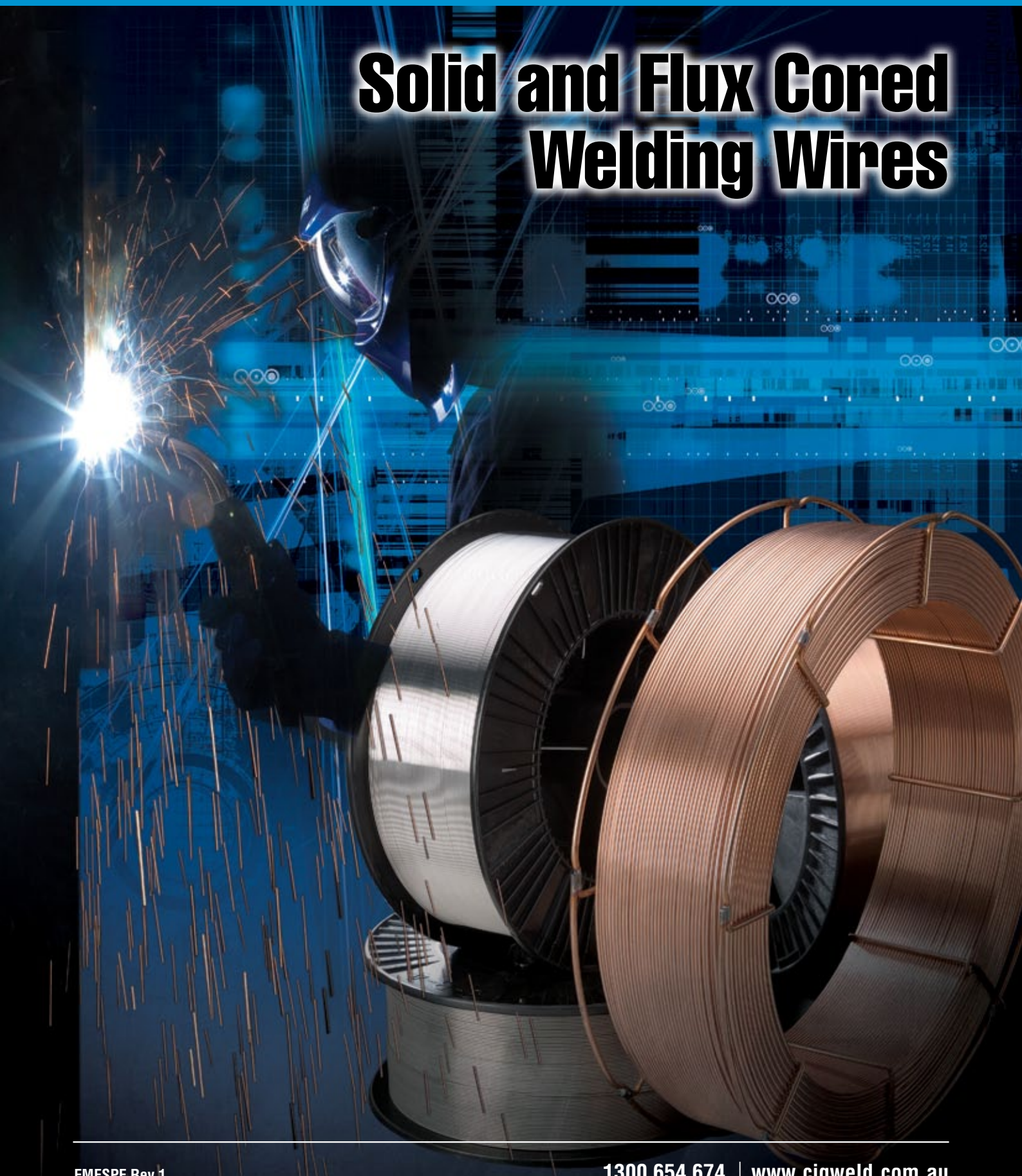
CIGWELD Professional

Solid and Flux Cored Welding Wires



1300 654 674 | www.cigweld.com.au

CIGWELD
Professional

Introduction

CIGWELD Professional: when welding is your business

At Victor Technologies 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 solid and Flux Cored (FC) welding wires offers an optimum solution for every welding application. The professional FC wire range, combining both fabricated seamed wires and copper-coated, very low hydrogen (H4) wires, is the most extensive range available in the market today.

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

KEY TO ICONS


Requires shielding gas


No shielding gas required

Direct current - electrode positive

Direct current - electrode negative

Direct current - electrode negative or positive


Suitable for overhead welding


Suitable for vertical up welding


Suitable for side horizontal welding


Suitable for HV (horizontal/vertical) fillet welding


Suitable for flat welding

Copper-coated seamless flux cored wire

Contents

Autocraft Copper Coated Solid Steel Welding Wires

Autocraft LW1-6

- A higher manganese/silicon steel wire for GMA Welding
- Use with CO_2 and Argon based shielding gases
- Wide range of minispool, handispool and Autopak packaging options
- Suitable for the positional Gas Metal Arc Welding (GMAW) of mild and low alloy steels, used in general fabrication and structural work.

Classifications:

AS/NZS 2717.1:	ES6-GC/M-W503AH.
AWS/ASME-SFA A5.18:	ER70S-6.

Packaging and Operating Data:

Wire Dia mm	Voltage Range (volts)	Wire Feed Speed (metres/min)	Current Range (amps)	Pack Type*	Pack Weight	Part No
0.6	12 – 14	3.5 – 14	35 – 100	Mini Spool (4 per pack)	4 x 0.8kg	721104
				Handi Spool	5kg	721108
				Spool	15kg	720103
0.8	14 – 22	3.5 – 14	50 – 180	Mini Spool (4 per pack)	4 x 0.8kg	721105
				Handi Spool	5kg	721109
				Spool	15kg	720114
0.9	15 – 26	3.5 – 15	70 – 230	Spool	15kg	720090
				AutoPak	250kg	720122A
1.0	16 – 29	3.5 – 15	100 – 280	Spool	15kg	720094
				AutoPak	250kg	720123A
1.2	18 – 32	2.5 – 15	120 – 350	Spool	15kg	720096
				AutoPak	250kg	720124A
1.6	18 – 34	2.5 – 10	180 – 390	Spool	15kg	720095
				AutoPak	350kg	720125A

* Mini Spool (ø100mm); Handi Spool (ø200mm); Spool (ø300mm); AutoPak (ø510mm x H.770mm).

AUTOPAK® Parts List:

AUTOPAK accessories "Standard Types".	Part No
Clear plastic AUTOPAK dome (510mm base diam. x 300mm height).	720001
AUTOPAK conduit assembly kit	720008
Robot cell conduit kit	720004

The advantages of AUTOPAK®

- Higher productivity from reduced downtime
- Straight/Twist free wire gives greater accuracy in the joint
- Smaller acceleration weight produces improved arc starting with less stress on wire-feed unite and less slippage and burn backs
- Fully enclosed pack and pay-off system protects against dust, dirt and moisture
- Compact and manoeuverable makes it easy to use in confined and restricted locations. Autopak takes up only 0.2m^2 of floor space.

TYPICAL ALL WELD METAL MECHANICAL PROPERTIES:

Welding Grade CO_2:	Argon 10-25% CO_2:
Yield Stress 420 MPa	390 MPa
Tensile Strength 520 MPa	500 MPa
Elongation 30%	31%
CVN Impact Val. 110 J @ -20°C	100 J @ -20°C

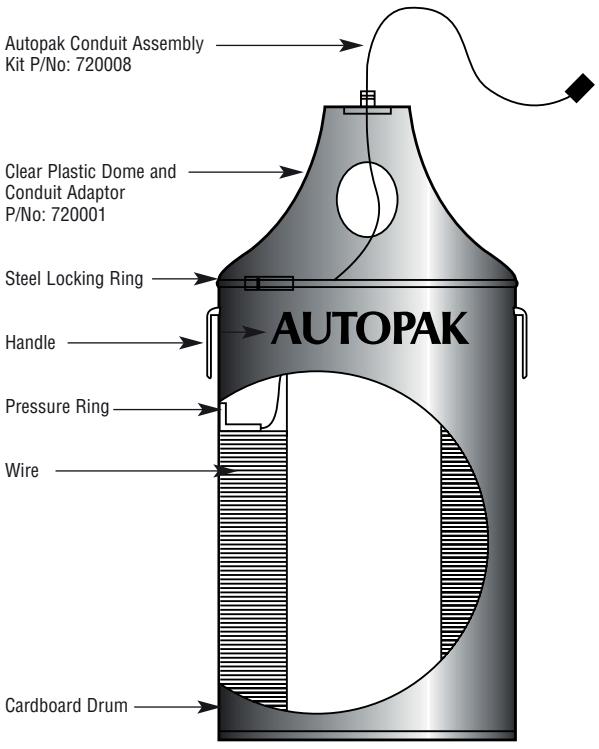
TYPICAL WIRE ANALYSIS:
C: 0.08% Mn: 1.55% Si: 0.88%
S: 0.010% P: 0.015%

TYPICAL DIFFUSIBLE HYDROGEN LEVELS TO AS3752:
1.0 - 2.0 mls of hydrogen / 100gms of deposited weld metal.

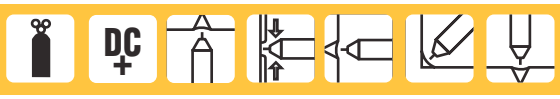
APPROVALS:
L.R.S. Grade 3S, 3YS
A.B.S. Grade 3SA
*Approvals do not include 0.6mm Autocraft LW1-6 wire

RECOMMENDED SHIELDING GAS:
- Argon + 10-15% CO_2 (or equivalent)
ISO14175: M14, M21, M24
- Argon + 10-25% CO_2 (or equivalent)
ISO14175: M21
- Argon + 5% CO_2 +3% O_2
ISO14175: M23
- Welding Grade CO_2
ISO14175: C1

COMPARABLE CIGWELD PRODUCTS:
Comweld LW1-6 TIG rod
Comweld LW1 TIG rod
Verti-Cor 3XP FCAW
Metal-Cor XP FCAW



Autocraft LW1



- A Premium Quality Low Carbon Steel Wire for GMA Welding.
- Suitable for the all positional multi-pass Gas Metal Arc welding of mild, low alloy and medium strength steels, as used in general fabrication, pressure vessels and structural work.

Classifications:

AS/NZS 2717.1:	ES4-GC/M-W503AH.
AWS/ASME-SFA A5.18:	ER70S-4.

Packaging and Operating Data:

Wire Dia mm	Voltage Range (volts)	Wire Feed Speed (metres/min)	Current Range (amps)	Pack Type*	Pack Weight	Part No
0.9	15 – 26	3.5 – 15	70 – 230	Spool	15kg	720115
1.2	18 – 32	2.5 – 15	120 – 350	Spool	15kg	720116

* Spool (ø300mm);

TYPICAL ALL WELD METAL MECHANICAL PROPERTIES:

Welding Grade CO_2:	Argon 10-25% CO_2:
Yield Stress 420 MPa	440 MPa
Tensile Strength 520 MPa	530 MPa
Elongation 30%	31%
CVN Impact Val. 110 J @ -20°C	100 J @ -20°C

TYPICAL WIRE ANALYSIS:
C: 0.08% Mn: 1.16% Si: 0.70%
S: 0.010% P: 0.015%

TYPICAL DIFFUSIBLE HYDROGEN LEVELS TO AS3752:
1.0 - 2.0 mls of hydrogen / 100gms of deposited weld metal.

APPROVALS:
L.R.S. Grade 3S
A.B.S. Grade 3SA

RECOMMENDED SHIELDING GAS:
- Argon + 10-15% CO_2 (or equivalent)
- Argon + 10-25% CO_2 (or equivalent)
- Argon + 5% CO_2 +3% O_2
- Welding Grade CO_2

COMPARABLE CIGWELD PRODUCTS:
Comweld LW1 TIG rod
Comweld LW1-6 TIG rod
Verti-Cor 3XP FCAW
Supre-Cor 5 FCAW

Autocraft Super Steel

- A Low Carbon, Triple Deoxidised Steel Wire for GMA Welding.
- For use with Welding Grade CO_2 or Argon Based Shielding Gases.
- Triple Deoxidised for Superior Weld Deposit Quality and Resistance to Porosity.
- The ideal choice for the welding of rusty or mill scaled plates and pipes and the root pass welding of pipes, tanks, and heavy walled joints.

Classifications:

AS/NZS 2717.1:	ES2-GC/M-W503AH.
AWS/ASME-SFA A5.18:	ER70S-2.

Packaging and Operating Data:

Wire Dia mm	Voltage Range (volts)	Wire Feed Speed (metres/min)	Current Range (amps)	Pack Type*	Pack Weight	Part No
1.2	18 – 32	2.5 – 15	120 – 350	Spool	15kg	720054

* Spool (ø300mm);

TYPICAL ALL WELD METAL MECHANICAL PROPERTIES:

	Argon 20-25% CO_2:
Yield Stress	425 MPa
Tensile Strength	520 MPa
Elongation	34%
CVN Impact Values	75 J av @ -20°C

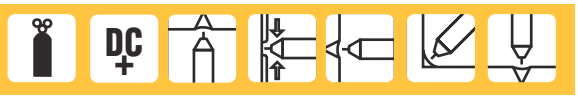
TYPICAL WIRE ANALYSIS:
C: 0.05% Mn: 1.10% Si: 0.55%
Ti: 0.10% Zr: 0.06% Al: 0.08%
S: 0.007% P: 0.008% Fe: Balance

TYPICAL DIFFUSIBLE HYDROGEN LEVELS TO AS3752:
1.0 - 2.0 mls of hydrogen / 100gms of deposited weld metal.

RECOMMENDED SHIELDING GAS:
- Argon + 10-25% CO_2
- Argon + 1-3% O_2
- Welding Grade CO_2

COMPARABLE CIGWELD PRODUCTS:
Comweld Super Steel TIG rod

Autocraft Mn-Mo



- A Manganese Molybdenum Steel Wire for the GMA Welding of Higher Strength steels.
- For Use with Welding Grade CO_2 or Argon Based Shielding Gases.
- 550 MPa Tensile Class Weld Deposits.
- Suitable for the all positional fillet and butt welding of a wide range of higher strength steels, particularly those used in the fabrication of pressure vessels, boilers and pipelines.

Classifications:

AS/NZS 2717.1:	ESD2-GC/M-W559AH.
AWS/ASME-SFA A5.28:	ER80S-D2.

Packaging and Operating Data:

Wire Dia mm	Voltage Range (volts)	Wire Feed Speed (metres/min)	Current Range (amps)	Pack Type*	Pack Weight	Part No
0.9	16 – 28	3.5 – 15	70 – 230	Spool	15kg	720049
1.2	18 – 32	3.5 – 15	120 – 350	Spool	15kg	720052

* Spool (ø300mm);

TYPICAL ALL WELD METAL MECHANICAL PROPERTIES:

	Argon 20-25% CO_2:
Yield Stress	580 MPa
Tensile Strength	680 MPa
Elongation	24%
CVN Impact Values	80J av @ +20°C

TYPICAL WIRE ANALYSIS:
C: 0.08% Mn: 1.73% Si: 0.65%
Mo: 0.45% S: 0.011% P:0.017%

TYPICAL DIFFUSIBLE HYDROGEN LEVELS TO AS3752:
1.0 - 2.0 mls of hydrogen / 100gms of deposited weld metal.

RECOMMENDED SHIELDING GAS:
- Argon + 20-25% CO_2
- Argon + 1-3% O_2
- Welding Grade CO_2

Autocraft Copper Coated Solid Steel Welding Wires

Autocraft NiCrMo

- A low alloy steel wire for the GMA welding of high strength steels
- For use with welding grade CO2 or Argon based shielding gases
- 760MPa tensile class weld deposits
- Suitable for all positional fillet and butt welding of a wide range of high strength steels, particularly quenched and tempered types such as Bisalloy 80, USS-T1 types and Welten 80C etc.

Classifications:

AS/NZS 2717.1:	ESMG-GC/M-W769AH.
AWS/ASME-SFA A5.28:	ER110S-G.

Packaging and Operating Data:

Wire Dia mm	Voltage Range (volts)	Wire Feed Speed (metres/min)	Current Range (amps)	Pack Type*	Pack Weight	Part No
1.2	18 – 32	3.5 – 15	120 – 350	Spool	15kg	720053

* Spool (ø300mm);

TYPICAL ALL WELD METAL MECHANICAL PROPERTIES:

	Argon 1-3% CO_2:	Argon 10-25% CO_2:
Yield Stress	730 MPa	390 MPa
Tensile Strength	790 MPa	500 MPa
Elongation	17%	31%
CVN Impact Val.	130 J @ -29°C	72 J @ -29°C
CVN Impact Val.	80 J @ -51°C	50 J @ -51°C

TYPICAL WIRE ANALYSIS:

C: 0.08% Mn: 1.40% Si: 0.60%
Ni: 1.40% Cr: 0.40% Mo: 0.25%
V: 0.10%

TYPICAL DIFFUSIBLE HYDROGEN LEVELS TO AS3752:

1.0 - 2.0 mls of hydrogen / 100gms of deposited weld metal.

RECOMMENDED SHIELDING GAS:

- Argon + 10-25% CO_2
- Argon + 1-3% O_2
- Welding Grade CO_2

COMPARABLE CIGWELD PRODUCTS:

Verti-Cor 113 K3 H4 FCAW
Tensi-Cor 110T XP H4 FCAW

Autocraft CrMo1

- A low alloy steel wire for the GMA welding of matching Cr-Mo-steels
- Recommended for the GMA welding of 1/2Cr-1/2Mo, 1Cr-1/2Mo and 1 1/4Cr-1/2Mo steel pipes, plates and castings

Classifications:

AS/NZS 2717.1:	ESB2-GM-W559AH.
AWS/ASME-SFA A5.28:	ER80S-B2.

Packaging and Operating Data:

Wire Dia mm	Voltage Range (volts)	Wire Feed Speed (metres/min)	Current Range (amps)	Pack Type*	Pack Weight	Part No
1.2	18 – 32	3.5 – 15	120 – 350	Spool	15kg	720029

* Spool (ø300mm);

TYPICAL ALL WELD METAL MECHANICAL PROPERTIES:

	Argon 1-3% CO_2:
0.2% Proof Stress	500 MPa
Tensile Strength	600 MPa
Elongation	20%
CVN Impact Values	60J av @ +20°C

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

TYPICAL WIRE ANALYSIS:

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

TYPICAL DIFFUSIBLE HYDROGEN LEVELS TO AS3752:

1.0 - 2.0 mls of hydrogen / 100gms of deposited weld metal.

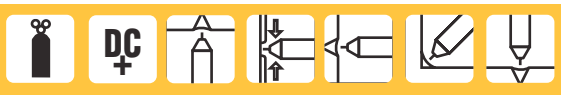
RECOMMENDED SHIELDING GAS:

- Argon + 20-25% CO_2
- Argon + 1-3% O_2

COMPARABLE CIGWELD PRODUCTS:

Alloycraft 80-B2 electrode
Comweld CrMo1 TIG rod

Autocraft 308LSi



- A steel wire for the GMA welding of 304 and 304L type stainless steels
- Recommended for the general welding of 210, 302, 321, 347, 409 and 444 type stainless steels

Classifications:

AS/NZS ISO 14343: (new)	B SS308LSi.
AS/NZS 2717.3: (old)	ES308LSi.
AWS/ASME-SFA A5.9:	ER308LSi.

Packaging and Operating Data:

These machine settings are a guide only. Actual voltage and welding current used will depend on machine characteristics, plate thickness, run size, shielding gas and operator technique, etc.

Wire Dia mm	Voltage Range (volts)	Wire Feed Speed (metres/min)	Current Range (amps)	Pack Type*	Pack Weight	Part No
0.9	16 – 24	4.5 – 15	70 – 200	Spool	15kg	721271
1.2	20 – 28	3.0 – 10	150 – 280	Spool	15kg	721272

* Spool (ø300mm);

TYPICAL ALL WELD METAL MECHANICAL PROPERTIES:

	Argon 1-3% CO_2:
0.2% Proof Stress	450 MPa
Tensile Strength	620 MPa
Elongation	36%
CVN Impact Values	90J av @ -60°C

TYPICAL WIRE ANALYSIS:

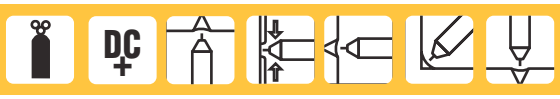
C: 0.02% Mn: 2.05% Si: 0.80%
Cr: 19.95% Ni: 10.25% P: 0.020%
S: 0.005% Fe: Balance

FERRITE NUMBER:
5–10 FN

RECOMMENDED SHIELDING GAS:
- Argon + 1-3% O_2
- Argon + 2-5% CO_2

COMPARABLE CIGWELD PRODUCTS:
Satincrome 308L-17 electrode
Comweld 308L TIG rod
Verticor 308L FCAW wire

Autocraft 309LSi



- A Stainless Steel Wire for the GMA Welding of 309 and 309L Type Stainless Steels.
- Also suitable for a wide range of other welding applications including: the dissimilar joining of "300 series" and stainless steel grades to mild or low alloy steels, an intermediate or buttering layer in the butt welding of clad steel.

Classifications:

AS/NZS ISO 14343: (new)	B SS309LSi.
AS/NZS 2717.3: (old)	ES309LSi.
AWS/ASME-SFA A5.9:	ER309LSi.

Packaging and Operating Data:

These machine settings are a guide only. Actual voltage and welding current used will depend on machine characteristics, plate thickness, run size, shielding gas and operator technique etc.

Wire Dia mm	Voltage Range (volts)	Wire Feed Speed (metres/min)	Current Range (amps)	Pack Type*	Pack Weight	Part No
0.9	16 – 24	4.5 – 15.0	70 – 200	Spool	15kg	721276
1.2	20 – 28	3.0 – 10.0	150 – 280	Spool	15kg	721277

* Spool (ø300mm);

TYPICAL ALL WELD METAL MECHANICAL PROPERTIES:

	Argon 1-3% CO_2:
0.2% Proof Stress	450 MPa
Tensile Strength	610 MPa
Elongation	36%
CVN Impact Values	90 J av @ -110°C

TYPICAL WIRE ANALYSIS:

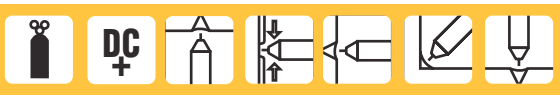
C: 0.02% Mn: 2.10% Si: 0.75%
Cr: 23.75% Ni: 13.75% P: 0.020%
S: 0.005% Fe: Balance

FERRITE NUMBER:
10 – 15 FN

RECOMMENDED SHIELDING GAS:
- Argon + 1-3% O_2
- Argon + 2-5% CO_2

COMPARABLE CIGWELD PRODUCTS:
Satincrome 309Mo-17 electrode
Comweld 309L TIG rod
Verticor 309LT FCAW wires

Autocraft 316LSi



- A Stainless Steel Wire for the GMA Welding of 316 and 316L Type Stainless Steels.
- Also suitable for the general welding of other 300 and 400 series stainless steels including 301, 302, 304/304L, 321, 347, 410 and 430.

Classifications:

AS/NZS ISO 14343: (new)	B SS316LSi.
AS/NZS 2717.3: (old)	ES316LSi.
AWS/ASME-SFA A5.9:	ER316LSi.

Packaging and Operating Data:

These machine settings are a guide only. Actual voltage and welding current used will depend on machine characteristics, plate thickness, run size, shielding gas and operator technique etc.

Wire Dia mm	Voltage Range (volts)	Wire Feed Speed (metres/min)	Current Range (amps)	Pack Type*	Pack Weight	Part No
0.8	16 – 20	5.0–15.0	60–150	Mini spool (4 per pack)	4 x 1kg	721285
0.9	16 – 24	4.5 – 15.0	70 – 200	Handi spool	5kg	720283
0.9	16 – 24	4.5 – 15.0	70 – 200	Spool	15kg	721286
1.0	16 –24	4.5 – 15.0	70 – 200	Spool	15kg	722386
1.2	20 –28	3.0 – 10.0	150 – 280	Spool	15kg	721287

* Mini spool (ø100mm); Handi spool (ø200mm); Spool (ø300mm).

TYPICAL ALL WELD METAL MECHANICAL PROPERTIES:

	Argon 1-3% CO_2:
0.2% Proof Stress	450 MPa
Tensile Strength	620 MPa
Elongation	36%
CVN Impact Values	90 J av @ -60°C

TYPICAL WIRE ANALYSIS:

C: 0.02% Mn: 2.05% Si: 0.80%
Cr: 19.95% Ni: 10.25% P: 0.020%
S: 0.005% Fe: Balance

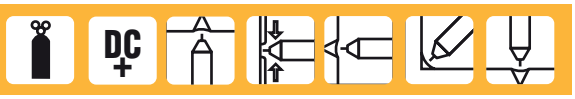
FERRITE NUMBER:
5 – 10 FN

RECOMMENDED SHIELDING GAS:
- Argon + 1-3% O_2
- Argon + 2-5% CO_2

COMPARABLE CIGWELD PRODUCTS:
Satincrome 316L-17 electrode
Comweld 316L TIG rod
Verticor 316LT wire

Autocraft Solid Aluminium Welding Wires

Autocraft AL1100



- A high purity aluminium wire for the GMA welding of selected wrought aluminium alloys.
- Recommended for the joining of selected high purity 1XXX series aluminium alloys used extensively in electrical and chemical industry applications.

Classifications:

AS/NZS ISO 18273: (new)	S Al 1200.
AS/NZS 2717.2: (old)	E1100.
AWS/ASME-SFA A5.10:	ER1050.

Packaging and Operating Data:

These machine settings are a guide only. Actual voltage and welding current used will depend on machine characteristics, plate thickness, run size, shielding gas and operator technique etc.

Wire Dia mm	Voltage Range (volts)	Wire Feed Speed (metres/min)	Current Range (amps)	Pack Type*	Pack Weight	Part No
1.6	23 – 28	5.0 – 9.5	200 – 350	Spool	7kg	722218
2.0	25 – 31	4.0 – 8.0	250 – 400	Spool	7kg	723218

* Spool (ø300mm);

TYPICAL ALL WELD METAL MECHANICAL PROPERTIES:
Single-vee butt weld with 1060 Aluminium (reduced section tensile specimen):

	Welding grade Argon:
0.2% Proof Stress	34.5 MPa
Tensile Strength	69.0 MPa
Elongation (in 2 inches)	29%

WIRE ANALYSIS LIMITS:
Si: 0.06% Fe: 0.06% Cu: 0.005%
Mn: 0.01% Mg: 0.01% Zn: 0.03%
Ti: 0.01% Total others: 0.01%
Al: 99.88% min.
* Single values are maximum allowable, unless otherwise stated.

RECOMMENDED SHIELDING GAS:
- Welding Grade Argon
- Argon + 25% He
- Helium + 25% Ar

COMPARABLE CIGWELD PRODUCTS:
Comweld AL1100

Autocraft AL4043

- An Aluminium -5% Silicon wire for GMA welding of selected wrought and cast Aluminium alloys.
- For the repair welding of Aluminium alloy castings (mainly 4XX and 6XX series).
- For welding selected wrought (1XXX, 5XXX and 6XXX series) Aluminium Alloys.

Classifications:

AS/NZS ISO 18273: (new)	S Al 4043.
AS/NZS 2717.2: (old)	E4043.
AWS/ASME-SFA A5.10:	ER4043.

Packaging and Operating Data:

These machine settings are a guide only. Actual voltage and welding current used will depend on machine characteristics, plate thickness, run size, shielding gas and operator technique etc. For 5XXX type welding wires use welding current settings on the higher side of the range specified below and arc voltages on the lower side of the range. For 1XXX, 2XXX and 4XXX type welding wires use welding current settings on the lower side of the specified range and arc voltages on the higher side.

Wire Dia mm	Voltage Range (volts)	Wire Feed Speed (metres/min)	Current Range (amps)	Pack Type*	Pack Weight	Part No
1.2	20 – 25	5.5 – 12.0	150-250	Spool	7kg	722237
1.6	23 – 28	5.0 – 9.5	200-350	Spool	7kg	722238

* Spool (ø300mm);

TYPICAL ALL WELD METAL MECHANICAL PROPERTIES:
Single-vee butt weld with 6061-T6 Aluminium (reduced section tensile specimen) using welding grade Argon:

	As welded:	Postweld heat treated & aged:
0.2% Proof Stress	124 MPa	276 MPa
Tensile Strength	186 MPa	303 MPa
Elongation (in 2 inches)	8%	5%

WIRE ANALYSIS LIMITS:
Single values are maximum allowable, unless otherwise stated.
Si: 4.5–6.0% Fe: 0.80% Cu: 0.30%
Mn: 0.05% Mg: 0.05% Zn: 0.10%
Ti: 0.20% Total others: 0.15%
Al: Balance

RECOMMENDED SHIELDING GAS:
- Welding Grade Argon
- Argon + 25% He
- Helium + 25% Ar

COMPARABLE CIGWELD PRODUCTS:
Comweld AL4043

APPROVALS:
Det Norske Veritas (DNV)
Lloyds Register of Shipping (LRS)
American Bureau of Shipping (ABS)

Autocraft AL5356

- An Aluminium -5% Magnesium wire for the GMA welding of a wide range of wrought and cast Aluminium alloys containing magnesium.

Classifications:

AS/NZS ISO 18273: (new)	S Al 5356.
AS/NZS 2717.2: (old)	E5356.
AWS/ASME-SFA A5.10:	ER5356.

Packaging and Operating Data:

These machine settings are a guide only. Actual voltage and welding current used will depend on machine characteristics, plate thickness, run size, shielding gas and operator technique etc. For 5XXX type welding wires use welding current settings on the higher side of the range specified below and arc voltages on the lower side of the range. For 1XXX, 2XXX and 4XXX type welding wires use welding current settings on the lower side of the specified range and arc voltages on the higher side.

Wire Dia mm	Voltage Range (volts)	Wire Feed Speed (metres/min)	Current Range (amps)	Pack Type*	Pack Weight	Part No
0.8	14 – 21	6.0 – 20.0	50 – 150	Mini Spool (4 per pack)	4 x 0.5kg	721221
0.9	16 – 22	6.0 – 17.5	80 – 180	Spool	7kg	722226
1.0	17 – 23	6.0 – 16.5	110 – 220	Spool	7kg	722224
1.0	17 – 23	6.0 – 16.5	110 – 220	Handi Spool	2.0kg	723224
1.2	20 – 25	5.5 – 12.0	150 – 250	Spool	7kg	722227

* Spool (ø300mm);

TYPICAL ALL WELD METAL MECHANICAL PROPERTIES:
Single-vee butt weld with 5086 Aluminium (reduced section tensile specimen):
Welding grade Argon:

0.2% Proof Stress	130 MPa
Tensile Strength	269 MPa
Elongation (in 2 inches)	17%

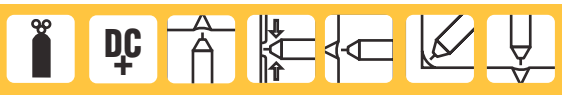
WIRE ANALYSIS LIMITS:
Single values are maximum allowable, unless otherwise stated.
Si: 0.25% Fe: 0.40% Cu: 0.10%
Mn: 0.05–0.2% Mg: 4.5–5.5%
Cr: 0.05–0.20% Zn: 0.10%
Ti: 0.06–0.20% Total others: 0.15%
Al: Balance

RECOMMENDED SHIELDING GAS:
- Welding Grade Argon
- Argon + 25% He
- Helium + 25% Ar

COMPARABLE CIGWELD PRODUCTS:
Comweld AL5356
AWS R5356

APPROVALS:
Det Norske Veritas (DNV)
Lloyds Register of Shipping (LRS)
American Bureau of Shipping (ABS)

Autocraft AL5183



- For GMAW welding of wrought and cast aluminium alloys containing magnesium.
- Superior surface cleanliness for improved resistance to porosity.

Classifications:

AS/NZS ISO 18273: (old)	S Al 5183.
AS 2717.2: (new)	E5183.
AWS/ASME-SFA A5.10:	ER5183.

Packaging and Operating Data:

Wire Dia mm	Voltage Range (volts)	Wire Feed Speed (metres/min)	Current Range (amps)	Pack Type*	Pack Weight	Part No
1.0	17 – 23	6.0 – 16.5	110 – 220	Spool	7kg	722239
1.2	20 – 25	5.5 – 12.0	150 – 250	Spool	7kg	722240

* Spool (ø300mm);

TYPICAL ALL WELD METAL MECHANICAL PROPERTIES:
Single-vee butt weld with 5083 Aluminium (reduced section tensile specimen)
Welding grade Argon:

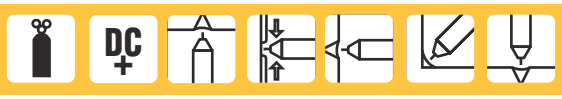
0.2% Proof Stress	152 MPa
Tensile Strength	297 MPa
Elongation (in 2 inches)	16%

WIRE ANALYSIS LIMITS:
Single values are maximum allowable, unless otherwise stated.
Si: 0.40% Fe: 0.40% Cu: 0.10%
Mn: 0.5-1.0% Mg: 4.3-5.2%
Cr: 0.05-0.25%
Zn: 0.25% Ti: 0.15%
Total others: 0.15%
Al: Balance

RECOMMENDED SHIELDING GAS:
- Welding Grade Argon
- Argoshield 80T or Ar + 25% He or equivalent gases
- Argoshield 81T or He + 25% Ar or equivalent gases
- EN439: I1 & I3 shielding gases

APPROVALS:
Det Norske Veritas (DNV)
Lloyds Register of Shipping (LRS)
American Bureau of Shipping (ABS)

Autocraft Deoxidised Copper



- A high Copper alloy for GMA Joining and overlay applications.
- Fabricating deoxidised copper and electrolytic pitch copper components.
- Repair of Copper castings.
- Lower strength welding of galvanised steels and deoxidised copper to mild steel joints.
- Typical applications include the GMA welding of copper transformer connectors, copper bus bars, billet molds and heater elements etc.

Classifications:

AWS/ASME-SFA A5.7:	ERCu.

Packaging and Operating Data:

These machine settings are a guide only. Actual voltage and welding current used will depend on machine characteristics, plate thickness, run size, shielding gas and operator technique etc.

Wire Dia mm	Voltage Range (volts)	Wire Feed Speed (metres/min)	Current Range (amps)	Pack Type*	Pack Weight	Part No
1.6	28 – 32	5.5 – 11.5	160 – 380	Spool	13kg	720260

* Spool (ø300mm).

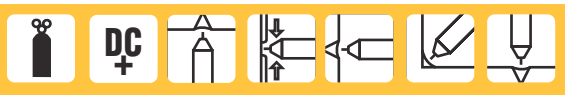
TYPICAL ALL WELD METAL MECHANICAL PROPERTIES:
Welding grade Argon:

0.2% Proof Stress	55 MPa
Tensile Strength	200 MPa
Elongation (in 2 inches)	30%
Electrical Conductivity	40% IACS
Hardness	55 HB
Weld Metal Density	7.47 x 10^3 kg/m^3

WIRE ANALYSIS LIMITS:
Mn: 0.5% Si: 0.5% P: 0.15%
Sn: 1.0% Cu: 98.0% min Others: 0.50%
Single values are maximum allowable, unless otherwise stated.

RECOMMENDED SHIELDING GAS:
- Welding Grade Argon
- Argon + 25% He
- Helium + 25% Ar

Autocraft Silicon Bronze



- A Copper based wire for the GMA welding of Copper-Silicon alloys including Cusilman and Everdur.
- Used for the lower strength welding of steels.
- Extensively used for the GMA welding of Copper-Silicon alloys used in hot water systems, heat exchangers, calorifiers and marine components for their corrosion resistance.

Classifications:

AWS/ASME-SFA A5.7:	ERCuSi–A.

Packaging and Operating Data:

These machine settings are a guide only. Actual voltage and welding current used will depend on machine characteristics, plate thickness, run size, shielding gas and operator technique etc.

Wire Dia mm	Voltage Range (volts)	Wire Feed Speed (metres/min)	Current Range (amps)	Pack Type*	Pack Weight	Part No
0.8	15 – 20	4.5 – 10.5	65 – 150	Handispool	5kg	720159
0.9	21 – 26	7.5 – 14.5	100 – 250	Spool	13kg	720015
1.2	22 – 28	5.5 – 11.5	160 – 380	Spool	13kg	720255

* Spool (ø300mm);

TYPICAL ALL WELD METAL MECHANICAL PROPERTIES:
Welding grade Argon:

0.2% Proof Stress	170 MPa
Tensile Strength	380 MPa
Elongation (in 2 inches)	50%

TYPICAL WIRE ANALYSIS:
Fe: 0.25% Mn: 1.0% Si: 3.40%
Sn: 0.90% Zn: 0.90% Cu: Balance

RECOMMENDED SHIELDING GAS:
- Welding Grade Argon
- Argon + 10-25% CO_2
- Argon + 0-3% O_2
- Helium + 25% Ar

TYPICAL WELD DEPOSIT HARDNESS WITH ARGON +10-15% CO_2 :

	HR_B
Three Layers on Mild Steel	48

COMPARABLE CIGWELD PRODUCTS:
Comweld Silicon Bronze rod
AWS A5.7: ERCuSi–A

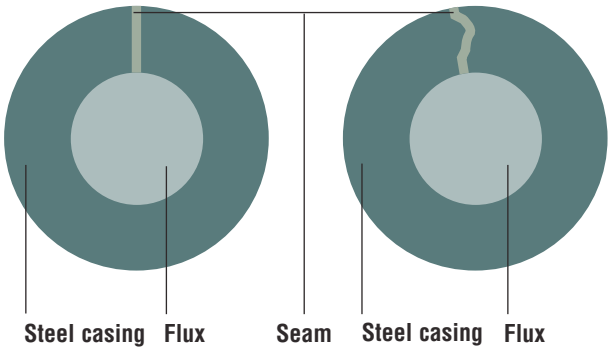
Flux Cored Welding Wires

Why choose Flux Cored over Solid wire?

Flux Cored Welding wires, have several distinct advantages over solid wires:

- **Higher deposition rates.** Cored wires have less cross sectional area than solid wires of equivalent diameter, therefore the welding current is applied to a smaller area resulting in higher current density, higher melt off rates and a more forceful arc column.
- **All positional capabilities.** Most types of Flux Cored wires have slag systems similar to that of a conventional manual arc electrode enabling out of position Welding. One of the functions of the slag is to support the solidifying Weld Metal allowing for higher Welding currents, greater depth of fusion and higher travel speeds which all translate to increased productivity.
  Solid wires on the other hand typically require lower current levels to perform out of position Welds. Usually the “short circuit” or “Dip” transfer mode is used. This results in a lower level of fusion and greatly reduced deposition when welding out of position.
- **Better fusion profiles.** The higher current density of Flux Cored wires results in a more forceful Arc column creating a greater depth of fusion (particularly with CO2 shielding gas) and improved fusion profiles. This translates to a more suitable shape of the fusion zone and greater effective throat thickness on Fillet Welds.
- **Ease of operation.** The CIGWELD Flux Cored Wire range represents the most user- friendly range of wires on the market today. Operator training for out of position Welding is greatly reduced compared to that required for Solid wire.
- **Greatly increased range of Alloy types.** Since the Alloying elements are introduced to the wire during manufacture a broad selection can be produced by adjusting the flux ingredients.

Seamed flux cored wire



Seamed and seamless wires

Conventional (seamed) Flux Cored Welding wires are produced from a flat strip of steel that is roll formed into a “U” shaped section and flux ingredients are carefully metered into the section before it passes through closing rolls completing the tubular shape and compressing the granular flux inside. The closed wire is then drawn through finishing dies to achieve the required final diameter.

Seamless wires can be made in two common ways, the most popular is to begin with a larger diameter seamless tube, and meter the flux ingredients into the tube before drawing to size, annealing and Copper coating. The other method begins much the same as a conventional seamed wire but the seam is welded closed before drawing down to size.

The closed and protected nature of seamless wires offers significant benefits in control of diffusible Hydrogen in the weld deposit by offering much greater resistance to moisture pickup. The high temperature annealing and Copper coating offer additional benefits by increasing electrical conductivity, enhancing feedability and improving shelf life of the wire.

Features & Benefits

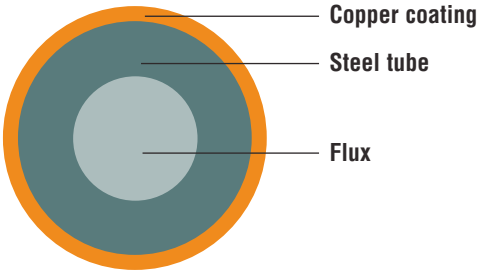
Seamed Flux Cored Wires

- Ease and speed of manufacture
- Lower cost of manufacture
- Good feedability
- Excellent welding characteristics
- Excellent operator appeal

Seamless Flux Cored Wires

- Greatly improved control of diffusible Hydrogen:
  AWS H4 / AS H5 classifications
- Greatly reduced moisture absorption
- Greatly reduced susceptibility to Hydrogen induced cracking
- Outstanding welding characteristics
- Excellent operator appeal
- Excellent feedability
- Excellent electrical conductivity
- Greater rust resistance
- Improved targetability
- Reduced wear on tips and liners

Seamless flux cored wire



Flux cored wire types

Rutile Types: the most widely used gas shielded flux cored wires are those which contain Rutile as the major core ingredient. These wires exhibit excellent arc characteristics, good bead shapes, excellent slag detachability and minimal spatter.

Several of the Cigweld Rutile type wires are formulated for use with both CO_2 and Argon based Mixed shielding gases.

The most common types found in the Australian market today are AWS Classification: T-1, T-9, & T-12 class wires.

Basic Types: principally use Calcium Fluoride and Calcium Carbonate as their main flux ingredients. These ingredients help to provide a weld metal that is relatively clean and low in Oxygen content for superior impact toughness and ductility.

These basic elements are not as easily ionized in the arc resulting in a harsher arc with higher spatter levels than those of Rutile type wires. The presence of the Fluorides lowers the “pick up” of Hydrogen in the Weld metal therefore Basic wires are characterized by very low Diffusible Hydrogen levels. Typically less than 3mls per 100g of deposited Weld metal.

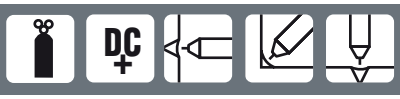
Metal Cored: wires are composed mainly of Iron Powder with minor additions of alloying elements, de-oxidants, and arc stabilizers. These wires are designed to operate primarily with Argon based shielding gases in spray transfer and produce very little slag coverage.

These wires are best compared to solid steel wires in their application but offer the benefits of superior deposition rates and improved fusion profiles.

Low Alloy: wires can be rutile, basic or metal cored in construction. As tensile strength increases these wires tend to be either basic or metal cored for greater assurance of control of diffusible Hydrogen levels in the weld deposit.

Flux Cored Welding Wires for Mild Steel, Low Alloy Steels & Cast Iron

Satin-Cor XP



- A rutile type flux cored wire formulated exclusively for CO_2 shielding gas.
- For high speed, downhand welding applications.
- Excellent operator appeal.
- Superior fillet shape and slag lift.
- Recommended for the downhand fillet welding of structural steels of 6mm thickness or heavier.

Classifications:

AS/NZS ISO 17632: (new)	B T 49 2 T1 0 C A H10.
AS/NZS 2203.1: (old)	ETD-GCp-W502A. CM1 H10.
AWS/ASME-SFA A5.20:	E70T-1H8.
1.6mm ONLY:	
AS/NZS ISO 17632: (new)	B T 49 2 T1 0 C A H10.
AS 2203.1: (old)	ETD-GCp-W502A. CM1 H10.
	ETD-GMp-W502A. CM1 H10.
AWS/ASME-SFA A5.20:	E70T-1H8, E70T-1M H8

Operating Data:

All welding conditions recommended below are for use with semi-automatic operation, DC electrode positive and welding grade CO_2 shielding gas with a flow rate of 15-20 litres/min.

Wire Dia mm	Current Range (amps)	Voltage Range (volts)	Electrode Stickout (ESO)	Optimum Amps	Volts	Welding Positions
1.6	350 – 450	28 – 33	25 – 30	380	30	Flat
2.4	400 – 550	28 – 33	25 – 35	450	30	
1.6	300 – 400	26 – 30	25 – 30	330	29	HV Fillet
2.4	350 – 450	26 – 30	25 – 30	400	29	
1.6	270 – 350	25 – 29	25 – 30	300	28	Horizontal
2.4	320 – 420	25 – 29	25 – 30	360	28	

These machine settings are a guide only. Actual voltage, welding current and E.S.O. used will depend on machine characteristics, plate thickness, run size, shielding gas and operator technique etc.

TYPICAL ALL WELD METAL MECHANICAL PROPERTIES:

	CO_2:	Ar +20-25% CO_2:
Yield Stress.	430 MPa	465 MPa(1.6mm)
Tensile Strength	560 MPa	550 MPa
Elongation	25%	26%
CVN Impact Values	84Jav@0°C	70J av @0°C

TYPICAL ALL WELD METAL ANALYSIS:
USING CO_2
C: 0.04% Mn: 1.4% Si: 0.41%
USING Argon + 20-25% CO_2 (1.6mm only)
C: 0.05% Mn: 1.65% Si: 0.61%

RECOMMENDED SHIELDING GASES:
Welding Grade CO_2 ISO14175: C1
Argon + 20-25% CO_2 or equivalent
1.6mm only ISO14175: M21

TYPICAL DIFFUSIBLE HYDROGEN LEVELS TO AS3752:
5-6 mls of hydrogen/100gms of deposited weld metal *.
*for "as manufactured" product using welding grade CO_2 shielding gas.

APPROVALS*:
LRS Grade 2S, 2YS
ABS Grade 2YSA H10
DNV Grade IIIYM
*with welding grade CO_2 shielding gas.

Packaging Data:

Wire Dia mm	Pack Type*	Pack Weight	Part No
1.6	Spool	15kg	720904
2.4	Coil	25kg	720906

* Spool (ø300mm);

Verti-Cor Ultra

- A rutile type flux cored wire formulated exclusively for CO_2 shielding gas.
- Versatile, all positional capabilities.
- Excellent operator appeal.
- Grade 2 Shipping Society approvals.
- Low spatter and fume levels.
- Designed for the single and multi-pass welding of mild and medium strength steels in the downhand, vertical-up and overhead positions.

Classifications:

AS/NZS ISO 17632: (new)	B T 49 2 T11C A H10.
AS/NZS 2203.1: (old)	ETP-GCp-W502A. CM1 H10.
AWS/ASME-SFA A5.20:	E71T-1H8.

Operating Data:

All welding conditions recommended below are for use with semi-automatic operation, DC electrode positive and welding grade CO_2 shielding gas with a flow rate of 15-20 litres/min.

Wire Dia mm	Current Range (amps)	Voltage Range (volts)	Electrode Stickout (ESO)	Optimum Amps	Volts	Welding Positions
1.2	250 – 300	27 – 31	20 – 25	250	28	Flat
1.6	350 – 400	27 – 31	25 – 30	300	29	
1.2	230 – 280	26 – 30	20 – 25	230	27	HV Fillet
1.6	310 – 360	26 – 30	25 – 30	270	27	
1.2	170 – 220	24 – 28	15 – 20	190	24	Vertical up
1.6	200 – 250	24 – 28	15 – 20	210	25	
1.2	160 – 210	24 – 28	15 – 20	215	26	Overhead
1.6	190 – 240	24 – 28	15 – 20	250	27	

These machine settings are a guide only. Actual voltage, welding current and E.S.O. used will depend on machine characteristics, plate thickness, run size, shielding gas and operator technique etc.

TYPICAL ALL WELD METAL MECHANICAL PROPERTIES:

	Using welding grade CO_2:
Yield Stress	480 MPa
Tensile Strength	560 MPa
Elongation	28%
CVN Impact Values	80 J av @ 0°C.

TYPICAL ALL WELD METAL ANALYSIS USING CO_2 SHIELDING GAS:
C: 0.04% Mn: 1.24% Si: 0.70%
Ti: 0.035% B: 0.005%.

TYPICAL DIFFUSIBLE HYDROGEN LEVELS TO AS3752:
5-6 mls of hydrogen / 100gms of deposited weld metal *.
*for "as manufactured" product using welding grade CO_2 shielding gas.

APPROVALS*:
LRS Grade 2S, 2YS H15.
ABS Grade 2YSA H10.
DNV IIYMS H10.
*with welding grade CO_2 shielding gas.

RECOMMENDED SHIELDING GAS:
• Welding Grade CO_2

Packaging Data:

Wire Dia mm	Pack Type*	Pack Weight	Part No
1.2	Spool	15kg	720900
1.6	Spool	15kg	720902

* Spool (ø300mm);

CIGWELD Professional

Flux Cored Welding Wires for Mild Steel, Low Alloy Steels & Cast Iron

Verti-Cor XP

- Versatile, smooth running, general purpose, rutile type flux cored wire
- Now with Grade 3 Shipping Society approvals on mixed gas and CO2
- Excellent operator appeal.
- All positional capabilities

Classifications:

AS/NZS ISO 17632: (new)	B T 49 2 T1 1 C A U H10. B T 49 2 T1 1 M A U H10.
AS/NZS 2203.1: (old)	ETP-GMp-W503A. CM1 H10. ETP-GCp-W503A. CM1 H10.
AWS/ASME-SFA A5.20:	E71T-1M H8; E71T-1 H8

Operating Data:

All welding conditions recommended below are for use with semi-automatic operation, DC electrode positive and welding grade CO_2 shielding gas with a flow rate of 15-20 litres/min.

Wire Dia mm	Current Range (amps)	Voltage Range (volts)	Electrode Stickout (ESO)	Optimum Amps	Volts	Welding Positions
1.2	150-250	23-28	15-20	-	-	
1.6	280-400	28-34	25-30	-	-	Flat
2.0	400-480	29-32	25-30	-	-	
1.2	150-200	23-28	15-20	-	-	
1.6	250-350	28-34	25-30	-	-	HV Fillet
2.0	350-400	27-31	25-30	-	-	
1.2	120-180	22-27	15-20	-	-	
1.6	200-250	23-27	20-25	-	-	Vertical Up
2.0	230-280	24-28	20-25			
1.2	140-180	22-27	15-20	-	-	
1.6	190-250	23-27	20-25	-	-	Overhead
2.0	220-260	23-27	20-25	-	-	

These machine settings are a guide only. Actual voltage, welding current and E.S.O. used will depend on machine characteristics, plate thickness, run size, shielding gas and operator technique etc.

TYPICAL ALL WELD METAL MECHANICAL PROPERTIES:

	CO_2:	Ar +20-25% CO_2:
Yield Stress.	510 MPa	550 MPa
Tensile Strength	600 MPa	630 MPa
Elongation	26%	26%
CVN Impact Values	60Jav@0°C	70J av @0°C

TYPICAL ALL WELD METAL ANALYSIS:
USING CO_2
C: 0.29% Mn: 1.35% Si: 0.42%
S: 0.012% P: 0.01%
USING Argon + 20-25% CO_2
C: 0.032% Mn: 1.44% Si: 0.59%
S: 0.001% P: 0.025%

RECOMMENDED SHIELDING GASES:
Welding Grade CO_2 ISO14175: C1
Argon + 20-25% CO_2 or equivalent ISO14175: M21; M24

TYPICAL DIFFUSIBLE HYDROGEN LEVELS TO AS3752:
5-6 mls of hydrogen/100gms of deposited weld metal *.
*for "as manufactured" product using welding grade CO_2 shielding gas.

APPROVALS*:
LRS Grade 3S, 3YS H10.
ABS Grade 3YSA H10.
DNV IIIYMS H10.
*with Argon + 20-25% CO_2 shielding gas and CO_2 shielding gas.

Packaging Data:

Wire Dia mm	Pack Type*	Pack Weight	Part No
1.2	Spool	15kg	720915
1.2	Autopak	200kg	720915A
1.6	Spool	15kg	720917
1.6	Autopak	200kg	720917A
2.0	Spool	15kg	720595
2.0	Coil	25kg	720596

* Spool (ø300mm);

Verti-Cor 3XP

- A microalloyed, rutile type flux cored wire.
- Versatile, all positional capabilities.
- Excellent operator appeal.
- Grade 3 Shipping Society approvals.
- Formulated to give smooth (low spatter) arc transfer, flat mitre fillet welds and excellent slag lift in all positions (except vertical-down), on a wide range of mild and medium strength steels.

Classifications:

AS/NZS ISO 17632: (new)	B T 49 3 T12 1 C A U H10. B T 49 3 T12 1 M A U H10.
AS/NZS 2203.1: (old)	ETP-GMp-W503A. CM1 H10. ETP-GCp-W503A. CM1 H10.
AWS/ASME-SFA A5.20:	E71T-1 H8 , E71T-12M H8.

Operating Data:

All welding conditions recommended below are for use with semi-automatic operation, DC electrode positive and welding grade CO_2 shielding gas with a flow rate of 15-20 litres/min.

Wire Dia mm	Current Range (amps)	Voltage Range (volts)	Electrode Stickout (ESO)	Optimum Amps	Volts	Welding Positions
1.2	250 – 300	27 – 31	20 – 25	280	31	Flat
1.6	350 – 400	27 – 31	25 – 30	360	31	
1.2	230 – 280	26 – 30	20 – 25	260	28	HV Fillet
1.6	310 – 360	26 – 30	25 – 30	320	29	
1.2	170 – 220	24 – 28	15 – 20	200	24	Vertical up
1.6	200 – 250	24 – 28	15 – 20	240	25	
1.2	160 – 210	24 – 28	15 – 20	200	24	Overhead
1.6	190 – 240	24 – 28	15 – 20	220	24	

These machine settings are a guide only. Actual voltage, welding current and E.S.O. used will depend on machine characteristics, plate thickness, run size, shielding gas and operator technique etc.

TYPICAL ALL WELD METAL MECHANICAL PROPERTIES:

	Using Ar+20-25% CO_2:	Using CO_2:
Yield Stress	480 MPa	460 MPa
Tensile Strength	560 MPa	530 MPa
Elongation	28%	30%
CVN, Impact Values	110J av @ 0°C. 90J av @ -20°C	90J av @ 0°C. 75J av @ -20°C

TYPICAL ALL WELD METAL ANALYSIS:
Using Argon +20-25% CO_2:
C: 0.07% Mn: 1.16% Si: 0.52%
Ti: 0.035% B: 0.008%
Using CO_2:
C: 0.06% Mn: 1.05% Si: 0.42%
Ti: 0.035% B: 0.007%

TYPICAL DIFFUSIBLE HYDROGEN LEVELS TO AS3752:
5–6 mls of hydrogen / 100gms of deposited weld metal *.
*for "as manufactured" product using Argoshield 52 shielding gas.

APPROVALS*:
LRS Grade 3S, 3YS H10.
ABS Grade 3YSA H5.
DNV IIIYMS H10.
*with Argon +20-25% CO_2 shielding gas combinations.

RECOMMENDED SHIELDING GASES:
- Argon + 10-20% CO_2
- Argon + 20-25% CO_2.
- Welding Grade CO_2

COMPARABLE CIGWELD PRODUCTS:
Autocraft LW1/LW1-6 GMAW
Ferrocraft 61 MMAW

Packaging Data:

Wire Dia mm	Pack Type*	Pack Weight	Part No
1.2	Spool	15kg	720919
1.6	Spool	15kg	720921

* Spool (ø300mm);

Flux Cored Welding Wires for Mild Steel, Low Alloy Steels & Cast Iron

Verti-Cor 3XP H4 - Seamless

- Next generation technology flux cored wire.
- Copper coated for smooth consistent feedability and current pick up.
- Rutile, all positional capabilities producing a flat mitre fillet bead shape.
- Ultra low splatter and fume levels.
- H4 diffusible hydrogen class with a typical weldmetal of 2.2 mls of hydrogen/100 gms
- Excellent operator appeal.
- Grade 3 Shipping Society Approvals.

Classifications:

AS/NZS ISO 17632: (new)	B T 49 3 T12 1 M A U H5.
AS/NZS 2203.1: (old)	ETP-GMp-W503A. CM1 H5.
AWS/ASME-SFA A5.20:	E71T-12M H4.

Operating Data:

All welding conditions recommended below are for use with semi-automatic operation, DC electrode positive and welding grade CO_2 shielding gas with a flow rate of 15-20 litres/min.

Wire Dia mm	Current Range (amps)	Voltage Range (volts)	Electrode Stickout (ESO)	Optimum Amps	Volts	Welding Positions
1.2	250 – 300	27 – 31	20 – 25	280	31	Flat
1.6	350 – 400	27 – 31	25 – 30	360	31	
1.2	230 – 280	26 – 30	20 – 25	260	28	HV Fillet
1.6	310 – 360	26 – 30	25 – 30	320	29	
1.2	170 – 220	24 – 28	15 – 20	200	24	Vertical up
1.6	200 – 250	24 – 28	15 – 20	240	25	
1.2	160 – 210	24 – 28	15 – 20	200	24	Overhead
1.6	190 – 240	24 – 28	15 – 20	220	24	

These machine settings are a guide only. Actual voltage, welding current and E.S.O. used will depend on machine characteristics, plate thickness, run size, shielding gas and operator technique etc.

TYPICAL ALL WELD METAL MECHANICAL PROPERTIES:
Using Argon +20-25% CO_2:

Yield Stress	510 MPa
Tensile Strength	570 MPa
Elongation	30%
CVN, Impact Values	105J av @ 20°C

TYPICAL ALL WELD METAL ANALYSIS:
Using Argon +20-25% CO_2:
C: 0.05% Mn: 1.25% Si: 0.43%
P: 0.009 S: 0.007

TYPICAL DIFFUSIBLE HYDROGEN LEVELS TO AS3752:
2.2 mls of hydrogen / 100gms of deposited weld metal *.
*for "as manufactured" product using Argon +20-25% CO_2.

APPROVALS*:

LRS	3S, 3YS H5
ABS	3YSA H5

* with Argon +20-25% CO_2 shielding gas combinations.

RECOMMENDED SHIELDING GASES:
- Argon + 20-25% CO_2.

Packaging Data:

Wire Dia mm	Pack Type*	Pack Weight	Part No
1.2	Spool	15kg	722919
1.6	Spool	15kg	722921

* Spool (ø300mm);

Flux Cored Welding Wires for Mild Steel, Low Alloy Steels & Cast Iron

Verti-Cor 81 Ni1

- A higher strength low alloy steel, rutile type flux cored wire
- Formulated for use with Argon +20-25% CO_2 shielding gases.
- Versatile, all positional capabilities.
- Excellent operator appeal.
- A Nominal 1% Nickel Steel deposit of the 550 MPa tensile class.
- Typical applications include the under matching strength fillet welding of Bisalloy 60, 70 and 80 quenched and tempered steels.

Classifications:

AS/NZS ISO 17632: (new)	B T 55 4 T1 1 M A N2 U H10.
AS/NZS 2203.1: (old)	ETP-GMp-W554A. Ni1 H10.
AWS/ASME-SFA A5.29:	E81T1-Ni1MH8

Operating Data:

All welding conditions recommended below are for use with semi-automatic operation, DC electrode positive and welding grade CO_2 shielding gas with a flow rate of 15-20 litres/min.

Wire Dia mm	Current Range (amps)	Voltage Range (volts)	Electrode Stickout (ESO)	Optimum Amps	Volts	Welding Positions
1.2	250 – 300	27 – 31	20 – 25	280	31	Flat
1.6	350 – 400	27 – 31	25 – 30	360	31	
1.2	230 – 280	26 – 30	20 – 25	260	28	HV Fillet
1.6	310 – 360	26 – 30	25 – 30	320	29	
1.2	170 – 220	24 – 28	15 – 20	200	24	Vertical up
1.6	200 – 250	24 – 28	15 – 20	240	25	
1.2	160 – 210	24 – 28	15 – 20	200	24	Overhead
1.6	190 – 240	24 – 28	15 – 20	220	24	

These machine settings are a guide only. Actual voltage, welding current and E.S.O. used will depend on machine characteristics, plate thickness, run size, shielding gas and operator technique etc.

TYPICAL ALL WELD METAL MECHANICAL PROPERTIES:

Using Argon +20-25% CO_2:

Yield Stress	520 MPa
Tensile Strength	600 MPa
Elongation	26%
CVN Impact Values	65J av @ -40°C

TYPICAL ALL WELD METAL ANALYSIS*:

C: 0.06% Mn: 1.35% Si: 0.35%
Ni: 0.90% Ti: 0.035% B: 0.007%.
*Using Argon +20-25% CO_2

TYPICAL DIFFUSIBLE HYDROGEN LEVELS TO AS3752:

5–6 mls of hydrogen / 100gms of deposited weld metal *.
*for "as manufactured" product using Argon +20-25% CO_2.

RECOMMENDED SHIELDING GAS:

- Argon + 20-25% CO_2

COMPARABLE CIGWELD PRODUCTS:

Alloycraft 80-C1 MMAW

Packaging Data:

Wire Dia mm	Pack Type*	Pack Weight	Part No
1.2	Spool	15kg	720390
1.6	Spool	15kg	720391

* Spool (ø300mm)

Verti-Cor 81 Ni2

- Higher strength, low alloy rutile type flux cored wire
- Formulated for use with Argon + 20-25% CO_2 or equivalent shielding gas
- Outstanding operator appeal
- Versatile all positional capabilities
- Low fume levels

Classifications:

AS/NZS ISO 17632: (new)	B T 55 4 T1 1 M A N5 U H10.
AS/NZS 2203.1: (old)	ETP-G/Mp-W554A Ni2 H10
AWS/ASME-SFA A5.29:	E81T1-Ni2M H8

Operating Data:

All welding conditions recommended below are for use with semi-automatic operation, DC electrode positive and welding grade CO_2 shielding gas with a flow rate of 15-20 litres/min.

Wire Dia mm	Current Range (amps)	Voltage Range (volts)	Electrode Stickout (ESO)	Optimum Amps	Volts	Welding Positions
1.2	250-300	27-31	20-25	280	30	Flat
1.6	350-400	27-31	25-30	360	31	
1.2	230-280	26-30	20-25	260	28	HV Fillet
1.6	310-360	26-30	25-30	320	29	
1.2	170-220	24-28	15-20	200	24	Vertical Up
1.6	200-250	24-28	15-20	240	25	
1.2	160-210	24-28	15-20	200	24	Overhead
1.6	190-240	24-28	15-20	220	24	

These machine settings are a guide only. Actual voltage, welding current and E.S.O. used will depend on machine characteristics, plate thickness, run size, shielding gas and operator technique etc.

TYPICAL ALL WELD METAL MECHANICAL PROPERTIES:

Using Argon +20-25% CO_2:

Yield Stress	590 MPa
Tensile Strength	660 MPa
Elongation	27%
CVN, Impact Values	70J av @ -40°C

TYPICAL ALL WELD METAL ANALYSIS:

Using Argon +20-25% CO_2:
C: 0.02% Mn: 1.16% Si: 0.51%
Ni: 2.0%

TYPICAL DIFFUSIBLE HYDROGEN LEVELS TO AS3752:

6-7 mls of hydrogen / 100gms of deposited weld metal *.
*for "as manufactured" product using Argon +20-25% CO_2.

RECOMMENDED SHIELDING GASES:

- Argon + 20-25% CO_2 or equivalent ISO14175: M21, M24

Packaging Data:

Wire Dia mm	Pack Type*	Pack Weight	Part No
1.2	Spool	15kg	722390
1.6	Spool	15kg	722391

* Spool (ø300mm)

Flux Cored Welding Wires for Mild Steel, Low Alloy Steels & Cast Iron

Verti-Cor 81 Ni1 H4

- Copper coated for smooth consistent feedability and enhanced current pick-up
- Higher strength, low alloy, rutile type flux cored wire
- Formulated for use with either Argon + 20-25% CO_2 or CO_2 shielding gases
- Outstanding operator appeal
- Versatile, all positional capabilities
- Low fume levels
- Precision layer wound

Classifications:

AS/NZS ISO 17632: (new)	B T 55 5 T1 1 C A N2 U H5. B T 55 5 T1 1 M A N2 U H5.
AS/NZS 2203.1: (old)	ETP-GC/Mp-W554A Ni1 H5
AWS/ASME-SFA A5.29:	E81T1-Ni1M H4; E81T1-Ni1 H4

Operating Data:

All welding conditions recommended below are for use with semi-automatic operation, DC electrode positive and welding grade CO_2 shielding gas with a flow rate of 15-20 litres/min.

Wire Dia mm	Current Range (amps)	Voltage Range (volts)	Electrode Stickout (ESO)	Optimum Amps	Volts	Welding Positions
1.2	250-300	27-31	20-25	280	30	Flat
1.6	350-400	27-31	25-30	360	31	
2.0	380-460	28-32	25-30	400	33	
1.2	230-280	26-30	20-25	260	28	HV Fillet
1.6	310-360	26-30	25-30	320	29	
2.0	340-420	27-31	25-30	370	31	
1.2	170-220	24-28	15-20	200	24	Vertical Up
1.6	200-250	24-28	15-20	230	25	
2.0	220-280	24-28	20-25	250	26	
1.2	160-210	24-28	15-20	200	24	Overhead
1.6	190-240	23-27	15-20	220	24	
2.0	210-270	23-27	20-25	240	25	

These machine settings are a guide only. Actual voltage, welding current and E.S.O. used will depend on machine characteristics, plate thickness, run size, shielding gas and operator technique etc.

TYPICAL ALL WELD METAL MECHANICAL PROPERTIES:

	Using Ar+20-25% CO_2:	Using CO_2:
Yield Stress	540 MPa	500 MPa
Tensile Strength	600 MPa	560 MPa
Elongation	22%	23%
CVN, Impact Values	85J av @ -50°C.	75J av @ -50°C

TYPICAL ALL WELD METAL ANALYSIS:

Using Argon +20-25% CO_2:
C: 0.06% Mn: 1.40% Si: 0.5%
Ni: 1.0%

Using CO_2:
C: 0.05% Mn: 1.1% Si: 0.38%
Ni: 1.16%

TYPICAL DIFFUSIBLE HYDROGEN LEVELS TO AS3752:
<3 mls of hydrogen / 100gms of deposited weld metal *.
*for "as manufactured" product using Argon +20-25% CO_2 or CO_2.

APPROVALS*:
LRS Grade 4Y, 40S H10.
ABS Grade 4YSA H5.
DNV IV YMS H10.
*with Argon +20-25% CO_2 or CO_2 shielding gases.

RECOMMENDED SHIELDING GASES:
- Argon + 20-25% CO_2 or equivalent ISO14175: M21
- Welding Grade CO_2 ISO14175: C1

Packaging Data:

Wire Dia mm	Pack Type*	Pack Weight	Part No
1.2	Spool	15kg	720550
1.6	Spool	15kg	720551
2.0	Spool	15kg	720591
2.0	Coil	25kg	720592

* Spool (ø300mm);

Verti-Cor 91 K2 H4

- Copper coated for smooth consistent feedability and enhanced current pick-up
- A higher strength low alloy steel, rutile type flux cored wire
- Formulated for use with Argon +20-25% CO_2 shielding gases.
- Versatile, all positional capabilities.
- Excellent operator appeal.
- A nominal 1.5% Nickel Steel deposit of the 620 MPa tensile class.
- Typical applications include the full strength butt welding of Bisalloy 60 or the under matching strength fillet welding of Bisalloy 70 and 80 steels.

Classifications:

AS/NZS ISO 18276: (new)	B T 62 4 T1 1 M A N3M1 H5
AS/NZS 2203.1: (old)	ETP-GMp-W629A. K2 H5.
AWS/ASME-SFA A5.29:	E91T1-K2M H4

Operating Data:

All welding conditions recommended below are for use with semi-automatic operation, DC electrode positive and welding grade CO_2 shielding gas with a flow rate of 15-20 litres/min.

Wire Dia mm	Current Range (amps)	Voltage Range (volts)	Electrode Stickout (ESO)	Optimum Amps	Volts	Welding Positions
1.2	250 – 300	27 – 31	20 – 25	280	31	Flat
1.6	350 – 400	27 – 31	25 – 30	360	31	
1.2	230 – 280	26 – 30	20– 25	260	28	HV Fillet
1.6	310 – 360	26 – 30	25 – 30	320	29	
1.2	170 – 220	24 – 28	15 – 20	200	24	Vertical up
1.6	200 – 250	24 – 28	15 – 20	240	25	
1.2	160 – 210	24 – 28	15 – 20	200	24	Overhead
1.6	190 – 240	24 – 28	15 – 20	220	24	

These machine settings are a guide only. Actual voltage, welding current and E.S.O. used will depend on machine characteristics, plate thickness, run size, shielding gas and operator technique etc.

TYPICAL ALL WELD METAL MECHANICAL PROPERTIES:

	Using Argon +20-25% CO_2:
Yield Stress	560 MPa
Tensile Strength	660 MPa
Elongation	23%
CVN Impact Values	30J av @ -50°C

TYPICAL ALL WELD METAL ANALYSIS*:
C: 0.06% Mn: 1.30% Si: 0.50%
Ni: 1.60% Ti: 0.035% B: 0.007%.
*Using Argon +20-25% CO_2

TYPICAL DIFFUSIBLE HYDROGEN LEVELS TO AS3752:
3.0-3.5 mls of hydrogen / 100gms of deposited weld metal *.
* for "as manufactured" product using Argon +20-25% CO_2.

RECOMMENDED SHIELDING GAS:
- Argon + 20-25% CO_2

COMPARABLE CIGWELD PRODUCTS:
Alloycraft 90 MMAW

Packaging Data:

Wire Dia mm	Pack Type*	Pack Weight	Part No
1.2	Spool	15kg	720554
1.6	Spool	15kg	720555

* Spool (ø300mm);

CIGWELD Professional

Flux Cored Welding Wires for Mild Steel, Low Alloy Steels & Cast Iron

Verti-Cor 111 K3 H4

- Copper coated for smooth consistent feedability and enhanced current pick-up
- A high strength low alloy steel, rutile type flux cored wire
- Formulated for use with Argon +20-25% CO_2 shielding gases.
- Versatile, all positional capabilities.
- A Nickel Molybdenum Steel deposit of the 760 MPa tensile class.
- Typical applications include the full strength butt welding and fillet welding of Bisalloy 80 and similar quenched and tempered steels.

Classifications:

AS/NZS ISO 18276: (new)	B T 76 2 T1 1 M A N3M2U H5.
AS/NZS 2203.1: (old)	ETP-GMp-W768A. K3 H5.
AWS/ASME-SFA A5.29:	E111T1-K3M H4.

Operating Data:

All welding conditions recommended below are for use with semi-automatic operation, DC electrode positive and welding grade CO_2 shielding gas with a flow rate of 15-20 litres/min.

Wire Dia mm	Current Range (amps)	Voltage Range (volts)	Electrode Stickout (ESO)	Optimum Amps	Volts	Welding Positions
1.2	250 – 300	27 – 31	20 – 25	280	31	Flat
1.6	350 – 400	27 – 31	25 – 30	360	31	
1.2	230 – 280	26 – 30	20 – 25	260	28	HV Fillet
1.6	310 – 360	26 – 30	25 – 30	320	29	
1.2	170 – 220	24 – 28	15 – 20	200	24	Vertical up
1.6	200 – 250	24 – 28	15 – 20	240	25	
1.2	160 – 210	24 – 28	15 – 20	200	24	Overhead
1.6	190 – 240	24 – 28	15 – 20	220	24	

These machine settings are a guide only. Actual voltage, welding current and E.S.O. used will depend on machine characteristics, plate thickness, run size, shielding gas and operator technique etc.

TYPICAL ALL WELD METAL MECHANICAL PROPERTIES:

	Using Argon +20-25% CO_2:
Yield Stress	775 MPa
Tensile Strength	835 MPa
Elongation	18%
CVN Impact Values	55J av @ -20°C

TYPICAL ALL WELD METAL ANALYSIS*:
C: 0.06% Mn: 1.60% Si: 0.36%
Ni: 2.45% Mo: 0.46%
*Using Argon +20-25% CO_2

TYPICAL DIFFUSIBLE HYDROGEN LEVELS TO AS3752:
3.0-3.5 mls of hydrogen / 100gms of deposited weld metal *.
*for "as manufactured" product using Argon +20-25% CO_2.

RECOMMENDED SHIELDING GAS:
- Argon + 20-25% CO_2

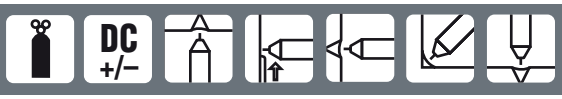
COMPARABLE CIGWELD PRODUCTS:
Alloycraft 110 MMAW
Autocraft NiCrMo GMAW

Packaging Data:

Wire Dia mm	Pack Type*	Pack Weight	Part No
1.2	Spool	15kg	721381
1.6	Spool	15kg	721382

* Spool (ø300mm)

Supre-Cor 5



- Second generation, fully basic flux cored wire.
- Improved low temperature impact toughness to -50°C.
- Improved positional capabilities of 1.2mm and 1.6mm sizes.
- DC electrode negative operation.
- Suitable for a wide range of critical applications including the fillet and butt welding of pressure vessels, offshore oil and gas platform structures and heavy earthmoving equipment.

Classifications:

AS/NZS ISO 17632: (new)	B T 49 5 T5 1 C A U H5. B T 49 5 T5 1 M A U H5.
AS/NZS 2203.1: (old)	ETP-GCn/p-W505A. CM1 H5. ETP-GMn/p-W505A. CM1 H5.
AWS/ASME-SFA A5.20:	E71T-5 H4 , E71T-5MJ H4.

Operating Data:

All welding conditions recommended below are for use with semi-automatic operation, DC electrode positive and welding grade CO_2 shielding gas with a flow rate of 15-20 litres/min.

Wire Dia mm	Current Range (amps)	Voltage Range (volts)	Electrode Stickout (ESO)	Optimum Amps	Volts	Welding Positions
1.2	250-300	27 – 31	20 – 25	280	29	Flat
1.6	350-400	27 – 31	25 – 30	320	31	
1.2	230-280	26 – 30	20 – 25	250	27	HV Fillet
1.6	310-360	26 – 30	25 – 30	315	30	
1.2	170-220	24 – 28	15 – 20	140	21	Vertical up
1.6	200-250	24 – 28	15 – 20	N/A	N/A	
1.2	160-210	24 – 28	15 – 20	120	20	Overhead
1.6	190-240	24 – 28	15 – 20	N/A	N/A	

These machine settings are a guide only. Actual voltage, welding current and E.S.O. used will depend on machine characteristics, plate thickness, run size, shielding gas and operator technique etc.

TYPICAL ALL WELD METAL MECHANICAL PROPERTIES:

	Argon +20-25% CO_2:	CO_2:
Yield Stress	445 MPa	430 MPa
Tensile Strength	550 MPa	530 MPa
Elongation	29%	30%
CVN Impact Values	160J av @ -20°C 100J av @ -40°C 90J av @ -60°C	150J av @ -20°C 90J av @ -40°C 80J av @ -60°C

TYPICAL ALL WELD METAL ANALYSIS:
Using Argon +20-25% CO_2:
C: 0.10% Mn: 1.45% Si: 0.42%
P: 0.012% S: 0.015%.
Using CO_2:
C: 0.09% Mn: 1.25% Si: 0.32%
P: 0.012% S: 0.015%

TYPICAL DIFFUSIBLE HYDROGEN LEVELS TO AS3752:
1.5-2.0 mls of hydrogen / 100gms of deposited weld metal *.
*for 'as manufactured' product using Argon +20-25% CO_2

APPROVALS*:

LRS	Grade 3S, 3YS H10.
ABS	Grade 3SA,3YSA H10.
DNV	IIIYMS H10.

*with Argon +20-25% CO_2 and CO_2 shielding gas combinations.

RECOMMENDED SHIELDING GASES:
- Argon + 20-25% CO_2
- Welding Grade CO_2

COMPARABLE CIGWELD PRODUCTS:
Autocraft LW1/LW1-6 GMAW
Ferrocraft 61 MMAW

Packaging Data:

Wire Dia mm	Pack Type*	Pack Weight	Part No
1.2	Spool	15kg	720982
1.6	Spool	15kg	720983

* Spool (ø300mm)

Flux Cored Welding Wires for Mild Steel, Low Alloy Steels & Cast Iron

Supre-Cor XP H4

- Copper coated for smooth consistent feedability and enhanced current pick-up
- Fully basic flux cored wire.
- Low temperature impact toughness to -20°C.
- Available in 2.4mm size only.
- Recommended for the fillet and butt welding of heavy earthmoving and mining equipment.

Classifications:

AS/NZS ISO 17632: (new)	B T 49 3 T5 0 C A U H5. B T 49 3 T5 0 M A U H5.
AS/NZS 2203.1: (old)	ETD-GCn/p-W503A. CM1 H5. ETD-GMn/p-W503A. CM1 H5.
AWS/ASME-SFA A5.20:	E70T-5 H4, E70T-5M H4.

Operating Data:

All welding conditions recommended below are for use with semi-automatic operation, DC electrode positive and welding grade CO_2 shielding gas with a flow rate of 15-20 litres/min.

Wire Dia mm	Current Range (amps)	Voltage Range (volts)	Electrode Stickout (ESO)	Optimum Amps	Volts	Welding Positions
2.4	350-500	27 – 33	25-30	450	31	Flat
2.4	350-500	27 – 33	25-30	400	30	HV Fillet

These machine settings are a guide only. Actual voltage, welding current and E.S.O. used will depend on machine characteristics, plate thickness, run size, shielding gas and operator technique etc.

TYPICAL ALL WELD METAL MECHANICAL PROPERTIES:

Argon +20-25% CO_2:

Yield Stress	456 MPa
Tensile Strength	555 MPa
Elongation	29%
CVN Impact Values	57J av @ -20°C

TYPICAL ALL WELD METAL ANALYSIS:

Using Argon +20-25% CO_2:

C: 0.08% Mn: 1.34% Si: 0.63%
P: 0.020% S: 0.015%.

TYPICAL DIFFUSIBLE HYDROGEN LEVELS TO AS3752:

1.5 - 2.0 mls of hydrogen / 100gms of deposited weld metal*.
*for 'as manufactured' product using Argon +20-25% CO_2.

APPROVALS*:

LRS Grade 4YSA H5.
*with Argon +20-25% CO_2 or CO_2 shielding gases.

RECOMMENDED SHIELDING GASES:

- Argon + 20-25% CO_2.
- Welding Grade CO_2

Packaging Data:

Wire Dia mm	Pack Type*	Pack Weight	Part No
2.4	Coil	25kg	720911

* Spool (ø300mm)

Metal-Cor 5 H4

- Copper coated for smooth consistent feedability and enhanced current pick-up
- High efficiency metal cored wire with excellent operator appeal
- Grade 4 Shipping Society approvals
- Very low slag formation
- Outstanding low temperature impact properties
- High deposition efficiency
- High deposition rates
- Precision layer wound

Classifications:

AS/NZS ISO 17632: (new)	B T 49 4 T15 0 M A U H5.
AS/NZS 2203.1: (old)	ETD-GMn/p-W504A CM1 H5 ETP-GMn/p-W504A CM1 H5 *1.2mm only
AWS/ASME-SFA A5.18:	E70C-6M H4

Operating Data:

All welding conditions recommended below are for use with semi-automatic operation, DC electrode positive and welding grade CO_2 shielding gas with a flow rate of 15-20 litres/min.

Wire Dia mm	Current Range (amps)	Voltage Range (volts)	Electrode Stickout (ESO)	Optimum Amps	Volts	Welding Positions
1.2	280-350	28-33	20-25	320	32	Flat
1.6	350-450	29-33	25-30	400	32	Flat
1.2	250-300	27-31	20-25	270	29	HV Fillet
1.6	300-380	27-31	25-30	350	29	HV Fillet
1.2	250-300	27-31	20-25	270	29	Horizontal
1.6	300-380	27-31	25-30	340	29	Horizontal

These machine settings are a guide only. Actual voltage, welding current and E.S.O. used will depend on machine characteristics, plate thickness, run size, shielding gas and operator technique etc.

TYPICAL ALL WELD METAL MECHANICAL PROPERTIES:

Using Argon +20-25% CO_2:

Yield Stress	460 MPa
Tensile Strength	530 MPa
Elongation	32%
CVN Impact Values	135J av @ -20°C 110J av @ -40°C

TYPICAL ALL WELD METAL ANALYSIS*:

C: 0.07% Mn: 0.9% Si: 0.56%
S: 0.014% P: 0.013% Ni: 0.04%
Cr: 0.03%
*Using Argon +20-25% CO_2

TYPICAL DIFFUSIBLE HYDROGEN LEVELS TO AS3752:

<3.5 mls of hydrogen / 100gms of deposited weld metal.

APPROVALS*:

LRS Grade 3S, 3YS H5.
ABS Grade 3YSA H5.
DNV IIIYMS H5.
*with Argon +20-25% CO_2 shielding gas or equivalent

RECOMMENDED SHIELDING GAS:

- Argon + 20-25% CO_2 or equivalent ISO14175: M21, M24

Packaging Data:

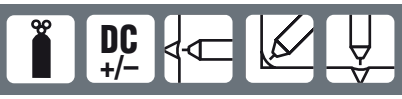
Wire Dia mm	Pack Type*	Pack Weight	Part No
1.2	Spool	15kg	720552
1.6	Spool	15kg	720553
1.2	Autopak	230kg	720552A
1.6	Autopak	230kg	720553A

* Spool (ø300mm)

CIGWELD Professional

Flux Cored Welding Wires for Mild Steel, Low Alloy Steels & Cast Iron

Metal-Cor XP



- Low slag, metal cored wire.
- Grade 3 Shipping Society Approvals.
- High deposition efficiency = 95%.
- High deposition rates.
- For the high productivity fillet and butt welding of mild and medium strength steels in all downhand positions.

Classifications:

AS/NZS ISO 17632: (new)	B T 49 2 T15 0 M A U H5.
AS/NZS 2203.1: (old)	ETD-GMn/p-W503A. CM1 H5.
	ETP*-GMn/p-W503A. CM1 H5. (*1.2mm only)
AWS/ASME-SFA A5.18:	E70C-6M*

* The classification of metal cored wires to the American Welding Society (AWS) has changed. Detailed information regarding these changes are available in the technical section of the pocket guide.

TYPICAL ALL WELD METAL MECHANICAL PROPERTIES:

Using Argon +20-25% CO_2:

Yield Stress.	460 MPa.
Tensile Strength	575 MPa.
Elongation	28%
CVN Impact Values	100J av @ 0°C.
	85J av @ -20°C.
	40J av @ -30°C.

TYPICAL ALL WELD METAL ANALYSIS*:
C: 0.05% Mn: 1.42% Si: 0.75%
S: 0.012% P: 0.014%
*Using Argon +20-25% CO_2 shielding gas.

APPROVALS*:

LRS	Grade 3S, 3YS.
ABS	Grade 3YSA H10.
DNV	IIIYMS.

*with Argon +20-25% CO_2 shielding gas.

RECOMMENDED SHIELDING GASES:
- Argon + 10-15% CO_2 +1-3% O_2
- Argon + 20-25% CO_2

COMPARABLE CIGWELD PRODUCTS:
Autocraft LW1/LW1-6 GMAW
Ferrocraft 22 MMAW

Operating Data:

All welding conditions recommended below are for use with semi-automatic operation, DC electrode positive and welding grade CO_2 shielding gas with a flow rate of 15-20 litres/min.

Wire Dia mm	Current Range (amps)	Voltage Range (volts)	Electrode Stickout (ESO)	Optimum Amps	Volts	Welding Positions
1.2	280 – 350	28 – 33	20 – 25	330	32	Flat
1.6	350 – 450	29 – 33	25 – 30	420	31	
1.2	250 – 300	27 – 31	20 – 25	280	30	HV Fillet
1.6	300 – 380	27 – 31	25 – 30	360	28	
1.2	250 – 300	27 – 31	20 – 25	250	30	Horizontal
1.6	300 – 380	27 – 31	25 – 30	280	26	

These machine settings are a guide only. Actual voltage, welding current and E.S.O. used will depend on machine characteristics, plate thickness, run size, shielding gas and operator technique etc.

Packaging Data:

Wire Dia mm	Pack Type*	Pack Weight	Part No
1.0	Spool	15kg	720960
1.2	Spool	15kg	720912
1.6	Spool	15kg	720913
1.6	Autopak	200kg	720913A

* Spool (ø300mm)

Tensi-Cor 110TXP H4

- Copper coated for smooth consistent feedability and enhanced current pick-up
- Fully basic, high strength low alloy steel flux cored wire.
- Formulated for use with Argon + 20-25% CO_2 or CO_2 Shielding Gas only.
- Premium quality weld deposits.
- "Very low H5" Hydrogen status.
- For the crack free full strength butt welding of Bisalloy 80 and similar quenched and tempered steels.

Classifications:

AS/NZS ISO 17632: (new)	B T 76 5 T5 0 C A N4C1M2 H5.
	B T 76 5 T5 0 M A N4C1M2 H5.
AS/NZS 2203.1: (old)	ETD-GM/Cp-W769A. K4 H5.
AWS/ASME-SFA A5.29:	E110T5-K4 H4, E110T5. K4 H4 M.

TYPICAL ALL WELD METAL MECHANICAL PROPERTIES:

Using Argon + 20-25% CO_2:

Yield Stress	720 MPa
Tensile Strength	800 MPa
Elongation	22%
CVN Impact Values	50J av @ -50°C

TYPICAL ALL WELD METAL:
C: 0.08% Mn: 1.50% Si: 0.40%
Ni: 1.90% Mo: 0.4% Cr: 0.3%
*Using Argon + 20-25% CO_2 shielding gas.

TYPICAL DIFFUSIBLE HYDROGEN LEVELS TO AS3752:
1.5 -2.0 mls of hydrogen / 100gms of deposited weld metal*.
*for "as manufactured" product using Argon + 20-25% CO_2 shielding gas.

RECOMMENDED SHIELDING GASES:
- Argon + 20-25% CO_2
- Welding Grade CO_2

COMPARABLE CIGWELD PRODUCTS:
Autocraft NiCrMo GMAW
Alloycraft 110 MMAW

Operating Data:

All welding conditions recommended below are for use with semi-automatic operation, DC electrode positive and Argon + 20-25% CO_2 shielding gas with a flow rate of 15-20 litres/min.

Wire Dia mm	Current Range (amps)	Voltage Range (volts)	Electrode Stickout (ESO)	Optimum Amps	Volts	Welding Positions
1.6	300 – 350	28 – 32	25 – 30	320	29	Flat
2.4	400 – 450	28 – 32	25 – 35	450	32	
1.6	280 – 330	27 – 31	25 – 30	300	28	HV Fillet
2.4	380 – 430	27 – 31	25 – 30	400	28	
1.6	220 – 270	25 – 30	25 – 30	280	26	Vertical up
1.6	260 – 310	27 – 31	25 – 30	N/A	N/A	Horizontal
2.4	360 – 410	27 – 31	25 – 30	N/A	N/A	

These machine settings are a guide only. Actual voltage, welding current and E.S.O. used will depend on machine characteristics, plate thickness, run size, shielding gas and operator technique etc.

Packaging Data:

Wire Dia mm	Pack Type*	Pack Weight	Part No
1.6	Spool	15kg	720387
2.4	Coil	25kg	720389

* Spool (ø300mm)

Flux Cored Welding Wires for Mild Steel, Low Alloy Steels & Cast Iron

Nicore® 55

- Composite Nickel-Iron Flux Cored Wire for the Joining and Repair of Cast Irons.
- Also Recommended for the Dissimilar Joining of Cast Iron to Steels.

Classifications:

Meets AWS/ASME-SFA A5.15: ENiFe-CI (equivalent electrode classification).

Operating Data:

Wire Dia mm	Current Range (amps)	Voltage Range (volts)	Electrode Stickout (ESO)	Welding Positions
1.2	220-250	27 – 29	13	–

These machine settings are a guide only. Actual voltage, welding current and E.S.O. used will depend on machine characteristics, plate thickness, run size, shielding gas and operator technique etc. Nicore 55 is a registered trademark of The Esab Group, Inc. Hanover PA 17331, USA

TYPICAL ALL WELD METAL ANALYSIS - USING STAINSHIELD:
C: 1.10% Mn: 0.40% Si: 0.45%
Fe: 50.0% Balance Ni

TYPICAL ALL WELD METAL MECHANICAL PROPERTIES - USING STAINSHIELD:

Tensile Strength	500 MPa.
Elongation	12%.
Hardness	200 HV.

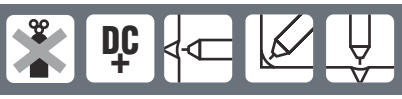
RECOMMENDED SHIELDING GASES:
- Argon + > 0-3% O_2

COMPARABLE CIGWELD PRODUCTS:
Castcraft 55

Packaging Data:

Wire Dia mm	Pack Type*	Pack Weight	Part No
1.2	Handispool	6.8kg	724046

Shield-Cor 4XP



- Self shielded flux cored wire.
- Formulated for fast downhand fillet & butt welding applications.
- DC electrode positive operation.
- Excellent tolerance to joint misalignment or poor joint fit-up.
- Low spatter levels / easily removed slag.
- Typical applications include general fabrication and structural welding, field erection work and the outdoor repair of heavy machines and equipment.

Classifications:

AS/NZS ISO 17632: (new)	B T 49 Z T4 0 N A H15.
AS/NZS 2203.1: (old)	ETD-GNp-W500A. CM2 H15.
AWS/ASME-SFA A5.20:	E70T-4.

Operating Data:

All welding conditions recommended below are for use with semi-automatic operation, DC electrode positive and welding grade CO_2 shielding gas with a flow rate of 15-20 litres/min.

Wire Dia mm	Current Range (amps)	Voltage Range (volts)	Electrode Stickout (ESO)	Optimum Amps	Volts	Welding Positions
2.4	300 – 400	27 – 30	60 – 70	400	30	Flat
2.8	350 – 450	28 – 32	60 – 70	450	31	
2.4	280 – 380	27 – 30	60 – 70	370	28	HV Fillet
2.8	340 – 440	28 – 32	60 – 70	400	29	
2.4	270 – 370	27 – 29	60 – 70	350	26	Horizontal
2.8	320 – 420	28 – 30	60 – 70			

These machine settings are a guide only. Actual voltage, welding current and E.S.O. used will depend on machine characteristics, plate thickness, run size and operator technique etc.

TYPICAL ALL WELD METAL MECHANICAL PROPERTIES:

Yield Stress	430 MPa
Tensile Strength	590 MPa
Elongation	25%
CVN Impact Values	50 J av @ +20°C.
	30 J av @ 0°C

Actual weld metal mechanical properties achieved with Shield-Cor 4XP are influenced by many factors including, base metal analysis, welding parameters / heat input used, number of weld passes and run placement etc. Please consult your nearest CIGWELD branch for welding procedure recommendations.

TYPICAL ALL WELD METAL ANALYSIS:
C: 0.30% Mn: 0.55% Si: 0.10%
Al: 1.50% S: 0.008% P: 0.013%.

TYPICAL DIFFUSIBLE HYDROGEN LEVELS TO AS3752:
10.0 - 12.0 mls of hydrogen / 100gms of deposited weld metal *.
*for "as manufactured" product using the recommended E.S.O lengths.

RECOMMENDED SHIELDING GASES:
Not Required.

Packaging Data:

Wire Dia mm	Pack Type*	Pack Weight	Part No
2.4	Coil	27kg	720907
2.8	Coil	27kg	720908

Flux Cored Welding Wires for Mild Steel, Low Alloy Steels & Cast Iron

Shield-Cor 11

- Self-shielded Flux Cored wire.
- Versatile, All Positional Capabilities.
- Excellent Tolerance to Joint Misalignment or Poor Joint Fit-up.
- Smooth Rippled Fillets with Good Edge Wetting.
- Ideal for Welding Thin Section Mild and Galvanised Steels.

Classifications:

AS/NZS ISO 17632: (new)	B T 49 Z T11 1 NA.
AS/NZS 2203.1:	ETP-GNn-W500A. CM2.
AWS/ASME-SFA A5.20:	E71T-11.

Operating Data:

All welding conditions recommended below are for use with semi-automatic operation and DC electrode positive.

Wire Dia mm	Current Range (amps)	Voltage Range (volts)	Electrode Stickout (ESO)	Welding Positions
1.2	180 – 230	16 – 18	15 – 20	Flat
1.6	180 – 250	18 – 21	20 – 25	
1.2	150 – 200	16 – 18	15 – 20	HV Fillet
1.6	180 – 240	18 – 21	20 – 25	
1.2	130 – 180	16 – 18	15 – 20	Vertical up
1.6	160 – 210	18 – 21	20 – 25	
1.2	130 – 180	16 – 18	15 – 20	Overhead
1.6	160 – 200	18 – 21	20 – 25	

These machine settings are a guide only. Actual voltage, welding current and E.S.O. used will depend on machine characteristics, plate thickness, run size and operator technique etc.

TYPICAL ALL WELD METAL MECHANICAL PROPERTIES:

Yield Stress	445 MPa
Tensile Strength	620 MPa
Elongation	22%

TYPICAL ALL WELD METAL ANALYSIS:

C: 0.25% Mn: 0.70% Si: 0.40%
Al: 1.65% S: 0.004% P: 0.007%.

TYPICAL DIFFUSIBLE HYDROGEN LEVELS TO AS3752:

15.0 - 20.0 mls of hydrogen / 100gms of deposited weld metal *.
*for "as manufactured" product using the recommended E.S.O. lengths.

RECOMMENDED SHIELDING GAS:
Not Required.

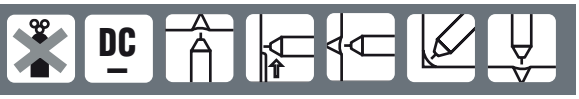
Actual weld metal mechanical properties achieved with Shield-Cor 11 are influenced by many factors including, base metal analysis, welding parameters / heat input used, number of weld passes and run placement etc. Please consult your nearest CIGWELD branch for welding procedure recommendations.

Packaging Data:

Wire Dia mm	Pack Type*	Pack Weight	Part No
1.2	Spool	15kg	720923
1.6	Spool	15kg	720925

* Spool (ø300mm)

Shield-Cor 15



- Self-shielded Flux Cored wire.
- For Single Pass applications Only.
- Versatile, All Positional Capabilities.
- Excellent Tolerance to Joint Misalignment or Poor Joint Fit-up.
- Smooth Rippled Fillets with Good Edge Wetting.
- Ideal for Welding Thin Section Mild and Galvanised Steels

Classifications:

AS/NZS ISO 17632: (new)	B T 49 Z TG 1 NA.
AS/NZS 2203.1: (old)	ETPS-GNn-W500A. CM2.
AWS/ASME-SFA A5.20:	E71T-GS.

Operating Data:

All welding conditions recommended below are for use with semi-automatic operation, and DC electrode positive.

Wire Dia mm	Current Range (amps)	Voltage Range (volts)	Electrode Stickout (ESO)	Welding Positions
0.8	90 – 150	14 – 16	10 – 12	Flat
0.9	110 – 180	15 – 17	12 – 15	
1.2	180 – 230	16 – 18	15 – 20	
0.8	80 – 140	14 – 16	10 – 12	HV Fillet
0.9	100 – 175	15 – 17	12 – 15	
1.2	150 – 200	16 – 18	15 – 20	
0.8	60 – 120	14 – 16	10 – 12	Vertical up
0.9	80 – 150	15 – 17	12 – 15	
1.2	130 – 180	16 – 18	15 – 20	
0.8	60 – 120	14 – 16	10 – 12	Overhead
0.9	80 – 150	15 – 17	12 – 15	
1.2	130 – 180	16 – 18	15 – 20	

These machine settings are a guide only. Actual voltage, welding current and E.S.O. used will depend on machine characteristics, plate thickness, run size and operator technique etc.

TYPICAL ALL WELD METAL MECHANICAL PROPERTIES:

Yield Stress	430 MPa
Tensile Strength	600 MPa
Elongation	21%

TYPICAL ALL WELD METAL ANALYSIS:

C: 0.25% Mn: 0.70% Si: 0.40%
Al: 2.10% S: 0.004% P: 0.007%.

TYPICAL DIFFUSIBLE HYDROGEN LEVELS TO AS3752:

15.0 - 20.0 mls of hydrogen / 100gms of deposited weld metal *.
*for "as manufactured" product using the recommended E.S.O. lengths.

RECOMMENDED SHIELDING GAS:
Not Required.

Actual weld metal mechanical properties achieved with Shield-Cor 15 are influenced by many factors including, base metal analysis, welding parameters / heat input used, number of weld passes and run placement etc. Please consult your nearest CIGWELD branch for welding procedure recommendations.

Packaging Data:

Wire Dia mm	Pack Type	Pack Weight	Part No
0.8	100mm spool	0.45kg x (4/ctn)	721956
0.8	200mm Handispool	4.5kg	721923
0.9	100mm Minispool	0.45kg x (4/ctn)	721976
0.9	200mm Handispool	4.5kg	721924
1.2	200mm Handispool	4.5kg	720302

Flux Cored Welding Wires for Mild Steel, Low Alloy Steels & Cast Iron

Shield-Cor 8XP

- Superior all-positional performance
- Outstanding operator appeal
- Vacuum packaged
- Excellent slag lift

Classifications:

AS/NZS ISO 17632: (new)	B T 49 2 T8 1 N A U H10.
AS2203.1: (old)	ETP-GNn W503A CM1
AWS/ASME-SFA A5.20:	E71T-8

Operating Data:

All welding conditions listed below are for semi-automatic operation, DC electrode negative.

Wire Dia mm	Current Range (amps)	Voltage Range (volts)	Electrode Stickout (ESO)	Welding Positions
1.6	170 – 250	20 – 24	25 – 30	Flat
2.0	220 – 290	22 – 26	30 – 35	
1.6	170 – 260	20 – 24	25 – 30	HV Fillet
2.0	200 – 280	22 – 26	30 – 35	
1.6	150 – 220	20 – 24	25 – 30	Vertical up
2.0	180 – 200	22 – 26	30 – 35	
1.6	150 – 220	21 – 25	12 – 15	Overhead
2.0	200 – 240	22 – 26	15 – 20	

These machine settings are a guide only. Actual voltage, welding current and E.S.O. used will depend on machine characteristics, plate thickness, run size and operator technique etc.

TYPICAL ALL WELD METAL ANALYSIS:
Gasless wire:
C: 0.17% Mn: 0.45% Si: 0.12%
P: 0.01% S: 0.003% V: 0.01%
Cu: 0.01% Al: 0.5%

TYPICAL ALL WELD METAL MECHANICAL PROPERTIES - (AS WELDED):

Yield Stress	460 MPa.
Tensile Stress	560 MPa.
Elongation	24%.
CVN Impact Values	55 J av @ -30˚C

TYPICAL DIFFUSIBLE HYDROGEN LEVELS TO AS3752:
6–8 mls of hydrogen / 100gms of deposited weld metal.

APPROVALS:

LRS	Grade 3S, 3YS H10.
ABS	Grade 3YSA H10.

RECOMMENDED SHIELDING GASES:
- NOT REQUIRED

Packaging Data:

Wire Dia mm	Pack Type*	Pack Weight	Part No
1.6	Spool	12kg	721304
2.0	Spool	12kg	721305

* Spool (ø300mm)

Shield-Cor 8Ni

- Excellent all-positional performance
- Very good low temperature impact toughness
- Vacuum packaged
- Excellent tolerance to poor fit up

Classifications:

AS/NZS ISO 17632: (new)	B T 49 2 T8 1 N A N2 U H10.
AS2203.1: (old)	ETP-GNn W504A Ni1
AWS/ASME-SFA A5.29:	E71T-8Ni1

Operating Data:

All welding conditions recommended below are for use with semi-automatic operation, DC electrode negative.

Wire Dia mm	Current Range (amps)	Voltage Range (volts)	Electrode Stickout (ESO)	Welding Positions
1.6	170 – 250	20 – 24	25 – 30	Flat
2.0	220 – 290	22 – 26	30 – 35	
1.6	170 – 260	20 – 24	25 – 30	HV Fillet
2.0	200 – 280	22 – 26	30 – 35	
1.6	150 – 220	20 – 24	25 – 30	Vertical up
2.0	180 – 200	22 – 26	30 – 35	
1.6	150 – 220	21 – 25	12 – 15	Overhead
2.0	200 – 240	22 – 26	15 – 20	

These machine settings are a guide only. Actual voltage, welding current and E.S.O. used will depend on machine characteristics, plate thickness, run size and operator technique etc.

TYPICAL ALL WELD METAL ANALYSIS:
Gasless wire:
C: 0.17% Mn: 0.93% Si: 0.31%
P: 0.08% S: 0.003% Ni: 0.87%
Al: 0.5%

TYPICAL ALL WELD METAL MECHANICAL PROPERTIES - (AS WELDED):

Yield Stress	480 MPa.
Tensile Stress	560 MPa.
Elongation	26%.
CVN Impact Values	75 J av @ -30˚C

TYPICAL DIFFUSIBLE HYDROGEN LEVELS TO AS3752:
6–8 mls of hydrogen / 100gms of deposited weld metal.

RECOMMENDED SHIELDING GASES:
- NOT REQUIRED

Packaging Data:

Wire Dia mm	Pack Type*	Pack Weight	Part No
1.6	Spool	12kg	721306
2.0	Spool	12kg	721307

* Spool (ø300mm)

Verti-Cor 308LT

- Verti-Cor stainless steel flux cored wires
  - 308LT-All positional capabilities
- Vacuum sealed in aluminised plastic packs
- Formulated for CO_2 or Argon +20-25% CO_2 shielding gases
- High deposition rate welding of stainless steel

Classifications:

AWS/ASME-SFA A5.22:	E308LT1-1 (CO_2)
	E308LT1-4 (Ar + 20-25% CO_2)

Operating Data:

All welding conditions recommended below are for use with semi-automatic operation and DC electrode positive and welding grade CO_2 shielding gas with a flow rate of 15-20 litres/min.

Wire Dia mm	Current Range (amps)	Voltage Range (volts)	Electrode Stickout (ESO)	Welding Positions
1.2	150 – 250	23 – 28	15 – 20	Flat
1.2	150 – 200	23 – 28	15 – 20	HV Fillet
1.2	120 – 180	22 – 27	15 – 20	Vertical up
1.2	140 – 180	22 – 27	15 – 20	Overhead

These machine settings are a guide only. Actual voltage, welding current and E.S.O. used will depend on machine characteristics, plate thickness, run size, shielding gas and operator technique etc.

TYPICAL ALL WELD METAL MECHANICAL PROPERTIES:

	Using CO_2	Argon + 20-25% CO_2
0.2% Proof Stress	390 MPa	420 MPa
Tensile Strength	570 MPa	610 MPa
Elongation	43%	40%

TYPICAL ALL WELD METAL ANALYSIS:

Using welding grade CO_2:

C: 0.03% Mn: 1.56% Si: 0.6%
Cr: 19.5% Ni: 10.2%
P: 0.020% S:0.003%

RECOMMENDED SHIELDING GAS:
Argon + 20-25% CO_2 or equivalent
ISO14175:M21
Welding grade CO_2
ISO14175:C1

RECOMMENDED SHIELDING GAS:
Autocraft 308LSi GMAW wire
AWS A5.9: ER308LSi

Comweld 308L GAS/TIG rod
AWS A5.9 ER308L

Satincrome 308L-17 Electrode
AWS A5.4 E308L-17

Packaging Data:

Wire Dia mm	Pack Type*	Pack Weight	Part No
1.2	Spool	15kg	722889

* Spool (ø300mm)

Verti-Cor 309LT

- Verti-Cor stainless steel flux cored wires
  - 309LT-All positional capabilities
- Vacuum sealed in aluminised plastic packs
- Formulated for CO_2 or Argon +20-25% CO_2 shielding gases
- High deposition rate welding of stainless steel

Classifications:

AWS/ASME-SFA A5.22:	E309LT1-1 (CO_2)
	E309LT1-4(Ar + 20-25% CO_2)

Operating Data:

All welding conditions recommended below are for use with semi-automatic operation and DC electrode positive and welding grade CO_2 shielding gas with a flow rate of 15-20 litres/min.

Wire Dia mm	Current Range (amps)	Voltage Range (volts)	Electrode Stickout (ESO)	Welding Positions
1.2	150 – 250	23 – 28	15 – 20	Flat
1.6	280 – 400	28 – 34	25 – 30	
1.2	150 – 200	23 – 28	15 – 20	HV Fillet
1.6	250 – 350	28 – 34	25 – 30	
1.2	120 – 180	22 – 27	15 – 20	Vertical up
1.6	200 – 250	23 – 27	20 – 25	
1.2	140 – 180	22 – 27	15 – 20	Overhead
1.6	190 – 250	23 – 27	20 – 25	

These machine settings are a guide only. Actual voltage, welding current and E.S.O. used will depend on machine characteristics, plate thickness, run size, shielding gas and operator technique etc.

TYPICAL ALL WELD METAL MECHANICAL PROPERTIES:

	Using CO_2	Argon + 20-25% CO_2
0.2% Proof Stress	410 MPa	430 MPa
Tensile Strength	550 MPa	600 MPa
Elongation	40%	36%

TYPICAL ALL WELD METAL ANALYSIS:

Using welding grade CO_2:

C: 0.03% Mn: 1.4% Si: 0.60%
Cr: 23.6% Ni: 13%
P: 0.023% S:0.003%

RECOMMENDED SHIELDING GAS:
Argon + 20-25% CO_2 or equivalent
ISO14175:M21
Welding grade CO_2
ISO14175:C1

RECOMMENDED SHIELDING GAS:
Autocraft 309LSi GMAW wire
AWS A5.9: ER309LSi

Comweld 309L GAS/TIG rod
AWS A5.9 ER309L

Satincrome 309Mo-17 Electrode
AWS A5.4 E309Mo-17

Packaging Data:

Wire Dia mm	Pack Type	Pack Weight	Part No
1.2	Spool	15kg	722881
1.6	Spool	15kg	722882

Verti-Cor Flux Cored Stainless Steel Welding Wires

Verti-Cor 316LT

- Verti-Cor stainless steel flux cored wires
  - 316LT-All positional capabilities
- Vacuum sealed in aluminised plastic packs
- Formulated for CO_2 or Argon +20-25% CO_2 shielding gases
- High deposition rate welding of stainless steel

Classifications:

AWS/ASME-SFA A5.22: E316LT1-1 (CO_2)
E316LT1-4 (Ar + 20-25% CO_2)

Operating Data:

All welding conditions recommended below are for use with semi-automatic operation and DC electrode positive and welding grade CO_2 shielding gas with a flow rate of 15-20 litres/min.

Wire Dia mm	Current Range (amps)	Voltage Range (volts)	Electrode Stickout (ESO)	Welding Positions
1.2	150 – 250	23 – 28	15 – 20	Flat
1.2	150 – 200	23 – 28	15 – 20	HV Fillet
1.2	120 – 180	22 – 27	15 – 20	Vertical up
1.2	140 – 180	22 – 27	15 – 20	Overhead

These machine settings are a guide only. Actual voltage, welding current and E.S.O. used will depend on machine characteristics, plate thickness, run size, shielding gas and operator technique etc.

TYPICAL ALL WELD METAL MECHANICAL PROPERTIES:

	Using CO_2	Argon + 20-25% CO_2
0.2% Proof Stress	400 MPa	410 MPa
Tensile Strength	555 MPa	580 MPa
Elongation	42%	39%

TYPICAL ALL WELD METAL ANALYSIS:

Using welding grade CO_2:

C: 0.03%	Mn: 1.8%	Si: 0.75%
Cr: 18.8%	Ni: 11.5%	P: 0.024%
S:0.002%	Mo: 2.4%	

RECOMMENDED SHIELDING GAS:
Argon + 20-25% CO_2 or equivalent
ISO14175:M21
Welding grade CO_2
ISO14175:C1

RECOMMENDED SHIELDING GAS:
Autocraft 316LSi GMAW wire
AWS A5.9: ER316LSi

Comweld 316L GAS/TIG rod
AWS A5.9 ER316L

Satincrome 316L-17 Electrode
AWS A5.4 E316L-17

Packaging Data:

Wire Dia mm	Pack Type*	Pack Weight	Part No
1.2	Spool	15kg	722885

* Spool (ø300mm)

Autocraft SA1

- Copper coated, low carbon, low Manganese steel submerged arc wire
- Cost-effective general purpose welding with a 'Active' fluxes including Satinarc 15

TYPICAL WIRE ANALYSIS:
C: 0.08% Mn: 0.50% Si: 0.01%
S:0.017% P: 0.010%

Classifications:

AS1858.1:	EL12
AWS/ASME-SFA A5.17:	EL12

Operating Data*:

Wire Dia mm	Current Range (amps)	Voltage Range (volts)	CTWD#
2.0	200 – 550	24 – 32	20 – 25
2.4	250 – 700	26 – 34	20 – 25
3.2	300 – 900	28 – 34	25 – 30
4.0	400 – 1000	30 – 38	30 – 35

*Parameters are for single wire automatic applications. #CTWD = Contact Tip to Work Distance (typically 8 x wire diameter).

Packaging Data:

Wire Dia mm	Pack Type*	Pack Weight	Part No
2.0	Coil	30kg	720582
2.4	Coil	30kg	720583
3.2	Coil	30kg	720584
4.0	Coil	30kg	720585

Other packaging options are available on indent, please contact your Thermadyne area manager.

Autocraft SA2

- Copper coated, low carbon steel submerged arc wire
- Cost-effective high quality welding with a 'Neutral' or 'Semi-Basic' flux such as Satinarc 4.

TYPICAL WIRE ANALYSIS:
C: 0.10% Mn: 1.0% Si: 0.22%
S:0.017% P: 0.010%

Classifications:

AS1858.1:	EM12K
AWS/ASME-SFA A5.17:	EM12K

Operating Data*:

Wire Dia mm	Current Range (amps)	Voltage Range (volts)	CTWD#
2.0	200 – 550	24 – 32	20 – 25
2.4	250 – 700	26 – 34	20 – 25
3.2	300 – 900	28 – 34	25 – 30
4.0	400 – 1000	30 – 38	30 – 35

*Parameters are for single wire automatic applications. #CTWD = Contact Tip to Work Distance (typically 8 x wire diameter).

Packaging Data:

Wire Dia mm	Pack Type*	Pack Weight	Part No
2.0	Coil	30kg	720662
2.4	Coil	30kg	720663
3.2	Coil	30kg	720664
4.0	Coil	30kg	720665

Other packaging options are available on indent, please contact your Thermadyne area manager.

Autocraft Solid Wires & Satinarc Fluxes for Submerged Arc Welding

Satinarc 4

- Semi-basic submerged arc flux
- For multi-pass butt welding applications requiring low temperature impact properties
- Recommended for use with Autocraft SA2
- Excellent slag lift in deep 'Vee' joints

Classifications:

Autocraft SA1 & Satinarc 4

AWS A5.17:	F6A2-EL12
AS1858.1:	EL12-FMM-W403A

Autocraft SA2 & Satinarc 4

AWS A5.17:	F7A4-EM12K
AWS A5.17:	F6P5-EM12K
AS1858.1:	EM12K-FMM-W503A

Packaging Data:

Pack Type	Pack Weight	Part No
4 ply paper bag	25kg	720412

Autocraft SA1/Satinarc 4:
APPROVALS:

Lloyds Register of Shipping	Grade 3M
American Bureau of Shipping	Grade 3M

TYPICAL ALL WELD METAL ANALYSIS:

C: 0.05% Mn: 0.85% Si: 0.30% S: 0.008% P: 0.022%

TYPICAL ALL WELD METAL MECHANICAL PROPERTIES (AS WELDED):

Yield Stress	380 MPa
Tensile Stress	490 MPa
Elongation	32%
CVN Impact Values	90J av @ -20˚C

Autocraft SA2/Satinarc 4:
APPROVALS:

Lloyds Register of Shipping	Grade 4Y 400M
American Bureau of Shipping	Grade 4Y 400M

TYPICAL ALL WELD METAL ANALYSIS:

C: 0.09% Mn: 1.2% Si: 0.4% S: 0.020% P: 0.030%

TYPICAL ALL WELD METAL MECHANICAL PROPERTIES (AS WELDED):

Yield Stress	425 MPa
Tensile Stress	520 MPa
Elongation	29%
CVN Impact Values	100J av @ -20˚C 140J av @ 0˚C

FLUX CONSTITUENTS:

Basicity Index* = 1.6

Si02 + Ti02	Ca0+ Mg0	Al203 + Mn0	CaF_2
20%	25%	35%	15%

*Basicity Index to Boniszewski

Satinarc 15

- Active, general purpose submerged arc flux
- For fillet and multi-pass butt welding applications on plate less than 25mm thick
- Cost effective welding with Autocraft SA1 and Autocraft SA2 wires
- Good tolerance to rust and mill scale
- High current carrying capacity

Classifications:

Autocraft SA1 & Satinarc 15

AWS A5.17:	F7A2-EL12
AS1858.1:	EL12-FGH-W500A

Autocraft SA2 & Satinarc 15

AWS A5.17:	F7A2-EM12K
AS1858.1:	EM12K-FGH-W502A

Packaging Data:

Pack Type	Pack Weight	Part No
4 ply paper bag	25kg	720415

Autocraft SA1/Satinarc 15:
TYPICAL ALL WELD METAL ANALYSIS:

C: 0.05% Mn: 1.25% Si: 0.55% S: 0.011% P: 0.016%

TYPICAL ALL WELD METAL MECHANICAL PROPERTIES (AS WELDED):

Yield Stress	400 MPa
Tensile Stress	500 MPa
Elongation	32%
CVN Impact Values	80J av @ -20˚C

Autocraft SA2/Satinarc 15:
APPROVALS:

Lloyds Register of Shipping	Grade 3Y40M
American Bureau of Shipping	Grade 3Y400M

TYPICAL ALL WELD METAL ANALYSIS:

C: 0.07% Mn: 1.70% Si: 0.85% S: 0.014% P: 0.020%

TYPICAL ALL WELD METAL MECHANICAL PROPERTIES (AS WELDED):

Yield Stress	480 MPa
Tensile Stress	590 MPa
Elongation	28%
CVN Impact Values	60J av @ -20˚C

FLUX CONSTITUENTS:

Basicity Index* = 0.8

Si02 + Ti02	Ca0+ Mg0	Al203 + Mn0	CaF_2
43-48%	22-28%	15-21%	4-6%

*Basicity Index to Boniszewski

We've got Cutting & Welding Covered.

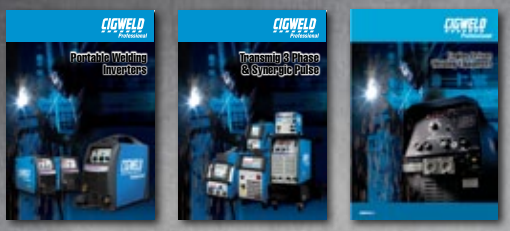
Choose CIGWELD endorsed products for premium quality and reliability.

Welding Machines

Portable Welding Inverters

Three Phase and Synergic Pulse

Engine Driven Welding Equipment

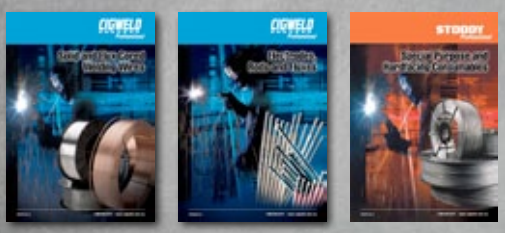


Welding Consumables

Solid & Flux Cored Welding Wires

Electrodes, Rods & Fluxes

Hardfacing Electrodes and Wires

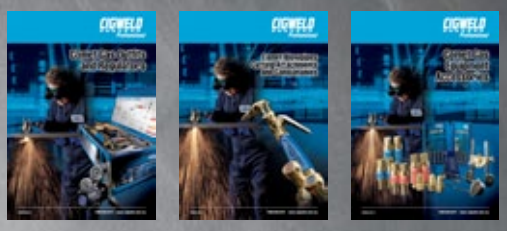


Gas Equipment & Accessories

Comet Gas Outfits and Regulators

Blowpipes, Cutters and Consumables

Comet Gas Equipment Accessories

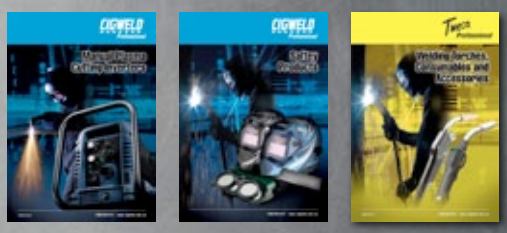


Safety, MIG Gun & Accessories Plasma Cutting Equipment

Plasma Cutting Equipment

Safety Products

Welding Torches, Consumables and Accessories



POCKET GUIDE

Get Mobile with our latest iPhone Pocket Guide, scan the QR code for details

AVAILABLE FOR:

ANDROID

APPLE

1300 654 674 | www.cigweld.com.au

CIGWELD

Australia - (Asia Pacific Head Office)
CIGWELD Pty Ltd
A Victor Technologies Company
71 Gower Street, Preston VIC 3072 Australia

Customer Care
Tel: 1300 654 674 Fax: +61 3 9474 7391
Email: enquiries@cigweld.com.au
International Enquiries:
Tel: +61 3 9474 7508 Fax: +61 3 9474 7488

www.cigweld.com.au

Malaysia -
Victor Technologies
Lot 151, Jalan Industri 3/5A
Rawang Integrated Industrial Park,
Jln Batu Arang
48000 Rawang Selangor Darul Ehsan
West Malaysia

Tel: + 60 3 6092 2988 Fax: +60 3 6092 1085
www.victortechnologies.asia

Indonesia -
Victor Technologies
JL Angsana II Blok AE No.28
Delta Silicon - Cikarang
Bekasi, 17550
Indonesia

Tel: +62 21 8990 6095 Fax: +62 21 8990 6096
www.victortechnologies.asia

China -
Victor Technologies
Unit 4F2, Zhao Feng Universal Building
No. 1800 West Zhongshan Road,
Xuhui District, Shanghai 200235
China

Tel: +86 21 6407 2626 Fax: +86 21 6448 3032
www.victortechnologies.asia

Authorised Distributor:

AD3933 Solid & Flux Cored Wires 11.09