welding Machines.
- Applications include the higher strength repair and maintenance welding of Spheroidal Graphite (S.G.) irons, austenitic cast irons, meehanites and a wide range of grey cast irons.

Typical All Weld Metal Mechanical Properties:

Tensile Strength	500 MPa
Hardness	220 HV_{30}

Typical All Weld Metal Analysis:

C: 0.95% Mn: 0.65% Si: 0.25%
Al: 0.25% Ni: 53% Fe: Bal

Core Wire:

Nickel Iron (55% Ni, 45% Fe)

Comparable CIGWELD Products:

Nicore 55 Cast Iron Flux Cored Wire
AWS A5.15: ENiFe-CI

Classifications:

AWS/ASME-SFA A5.15:	ENiFe-CI

Packaging and Operating Data:

Electrode Size mm	Electrode Length mm	Approx No. Rods/kg	Current Range (amps)	Packet	Carton	Part No
3.2	350	31	75 – 120	2.5kg	15kg - 6 x 2.5kg	611723
4.0	350	21	100 – 150	2.5kg	15kg - 6 x 2.5kg	611724

AC (miniumum 45 OCV) DC- polarity.

Castcraft 100

45 OCV | AC DC–

- Maintenance Welding of Cast Irons.
- Soft, Ductile and Machineable Nickel Deposit.
- Easy starting and Stable Running on Portable 240V Welding Machines.
- Smoother Weld Deposit Surface Finish.
- Applications include the repair and reclamation of engine blocks, cylinder heads, differential housings, gear boxes, pump and machine housings and cast iron pulleys etc.

Typical All Weld Metal Mechanical Properties:

Tensile Strength	400 MPa
Hardness	170 HV_{30}

Typical All Weld Metal Analysis:

C: 1.0% Mn: 0.05% Fe: 0.5%
Si: 0.1% Al: 0.2% Ni: Bal

Core Wire:

Nickel Iron (98% Ni)

Classifications:

AWS/ASME-SFA A5.15:	ENiFe-CI

Packaging and Operating Data:

Electrode Size mm	Electrode Length mm	Approx No. Rods/kg	Current Range (amps)	Packet	Carton	Easyweld Handipaks	Part No
2.5	300	49	55 – 85	2.5kg	15k -6x2.5kg		611732
				–	–	20 rod	322110
3.2	350	31	75 – 120	2.5kg	15kg-6x2.5kg		611733
				–	–	15 rod	322111
4.0	350	21	100 – 150	2.5kg	15kg-6x2.5kg		611734

Easyweld Blister Pack:

10 x 2.5mm/5 x 3.2mm rod Castcraft 100 Blister Pack	322217

AC (miniumum 45 OCV) DC- polarity.

Cobalarc Hardfacing Electrodes

Cobalarc Austex

HV30 400 | 50 OCV | AC DC

- Metal Enriched, Rutile Type Electrode.
- For Joining Dissimilar steels or as a Buffer Layer Prior to Hard Surfacing.
- Tough, Machinable Austenitic Stainless Steel Deposit.

NOTE: 3.2mm size can be used for vertical welding by depositing overlapping horizontal stringer passes.

Typical All Weld Metal Deposit Analysis:
C: 0.10% Mn: 1.50% Si: 0.90%
Cr:24.5% Ni: 9.3%

Typical Weld Deposit Hardness:

	HRC	HV30
All weld metal deposit	20	240
Hardness	40	400

Finishing Recommendations:
Machinable with carbide tools

Classifications:

AS/NZS 2756:	1315-A4
WTIA Tech. Note 4:	1315-A4

Packaging and Operating Data:

Electrode Size mm	Electrode Length mm	Approx No. Rods/kg	Current Range (amps)	Packet	Carton	Part No
3.2	380	20	105 – 140	5kg	15kg - 3 x 5kg	613973
4.0	380	13	140 – 180	5kg	15kg - 3 x 5kg	613974
5.0	450	7	170 – 210	5kg	15kg - 3 x 5kg	613975

AC (miniumum 50 OCV) DC+ or DC- polarity.

Cobalarc Mangcraft

HV30 425 | 55 OCV | AC DC

- Austenitic Manganese Steel Electrode.
- For Building Up & Reinforcing 11-14% Manganese Steels.
- Tough and Impact Resistant Weld Deposit.
- Work Hardens Under Heavy Impact.

Typical All Weld Metal Deposit Analysis:
C: 0.60% Mn: 12.0% Si: 0.10%

Typical Weld Deposit Hardness:

	HRC	HV30
All weld metal deposit	15	–
Hardness	43	425

Finishing Recommendations:
Machinable with carbide tools

Comparable CIGWELD products:
Stoody Dynamang-O tubular wire

Classifications:

AS/NZS 2756:	1215-A4
WTIA Tech. Note 4:	1215-A4

Packaging and Operating Data:

Electrode Size mm	Electrode Length mm	Approx No. Rods/kg	Current Range (amps)	Packet	Carton	Part No
4.0	380	17	130 – 170	5kg	15kg - 3 x 5kg	611504
5.0	450	10	150 – 200	5kg	15kg - 3 x 5kg	611505

AC (miniumum 55 OCV) DC+ or DC- polarity.

Cobalarc 350

HV30 350 | 55 OCV | AC DC

- Metal Enriched, Rutile Type Electrode.
- For Re-building Worn Steel Components.
- Tough, Machinable Low Carbon Martensitic Steel Deposit.
- For the manual arc build-up and surfacing of steel gear, shafts, rails, shovel pads, track links, rolls and wheels etc.

NOTE: 3.2mm and 4.00mm sizes can be used for vertical welding by depositing overlapping horizontal stringer passes.

Typical All Weld Metal Deposit Analysis:
C: 0.07% Mn: 0.85% Si: 0.30%
Cr:1.85% Mo: 0.5%

Typical Weld Deposit Hardness:

	HRC	HV30
Single layer on mild steel	28	290
All weld metal deposit	35	350

Finishing Recommendations:
Machinable

Comparable CIGWELD products:
Stoody Super Build-up G/O tubular wire
AS/NZS 2576: 1435-B5

Classifications:

AS/NZS 2756:	1435-A4
WTIA Tech. Note 4:	1435-A4

Packaging and Operating Data:

Electrode Size mm	Electrode Length mm	Approx No. Rods/kg	Current Range (amps)	Packet	Carton	Part No
3.2	380	26	100 – 150	5kg	15kg - 3 x 5kg	611443
4.0	380	17	140 – 200	5kg	15kg - 3 x 5kg	611444

AC (miniumum 55 OCV) DC+ or DC- polarity.

Cobalarc 650

HV30 640 | 55 ocv | AC DC

- Metal Enriched, Rutile Type Electrode.
- For Re-building or Surfacing Worn Steel Components.
- Air Hardening, Crack Free, Martensitic Steel Deposit.
- Typical applications include te surfacing of agricultural points, shares and tynes, grader and dozer blades, conveyor screws and post hole augers etc.

Typical All Weld Metal Deposit Analysis:
C: 0.58% Mn: 1.1% Si: 0.6%
Cr:5.3% Mo: 0.25%

Typical Weld Deposit Hardness:

	HRC	HV30
Single layer on mild steel	55	600
All weld metal deposit	57	640

Finishing Recommendations:
Not machinable - Grinding only

Comparable CIGWELD products:
Stoody 965 G/O tubular wire
AS/NZS 2576: 1855-B5/B7

Stoody 850-O tubular wire
AS/NZS 2576: 1865-B5/B7

Classifications:

AS/NZS 2756:	1855-A4
WTIA Tech. Note 4:	1855-A4

Packaging and Operating Data:

Electrode Size mm	Electrode Length mm	Approx No. Rods/kg	Current Range (amps)	Packet	Carton	Part No
3.2	380	31	105 – 135	5kg	15kg - 3 x 5kg	611463
4.0	380	21	140 – 180	5kg	15kg - 3 x 5kg	611464

AC (miniumum 55 OCV) DC+ or DC- polarity.

Cobalarc 750

HV30 720 | 45 ocv | AC DC

- Rutile type, AC/DC Hard Surfacing Electrode.
- Easy Arc Starting and Stable Running on Portable AC Welding Sets (45 O.C.V.).
- Air Hardening, Crack Free, Martensitic Steel Deposit.
- Typical applications include the surfacing of agricultural equipment and components including points, shares, post hole augers, rupper teeth & tynes etc.

NOTE: 3.2mm & 4.0mm sizes can be used for vertical welding by depositing overlapping horizontal stringer passes.

Typical All Weld Metal Deposit Analysis:
C: 0.60% Mn: 0.46% Si: 0.75%
Cr:5.9% Mo: 0.40%

Typical Weld Deposit Hardness:

	HRC	HV30
Single layer on mild steel	64	800
Two layers on mild steel*	62	750

*Not recommended for multi-pass welding heavier than 3 layers

Finishing Recommendations:
Not machinable - Grinding only

Comparable CIGWELD products:
Cobalarc 650 manual arc electrode
AS/NZS 2576: 1855-A4

Stoody 965 G/O tubular wire
AS/NZS 2576: 1855-B5/B7

Stoody 850-O tubular wire
AS/NZS 2576: 1865-B5/B7

Classifications:

AS/NZS 2756:	1860-A4
WTIA Tech. Note 4:	1860-A4

Packaging and Operating Data:

Electrode Size mm	Electrode Length mm	Approx No. Rods/kg	Current Range (amps)	Packet	Carton	Part No
3.2	380	26	95 – 130	5kg	15kg - 3 x 5kg	611473
4.0	380	17	120 – 170	5kg	15kg - 3 x 5kg	611474

Easyweld Blister Pack:

10 x 3.2mm rod Cobalarc 750 Blister Pack	322218

AC (miniumum 45 OCV) DC+ or DC- polarity.

Cobalarc Toolcraft

HV30 700 | 55 ocv | AC DC

- Versatile Manual Arc Welding Electrode.
- Secondary Hardening, Shock Resistant Properties.
- Crack Free Cr-Mo Steel Deposit for Repairing Blades, Dies, Punches etc.
- Also Suitable for General Hard Surfacing in Low Stress Abrasion Conditions.

NOTE: 3.2mm size can be used for vertical welding by depositing overlapping horizontal stringer passes.

Typical All Weld Metal Deposit Analysis:
C: 0.58% Mn: 0.10% Si: 0.20%
Cr:5.5% Mo: 6.8%

Typical Weld Deposit Hardness:

	HRC	HV30
Single layer on mild steel	55	600
All weld metal deposit	60	700

Finishing Recommendations:
Not machinable - Grinding only

Classifications:

AS/NZS 2756:	1560-A4
WTIA Tech. Note 4:	1560-A4

Packaging and Operating Data:

Electrode Size mm	Electrode Length mm	Approx No. Rods/kg	Current Range (amps)	Packet	Carton	Part No
2.5	300	58	65 – 90	20 rod	–	322115
3.2	380	28	90 – 125	5kg	15kg - 3 x 5kg	611523

AC (miniumum 55 OCV) DC+ or DC- polarity.

Cobalarc Hardfacing Electrodes

Cobalarc CR70

HV30 650 | 50 OCV | AC DC

- Highly Alloyed Manual Arc Electrode.
- High Chromium Carbide Iron Deposit.
- Primary Chromium Iron Carbides in a Single Layer.
- Ideal for Coarse Abrasion and Low to Moderate Impact Loading.
- Typical applications of Cobalarc CR70 include the hard surfacing of crusher cones and mantles, swing hammers, bucket teeth and lips, dozer end plates and sugar mill rolls etc.

NOTE: 3.2mm and 4.00mm sizes can be used for vertical welding by depositing overlapping horizontal stringer passes.

Typical Weld Deposit Analysis:
Single Layer on Mild Steel
C: 3.3% Mn: 1.5% Si: 1.0% Cr: 25%
All Weld Metal Deposit
C: 4.0% Mn: 1.8% Si: 1.2% Cr: 31%

Typical Weld Deposit Hardness:

	HRC	HV30
Single layer on mild steel	55	600
All weld metal deposit	59	690

Deposits contain Chromium Carbide with hardness up to 1,500 HV.

Finishing Recommendations:
Grinding only

Comparable CIGWELD products:
Stoody 101 HC-G/O tubular wire
AS/NZS 2576: 2360-B5/B7

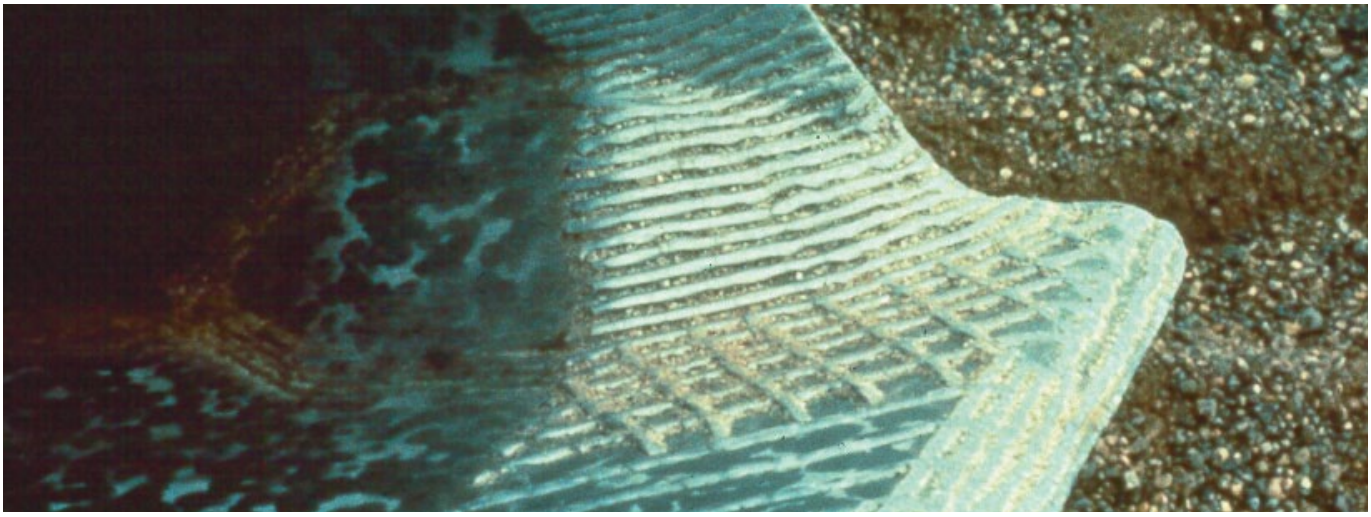
Classifications:

AS/NZS 2756:	2355-A4
WTIA Tech. Note 4:	2355-A4

Packaging and Operating Data:

Electrode Size mm	Electrode Length mm	Approx No. Rods/kg	Current Range (amps)	Packet	Carton	Part No
3.2	380	18	90 – 140	5kg	15kg - 3 x 5kg	613493
4.0	380	11	130 – 200	5kg	15kg - 3 x 5kg	613494
5.0	450	6	180 – 250	5kg	15kg - 3 x 5kg	613495

AC (miniumum 50 OCV) DC+ or DC- polarity.



Cobalarc Borochrome

HV30 700 | 50 OCV | AC DC

- Highly Alloyed Manual Arc Electrode.
- Martensitic Chromium Carbide Iron Deposit.
- Ideal for Fine Particle (Wet or Dry) Abrasion and Low Impact Loading.
- Primary Chromium Iron Carbides in a Hard, Martensitic Matrix.
- Typical applications include the hard surfacing of sand chutes, dredge components, ripper shanks, screens, grizzly bars, scraper blades and bucket lips and teeth.

Typical Weld Deposit Analysis:
Single Layer on Mild Steel
C: 2.7% Mn: 0.4% Si: 1.8%
Cr: 20.0% V: 1.4% B: 1.0%
All Weld Metal Deposit
C: 3.2% Mn: 0.4% Si: 2.4%
Cr: 24.0% V: 1.7% B: 1.2%

Typical Weld Deposit Hardness:

	HRC	HV30
Single layer on mild steel	58	660
All weld metal deposit	60	700

Deposits contain Chromium Carbide with hardness up to 1,500 HV.

Finishing Recommendations:
Grinding only

Comparable CIGWELD products:
Stoody Fineclad-O tubular wire
AS/NZS 2576: 2565-B7

Classifications:

AS/NZS 2756:	2560-A4
WTIA Tech. Note 4:	2560-A4

Packaging and Operating Data:

Electrode Size mm	Electrode Length mm	Approx No. Rods/kg	Current Range (amps)	Packet	Carton	Part No
4.0	380	11	140 – 180	5kg	15kg - 3 x 5kg	613964
5.0	450	6	170 – 210	5kg	15kg - 3 x 5kg	613965

AC (miniumum 50 OCV) DC+ or DC- polarity.

Cobalarc 1e

HV30 720 | 55 OCV | AC DC+

- Highly Alloyed Extruded Electrode.
- High Chromium Carbide Iron Deposit.
- Ideal for Coarse Abrasion and Low to Moderate Impact Loading.
- For wear resistant overlays on austenitic manganese steels.

Classifications:

AS/NZS 2756:	2360-A4
WTIA Tech. Note 4:	2360-A4

Typical All Weld Deposit Analysis:
C: 5.00% Mn: 1.10% Si: 1.3%
Cr: 35.0%

Typical Weld Deposit Hardness:

	HRC	HV30
Single layer on mild steel	58	660
All weld metal deposit	61	730

Deposits contain complex Chromium Carbides with hardness up to 1,500 HV.

Finishing Recommendations:
Grinding only

Comparable CIGWELD products:
Cobalarc CR70 extruded electrode
AS/NZS 2576: 2355-A4

Stoody 100 HC-G/O tubular wire
AS/NZ 2576: 2360-B7

Packaging and Operating Data:

Electrode Size mm	Electrode Length mm	Approx No. Rods/kg	Current Range (amps)	Packet	Carton	Part No
4.0	380	10	130 – 190	5kg	15kg - 3 x 5kg	613210
5.0	450	5	170 – 260	5kg	15kg - 3 x 5kg	613235

AC (miniumum 55 OCV) DC+ or DC- polarity.

Cobalarc 9e

HV30 750 | 55 OCV | AC DC+

- Highly Alloyed Extruded Electrode.
- Versatile, Complex Carbide Iron Deposit.
- Resistant to both Coarse and Fine Abrasion and Moderate to Heavy Impact Loading.
- Typical applications include the hard surfacing of reilway ballast tampers, dredge buckets and lips, earth moving equipment, power shovels, rolling mill guides, sizing screens, ripper teeth and crushing equipment.

Classifications:

AS/NZS 2756:	2460-A4
WTIA Tech. Note 4:	2460-A4

Typical All Weld Deposit Analysis:
C: 4.8% Mn: 1.1% Si: 1.4%
Cr: 30.0% Ni: 0.5% Mo: 1.7% V: 0.2%

Typical Weld Deposit Hardness:

	HRC	HV30
Single layer on mild steel	58	660
All weld metal deposit	63	780

Deposits contain complex Chromium Carbides with hardness up to 1,500 HV.

Finishing Recommendations:
Grinding only

Comparable CIGWELD products:
Stoody 143-O

Packaging and Operating Data:

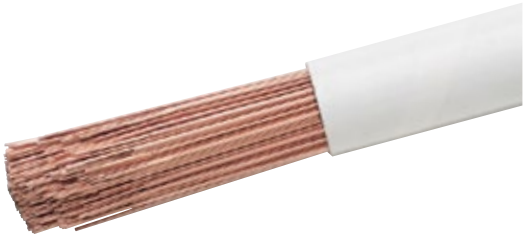
Electrode Size mm	Electrode Length mm	Approx No. Rods/kg	Current Range (amps)	Packet	Carton	Part No
3.2	380	17	95 – 145	5kg	15kg - 3 x 5 kg	613350
4.0	380	10	130 – 190	5kg	15kg - 3 x 5kg	613360
5.0	450	5	170 – 260	5kg	15kg - 3 x 5kg	613370

AC (miniumum 55 OCV) DC+ or DC- polarity.

Gas & TIG Welding Consumables

To assist you in selecting the most suitable alloy and process for the particular application, we have recommended below the alloy and process that would be most suitable for your use. Once you have selected the best alloy, refer to contents for detailed information on its characteristics, technical specifications, applications and procedure.

Process	Comweld Alloy	Comweld Flux
Joining copper, brass, bronze, etc.		
Braze Welding	Comcoat T or *Tobin Bronze	*Copper & Brass
Braze Welding	Comcoat N or *Nickel Bronze	*Copper & Brass
GTA Welding (TIG)	Comweld Silicon Bronze	No flux
Soldering	965 Silver Solder	965 Soldering Flux
Silver Brazing	SBA115	G.P. Silver Brazing Flux
	SBA356T	G.P. Silver Brazing Flux
Joining Steel.		
Oxy Acetylene Fusion Welding	Mild Steel, High Test	No flux
GTA Welding (TIG)	Comweld LW1, Super Steel	No flux
Braze Welding	Comcoat C	No flux
Braze Welding	Manganese Bronze	Copper & Brass
Soldering	965 Silver Solder	965 Soldering Flux
Silver Brazing	SBA 345T; 356T	G.P. Silver Brazing Flux
Repairing Cast Iron.		
Oxy Acetylene Fusion Welding	Cast Iron	No Flux
GTA Welding (TIG)	Cast Iron	No flux
Braze Welding	Comcoat C	No flux
Braze Welding	Manganese Bronze	No Flux
Braze Welding	Comcoat N	No flux
Braze Welding	Nickel Bronze	No Flux
Joining Stainless Steel.		
Oxy Acetylene Fusion Welding	Comweld 308L, 309L, 316L	No Flux
GTA Welding (TIG)	Comweld 308L, 309L, 316L	No flux
Soldering	965 Silver Solder	965 Soldering Flux
Silver Brazing	SBA 356T	G.P. Silver Brazing Flux
Joining Aluminium.		
Oxy Acetylene Fusion Welding	AL1188, AL4043, AL4047 & AL5356	Aluminium Welding Flux
GTA Welding (TIG)	AL1188, AL4043 & AL5356	No flux

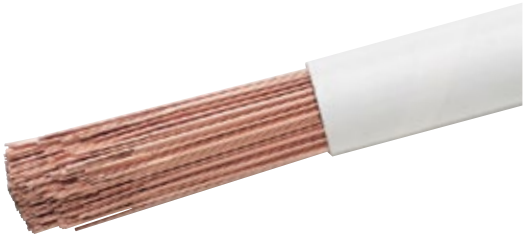


CIGWELD Professional

Gas & TIG Welding Consumables

To assist you in selecting the most suitable alloy and process for the particular application, we have recommended below the alloy and process that would be most suitable for your use. Once you have selected the best alloy, refer to contents for detailed information on its characteristics, technical specifications, applications and procedure.

Process	Comweld Alloy	Comweld Flux
Joining copper, brass, bronze, etc.		
Braze Welding	Comcoat T or *Tobin Bronze	*Copper & Brass
Braze Welding	Comcoat N or *Nickel Bronze	*Copper & Brass
GTA Welding (TIG)	Comweld Silicon Bronze	No flux
Soldering	965 Silver Solder	965 Soldering Flux
Silver Brazing	SBA115	G.P. Silver Brazing Flux
	SBA356T	G.P. Silver Brazing Flux
Joining Steel.		
Oxy Acetylene Fusion Welding	Mild Steel, High Test	No flux
GTA Welding (TIG)	Comweld LW1, Super Steel	No flux
Braze Welding	Comcoat C	No flux
Braze Welding	Manganese Bronze	Copper & Brass
Soldering	965 Silver Solder	965 Soldering Flux
Silver Brazing	SBA 345T; 356T	G.P. Silver Brazing Flux
Repairing Cast Iron.		
Oxy Acetylene Fusion Welding	Cast Iron	No Flux
GTA Welding (TIG)	Cast Iron	No flux
Braze Welding	Comcoat C	No flux
Braze Welding	Manganese Bronze	No Flux
Braze Welding	Comcoat N	No flux
Braze Welding	Nickel Bronze	No Flux
Joining Stainless Steel.		
Oxy Acetylene Fusion Welding	Comweld 308L, 309L, 316L	No Flux
GTA Welding (TIG)	Comweld 308L, 309L, 316L	No flux
Soldering	965 Silver Solder	965 Soldering Flux
Silver Brazing	SBA 356T	G.P. Silver Brazing Flux
Joining Aluminium.		
Oxy Acetylene Fusion Welding	AL1188, AL4043, AL4047 & AL5356	Aluminium Welding Flux
GTA Welding (TIG)	AL1188, AL4043 & AL5356	No flux



CIGWELD Professional

COMWELD LW1-6

- Copper Coated, Low Carbon Steel Rod for Gas TIG & Oxy Welding Applications.
- End stamped with "ER70S-6" for easy I.D.
- Recommended for the TIG welding of steel pipes, plates and castings with a tensile strength in the 500 MPa class.

Classifications:

AS/NZS 1167.2:	R6
AWS/ASME-SFA A5.2:	ER70S-4

Typical Weld Deposit Properties:

Yield Stress	400 MPa
Tensile Strength	500 MPa
Elongation	29%
CVN Impact Values	100J av@-20˚C

Typical Rod Analysis:

C: 0.08%	Mn: 1.16%	Si: 0.75%
S:0.010%	P: 0.015%	Fe: Balance

Joining process:
Gas (fusion) and Gas Tungsten Arc (TIG) welding

Comparable CIGWELD Products:
Autocraft LW1-6 GMAW wire
AWS A5.18: ER70S-4

Packaging Data:

Rod Size mm	Pack Weight/Type	Approx Rods/kg	Part No.
1.6 x 915	5kg pack	70	321417
2.4 x 915	5kg pack	31	321418

COMWELD Super Steel

- Low Carbon Steel Filler Rod for Gas Tungsten Arc (TIG) Welding.
- Triple Deoxidised for Superior Weld Deposit Quality and Resistance to Porosity.
- End Stamped with AWS Class ER70S-2.
- Ideal for TIG welding rusty or mill scaled plates and pipes and the root pass welding of pipes, tanks and heavy walled joints.

Classifications:

AS/NZS 1167.2:	R2
AWS/ASME-SFA A5.2:	ER70S-2

Typical Weld Deposit Properties:

Yield Stress	425 MPa
Tensile Strength	520 MPa
Elongation	34%
CVN Impact Values	150J av@-29˚C

Typical Rod Analysis:

C: 0.06%	Mn: 1.08%	Si: 0.52%
Ti: 0.08%	Zr: 0.07%	Al: 0.08%
S:0.007%	P: 0.008%	Fe: Balance

Joining process:
Gas Tungsten Arc (TIG) welding

Comparable CIGWELD Products:
Autocraft Super Steel GMAW wire
AWS A5.18: ER70S-2

Packaging Data:

Rod Size mm	Pack Weight/Type	Approx Rods/kg	Part No.
1.6 x 915	5kg tube	70	321370
2.4 x 915	5kg tube	31	321373

COMWELD CrMo1

- Nominal 1 1/4Cr 1/2Mo steel TIG rod.
- End Stamped with AWS Class ER80S-B2 for Easy Identification.
- For the Gas Tungsten Arc (TIG) Welding of matching Cr - Mo Creep Resistant Steels for Elevated Temperature and Corrosive Service.

Classifications:

AS/NZS 1167.2:	RB2
AWS/ASME-SFA A5.28:	ER80S-B2

Typical All Weld Metal Mechanical Properties:
Welding Grade Argon:

0.2% Proof Stress	500 MPa
Tensile Strength	600 MPa
Elongation (in 2 inches)	20%
CVN Impact Values	60J av @+ 20˚C

Post weld heat treated at 620˚C as required by AWS A5.28

Typical Rod Analysis:

C: 0.09%	Mn: 0.60%	Si: 0.60%
Cr: 1.30%	Mo: 0.50%	P: 0.015%
S:0.010%	Fe: Balance	

Comparable CIGWELD Products:
Alloycraft 80-B2 electrode
AWS A5.5: E8018-B2

Autocraft CrMo1 GMAW wire
AWS A5.28: ER80S-B2

Packaging Data:

Rod Size mm	Pack Weight/Type	Approx Rods/kg	Part No.
2.4 x 915	5kg tube	31	321379

COMWELD CrMo2

- Nominal 2 1/2CR1Mo steel TIG rod.
- End Stamped with AWS Class 'ER90S-B3' for Easy Identification.
- For the Gas Tungsten Arc (TIG) Welding of Cr-Mo and Cr-Mo-V Creep Resistant Steels for Elevated Temperature and Corrosive Service.

Classifications:

AS/NZS 1167.2:	RB3
AWS/ASME-SFA A5.28:	ER90S-B3

Typical All Weld Metal Mechanical Properties:

Welding Grade Argon:

0.2% Proof Stress	560 MPa
Tensile Strength	670 MPa
Elongation (in 2 inches)	18%
CVN Impact Values	60J av @+ 20˚C

Post weld heat treated at 690˚C as required by AWS A5.28

Typical Rod Analysis:

C: 0.08%	Mn: 0.70%	Si: 0.60%
Cr: 2.50%	Mo: 1.00%	P: 0.015%
S:0.010%	Fe: Balance	

Comparable CIGWELD Products:

Alloycraft 90-B3 electrode
AWS A5.5: E9018-B3

Packaging Data:

Rod Size mm	Pack Weight/Type	Approx Rods/kg	Part No.
2.4 x 915	5kg tube	31	321383

COMWELD 308L

- Resealable 5kg Plastic Tube.
- Suitable for Gas and GTA (TIG) Welding.
- End Stamped with AS / AWS Class '308L'.
- DARK BLUE COLOUR CODED Label for Instant I.D.

Classifications:

AS/NZS 1167.2:	R308L
AWS/ASME-SFA A5.9:	ER308L

Typical All Weld Metal Mechanical Properties:

0.2% Proof Stress	450 MPa
Tensile Strength	600 MPa
Approx. melting point	1400˚C
Weld metal density	7.95 gms/cm3
Weld metal microstructure	Austenite with 5-8% ferrite

Typical Rod Analysis:

C: 0.015%	Mn: 1.90%	Si: 0.50%
Cr: 19.90%	Ni: 9.75%	P: 0.020%
S:0.005%	Fe: Balance	

Comparable CIGWELD Products:

Satincrome 308L-17 electrode
AWS A5.4: E308L-17

Autocraft 308LSi GMAW wire
AWS A5.9: ER308LSi

Verti-Cor 308LT FCAW wire
AWS A5.22: E308LT1-1/4

Packaging Data:

Rod Size mm	Pack Weight/Type	Approx Rods/kg	Part No.
1.6 x 1000	5kg tube	69	321406
2.4 x 1000	5kg tube	30	321407

COMWELD 309L

- Resealable 5kg Plastic Tube.
- Suitable for Gas and GTA (TIG) Welding of highly alloyed 309 or 309L type stainless steel.
- End Stamped with AS / AWS Class '309L'.
- RED COLOUR CODED Pack Label for Instant I.D.
- Also suitable for the dissimilar joining of other 300 series austenitic stainless steels to ferritic steels.

Classifications:

AS/NZS 1167.2:	R309L
AWS/ASME-SFA A5.9:	ER309L

Typical All Weld Metal Mechanical Properties:

0.2% Proof Stress	440 MPa
Tensile Strength	590 MPa
Approx. melting point	1400˚C
Weld metal density	7.95 gms/cm3
Weld metal microstructure	Austenite with 15-20% ferrite

Typical Rod Analysis:

C: 0.015%	Mn: 1.90%	Si: 0.45%
Cr: 23.5%	Ni: 13.5%	P: 0.020%
S:0.005%	Fe: Balance	

Comparable CIGWELD Products:

Satincrome 309Mo-17 electrode
AWS A5.4: E309Mo-17

Autocraft 309LSi GMAW wire
AWS A5.9: ER309LSi

Verti-Cor 309LT FCAW wire
AWS A5.22: E309LT-1-1/4

Packaging Data:

Rod Size mm	Pack Weight/Type	Approx Rods/kg	Part No.
1.6 x 1000	5kg tube	69	321403
2.4 x 1000	5kg tube	30	321404

COMWELD 316L

- Resealable 5kg Plastic Tube.
- Suitable for Gas and GTA (TIG) Welding of Molybdenum bearing stainless steels; in particular matching 316 and 316L alloys.
- End Stamped with AS / AWS Class '316L'.
- GOLD COLOUR CODED Pack Label for Instant I.D.
- Also suitable for the general welding of other 300 series stainless steels including 302 and 304; as well as ferritic stainless steels grades such as 409, 444 and 3Cr12.

Classifications:

AS/NZS 1167.2:	R316L
AWS/ASME-SFA A5.9:	ER316L

Typical All Weld Metal Mechanical Properties:

0.2% Proof Stress	470 MPa
Tensile Strength	640 MPa
Approx. melting point	1400˚C
Weld metal density	7.95 gms/cm^3
Weld metal microstructure	Austenite with 7-10% ferrite

Typical Rod Analysis:

C: 0.012%	Mn: 1.57%	Si: 0.50%
Cr: 19.00%	Ni: 12.6%	Mo: 2.5%
P:0.015%	S: 0.001%	Fe: Balance

Comparable CIGWELD Products:

Satincrome 316L-17 electrode
AWS A5.4: E316L-17

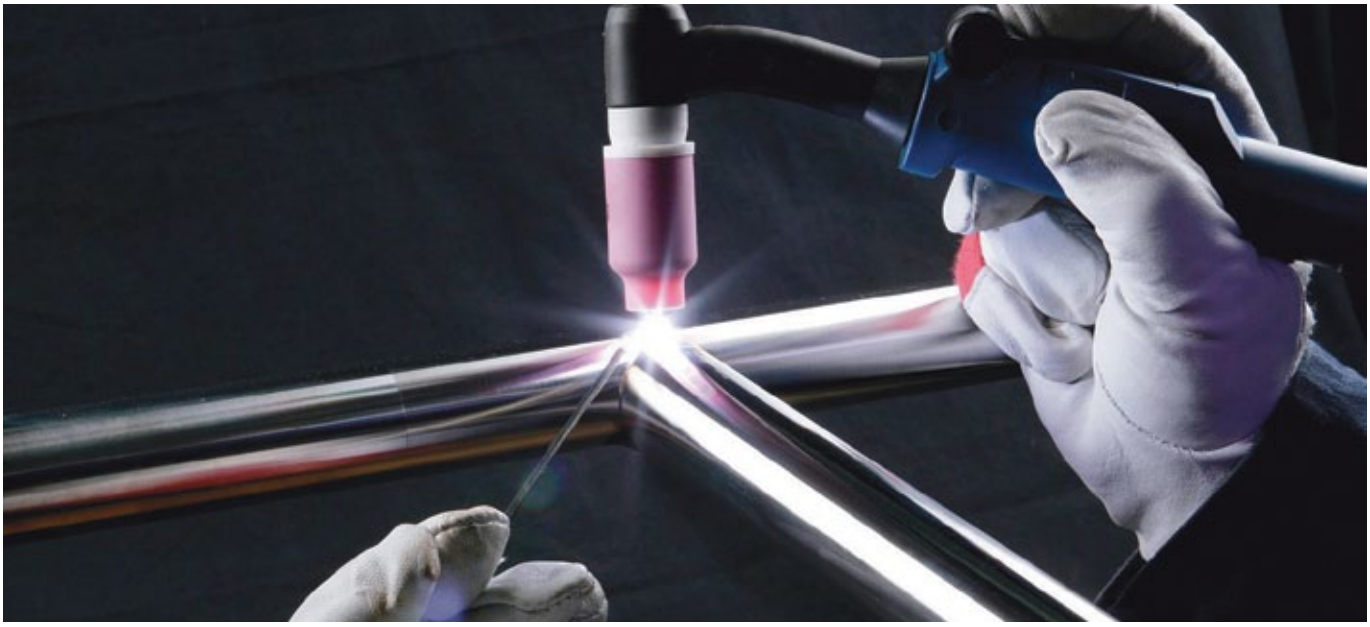
Murex Speedex 316L
AWS A5.4: E316L-16

Autocraft 316LSi GMAW wire
AWS A5.9: ER316LSi

Verti-Cor 316LT FCAW wire
AWS A5.20: E316LT1-1/4

Packaging Data:

Rod Size mm	Pack Weight/Type	Approx Rods/kg	Part No.
1.6 x 1000	5kg tube	69	321400
	25 rod handipack	–	322054
2.4 x 1000	5kg tube	30	321401



COMWELD Galvanising Bar

- Strong corrosion resistant alloy.
- Used where any welding of galvanised parts is required.
- Can be used as a pre-treatment to produce base metals.

Typical Properties:

Approx. melting point 300˚C

Typical Rod Analysis:

Pb: 57.50%	(Lead)
Sn: 32.5%	(Tin)
Zn: 10.00%	(Zinc)

Packaging Data:

Rod Size mm	Pack Weight/Type	Easyweld Handipack	Part No.
6.3 x 500	2.5kg pack	–	321695
6.3 x 500	–	2 rod handipack	322985

COMWELD AL1100

660˚C

- 99.88% Pure Aluminium Alloy Rod.
- Suitable for Gas Welding and Gas Tungsten Arc (GTAW / TIG) Welding Applications.
- Embossed with AS / AWS Class '1050'.
- For the joining of selected high purity 1XXX series Aluminium sheets and plates used extensively in the electrical and chemical industries.

Weld Deposit Properties:

Tensile strength	75 MPa
Approx. melting point	660˚C
Post anodised colour tint	Clear

Comparable CIGWELD Products:
Autocraft AL1050 GMAW wire
AWS A5.10: ER1050

Rod Analysis Limits:
Single values are maximum allowable, unless otherwise state

Si: 0.06%	Fe: 0.26%	Cu: 0.005%
Mn: 0.01%	Mg: 0.01%	Zn: 0.03%
Ti: 0.01%	Others each: 0.01%	
Al: 99.6% min		

Classifications:

AS/NZS 1167.2:	R1100 (nearest equivalent)
AWS/ASME-SFA A5.10:	R1050

Packaging Data:

Rod Size mm	Pack Weight/Type	Carton Size	Approx Rods/kg	Part No.
1.6 x 914	2.5kg pack	15kg	185	322600
2.4 x 914	2.5kg pack	15kg	82	322601

COMWELD AL4043

630˚C

- Aluminium - 5% Silicon Alloy Rod.
- Suitable for Gas Welding and Gas Tungsten Arc (GTAW / TIG) Welding Applications.
- Embossed with AS / AWS Class '4043'.
- For the repair welding (fractures and blow holes etc) of selected aluminium alloy castings

Weld Deposit Properties:

Tensile strength	110 MPa
Approx. melting point	630˚C
Post anodised colour tint	Grey

Comparable CIGWELD Products:
Autocraft AL4043 GMAW wire
AWS A5.10: ER4043

Rod Analysis Limits:
Single values are maximum allowable, unless otherwise state

Si: 4.5-6.0%	Fe: 0.80%	Cu: 0.30%
Mn: 0.05%	Mg: 0.05%	Zn: 0.10%
Ti: 0.20%	Others each: 0.15%	
Al: Balance		

Classifications:

AS/NZS 1167.2:	R4043
AWS/ASME-SFA A5.10:	R4043

Packaging Data:

Rod Size mm	Pack Weight/Type	Carton Size	Approx Rods/kg	Part No.
1.6 x 1000	2.5kg pack	15kg	185	321610
2.4 x 1000	2.5kg pack	15kg	82	321611
3.2 x 1000	2.5kg pack	15kg	46	321612

COMWELD AL4047

582˚C

- Aluminium - 10% Silicon Alloy Rod.
- Suitable for Gas Welding and Gas Tungsten Arc (GTAW / TIG) Welding Applications.
- Embossed with AS / AWS Class '4047'.
- Used extensively for the brazing of many types of Aluminium alloy sheets, extruded shapes and castings.

Weld Deposit Properties:

Tensile strength	150 MPa
Approx. melting point	577-582˚C
Post anodised colour tint	Grey-Black

Rod Analysis Limits:
Single values are maximum allowable, unless otherwise state

Si: 11.0-13.0%	Fe: 0.80%	Cu: 0.30%
Mn: 0.15%	Mg: 0.10%	Zn: 0.20%
Total others each: 0.15%	Al: Balance	

Classifications:

AS/NZS 1167.2:	R4047
AWS/ASME-SFA A5.10:	R4047
AWS/ASME-SFA A5.8:	BAlSi-4

Packaging Data:

Rod Size mm	Pack Weight/Type	Carton Size	Approx Rods/kg	Part No.
1.6 x 915	2.5kg pack	15kg	185	321620
2.4 x 915	2.5kg pack	15kg	82	321621
	50 rod handipack	8 pks	–	322071
3.2 x 915	2.5kg pack	15kg	46	321622

COMWELD AL5356

- Aluminium - 5% Magnesium Alloy Rod.
- Suitable for Gas Welding and Gas Tungsten Arc (GTAW/TIG) Welding Applications.
- Embossed with 'AS/AWS Class 5356'.
- Produces intermediate deposit strength and good ductility and corrosion resistance for the welding of a wide range of 3XXX, 5XXX, 6XXX and 5XX Aluminium alloys.

Classifications:

AS/NZS 1167.2:	R5356
AWS/ASME-SFA A5.10:	R5356

Weld Deposit Properties:

Tensile strength	270 MPa
Approx. melting point	640˚C
Post anodised colour tint	White

Rod Analysis Limits:
Single values are maximum allowable, unless otherwise state
Si: 0.25% Fe: 0.40% Cu: 0.10%
Mn: 0.05-0.20% Mg: 4.5-5.5%
Cr: 0.05-0.20% Zn: 0.10%
Ti: 0.05-0.20%
Total others: 0.15% Al: balance

Comparable CIGWELD Products:
Autocraft 5356 GMAW wire
AWS A5.10: ER5356

Packaging Data:

Rod Size mm	Pack Weight/Type	Carton Size	Approx Rods/kg	Part No.
1.6 x 1000	2.5kg pack	15kg	185	321640
2.4 x 1000	2.5kg pack	15kg	82	321641
	40 rod handipack	8 pks	–	322078
3.2 x 1000	2.5kg pack	15kg	46	321642

COMWELD General Purpose, Cast Iron Rod

- A High Strength, General Purpose, Cast Iron Alloy for Joining and Building up Grey Cast Iron Castings.
- Machinable Weld Deposit.

Classifications:

AS/NZS 1167.2:	RC11

Weld Deposit Properties:

Tensile strength	230 MPa
Approx. melting point	1150˚C

Typical Rod Analysis:
C: 3.37% Mn: 0.75% Si: 3.25%
S: 0.008% P: 0.011% Fe: Balance

Joining Process:
Gas (fusion) and Gas Tungsten Arc (TIG) welding

Tip Colour:
Bue

Packaging Data:

Rod Size mm	Pack Weight/Type	Carton Size	Approx Rods/kg	Part No.
5.0 x 700	2.5kg pack	–	8	321420

COMWELD Silicon Bronze Rod

- Premium Quality Deoxidised Silicon - Bronze alloy.
- Recommended for the Braze Welding and GTA (TIG) welding of Copper Silicon alloys (Everdur and Cusilman).
- CANARY YELLOW End Tip Colour.
- Produces excellent joints on copper, brass and copper-zinc sheet, tube and extruded section.

Classifications:

AS/NZS 1167.1; AS/NZS 1167.2:	R Cu Si-A
AWS/ASME-SFA A5.7:	R Cu Si-A (UNS No. C65600)

Weld Deposit Properties:

Tensile strength	370 MPa
Approx. melting point	970-1020˚C
Weld metal density	8.85 gms/cm^3
Hardness	90 HV (90HB)

Typical Rod Analysis:
Fe: 0.25% Mn: 1.00% Pb: 0.02%
Si: 3.40% Sn: 0.90% Zn: 0.09%
Cu: Balance

Joining Process:
Gas (fusion) and Gas Tungsten Arc (TIG) welding

Comparable CIGWELD Products:
Autocraft Silicon Bronze

Packaging Data:

Rod Size mm	Pack Weight/Type	Carton Size	Approx Rods/kg	Part No.
3.2 x 750	5kg pack	–	19	321295

COMWELD Manganese Bronze Rod

890°C

- General Purpose Brazing Alloy.
- Recommended for Braze Welding of Steels and Cast and Malleable Irons.
- Not Suitable for Copper Pipes in Hot Water Systems.
- BLUE End Tip Colour for Instant I.D.

Classifications:

AS/NZS 1167.1; AS/NZS 1167.2: R Cu Zn-C
AWS/ASME-SFA A5.8/A5.27: RB Cu Zn-C

Typical Weld Deposit Properties:

Tensile Strength	460 MPa
0.2% Proof Stress	165 MPa
Elongation	35%
Approx. melting point	890˚C
Weld metal density	8.30 gms/cm^3

Typical Rod Analysis:
Zn: 40.5% Mn: 0.10% Si: 0.10%
Sn: 1.0% Fe: 0.50% Cu: Balance

Joining Process:
Gas (Braze) Welding only

Comparable CIGWELD Products:
Comcoat C Flux Coated Manganese Bronze
AS 1167.1 & 2: R Cu Zn-C

Packaging Data:

Rod Size mm	Pack Weight/Type	Carton Size	Approx Rods/kg	Part No.
1.6 x 750	5kg pack	–	83	321195
2.4 x 750	5kg pack	–	37	321199
3.2 x 750	5kg pack	–	20	321202
5.0 x 750	5kg pack	–	8	321203
6.3 x 750	5kg pack	–	5	321204

COMWELD Tobin Bronze Rod

900°C

- Low Strength Copper - Zinc Brazing Alloy.
- Recommended for the Fusion or Braze Welding of Selected Brasses and Bronzes.
- Suitable for Low Strength Brazing of Steels.
- Not Suitable for Cast Irons.
- WHITE End Tip Colour for Instant I.D.

Classifications:

AS/NZS 1167.1; AS/NZS 1167.2: R Cu Zn-A
AWS/ASME-SFA A5.8/A5.27: RB Cu Zn-A

Typical Weld Deposit Properties:

Tensile Strength	400 MPa
0.2% Proof Stress	110 MPa
Elongation	45%
Approx. melting point	900˚C
Weld metal density	8.41 gms/cm^3

Typical Rod Analysis:
Zn: 37.5% Si: 0.30% Sn: 0.50%
Cu: Balance

Joining Process:
Gas (Fusion and Braze) Welding only

Comparable CIGWELD Products:
Comcoat T Flux Coated Tobin Bronze
AS 1167.1 & 2: R Cu Zn-A

Packaging Data:

Rod Size mm	Pack Weight/Type	Easyweld Handipack	Approx Rods/kg	Part No.
1.6 x 750	5kg pack	–	83	321246
2.4 x 750	5kg pack	–	37	321247
3.2 x 750	5kg pack	–	20	321249
	–	15 rod handipack	–	322038
5.0 x 750	5kg pack	–	8	321250

COMWELD Nickel Bronze Rod

910°C

- High Strength, Wear Resistant Brazing Alloy.
- High Strength Braze Welding of Steels and Cast or Malleable Irons.
- Fusion Welding of Copper Based Alloys of Similar Composition.
- CRIMSON End Tip Colour for Instant I.D.

Classifications:

AS/NZS 1167.1; AS/NZS 1167.2: R Cu Zn-D
AWS/ASME-SFA A5.8/A5.27: RB Cu Zn-D

Typical Weld Deposit Properties:

Tensile Strength	560 MPa
0.2% Proof Stress	250 MPa
Elongation	18%
Hardness	170 HV
Approx. melting point	910˚C
Weld metal density	8.39 gms/cm^3

Typical Rod Analysis:
Zn: 43.5% Mn: 0.20% Si: 0.20%
Ni: 10.0% Cu: Balance

Joining Process:
Gas (Fusion and Braze) Welding only

Comparable CIGWELD Products:
Comcoat N Flux Coated Tobin Bronze
AS 1167.1 & 2: R Cu Zn-A

Packaging Data:

Rod Size mm	Pack Weight/Type	Carton Size	Approx Rods/kg	Part No.
2.4 x 500	5kg pack	–	52	321224
3.2 x 750	5kg pack	–	19	321225
5.0 x 750	5kg pack	–	8	321226

COMWELD Comcoat T

- Flux Coated Tobin Bronze Rod.
- Recommended for the 'Self Fluxing' Fusion Braze Welding of Selected Brasses & Bronzes.
- Suitable for Low Strength brazing of Steels.
- Not Suitable for Cast Irons.
- WHITE Flux Colour for Instant I.D.

Classifications:

AS/NZS 1167.1; AS/NZS 1167.2: R Cu Zn-A
AWS/ASME-SFA A5.8/A5.27: RB Cu Zn-A

Typical Weld Deposit Properties:

Tensile Strength	400 MPa
0.2% Proof Stress	110 MPa
Elongation	45%
Approx. melting point	900˚C
Weld metal density	8.41 gms/cm^3

Typical Rod Analysis:
Zn: 37.5% Si: 0.30% Sn: 0.50%
Cu: Balance

Joining Process:
Gas (Fusion and Braze) Welding only

Comparable CIGWELD Products:
Comcoat Tobin Bronze Bare Rod
AS 1167.1 & 2: R Cu Zn-A

Packaging Data:

Rod Size mm	Pack Weight/Type	Easyweld Handipack	Blister Pack	Approx Rods/kg	Part No.
2.4 x 500	–	–	5 rod blister pack	–	322207
3.2 x 750	5kg pack	–	–	19	321236

COMWELD Comcoat N

- Flux Coated Nickel Bronze Rod.
- High Strength, Excellent Wear Resistance.
- High Strength Braze Welding of Steels and Cast or Malleable Irons.
- Fusion Welding of Copper Based Alloys of Similar Composition.
- PINK Flux Colour for Instant I.D.

Classifications:

AS/NZS 1167.1; AS/NZS 1167.2: R Cu Zn-D
AWS/ASME-SFA A5.8/A5.27: RB Cu Zn-D

Typical Weld Deposit Properties:

Tensile Strength	560 MPa
0.2% Proof Stress	250 MPa
Elongation	18%
Hardness	170 HV
Approx. melting point	910˚C
Weld metal density	8.39 gms/cm^3

Typical Rod Analysis:
Zn: 43.5% Mn: 0.20% Si: 0.20%
Ni: 10.0% Cu: Balance

Joining Process:
Gas (Fusion and Braze) Welding only

Comparable CIGWELD Products:
Comcoat Nickel Bronze Bare Rod
AS 1167.1 & 2: R Cu Zn-D

Packaging Data:

Rod Size mm	Pack Weight/Type	Easyweld Handipack	Blister Pack	Approx Rods/kg	Part No.
2.4 x 500	–	–	3 rod pack	–	322208
	–	10 rod handipack	–	–	322209
3.2 x 750	2.5kg pack	–	–	19	321215
	–	8 rod handipack	–	–	322030

COMWELD Comcoat C

- Flux Coated Manganese Bronze Rod.
- General Purpose Brazing Alloy.
- Recommended for Braze Welding of Steels and Cast and Malleable Irons.
- Not Suitable for Copper Pipes in Hot Water Systems.
- BLUE Flux Colour for Instant I.D.

Classifications:

AS/NZS 1167.1; AS/NZS 1167.2: R Cu Zn-C
AWS/ASME-SFA A5.8/A5.7: RB Cu Zn-C

Typical Weld Deposit Properties:

Tensile Strength	460 MPa
0.2% Proof Stress	165 MPa
Elongation	35%
Approx. melting point	890˚C
Weld metal density	8.39 gms/cm^3

Typical Rod Analysis:
Zn: 40.5% Mn: 0.10% Si: 0.10%
Sn: 1.0% Fe: 0.50% Cu: Balance

Joining Process:
Gas (Braze) Welding only

Comparable CIGWELD Products:
Comcoat Manganese Bronze Bare Rod
AS 1167.1 & 2: R Cu Zn-D

Packaging Data:

Rod Size mm	Pack Weight/Type	Easyweld Handipack	Blister Pack	Approx Rods/kg	Part No.
2.4 x 500	2.5kg	–	–	50	321191
	–	20 rod handipack	–	–	322020
	–	–	5 rod blister	–	322206
3.2 x 750	5kg pack	–	–	19	321215
	–	15 rod handipack	–	–	322022

COMWELD SBA 115

705˚C

- Low Silver, Cadmium free silver brazing alloy
- Alloy group 1: Silver, Copper, Phosphorous self fluxing alloys for brazing of Copper to Copper alloys
- Not suitable for Ferrous metals
- Use with flux on Copper alloys
- TAN end tip colour

Classifications:

AS/NZS 1167.1:	B4
AWS/ASME-SFA A5.8:	BCuP-5

Technical Data:

Silver content	15%
Typical melting range (˚C)	645-700˚
Brazing temp. for complete fluidity	705˚C

Typical Wire Analysis:
Ag: 15.0% Cu: 79.9% P: 5.0%
Cd*: 0.05% Zn*: 0.50%
*Cadmium and Zinc may be present only as trace element impurities

Silver Brazing Flux if required:
GP Silver Brazing flux

Packaging Data:

Wire Size mm	Pack Type	Pack Size	Approx Rods/kg	Part No.
2.4 x 750	Standard pack	1kg	32	320505
2.4 x 500	Blister pack	5 rods	49	322004
3.0 x 750	Standard pack	1kg	22	320506

COMWELD SBA 345T

715˚C

- Cadmium free high silver brazing alloy
- Alloy group 3: Silver, Copper, Zinc, Tin alloys for intermediate to low temperature brazing of all metals
- Not suitable for Aluminium, Magnesium & Zinc based alloys
- Safe for use on food carrying containers, vessels and food processing equipment
- To be used with flux
- ROCK end tip colour

Classifications:

AS/NZS 1167.1:	A19
AWS/ASME-SFA A5.8:	BAg-36

Technical Data:

Silver content	45%
Typical melting range (˚C)	640-680˚
Brazing temp. for complete fluidity	715˚C

Typical Wire Analysis:
Ag: 45.0% Cu: 27.5% Zn: 25.0%
Sn: 2.5% Cd*: 0.05%
*Cadmium may be present only as trace element impurities

Silver Brazing Flux if required:
Silver Brazing flux No. 2

Comparable COMWELD Cadmium bearing alloys:
COMWELD SBA 245

Packaging Data:

Wire Size mm	Pack Type	Pack Size	Approx Rods/kg	Part No.
1.6 x 750	Standard pack	0.5kg	72	320525
2.4 x 750	Standard pack	0.5kg	33	320526

COMWELD SBA 356T

660˚C

- Cadmium free high silver brazing alloy
- Alloy group 3: Silver, Copper, Zinc, Tin alloys for intermediate to low temperature brazing of all metals
- Not suitable for Aluminium, Magnesium & Zinc based alloys
- Safe for use on food carrying containers, vessels and food processing equipment
- To be used with flux
- WHITE end tip colour

Classifications:

AS/NZS 1167.1:	A2
AWS/ASME-SFA A5.8:	BAg-7

Technical Data:

Silver content	56%
Typical melting range (˚C)	625-650˚
Brazing temp. for complete fluidity	660˚C

Typical Wire Analysis:
Ag: 56.0% Cu: 22.0% Zn: 16.95%
Sn: 5% Cd*: 0.05%
*Cadmium may be present only as trace element impurities

Silver Brazing Flux if required:
GP Silver Brazing flux

Comparable COMWELD Cadmium bearing alloys:
COMWELD SBA 245

Packaging Data:

Wire Size mm	Pack Type	Pack Size	Approx Rods/kg	Part No.
1.6 x 750	Standard pack	0.5kg	74	320527
2.4 x 750	Standard pack	0.5kg	33	320528

COMCOAT Silver 356T

660˚C

- Cadmium free high silver brazing alloy
- Alloy group 3: Silver, Copper, Zinc, Tin alloys for intermediate to low temperature brazing of all metals
- Not suitable for Aluminium, Magnesium & Zinc based alloys
- Extruded flux coated version of Comweld SBA 356T
- Safe for use on food carrying containers, vessels and food processing equipment
- PINK flux colour

Classifications:

AS/NZS 1167.1:	A2
AWS/ASME-SFA A5.8:	BAg-7

Technical Data:

Silver content	56%
Typical melting range (˚C)	625-650˚
Brazing temp. for complete fluidity	660˚C

Typical Wire Analysis:
Ag: 56.0% Cu: 22.0% Zn: 16.95%
Sn: 5.0% Cd*: 0.05%
*Cadmium may be present only as trace element impurities

Silver Brazing Flux if required:
No flux required

Comparable COMWELD Cadmium bearing alloy:
Comcoat Silver 45

Packaging Data:

Wire Size mm	Pack Type	Pack Size	Approx Rods/kg	Part No.
1.6 x 500	Standard pack	1kg	88	320532
1.6 x 500	Blister pack	5 rods	88	322007

COMWELD SBA 245

625˚C

- High silver, excellent fluidity silver brazing alloy
- Alloy group 2: Silver, Copper, Cadmium, Zinc, alloys for low temperature brazing of all ferrous and non ferrous metals
- Not suitable for Aluminium, Magnesium & Zinc based alloys
- To be used with flux
- LIGHT BLUE end tip colour

Classifications:

AS/NZS 1167.1:	A6
AWS/ASME-SFA A5.8:	BAg-1

Technical Data:

Silver content	45%
Typical melting range (˚C)	605-620˚
Brazing temp. for complete fluidity	625˚C

Typical Wire Analysis:
Ag: 45.0% Cu: 15.0% Zn: 16.0%
Cd: 24.0%

Silver Brazing Flux if required:
Silver Brazing flux No. 2

Comparable COMWELD Cadmium free alloys:
Comweld SBA 345T

Packaging Data:

Wire Size mm	Pack Type	Pack Size	Approx Rods/kg	Part No.
1.6 x 750	Standard pack	0.5kg	74	320514
1.6 x 500	Blister pack	5 rods	113	322008
2.4 x 750	Standard pack	0.5kg	33	320515

COMCOAT Silver 45

625˚C

- High silver, excellent fluidity silver brazing alloy
- Alloy group 2: Silver, Copper, Cadmium, Zinc, alloys for low temperature brazing of all ferrous and non ferrous metals
- Not suitable for Aluminium, Magnesium & Zinc based alloys
- Extruded flux coated version of Comweld SBA 245
- SKY BLUE flux colour

Classifications:

AS/NZS 1167.1:	A6
AWS/ASME-SFA A5.8:	BAg-1

Technical Data:

Silver content	45%
Typical melting range (˚C)	605-620˚
Brazing temp. for complete fluidity	625˚C

Typical Wire Analysis:
Ag: 45.0% Cu: 15.0% Zn: 16.0%
Cd: 24.0%

Silver Brazing Flux if required:
No flux required

Comparable COMWELD Cadmium free alloys:
Comcoat Silver 356T

Packaging Data:

Wire Size mm	Pack Type	Pack Size	Approx Rods/kg	Part No.
1.6 x 500	Standard pack	0.5kg	90	320531
1.6 x 500	Blister pack	5 rods	90	322009

COMWELD 40/60 Soft Solder

10.1% 234°C

- General Purpose Low Cost Solder.
- General For Sheet Metal & Plumbing Applications.
- General Wide Range of Packaging Options.

Description & application:

COMWELD 40/60 Solder is a low cost general purpose solder for general sheet metal work, plumbing (not water pipes) such as gutters and flashings and automotive radiator repairs.

Classifications:

AS 1834 Part 1: 40Sn

Colour Code & Identification:

Cored wire reels	Green label
Sticks	marked 40/60
Handipack (H/P) Coil	Yellow backing card & label

Joining Process:
Soldering only
Soldering iron bit temperature: 294˚C

Typical Rod Analysis:
Sn: 40% (Tin) Pb: 60% (Lead)

Typical Properties:

Tensile strength	42 MPa
Shear strength	37 MPa
Approx. melting range	183-234˚C
Electrical conductivity	10.1% IACS

Packaging Data:

Rod/Wire Size mm	Pack Weight/Type	Part No.
12 x 6 x 400 (W x B x L)	250g stick	322305
3.2	250g acid core wire	322313
3.2	500g acid core wire	322318
1.6	15g resin core H/P	322220

For procedure recommendations refer to Pocket Guide

COMWELD 50/50 Soft Solder

10.9% 212°C

- Higher Quality General Purpose Solder.
- For Electrical & Electronic Applications.
- Wide Range of Packaging Options.

Description & application:

COMWELD 50/50 Solder is a higher quality general purpose solder for general sheet metal work, and plumbing (not water pipe) applications where better free flowing characteristics are important.

Classifications:

AS 1834 Part 1: 50Sn

Colour Code & Identification:

Cored wire reels	Orange label
Sticks	marked 50/50

Joining Process:
Soldering only
Soldering iron bit temperature: 272˚C

Typical Rod Analysis:
Sn: 50% (Tin) Pb: 50% (Lead)

Typical Properties:

Tensile strength	45 MPa
Shear strength	40 MPa
Approx. melting range	183-212˚C
Electrical conductivity	10.9% IACS

Packaging Data:

Rod/Wire Size mm	Pack Weight/Type	Part No.
12 x 6 x 400 (W x B x L)	250g stick	322306
3.2	250g solid wire	322310
1.6	250g acid core wire	322317
	250g resin core wire	322319

For procedure recommendations refer to Pocket Guide

COMWELD 965 Solder (Soft Silver Solder)

17% 220°C

- Highest Strength Soft Solder.
- Lead, Zinc and Cadmium Free.
- Non Toxic Solder For Electrical, Surgical and Food Equipment Applications.
- Wide Range of Packaging Options.

Description & application:

COMWELD 965 Solder is a tin / silver eutectic solder which has the highest strength of all soft solders. Due to it's high strength, good electrical and thermal conductivity, non toxicity (lead, zinc and cadmium free) and also the fact that it remains bright and shiny, make COMWELD 965 Solder the most universal of soft solders. Comweld 965 Solder is used for the joining and repair of copper, bronze, brass, nickel, monel, steel, stainless steel, pewter, chrome plate, metal sculpture, model making, costume jewellery and or a combination of metals with the exception of aluminium and magnesium.

Classifications:

AS 1834 Part 1: 96.5Sn/3.5Ag

Colour Code & Identification:
Blue labels & backing cards

Joining Process:
Soldering only
Soldering iron bit temperature: 281˚C

Typical Rod Analysis:
Sn: 96.5% (Tin) Ag: 3.5% (Silver)

Typical Properties:

Tensile strength	60 MPa
Density	7.5g/cm^3
Approx. melting point	220˚C
Electrical conductivity	17% IACS

Packaging Data:

Rod/Wire Size mm	Pack Weight/Type	Part No.
3.2	250g solid wire	322320
1.6	500g solid wire	322321
1.6	250g acid core wire	322324
1.6	15g handipack coil acid core wire	322221

For procedure recommendations refer to Pocket Guide

COMWELD Metal Mate Solder Kit

17% 220°C

- Highest Strength Soft Solder.
- Lead, Zinc and Cadmium Free.
- Non Toxic Solder For Electrical, Surgical and Food Equipment Applications.

Colour Code & Identification:
Clear plastic jar, white lid & white label with blue print

Joining Process:
Soldering only
Soldering iron bit temperature: 281˚C

Typical Rod Analysis:
Sn: 96.5% (Tin) Ag: 3.5% (Silver)

Typical Properties:

Tensile strength	60 MPa
Density	7.5g/cm^3
Approx. melting point	220˚C
Electrical conductivity	17% IACS

Description & application:

COMWELD Metal Mate Solder Kit contains a 14 gram 965 solid solder coil complete with a 14 ml bottle of COMWELD 965 Soldering Flux which provides a very compact package suitable for all of the applications recommended for the standard Comweld 965 Soft Solder.

Classifications:

AS 1834 Part 1: 96.5Sn/3.5Ag

Packaging Data:

Rod/Wire Size mm	Pack Weight/Type	Part No.
1.6	1.6mm x 14g solid wire coiled around a 14ml bottle of 965 Soldering Flux	322690

For procedure recommendations refer to Pocket Guide

COMWELD Aluminium Flux

545°C

- For Fusion Welding Aluminium Alloys.
- Highest Quality Flux.
- Useable in either Powder or Paste Form.

Colour Code & Identification:
White powder in black plastic jars

Melting Point:
545˚C

Description & application:

COMWELD Aluminium Flux is an all purpose flux for fusion welding sheet and cast aluminium. It eliminates the need for a number of different types of aluminium welding fluxes being stocked to handle different types of aluminium welding alloys. COMWELD Aluminium Flux is recommended for use with the following COMWELD Aluminium welding rods, AL1188 (Pure), AL4043 (5% Silicon) and AL5356 (5% Magnesium).

Packaging Data:

Pack Weight/Type	Part No.
250g Black plastic jar	321740

For procedure recommendations refer to Pocket Guide

COMWELD Copper & Brass Flux

645°C

- For Universal Braze Welding Applications.
- Highest Quality Flux.
- Useable in either Powder or Paste Form.

Colour Code & Identification:
Pink powder in black plastic jars or drums

Melting Point:
645˚C

Description & application:

COMWELD Copper and Brass Flux is specially developed for the braze welding of copper, brass and bronze and the brazing of copper, steel, etc. COMWELD Copper and Brass Flux is particularly suitable for use with COMWELD Manganese Bronze, Tobin Bronze, Nickel Bronze and Silicon Bronze rods.

Packaging Data:

Pack Weight/Type	Part No.
250g Black jar	321822

For procedure recommendations refer to Pocket Guide

COMWELD Silver Brazing Flux No.2

450°C

- For Silver Brazing of Carbon Steel, Stainless Steels & Dissimilar Metals.
- Highest Quality Flux.
- Used in a Paste Form.

Colour Code & Identification:
White paste in either a black or white plastic jar

Melting Point:
450˚C

Description & application:

COMWELD Silver Brazing Flux No. 2 and Silver Brazing Alloys with a high silver content (42-50%) produce excellent joints on carbon steel, stainless steel, nickel alloys and copper and brass.

Dissimilar metals in the above groups can be easily brazed.
The flux is a good temperature indicator and will melt at the proper brazing temperature.

Packaging Data:

Pack Weight/Type	Part No.
200g Black jar	321840
500g Black jar	321841
3.5kg White plastic jar	321843

For procedure recommendations refer to Pocket Guide

COMWELD G.P. Silver Brazing Flux

485°C

- For Silver Brazing of Carbon Steel, Stainless Steels & Dissimilar Metals.
- Highest Quality Flux.
- Used in a Paste Form.

Colour Code & Identification:
White paste in either a black or white plastic jar

Melting Point:
485˚C

Description & application:

COMWELD General Purpose Silver Brazing Flux is recommended for use with Cadmium bearing and Cadmium free silver brazing alloys with a low to medium silver content (2-40%). It is an excellent flux for medium to high temperature brazing and has been specially formulated to be used for induction brazing. COMWELD General Purpose Silver Brazing Flux and the above mentioned silver brazing alloys produce excellent joints on carbon steel, stainless steel, nickel alloys and copper and brass.

Packaging Data:

Pack Weight/Type	Part No.
200g Black jar	321850
500g Black jar	321851
3.5kg White plastic jar	321853

For procedure recommendations refer to Pocket Guide

COMWELD 965 Soldering Flux

- For Use with all Comweld Soft Solders.
- Highest Quality Flux.
- Used in a Liquid Form Only.

Colour Code & Identification:
Pink liquid in black plastic bottles & drums

Description & application:

COMWELD 965 Soldering Flux, when used in conjunction with COMWELD Soft Solders, enables excellent joints to be made on almost all metals and combinations of metals. It is a very active flux and therefore, if used on copper, brass, bronze, etc. may be diluted if required in the ratio 1 part flux to 4 parts water.

Packaging Data:

Pack Weight/Type	Part No.
125ml Bottle	321890
1 litre Bottle	321894

For procedure recommendations refer to Pocket Guide

COMWELD Vapaflux

- For Braze Welding of Steel.
- Used with Comweld Manganese & Nickel Bronze Rods.
- Highest Quality Flux.
- Used in a Liquid Form Only.

Colour Code & Identification:
Clear liquid in a tin plate can

Flash Point (True Closed Cup):
17˚C

Description & application:

COMWELD Vapaflux provides an effective and time saving method of applying flux when braze welding steel. It is intended to be applied as vapour in the flame itself (the flux in the flame) and will impart a high fluidity to the bronze when deposited.

Packaging Data:

Pack Weight/Type	Part No.
19 litre tin plate can	321885

For procedure recommendations refer to Pocket Guide

Pocket Guide - Welding Consumables Reference

- The Total Welders Handbook
- Recommended Storage, Conditioning of Consumables.
- Total CIGWELD Welding Consumables Range.
- Welding of all materials.
- Joint Types.
- Welding Symbols.
- Technical Facts and Figures.

Packaging Data:

Pack Volume/Type	Part No.
1 Book	WCGuide

COMWELD Vapaflux

- For Braze Welding of Steel.
- Used with Comweld Manganese & Nickel Bronze Rods.
- Highest Quality Flux.
- Used in a Liquid Form Only.

Colour Code & Identification:
Clear liquid in a tin plate can

Flash Point (True Closed Cup):
17˚C

Description & application:

COMWELD Vapaflux provides an effective and time saving method of applying flux when braze welding steel. It is intended to be applied as vapour in the flame itself (the flux in the flame) and will impart a high fluidity to the bronze when deposited.

Packaging Data:

Pack Weight/Type	Part No.
19 litre tin plate can	321885

For procedure recommendations refer to Pocket Guide

Pocket Guide - Welding Consumables Reference

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- Welding Symbols.
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Packaging Data:

Pack Volume/Type	Part No.
1 Book	WCGuide

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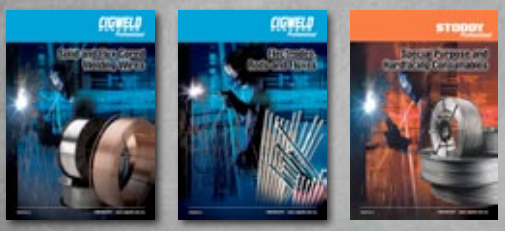

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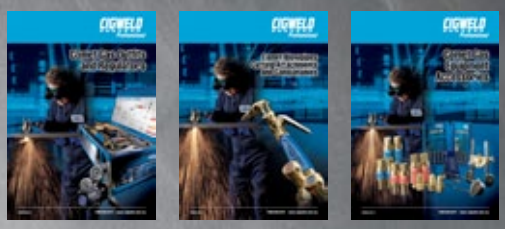

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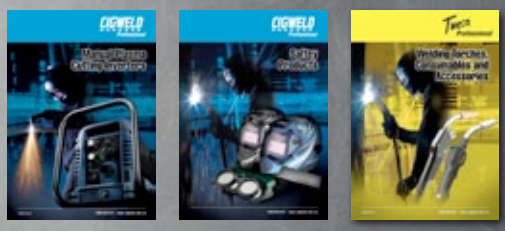

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