Solid and Flux Cored Welding Wires
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

<table>
<thead>
<tr>
<th>Icon</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td><img src="image1" alt="Requires shielding gas" /></td>
<td>Requires shielding gas</td>
</tr>
<tr>
<td><img src="image2" alt="No shielding gas required" /></td>
<td>No shielding gas required</td>
</tr>
<tr>
<td><img src="image3" alt="Direct current - electrode positive" /></td>
<td>Direct current - electrode positive</td>
</tr>
<tr>
<td><img src="image4" alt="Direct current - electrode negative" /></td>
<td>Direct current - electrode negative</td>
</tr>
<tr>
<td><img src="image5" alt="Direct current - electrode negative or positive" /></td>
<td>Direct current - electrode negative or positive</td>
</tr>
<tr>
<td><img src="image6" alt="Suitable for overhead welding" /></td>
<td>Suitable for overhead welding</td>
</tr>
<tr>
<td><img src="image7" alt="Suitable for vertical up welding" /></td>
<td>Suitable for vertical up welding</td>
</tr>
<tr>
<td><img src="image8" alt="Suitable for side horizontal welding" /></td>
<td>Suitable for side horizontal welding</td>
</tr>
<tr>
<td><img src="image9" alt="Suitable for HV (horizontal/vertical) fillet welding" /></td>
<td>Suitable for HV (horizontal/vertical) fillet welding</td>
</tr>
<tr>
<td><img src="image10" alt="Suitable for flat welding" /></td>
<td>Suitable for flat welding</td>
</tr>
<tr>
<td><img src="image11" alt="Copper-coated seamless flux cored wire" /></td>
<td>Copper-coated seamless flux cored wire</td>
</tr>
</tbody>
</table>

©2012 Victor Technologies. All rights reserved.

Contents

Autocraft Copper Coated Solid Steel Welding Wires
- Autocraft LW1-6
- Autocraft LW1
- Autocraft Super Steel
- Autocraft Mn-Mo
- Autocraft NiCrMo
- Autocraft CrMo1

Autocraft Solid Stainless Steel Welding Wires
- Autocraft 308LSi
- Autocraft 309LSi
- Autocraft 316LSi

Autocraft Solid Aluminium Welding Wires
- Autocraft AL1100
- Autocraft AL4043
- Autocraft AL5356
- Autocraft AL5183

Autocraft Solid Copper Based Welding Wires
- Autocraft Deoxidised Copper
- Autocraft Silicon Bronze

Flux Cored Welding Wires for Mild Steel, Low Alloy Steels & Cast Iron
- Why choose Flux Cored over Solid wire?
- Seamed and seamless wires
- Flux cored wire types
- Satin-Cor XP
- Verti-Cor Ultra XP
- Verti-Cor XP
- Verti-Cor 3XP
- Verti-Cor 3XP H4 - Seamless
- Verti-Cor 81 Ni1
- Verti-Cor 81 Ni2
- Verti-Cor 81 Ni1 H4
- Verti-Cor 91 K2 H4
- Verti-Cor 111 K3 H4
- Supre-Cor 5
- Supre-Cor XP H4
- Metal-Cor 5 H4
- Metal-Cor XP
- Tensi-Cor 110TXP H4
- Nicore 55
- Shield-Cor 4XP
- Shield-Cor 11
- Shield-Cor 15
- Shield-Cor 8XP
- Shield-Cor 8Ni

Verti-Cor Flux Cored Stainless Steel Welding Wires
- Verti-Cor 308LT
- Verti-Cor 309LT
- Verti-Cor 316LT

Autocraft Solid Wires & Satinarc Fluxes for Submerged Arc Welding
- Autocraft SA1
- Autocraft SA2
- Satinarc 4
- Satinarc 15
Autocraft Copper Coated Solid Steel Welding Wires

**Autocraft LW1-6**

- A higher manganese/silicon steel wire for GMA Welding
- Use with CO₂ 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: E56-GC/M-W503AH.
AW/SME-SFA A5.18: ER70S-6.

**Packaging and Operating Data:**

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

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

**AUTOPAK® Parts List:**

<table>
<thead>
<tr>
<th>AUTOPAK accessories &quot;Standard Types&quot;</th>
<th>Part No</th>
</tr>
</thead>
<tbody>
<tr>
<td>Clear plastic AUTOPAK dome (510mm base diam. x 300mm height)</td>
<td>720001</td>
</tr>
<tr>
<td>AUTOPAK conduit assembly kit</td>
<td>720008</td>
</tr>
<tr>
<td>Robot cell conduit kit</td>
<td>720004</td>
</tr>
</tbody>
</table>

**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 maneuverable makes it easy to use in confined and restricted locations. Autopak takes up only 0.2m² of floor space.

**Typical All Weld Metal Mechanical Properties:**

<table>
<thead>
<tr>
<th>Welding Grade CO₂</th>
<th>Argon/CO₂ (10-25%) CO₂</th>
</tr>
</thead>
<tbody>
<tr>
<td>Yield Stress</td>
<td>420 MPa</td>
</tr>
<tr>
<td>Tensile Strength</td>
<td>520 MPa</td>
</tr>
<tr>
<td>Elongation</td>
<td>30%</td>
</tr>
</tbody>
</table>

**Typical Diffusible Hydrogen Levels to AS3752:**

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

**Comparative Cigweld Products:**

- Comweld LW1-6 TIG rod
- Comweld LW1 TIG rod
- Verti-Cor 3XP FCAW
- Metal-Cor XP FCAW

**Recommended Shielding Gas:**

- Argon + 10-15% CO₂ (or equivalent)
- ISO14175: M14, M21, M24
- Argon + 10-25% CO₂ (or equivalent)
- ISO14175: M21
- Argon + 5% CO₂ +3% O₂
- ISO14175: M23
- Welding Grade CO₂
- ISO14175: C1

**Approvals:**

- L.R.S. Grade 3S, 3YS
- A.B.S. Grade 3SA

*Approvals do not include 0.6mm Autocraft LW1-6 wire

**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.
**Autocraft Copper Coated Solid Steel Welding Wires**

### 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:**

<table>
<thead>
<tr>
<th>Wire Dia (mm)</th>
<th>Voltage Range (volts)</th>
<th>Wire Feed Speed (metres/min)</th>
<th>Current Range (amps)</th>
<th>Pack Type*</th>
<th>Pack Weight (kg)</th>
<th>Part No</th>
</tr>
</thead>
<tbody>
<tr>
<td>0.9</td>
<td>15 – 26</td>
<td>70 – 230</td>
<td>Spool</td>
<td>15kg</td>
<td>720115</td>
<td></td>
</tr>
<tr>
<td>1.2</td>
<td>18 – 32</td>
<td>120 – 350</td>
<td>Spool</td>
<td>15kg</td>
<td>720116</td>
<td></td>
</tr>
</tbody>
</table>

* Spool (ø300mm);

### Autocraft Super Steel

- A Low Carbon, Triple Deoxidised Steel Wire for GMA Welding.
- For use with Welding Grade CO2 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:**

<table>
<thead>
<tr>
<th>Wire Dia (mm)</th>
<th>Voltage Range (volts)</th>
<th>Wire Feed Speed (metres/min)</th>
<th>Current Range (amps)</th>
<th>Pack Type*</th>
<th>Pack Weight (kg)</th>
<th>Part No</th>
</tr>
</thead>
<tbody>
<tr>
<td>1.2</td>
<td>18 – 32</td>
<td>120 – 350</td>
<td>Spool</td>
<td>15kg</td>
<td>720054</td>
<td></td>
</tr>
</tbody>
</table>

* Spool (ø300mm);

### Autocraft Mn-Mo

- A Manganese Molybdenum Steel Wire for the GMA Welding of Higher Strength steels.
- For use with Welding Grade CO2 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: ES2-D2-GC/M-W559AH.
AWS/ASME-SFA A5.28: ER80S-D2.

**Packaging and Operating Data:**

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

* Spool (ø300mm);
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-GCM-W769AH.
- AWS/ASME-SFA A5.28: ER110S-G.

**Packaging and Operating Data:**

<table>
<thead>
<tr>
<th>Wire Dia</th>
<th>Voltage Range (volts)</th>
<th>Wire Feed Speed Range (metres/min)</th>
<th>Current Range (amps)</th>
<th>Pack Type*</th>
<th>Pack Weight</th>
<th>Part No</th>
</tr>
</thead>
<tbody>
<tr>
<td>1.2</td>
<td>18 – 32</td>
<td>3.5 – 15</td>
<td>120 – 350</td>
<td>Spool</td>
<td>15kg</td>
<td>720053</td>
</tr>
</tbody>
</table>

* Spool (ø300mm).

**TYPICAL ALL WELD METAL MECHANICAL PROPERTIES:**
- Argon 1-3% CO2: 760 MPa
- Argon 10-25% CO2: 70 MPa
- Tensile Strength 790 MPa
- 600 MPa
- Elongation 17% 31%
- CVN Impact Val. 70 J @ -25°C
- CVN Impact Val. 80 J @ -5°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% CO2
- Argon + 1-3% O2
- Welding Grade CO2

**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.

**Packaging and Operating Data:**

<table>
<thead>
<tr>
<th>Wire Dia</th>
<th>Voltage Range (volts)</th>
<th>Wire Feed Speed Range (metres/min)</th>
<th>Current Range (amps)</th>
<th>Pack Type*</th>
<th>Pack Weight</th>
<th>Part No</th>
</tr>
</thead>
<tbody>
<tr>
<td>1.2</td>
<td>18 – 32</td>
<td>3.5 – 15</td>
<td>120 – 350</td>
<td>Spool</td>
<td>15kg</td>
<td>720029</td>
</tr>
</tbody>
</table>

* Spool (ø300mm).

**TYPICAL ALL WELD METAL MECHANICAL PROPERTIES:**
- Argon 1-3% CO2: 500 MPa
- 600 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% CO2
- Argon + 1-3% O2

**COMPARABLE CIGWELD PRODUCTS:**
- Alloycraft 80-B2 electrode
- Cornwell CrMo1 TIG rod
Autocraft Solid Stainless Steel Welding Wires

**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.

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

* Spool (ø300mm);

**TYPICAL ALL WELD METAL MECHANICAL PROPERTIES:**

- Argon 1-3% CO₂:
  - 0.2% Proof Stress: 450 MPa
  - Tensile Strength: 620 MPa
  - Elongation: 36%
  - CVN Impact Values: 90 J at -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:**

10 – 15 FN

**RECOMMENDED SHIELDING GAS:**

- Argon + 1-3% O₂
- Argon + 2-5% CO₂

**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.

<table>
<thead>
<tr>
<th>Wire Dia mm</th>
<th>Voltage Range (volts)</th>
<th>Wire Feed Speed (metres/min)</th>
<th>Current Range (amps)</th>
<th>Pack Type*</th>
<th>Pack Weight</th>
<th>Part No</th>
</tr>
</thead>
<tbody>
<tr>
<td>0.9</td>
<td>16 – 24</td>
<td>4.5 – 15</td>
<td>70 – 200</td>
<td>Spool</td>
<td>15kg</td>
<td>721276</td>
</tr>
<tr>
<td>1.2</td>
<td>20 – 28</td>
<td>3.0 – 10</td>
<td>150 – 280</td>
<td>Spool</td>
<td>15kg</td>
<td>721283</td>
</tr>
</tbody>
</table>

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

**TYPICAL ALL WELD METAL MECHANICAL PROPERTIES:**

- Argon 1-3% CO₂:
  - 0.2% Proof Stress: 450 MPa
  - Tensile Strength: 610 MPa
  - Elongation: 36%
  - CVN Impact Values: 90 J at -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:**

5 – 10 FN

**RECOMMENDED SHIELDING GAS:**

- Argon + 1-3% O₂
- Argon + 2-5% CO₂

**COMPARABLE CIGWELD PRODUCTS:**

- Satincrome 309Mo-17 electrode
- Comweld 309L TIG rod
- Verticor 309LT FCAW wire

---

**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.

<table>
<thead>
<tr>
<th>Wire Dia mm</th>
<th>Voltage Range (volts)</th>
<th>Wire Feed Speed (metres/min)</th>
<th>Current Range (amps)</th>
<th>Pack Type*</th>
<th>Pack Weight</th>
<th>Part No</th>
</tr>
</thead>
<tbody>
<tr>
<td>0.9</td>
<td>16 – 24</td>
<td>4.5 – 15</td>
<td>70 – 200</td>
<td>Spool</td>
<td>15kg</td>
<td>721286</td>
</tr>
<tr>
<td>1.2</td>
<td>20 – 28</td>
<td>3.0 – 10</td>
<td>150 – 280</td>
<td>Spool</td>
<td>15kg</td>
<td>721287</td>
</tr>
</tbody>
</table>

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

**TYPICAL ALL WELD METAL MECHANICAL PROPERTIES:**

- Argon 1-3% CO₂:
  - 0.2% Proof Stress: 450 MPa
  - Tensile Strength: 620 MPa
  - Elongation: 36%
  - CVN Impact Values: 90 J at -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% O₂
- Argon + 2-5% CO₂

**COMPARABLE CIGWELD PRODUCTS:**

- Satincrome 316L-17 electrode
- Comweld 316L TIG rod
- Verticor 316LT FCAW wire

---

**Autocraft 308LSi**

- A Stainless Wire for the GMA Welding of 308LSi.

**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.

<table>
<thead>
<tr>
<th>Wire Dia mm</th>
<th>Voltage Range (volts)</th>
<th>Wire Feed Speed (metres/min)</th>
<th>Current Range (amps)</th>
<th>Pack Type*</th>
<th>Pack Weight</th>
<th>Part No</th>
</tr>
</thead>
<tbody>
<tr>
<td>0.8</td>
<td>16 – 24</td>
<td>5.0 – 15.0</td>
<td>60 – 150</td>
<td>Mini spool</td>
<td>4 x (4 per pack)</td>
<td>721285</td>
</tr>
<tr>
<td>0.9</td>
<td>16 – 24</td>
<td>4.5 – 15.0</td>
<td>70 – 200</td>
<td>Handi spool</td>
<td>5kg</td>
<td>720283</td>
</tr>
<tr>
<td>0.9</td>
<td>16 – 24</td>
<td>4.5 – 15.0</td>
<td>70 – 200</td>
<td>Spool</td>
<td>15kg</td>
<td>721286</td>
</tr>
<tr>
<td>1.2</td>
<td>16 – 24</td>
<td>4.5 – 15.0</td>
<td>70 – 200</td>
<td>Spool</td>
<td>15kg</td>
<td>722286</td>
</tr>
<tr>
<td>1.2</td>
<td>20 – 28</td>
<td>3.0 – 10</td>
<td>150 – 280</td>
<td>Spool</td>
<td>15kg</td>
<td>721287</td>
</tr>
</tbody>
</table>

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

<table>
<thead>
<tr>
<th>Wire Dia (mm)</th>
<th>Voltage Range (volts)</th>
<th>Wire Feed Speed Range (metres/min)</th>
<th>Current Range (amps)</th>
<th>Pack Type*</th>
<th>Pack Weight</th>
<th>Part No</th>
</tr>
</thead>
<tbody>
<tr>
<td>1.0</td>
<td>14 – 21</td>
<td>6.0 – 20.0</td>
<td>50 – 150</td>
<td>Mini Spool</td>
<td>7kg</td>
<td>721121</td>
</tr>
<tr>
<td>0.9</td>
<td>16 – 22</td>
<td>6.0 – 17.5</td>
<td>80 – 180</td>
<td>Spool</td>
<td>7kg</td>
<td>722226</td>
</tr>
<tr>
<td>1.0</td>
<td>17 – 23</td>
<td>6.0 – 16.5</td>
<td>110 – 220</td>
<td>Spool</td>
<td>7kg</td>
<td>722224</td>
</tr>
<tr>
<td>1.0</td>
<td>17 – 23</td>
<td>6.0 – 16.5</td>
<td>110 – 220</td>
<td>Handi Spool</td>
<td>2.0kg</td>
<td>732232</td>
</tr>
<tr>
<td>1.2</td>
<td>20 – 25</td>
<td>5.5 – 12.0</td>
<td>150 – 250</td>
<td>Spool</td>
<td>7kg</td>
<td>722227</td>
</tr>
</tbody>
</table>

* Single values are maximum allowable, unless otherwise stated.

**TYPICAL ALL WELD METAL MECHANICAL PROPERTIES:**
Single-vee butt weld with 6061-T6 Aluminium (reduced section tensile specimen):
- Welding grade Argon: 0.2% Proof Stress 124 MPa
- Tensile Strength 166 MPa
- Elongation (in 2 inches) 8%

**WIRE ANALYSIS LIMITS:**
- Single values are maximum allowable, unless otherwise stated.
- Si: 4.5–6.0% Fe: 0.80% Cu: 0.30%
- Mn: 0.15% Mg: 0.03% Zn: 0.10%
- Ti: 0.20% Total others: 0.15%
- Al: Balance

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

**COMPARABLE CIGWELD PRODUCTS:**
- Comweld AL1100

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

**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 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.

<table>
<thead>
<tr>
<th>Wire Dia (mm)</th>
<th>Voltage Range (volts)</th>
<th>Wire Feed Speed Range (metres/min)</th>
<th>Current Range (amps)</th>
<th>Pack Type*</th>
<th>Pack Weight</th>
<th>Part No</th>
</tr>
</thead>
<tbody>
<tr>
<td>1.2</td>
<td>20 – 25</td>
<td>5.5 – 12.0</td>
<td>150 – 250</td>
<td>Spool</td>
<td>7kg</td>
<td>722227</td>
</tr>
<tr>
<td>1.0</td>
<td>17 – 23</td>
<td>6.0 – 16.5</td>
<td>110 – 220</td>
<td>Spool</td>
<td>7kg</td>
<td>722224</td>
</tr>
<tr>
<td>0.9</td>
<td>16 – 22</td>
<td>6.0 – 17.5</td>
<td>80 – 180</td>
<td>Spool</td>
<td>7kg</td>
<td>722226</td>
</tr>
<tr>
<td>0.8</td>
<td>14 – 21</td>
<td>6.0 – 20.0</td>
<td>50 – 150</td>
<td>Mini Spool</td>
<td>4 x 0.5kg</td>
<td>721121</td>
</tr>
</tbody>
</table>

* Single values are maximum allowable, unless otherwise stated.

**TYPICAL ALL WELD METAL MECHANICAL PROPERTIES:**
Single-vee butt weld with 6081-T6 Aluminium (reduced section tensile specimen) using welding grade Argon:
- Postweld heat treated & aged:
  - 0.2% Proof Stress 124 MPa
  - Tensile Strength 166 MPa
  - Elongation (in 2 inches) 8%

**WIRE ANALYSIS LIMITS:**
- Single values are maximum allowable, unless otherwise stated.
- Si: 4.5–6.0% Fe: 0.50% Cu: 0.30%
- Mn: 0.05% Mg: 0.03% Zn: 0.10%
- Ti: 0.20% Total others: 0.15%
- Al: Balance

**RECOMMENDED SHIELDING GAS:**
- Welding Grade Argon
- 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 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.

<table>
<thead>
<tr>
<th>Wire Dia (mm)</th>
<th>Voltage Range (volts)</th>
<th>Wire Feed Speed Range (metres/min)</th>
<th>Current Range (amps)</th>
<th>Pack Type*</th>
<th>Pack Weight</th>
<th>Part No</th>
</tr>
</thead>
<tbody>
<tr>
<td>1.6</td>
<td>23 – 28</td>
<td>5.0 – 9.5</td>
<td>200 – 350</td>
<td>Spool</td>
<td>7kg</td>
<td>722218</td>
</tr>
<tr>
<td>1.2</td>
<td>20 – 25</td>
<td>5.5 – 12.0</td>
<td>150 – 250</td>
<td>Spool</td>
<td>7kg</td>
<td>722218</td>
</tr>
<tr>
<td>0.9</td>
<td>16 – 22</td>
<td>6.0 – 17.5</td>
<td>80 – 180</td>
<td>Spool</td>
<td>7kg</td>
<td>722218</td>
</tr>
</tbody>
</table>

* Single values are maximum allowable, unless otherwise stated.

**TYPICAL ALL WELD METAL MECHANICAL PROPERTIES:**
Single-vee butt weld with 6061-T6 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:**
- Single values are maximum allowable, unless otherwise stated.
- 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.

**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) ES183.
- AWS/ASME-SFA A5.10: ER5183.

**Packaging and Operating Data:**

<table>
<thead>
<tr>
<th>Wire Dia (mm)</th>
<th>Voltage Range (volts)</th>
<th>Wire Feed Speed Range (m/min)</th>
<th>Current Range (amps)</th>
<th>Pack Type</th>
<th>Pack Weight</th>
<th>Part No</th>
</tr>
</thead>
<tbody>
<tr>
<td>1.0</td>
<td>17 – 23</td>
<td>6.0 – 16.5</td>
<td>110 – 220</td>
<td>Spool</td>
<td>7kg</td>
<td>722239</td>
</tr>
<tr>
<td>1.2</td>
<td>20 – 25</td>
<td>5.5 – 12.0</td>
<td>120 – 230</td>
<td>Spool</td>
<td>7kg</td>
<td>722240</td>
</tr>
</tbody>
</table>

*Spool (ø300mm).

**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)

**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%

**Weld Metal Density:**
- 7.47 x 10^3 kg/m^3

**Autocraft Solid Copper Based Welding Wires**

**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.

<table>
<thead>
<tr>
<th>Wire Dia (mm)</th>
<th>Voltage Range (volts)</th>
<th>Wire Feed Speed Range (m/min)</th>
<th>Current Range (amps)</th>
<th>Pack Type</th>
<th>Pack Weight</th>
<th>Part No</th>
</tr>
</thead>
<tbody>
<tr>
<td>1.6</td>
<td>28 – 32</td>
<td>5.5 – 11.5</td>
<td>180 – 380</td>
<td>Spool</td>
<td>13kg</td>
<td>720260</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Wire Dia (mm)</th>
<th>Voltage Range (volts)</th>
<th>Wire Feed Speed Range (m/min)</th>
<th>Current Range (amps)</th>
<th>Pack Type</th>
<th>Pack Weight</th>
<th>Part No</th>
</tr>
</thead>
<tbody>
<tr>
<td>0.8</td>
<td>15 – 20</td>
<td>4.5 – 10.5</td>
<td>85 – 150</td>
<td>Handispool</td>
<td>5kg</td>
<td>720159</td>
</tr>
<tr>
<td>1.0</td>
<td>21 – 26</td>
<td>7.5 – 14.5</td>
<td>100 – 230</td>
<td>Spool</td>
<td>13kg</td>
<td>720315</td>
</tr>
<tr>
<td>1.2</td>
<td>22 – 24</td>
<td>5.5 – 11.5</td>
<td>160 – 380</td>
<td>Spool</td>
<td>13kg</td>
<td>720235</td>
</tr>
</tbody>
</table>

* Spool (ø300mm).

**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

**APPROVALS:**
- 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

**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

**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.

<table>
<thead>
<tr>
<th>Wire Dia (mm)</th>
<th>Voltage Range (volts)</th>
<th>Wire Feed Speed Range (m/min)</th>
<th>Current Range (amps)</th>
<th>Pack Type</th>
<th>Pack Weight</th>
<th>Part No</th>
</tr>
</thead>
<tbody>
<tr>
<td>0.8</td>
<td>15 – 20</td>
<td>4.5 – 10.5</td>
<td>85 – 150</td>
<td>Handispool</td>
<td>5kg</td>
<td>720159</td>
</tr>
<tr>
<td>1.0</td>
<td>21 – 26</td>
<td>7.5 – 14.5</td>
<td>100 – 230</td>
<td>Spool</td>
<td>13kg</td>
<td>720315</td>
</tr>
<tr>
<td>1.2</td>
<td>22 – 24</td>
<td>5.5 – 11.5</td>
<td>160 – 380</td>
<td>Spool</td>
<td>13kg</td>
<td>720235</td>
</tr>
</tbody>
</table>

* 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% CO2
- Argon + 0-3% O2
- Helium + 25% Ar

**TYPICAL WELD DEPOSIT HARDNESS WITH ARGON+10-15% CO2:**
- HRB Three Layers on Mild Steel: 48

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

Seamed flux cored wire

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 CO₂ 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 CO2 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.

**Operating Data:**

All welding conditions recommended below are for use with semi-automatic operation, DC electrode positive and welding grade CO2 shielding gas with a flow rate of 15-20 litres/min.

<table>
<thead>
<tr>
<th>Wire Dia (mm)</th>
<th>Current Range (amps)</th>
<th>Voltage Range (volts)</th>
<th>Electrode Stickout (ESO)</th>
<th>Optimum Amps</th>
<th>Volts</th>
<th>Welding Positions</th>
</tr>
</thead>
<tbody>
<tr>
<td>1.6</td>
<td>350 – 450</td>
<td>28 – 33</td>
<td>25 – 30</td>
<td>380</td>
<td>30</td>
<td>Flat</td>
</tr>
<tr>
<td>2.4</td>
<td>400 – 550</td>
<td>28 – 33</td>
<td>25 – 35</td>
<td>450</td>
<td>30</td>
<td>Flat</td>
</tr>
<tr>
<td>1.6</td>
<td>300 – 400</td>
<td>26 – 30</td>
<td>25 – 30</td>
<td>330</td>
<td>29</td>
<td>HV Fillet</td>
</tr>
<tr>
<td>2.4</td>
<td>350 – 450</td>
<td>26 – 30</td>
<td>25 – 30</td>
<td>400</td>
<td>29</td>
<td>Horizontal</td>
</tr>
<tr>
<td>1.6</td>
<td>270 – 250</td>
<td>25 – 29</td>
<td>25 – 30</td>
<td>300</td>
<td>28</td>
<td>Horizontal</td>
</tr>
</tbody>
</table>

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.

**Mechanical Properties:**

- **Yield Stress:** 430 MPa
- **Tensile Strength:** 560 MPa
- **Elongation:** 25%
- **CVN Impact Values:** 84 J at 0°C

**Typical Welding Data:**

<table>
<thead>
<tr>
<th>Wire Dia (mm)</th>
<th>Current (amps)</th>
<th>Voltage (volts)</th>
<th>Electrode Stickout (ESO)</th>
<th>Optimum Amps</th>
<th>Volts</th>
<th>Positions</th>
</tr>
</thead>
<tbody>
<tr>
<td>1.6</td>
<td>250 – 300</td>
<td>27 – 31</td>
<td>20 – 25</td>
<td>250</td>
<td>28</td>
<td>Flat</td>
</tr>
<tr>
<td>1.6</td>
<td>350 – 400</td>
<td>27 – 31</td>
<td>20 – 30</td>
<td>330</td>
<td>29</td>
<td>Flat</td>
</tr>
<tr>
<td>1.2</td>
<td>230 – 280</td>
<td>26 – 30</td>
<td>20 – 25</td>
<td>230</td>
<td>27</td>
<td>HV Fillet</td>
</tr>
<tr>
<td>1.6</td>
<td>310 – 360</td>
<td>26 – 30</td>
<td>25 – 30</td>
<td>270</td>
<td>27</td>
<td>Horizontal</td>
</tr>
<tr>
<td>1.2</td>
<td>170 – 220</td>
<td>24 – 28</td>
<td>15 – 20</td>
<td>190</td>
<td>24</td>
<td>Vertical up</td>
</tr>
<tr>
<td>1.6</td>
<td>160 – 210</td>
<td>24 – 28</td>
<td>15 – 20</td>
<td>215</td>
<td>26</td>
<td>Overhead</td>
</tr>
<tr>
<td>1.6</td>
<td>190 – 240</td>
<td>24 – 28</td>
<td>15 – 20</td>
<td>250</td>
<td>27</td>
<td>Overhead</td>
</tr>
</tbody>
</table>

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.

**Verti-Cor Ultra**

- A rutile type flux cored wire formulated exclusively for CO2 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 2203.1: (old) ETP-GCp-W502A. CM1 H10.

**Operating Data:**

All welding conditions recommended below are for use with semi-automatic operation, DC electrode positive and welding grade CO2 shielding gas with a flow rate of 15-20 litres/min.

<table>
<thead>
<tr>
<th>Wire Dia (mm)</th>
<th>Current Range (amps)</th>
<th>Voltage Range (volts)</th>
<th>Electrode Stickout (ESO)</th>
<th>Optimum Amps</th>
<th>Volts</th>
<th>Welding Positions</th>
</tr>
</thead>
<tbody>
<tr>
<td>1.2</td>
<td>250 – 300</td>
<td>27 – 31</td>
<td>20 – 25</td>
<td>250</td>
<td>28</td>
<td>Flat</td>
</tr>
<tr>
<td>1.6</td>
<td>350 – 400</td>
<td>27 – 31</td>
<td>20 – 30</td>
<td>330</td>
<td>29</td>
<td>Flat</td>
</tr>
<tr>
<td>1.2</td>
<td>230 – 280</td>
<td>26 – 30</td>
<td>20 – 25</td>
<td>230</td>
<td>27</td>
<td>HV Fillet</td>
</tr>
<tr>
<td>1.6</td>
<td>310 – 360</td>
<td>26 – 30</td>
<td>25 – 30</td>
<td>270</td>
<td>27</td>
<td>Horizontal</td>
</tr>
<tr>
<td>1.2</td>
<td>170 – 220</td>
<td>24 – 28</td>
<td>15 – 20</td>
<td>190</td>
<td>24</td>
<td>Vertical up</td>
</tr>
<tr>
<td>1.6</td>
<td>160 – 210</td>
<td>24 – 28</td>
<td>15 – 20</td>
<td>215</td>
<td>26</td>
<td>Overhead</td>
</tr>
<tr>
<td>1.6</td>
<td>190 – 240</td>
<td>24 – 28</td>
<td>15 – 20</td>
<td>250</td>
<td>27</td>
<td>Overhead</td>
</tr>
</tbody>
</table>

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.

**Mechanical Properties:**

- **Yield Stress:** 480 MPa
- **Tensile Strength:** 560 MPa
- **Elongation:** 26%
- **CVN Impact Values:** 80 J at 0°C

**Typical Welding Data:**

<table>
<thead>
<tr>
<th>Wire Dia (mm)</th>
<th>Current (amps)</th>
<th>Voltage (volts)</th>
<th>Electrode Stickout (ESO)</th>
<th>Optimum Amps</th>
<th>Volts</th>
<th>Positions</th>
</tr>
</thead>
<tbody>
<tr>
<td>1.2</td>
<td>250 – 300</td>
<td>27 – 31</td>
<td>20 – 25</td>
<td>250</td>
<td>28</td>
<td>Flat</td>
</tr>
<tr>
<td>1.6</td>
<td>350 – 400</td>
<td>27 – 31</td>
<td>20 – 30</td>
<td>330</td>
<td>29</td>
<td>Flat</td>
</tr>
<tr>
<td>1.2</td>
<td>230 – 280</td>
<td>26 – 30</td>
<td>20 – 25</td>
<td>230</td>
<td>27</td>
<td>HV Fillet</td>
</tr>
<tr>
<td>1.6</td>
<td>310 – 360</td>
<td>26 – 30</td>
<td>25 – 30</td>
<td>270</td>
<td>27</td>
<td>Horizontal</td>
</tr>
<tr>
<td>1.2</td>
<td>170 – 220</td>
<td>24 – 28</td>
<td>15 – 20</td>
<td>190</td>
<td>24</td>
<td>Vertical up</td>
</tr>
<tr>
<td>1.6</td>
<td>160 – 210</td>
<td>24 – 28</td>
<td>15 – 20</td>
<td>215</td>
<td>26</td>
<td>Overhead</td>
</tr>
<tr>
<td>1.6</td>
<td>190 – 240</td>
<td>24 – 28</td>
<td>15 – 20</td>
<td>250</td>
<td>27</td>
<td>Overhead</td>
</tr>
</tbody>
</table>

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 Diffusible Hydrogen Levels:**

- 5-6 mls of hydrogen / 100gms of deposited weld metal.

- “for as manufactured” product using welding grade CO2 shielding gas.

**Approvals:**

- LRS Grade 2S, 2Y5
- ABS Grade 2YSA H10
- DNV Grade IIYMS H10

**Recommended Shielding Gas:**

- Welding Grade CO2
Verti-Cor XP

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

Classifications:
AS/NZS ISO 17632: (new) B T 49 2 T1 1 C A U H10.
AS/NZS 2203.1: (old) ETP-GM-W503A. CM1 H10.
AWS/ASME-SFA A5.20.

Operating Data:
All welding conditions recommended below are for use with semi-automatic operation.

<table>
<thead>
<tr>
<th>Wire Dia</th>
<th>Current (amps)</th>
<th>Voltage Range (volts)</th>
<th>Electrode Diameter (mm)</th>
<th>Optimum Amps</th>
<th>Volts</th>
<th>Welding Positions</th>
</tr>
</thead>
<tbody>
<tr>
<td>1.6</td>
<td>150-250</td>
<td>23-28</td>
<td>15-20</td>
<td>-</td>
<td>-</td>
<td>Flat</td>
</tr>
<tr>
<td>1.6</td>
<td>200-400</td>
<td>28-34</td>
<td>25-30</td>
<td>-</td>
<td>-</td>
<td>Vertical Up</td>
</tr>
<tr>
<td>1.6</td>
<td>120-200</td>
<td>22-27</td>
<td>15-20</td>
<td>-</td>
<td>-</td>
<td>Overhead</td>
</tr>
<tr>
<td>1.6</td>
<td>200-250</td>
<td>23-27</td>
<td>20-25</td>
<td>-</td>
<td>-</td>
<td>Overhead</td>
</tr>
</tbody>
</table>

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.

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

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.
AS/NZS 2203.1: (old) ETP-GM-W503A. CM1 H10.
AWS/ASME-SFA A5.20.

Operating Data:
All welding conditions recommended below are for use with semi-automatic operation.

<table>
<thead>
<tr>
<th>Wire Dia</th>
<th>Current (amps)</th>
<th>Voltage Range (volts)</th>
<th>Electrode Diameter (mm)</th>
<th>Optimum Amps</th>
<th>Volts</th>
<th>Welding Positions</th>
</tr>
</thead>
<tbody>
<tr>
<td>1.6</td>
<td>250 – 300</td>
<td>27 – 31</td>
<td>20 – 25</td>
<td>280</td>
<td>31</td>
<td>Flat</td>
</tr>
<tr>
<td>1.6</td>
<td>350 – 400</td>
<td>27 – 31</td>
<td>25 – 30</td>
<td>360</td>
<td>31</td>
<td>Vertical Up</td>
</tr>
<tr>
<td>1.6</td>
<td>310 – 360</td>
<td>26 – 30</td>
<td>25 – 30</td>
<td>220</td>
<td>29</td>
<td>HV Fillet</td>
</tr>
<tr>
<td>1.6</td>
<td>170 – 220</td>
<td>24 – 28</td>
<td>15 – 20</td>
<td>200</td>
<td>24</td>
<td>Vertical up</td>
</tr>
<tr>
<td>1.6</td>
<td>200 – 250</td>
<td>24 – 25</td>
<td>15 – 20</td>
<td>240</td>
<td>22</td>
<td>Overhead</td>
</tr>
<tr>
<td>1.6</td>
<td>190 – 240</td>
<td>24 – 28</td>
<td>15 – 20</td>
<td>220</td>
<td>24</td>
<td>Overhead</td>
</tr>
</tbody>
</table>

TYPICAL ALL WELD METAL

MECHANICAL PROPERTIES:
Yield Stress 510 MPa 550 MPa
Tensile Strength 600 MPa 630 MPa
Elongation 26% 26%
CVN Impact Values 65J at 0°C 70J at 0°C

TYPICAL ALL WELD METAL ANALYSIS:
USING CO2
C: 0.03% Mn: 1.35% Si: 0.42% S: 0.012% P: 0.01%

USING Argon +20-25% CO2
C: 0.03% Mn: 1.44% Si: 0.59% S: 0.001% P: 0.025%

RECOMMENDED SHIELDING GASES:
Welding Grade CO2 (ISO14175: C1
Argon + 20-25% CO2 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 CO2 shielding gas.

APPROVALS*:
LRG Grade 3S, 3YS H10.
ABS Grade 3YSA H8.
DNV IIIYMS H10.

*with Argon +20-25% CO2 shielding gas and CO2 shielding gas.

TYPICAL ALL WELD METAL

MECHANICAL PROPERTIES:
Using Ar+20-25% CO2; Using CO2
Yield Stress 480 MPa 490 MPa
Tensile Strength 560 MPa 580 MPa
Elongation 28% 30%
CVN Impact Values 110J at 0°C 90J at 0°C
90J at -20°C 75J at -20°C

TYPICAL ALL WELD METAL ANALYSIS:
USING CO2
C: 0.07% Mn: 1.16% Si: 0.52%
Ti: 0.035% B: 0.008%

USING Argon +20-25% CO2
C: 0.06% Mn: 1.05% Si: 0.42%
Ti: 0.035% B: 0.007%

LEVELS TO AS3752:
5–6 mls of hydrogen / 100gms of deposited weld metal *.
*for “as manufactured” product using Argonshield 52 shielding gas.

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

PACKAGING DATA:

<table>
<thead>
<tr>
<th>Wire Dia</th>
<th>Pack Type</th>
<th>Pack Weight</th>
<th>Part No</th>
</tr>
</thead>
<tbody>
<tr>
<td>1.6</td>
<td>Spool</td>
<td>15kg</td>
<td>720915</td>
</tr>
<tr>
<td>1.2</td>
<td>Autopak</td>
<td>15kg</td>
<td>720915A</td>
</tr>
<tr>
<td>1.6</td>
<td>Autopak</td>
<td>20kg</td>
<td>720917A</td>
</tr>
<tr>
<td>2.0</td>
<td>Spool</td>
<td>15kg</td>
<td>720956</td>
</tr>
<tr>
<td>2.0</td>
<td>Coil</td>
<td>25kg</td>
<td>720956</td>
</tr>
</tbody>
</table>

* Spool (ø300mm)

Equipment Data:

<table>
<thead>
<tr>
<th>Wire Dia</th>
<th>Voltage Range (volts)</th>
<th>Electrode Diameter (mm)</th>
<th>Optimum Amps</th>
<th>Volts</th>
</tr>
</thead>
<tbody>
<tr>
<td>1.6</td>
<td>150-200</td>
<td>22-27</td>
<td>20-25</td>
<td>220</td>
</tr>
<tr>
<td>1.6</td>
<td>200-250</td>
<td>23-27</td>
<td>20-25</td>
<td>240</td>
</tr>
<tr>
<td>1.6</td>
<td>310-360</td>
<td>26-30</td>
<td>25-30</td>
<td>320</td>
</tr>
<tr>
<td>1.6</td>
<td>170-220</td>
<td>24-28</td>
<td>15-20</td>
<td>200</td>
</tr>
<tr>
<td>1.6</td>
<td>200-250</td>
<td>24-25</td>
<td>15-20</td>
<td>240</td>
</tr>
<tr>
<td>1.6</td>
<td>190-240</td>
<td>24-28</td>
<td>15-20</td>
<td>220</td>
</tr>
</tbody>
</table>

* Spool (ø300mm)

TYPICAL DIFFUSIBLE HYDROGEN

LEVELS TO AS3752:
5–6 mls of hydrogen / 100gms of deposited weld metal *.
*for “as manufactured” product using Argonshield 52 shielding gas.

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

PACKAGING DATA:

<table>
<thead>
<tr>
<th>Wire Dia</th>
<th>Pack Type</th>
<th>Pack Weight</th>
<th>Part No</th>
</tr>
</thead>
<tbody>
<tr>
<td>1.6</td>
<td>Spool</td>
<td>15kg</td>
<td>720919</td>
</tr>
<tr>
<td>1.6</td>
<td>Spool</td>
<td>15kg</td>
<td>720921</td>
</tr>
</tbody>
</table>

* Spool (ø300mm)
**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 2203.1: (old) ETP-GMp-W503A, CM1 H5.

**Operating Data:**

All welding conditions recommended below are for use with semi-automatic operation, DC electrode positive and welding grade CO2 shielding gas with a flow rate of 15-20 litres/min.

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

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

**TYPICAL ALL WELD METAL ANALYSIS:**
- 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% CO2.

**APPROVALS:**
- LRS 3S, 3YS H5
- ABS 3YSA H5
  - with Argon +20-25% CO2 shielding gas combinations.

**RECOMMENDED SHIELDING GASES:**
- Argon + 20-25% CO2.

**Packaging Data:**

<table>
<thead>
<tr>
<th>Wire Dia (mm)</th>
<th>Pack Type</th>
<th>Pack Weight</th>
<th>Part No</th>
</tr>
</thead>
<tbody>
<tr>
<td>1.2</td>
<td>Spool</td>
<td>15kg</td>
<td>722919</td>
</tr>
<tr>
<td>1.6</td>
<td>Spool</td>
<td>15kg</td>
<td>722921</td>
</tr>
</tbody>
</table>

* 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% CO2 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 T1 1 M A N2 U H10.
- AS/NZS 2203.1: (old) ETP-G/Mp-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 CO2 shielding gas with a flow rate of 15-20 litres/min.

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

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% CO2:
  - 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: 9.00%
- Ti: 0.035%
- B: 0.007%

*For Argon +20-25% CO2.

**RECOMMENDED SHIELDING GAS:**

- Argon + 20-25% CO2

**COMPARABLE CIGWELD PRODUCTS:**

- Alloycraft 80-C1 MMAW

**Verti-Cor 81 Ni2**

- Higher strength, low alloy rutile type flux cored wire
- Formulated for use with Argon +20-25% CO2 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 N2 U H10.
- AS/NZS 2203.1: (old) ETP-G/Mp-W554A Ni2 H10.
- AWS/ASME-SFA A5.29: E81T1-Ni2MH8

**Operating Data:**

All welding conditions recommended below are for use with semi-automatic operation, DC electrode positive and welding grade CO2 shielding gas with a flow rate of 15-20 litres/min.

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

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% CO2:
  - Yield Stress: 590 MPa
  - Tensile Strength: 660 MPa
  - Elongation: 27%
  - CVN, Impact Values: 70J av @ -40°C

**TYPICAL ALL WELD METAL ANALYSIS:**

- C: 0.02%
- Mn: 1.16%
- Si: 0.51%
- Ni: 2.0%

*For Argon +20-25% CO2.

**RECOMMENDED SHIELDING GASES:**

- Argon + 20-25% CO2 or equivalent

**ISO14175: M21, M24**

**Packaging Data:**

<table>
<thead>
<tr>
<th>Wire Dia (mm)</th>
<th>Pack Type*</th>
<th>Pack Weight</th>
<th>Part No</th>
</tr>
</thead>
<tbody>
<tr>
<td>1.2</td>
<td>Spool</td>
<td>15kg</td>
<td>720390</td>
</tr>
<tr>
<td>1.6</td>
<td>Spool</td>
<td>15kg</td>
<td>720391</td>
</tr>
</tbody>
</table>

* Spool (ø300mm)

**TYPICAL DIFFUSIBLE HYDROGEN LEVELS TO AS3752:**

- 6-7 mls of hydrogen / 100gms of deposited weld metal .

*For “as manufactured” product using Argon +20-25% CO2.

**COMPARABLE CIGWELD PRODUCTS:**

- Alloycraft 80-C1 MMAW
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% CO2 or CO2 shielding gases
- Outstanding operator appeal
- Versatile, all positional capabilities
- Low fume levels
- Precision layer wound

Classifications:
- AS/NZS ISO 17632: (new) B T 55 T 1 T 1 C 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 CO2 shielding gas with a flow rate of 15-20 litres/min.

<table>
<thead>
<tr>
<th>Wire Dia (mm)</th>
<th>Current Range (amps)</th>
<th>Voltage Range (volts)</th>
<th>Electrode Optimum (ESO)</th>
<th>Voltage</th>
<th>Welding Positions</th>
</tr>
</thead>
<tbody>
<tr>
<td>1.2</td>
<td>250 - 300</td>
<td>27 - 31</td>
<td>25 - 30</td>
<td>280</td>
<td>Flat</td>
</tr>
<tr>
<td>1.6</td>
<td>350 - 400</td>
<td>27 - 31</td>
<td>25 - 30</td>
<td>360</td>
<td>Flat</td>
</tr>
<tr>
<td>2.0</td>
<td>380 - 460</td>
<td>28 - 32</td>
<td>25 - 30</td>
<td>400</td>
<td>Flat</td>
</tr>
</tbody>
</table>

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% CO2: Using CO2:
  - Yield Stress: 540 MPa 500 MPa
  - Tensile Strength: 603 MPa 560 MPa
  - Elongation: 22% 21%
  - CVN Impact Values: 85 J av @ -50°C 75 J av @ -50°C

**All Weld Metal Analysis:**
- Using Argon +20-25% CO2:
  - C: 0.06% Mn: 1.40% Si: 0.5%
  - Ni: 1.0%
- Using CO2:
  - C: 0.05% Mn: 1.1% Si: 0.38%

**Diffusible Hydrogen Levels to AS3752:**
- <3 mls of hydrogen / 100gms of deposited weld metal.
- *for as manufactured* product using Argon +20-25% CO2 or CO2.

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% CO2 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 T 1 T 1 M A NJM1 H5

Operating Data:
All welding conditions recommended below are for use with semi-automatic operation, DC electrode positive and welding grade CO2 shielding gas with a flow rate of 15-20 litres/min.

<table>
<thead>
<tr>
<th>Wire Dia (mm)</th>
<th>Current Range (amps)</th>
<th>Voltage Range (volts)</th>
<th>Electrode Optimum (ESO)</th>
<th>Voltage</th>
<th>Welding Positions</th>
</tr>
</thead>
<tbody>
<tr>
<td>1.2</td>
<td>250 – 300</td>
<td>27 – 31</td>
<td>25 – 30</td>
<td>280</td>
<td>Flat</td>
</tr>
<tr>
<td>1.6</td>
<td>350 – 400</td>
<td>27 – 31</td>
<td>25 – 30</td>
<td>360</td>
<td>Flat</td>
</tr>
<tr>
<td>2.0</td>
<td>380 – 460</td>
<td>28 – 32</td>
<td>25 – 30</td>
<td>400</td>
<td>Flat</td>
</tr>
</tbody>
</table>

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% CO2: Using CO2:
  - Yield Stress: 560 MPa
  - Tensile Strength: 660 MPa
  - Elongation: 23%
  - CVN Impact Values: 30 J av @ -50°C

**All Weld Metal Analysis:**
- Using Argon +20-25% CO2:
  - C: 0.06% Mn: 1.30% Si: 0.50%
  - Ni: 1.60%
  - Ti: 0.035% B: 0.007%.
- *Using Argon +20-25% CO2

**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% CO2.

Recommended Shielding Gas:
- Argon + 20-25% CO2 or equivalent

COMPARABLE CIGWELD PRODUCTS:
- Alloycraft 90 MMAW
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% CO2 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 6 2 T1 1 M A N3M2U H5.
AS/NZS 2203.1: (old) ETP-GMn-W768A. K3 H5.

Operating Data:
All welding conditions recommended below are for use with semi-automatic operation, DC electrode positive and welding grade CO2 shielding gas with a flow rate of 15-20 litres/min.

<table>
<thead>
<tr>
<th>Wire Dia (mm)</th>
<th>Current (amps) Range</th>
<th>Voltage (volts) Range</th>
<th>Electrode Stickout (ESO)</th>
<th>Optimum Amps</th>
<th>Welding Pos.</th>
</tr>
</thead>
<tbody>
<tr>
<td>1.2</td>
<td>250 – 300</td>
<td>27 – 31</td>
<td>20 – 25</td>
<td>280</td>
<td>31</td>
</tr>
<tr>
<td>1.6</td>
<td>250 – 400</td>
<td>27 – 31</td>
<td>25 – 30</td>
<td>360</td>
<td>31</td>
</tr>
<tr>
<td>1.2</td>
<td>230 – 280</td>
<td>26 – 30</td>
<td>20 – 25</td>
<td>260</td>
<td>28</td>
</tr>
<tr>
<td>1.6</td>
<td>310 – 360</td>
<td>26 – 30</td>
<td>25 – 30</td>
<td>320</td>
<td>29</td>
</tr>
<tr>
<td>1.2</td>
<td>170 – 220</td>
<td>24 – 28</td>
<td>15 – 20</td>
<td>200</td>
<td>24</td>
</tr>
<tr>
<td>1.6</td>
<td>200 – 250</td>
<td>24 – 28</td>
<td>15 – 20</td>
<td>240</td>
<td>25</td>
</tr>
<tr>
<td>1.2</td>
<td>160 – 210</td>
<td>24 – 28</td>
<td>15 – 20</td>
<td>200</td>
<td>24</td>
</tr>
<tr>
<td>1.6</td>
<td>190 – 240</td>
<td>24 – 28</td>
<td>15 – 20</td>
<td>220</td>
<td>24</td>
</tr>
</tbody>
</table>

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% CO2:
  - Yield Stress: 445 MPa
  - Tensile Strength: 530 MPa
  - Elongation: 29% at 530 MPa
  - CVN Impact: 160 J at -20°C

TYPICAL DIFFUSIBLE HYDROGEN LEVELS TO AS3752:
- Argon +20-25% CO2: 1.5-2.0 mls of hydrogen / 100gms of deposited weld metal.
- Argon +20-25% CO2: 3.0-3.5 mls of hydrogen / 100gms of deposited weld metal.

RECOMMENDED SHIELDING GAS:
- Argon + 20-25% CO2

COMPARABLE CIGWELD PRODUCTS:
- Autocraft LW1/LW1-6 GMW
- Ferrocraft 61 MIMAW

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 M A U H5.
AS/NZS 2203.1: (old) ETP-GCn/p-W505A. CM1 H5.

Operating Data:
All welding conditions recommended below are for use with semi-automatic operation, DC electrode positive and welding grade CO2 shielding gas with a flow rate of 15-20 litres/min.

<table>
<thead>
<tr>
<th>Wire Dia (mm)</th>
<th>Current (amps) Range</th>
<th>Voltage (volts) Range</th>
<th>Electrode Stickout (ESO)</th>
<th>Optimum Amps</th>
<th>Welding Pos.</th>
</tr>
</thead>
<tbody>
<tr>
<td>1.2</td>
<td>160 – 210</td>
<td>24 – 28</td>
<td>15 – 20</td>
<td>200</td>
<td>24</td>
</tr>
<tr>
<td>1.6</td>
<td>170 – 220</td>
<td>24 – 28</td>
<td>15 – 20</td>
<td>250</td>
<td>28</td>
</tr>
<tr>
<td>1.2</td>
<td>190 – 240</td>
<td>24 – 28</td>
<td>15 – 20</td>
<td>220</td>
<td>24</td>
</tr>
<tr>
<td>1.6</td>
<td>160 – 210</td>
<td>24 – 28</td>
<td>15 – 20</td>
<td>250</td>
<td>28</td>
</tr>
</tbody>
</table>

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% CO2:
  - Yield Stress: 445 MPa
  - Tensile Strength: 530 MPa
  - Elongation: 29% at 530 MPa
  - CVN Impact: 150 J at -20°C

TYPICAL DIFFUSIBLE HYDROGEN LEVELS TO AS3752:
- Argon +20-25% CO2: 3.0-3.5 mls of hydrogen / 100gms of deposited weld metal.
- Argon +20-25% CO2: 3.0-3.5 mls of hydrogen / 100gms of deposited weld metal.

RECOMMENDED SHIELDING GAS:
- Argon + 20-25% CO2

COMPARABLE CIGWELD PRODUCTS:
- Autocraft LW1/LW1-6 GMW
- Ferrocraft 61 MIMAW

Packaging Data:

**Verti-Cor 111 K3 H4**

<table>
<thead>
<tr>
<th>Wire Dia (mm)</th>
<th>Current (amps) Range</th>
<th>Voltage (volts) Range</th>
<th>Electrode Stickout (ESO)</th>
<th>Optimum Amps</th>
<th>Welding Pos.</th>
</tr>
</thead>
<tbody>
<tr>
<td>1.2</td>
<td>250 – 300</td>
<td>27 – 31</td>
<td>20 – 25</td>
<td>280</td>
<td>31</td>
</tr>
<tr>
<td>1.6</td>
<td>250 – 400</td>
<td>27 – 31</td>
<td>25 – 30</td>
<td>360</td>
<td>31</td>
</tr>
<tr>
<td>1.2</td>
<td>230 – 280</td>
<td>26 – 30</td>
<td>20 – 25</td>
<td>260</td>
<td>28</td>
</tr>
<tr>
<td>1.6</td>
<td>310 – 360</td>
<td>26 – 30</td>
<td>25 – 30</td>
<td>320</td>
<td>29</td>
</tr>
<tr>
<td>1.2</td>
<td>170 – 220</td>
<td>24 – 28</td>
<td>15 – 20</td>
<td>200</td>
<td>24</td>
</tr>
<tr>
<td>1.6</td>
<td>200 – 250</td>
<td>24 – 28</td>
<td>15 – 20</td>
<td>240</td>
<td>25</td>
</tr>
<tr>
<td>1.2</td>
<td>160 – 210</td>
<td>24 – 28</td>
<td>15 – 20</td>
<td>200</td>
<td>24</td>
</tr>
<tr>
<td>1.6</td>
<td>190 – 240</td>
<td>24 – 28</td>
<td>15 – 20</td>
<td>220</td>
<td>24</td>
</tr>
</tbody>
</table>

**Supre-Cor 5**

<table>
<thead>
<tr>
<th>Wire Dia (mm)</th>
<th>Current (amps) Range</th>
<th>Voltage (volts) Range</th>
<th>Electrode Stickout (ESO)</th>
<th>Optimum Amps</th>
<th>Welding Pos.</th>
</tr>
</thead>
<tbody>
<tr>
<td>1.2</td>
<td>250 – 300</td>
<td>27 – 31</td>
<td>20 – 25</td>
<td>280</td>
<td>31</td>
</tr>
<tr>
<td>1.6</td>
<td>250 – 400</td>
<td>27 – 31</td>
<td>25 – 30</td>
<td>360</td>
<td>31</td>
</tr>
<tr>
<td>1.2</td>
<td>230 – 280</td>
<td>26 – 30</td>
<td>20 – 25</td>
<td>260</td>
<td>28</td>
</tr>
<tr>
<td>1.6</td>
<td>310 – 360</td>
<td>26 – 30</td>
<td>25 – 30</td>
<td>320</td>
<td>29</td>
</tr>
<tr>
<td>1.2</td>
<td>170 – 220</td>
<td>24 – 28</td>
<td>15 – 20</td>
<td>200</td>
<td>24</td>
</tr>
<tr>
<td>1.6</td>
<td>200 – 250</td>
<td>24 – 28</td>
<td>15 – 20</td>
<td>240</td>
<td>25</td>
</tr>
<tr>
<td>1.2</td>
<td>160 – 210</td>
<td>24 – 28</td>
<td>15 – 20</td>
<td>200</td>
<td>24</td>
</tr>
<tr>
<td>1.6</td>
<td>190 – 240</td>
<td>24 – 28</td>
<td>15 – 20</td>
<td>220</td>
<td>24</td>
</tr>
</tbody>
</table>
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.  
AS/NZS 2203.1: (old) 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 CO2 shielding gas with a flow rate of 15-20 litres/min.

<table>
<thead>
<tr>
<th>Wire Dia mm</th>
<th>Current Range (amps)</th>
<th>Voltage Range (volts)</th>
<th>Electrode Stickout (ESO)</th>
<th>Optimum Amps</th>
<th>Optimum Volts</th>
<th>Welding Positions</th>
</tr>
</thead>
<tbody>
<tr>
<td>2.4</td>
<td>350-500</td>
<td>27 – 33</td>
<td>25-30</td>
<td>450</td>
<td>31</td>
<td>Flat</td>
</tr>
<tr>
<td>2.4</td>
<td>350-500</td>
<td>27 – 33</td>
<td>25-30</td>
<td>400</td>
<td>30</td>
<td>HV Fillet</td>
</tr>
</tbody>
</table>

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% CO2:
  - Yield Stress: 456 MPa
  - Tensile Strength: 553 MPa
  - CVN Impact Values: 57 J av @ -20°C

**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% CO2

**APPROVALS:**

- LRS Grade 4YSA H5.
- *with Argon +20-25% CO2 or CO2 shielding gases.

**RECOMMENDED SHIELDING GASES:**

- Argon + 20-25% CO2
- Welding Grade CO2

**Packaging Data:**

<table>
<thead>
<tr>
<th>Wire Dia mm</th>
<th>Pack Type</th>
<th>Pack Weight</th>
<th>Part No</th>
</tr>
</thead>
<tbody>
<tr>
<td>2.4</td>
<td>Coil</td>
<td>25kg</td>
<td>720911</td>
</tr>
</tbody>
</table>

**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 CO2 shielding gas with a flow rate of 15-20 litres/min.

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

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% CO2:
  - Yield Stress: 460 MPa
  - Tensile Strength: 530 MPa
  - Elongation: 32%
  - CVN Impact Values: 135 J av @ -20°C 110 J av @ -40°C

**TYPICAL ALL WELD METAL ANALYSIS:**

- C: 0.07%  Mn: 0.9%  Si: 0.56%  P: 0.014%  S: 0.014%  Ni: 0.04%  Cr: 0.03%
- *Using Argon +20-25% CO2

**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% CO2 shielding gas or equivalent

**RECOMMENDED SHIELDING GAS:**

- Argon + 20-25% CO2 or equivalent

**Packaging Data:**

<table>
<thead>
<tr>
<th>Wire Dia mm</th>
<th>Pack Type</th>
<th>Pack Weight</th>
<th>Part No</th>
</tr>
</thead>
<tbody>
<tr>
<td>1.2</td>
<td>Spool</td>
<td>13kg</td>
<td>720552</td>
</tr>
<tr>
<td>1.6</td>
<td>Spool</td>
<td>13kg</td>
<td>720552A</td>
</tr>
<tr>
<td>1.2</td>
<td>Autopak</td>
<td>2300g</td>
<td>720552A</td>
</tr>
<tr>
<td>1.6</td>
<td>Autopak</td>
<td>2300g</td>
<td>720552A</td>
</tr>
</tbody>
</table>

* Spool (ø300mm)
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.
AWS/ASME-SFA A5.18.

* 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.

**Operating Data:**

All welding conditions recommended below are for use with semi-automatic operation, DC electrode positive and welding grade CO2 shielding gas with a flow rate of 15-20 litres/min.

<table>
<thead>
<tr>
<th>Wire Dia mm</th>
<th>Current Range (amps)</th>
<th>Voltage Range (volts)</th>
<th>Electrode Stickout (ESO)</th>
<th>Optimum Amps</th>
<th>Optimum Volts</th>
<th>Welding Positions</th>
</tr>
</thead>
<tbody>
<tr>
<td>1.2</td>
<td>280 – 350</td>
<td>26 – 33</td>
<td>20 – 25</td>
<td>330</td>
<td>32</td>
<td>Flat</td>
</tr>
<tr>
<td>1.6</td>
<td>350 – 450</td>
<td>29 – 33</td>
<td>25 – 30</td>
<td>420</td>
<td>31</td>
<td>Flat</td>
</tr>
<tr>
<td>1.2</td>
<td>230 – 300</td>
<td>27 – 31</td>
<td>20 – 25</td>
<td>280</td>
<td>30</td>
<td>HV Fillet</td>
</tr>
<tr>
<td>1.6</td>
<td>300 – 380</td>
<td>27 – 31</td>
<td>25 – 30</td>
<td>320</td>
<td>28</td>
<td>Horizontal</td>
</tr>
<tr>
<td>1.6</td>
<td>300 – 380</td>
<td>27 – 31</td>
<td>25 – 30</td>
<td>280</td>
<td>26</td>
<td>Horizontal</td>
</tr>
</tbody>
</table>

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% CO2:

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

**Recommended Shielding Gases:**

- Argon + 10-15% CO2
- Argon + 20-25% CO2

**Comparative CIGWELD Products:**

- Autocraft LW1/LW1-6 GMAW
- Ferrocraft 22 MIG

**Packaging Data:**

<table>
<thead>
<tr>
<th>Wire Dia mm</th>
<th>Spool Weight</th>
<th>Part No</th>
</tr>
</thead>
<tbody>
<tr>
<td>1.2</td>
<td>15kg</td>
<td>720960</td>
</tr>
<tr>
<td>1.6</td>
<td>15kg</td>
<td>720912</td>
</tr>
<tr>
<td>1.6</td>
<td>200kg</td>
<td>720913A</td>
</tr>
</tbody>
</table>

**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% CO2 or CO2 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.
AS/NZS 2203.1: (old) ETD-GMn/Cp-W769A. K4 H5.
AWS/ASME-SFA A5.29: E110T5-K4 H4, E110T5. K4 H4 M.

**Operating Data:**

All welding conditions recommended below are for use with semi-automatic operation, DC electrode positive and Argon + 20-25% CO2 shielding gas with a flow rate of 15-20 litres/min.

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

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% CO2:

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

**TYPICAL ALL WELD METAL ANALYSIS:**

C: 0.08% Mn: 1.50% Si: 0.40%
Ni: 1.90% Mo: 0.4% Cr: 0.3%

*Using Argon + 20-25% CO2 shielding gas.

**Recommended Shielding Gases:**

- Argon + 20-25% CO2
- Welding Grade CO2

**Comparative CIGWELD Products:**

- Autocraft NiCrMo GMAW
- Alloycraft 110 MIG

**Packaging Data:**

<table>
<thead>
<tr>
<th>Wire Dia mm</th>
<th>Pack Type*</th>
<th>Pack Weight</th>
<th>Part No</th>
</tr>
</thead>
<tbody>
<tr>
<td>1.6</td>
<td>Spool</td>
<td>15kg</td>
<td>720387</td>
</tr>
<tr>
<td>2.4</td>
<td>Coil</td>
<td>25kg</td>
<td>720389</td>
</tr>
</tbody>
</table>

* Spool (ø300mm)
Flux Cored Welding Wires for Mild Steel, Low Alloy Steels & Cast Iron

Nicro 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:

<table>
<thead>
<tr>
<th>Wire Dia mm</th>
<th>Current Range (amps)</th>
<th>Voltage Range (volts)</th>
<th>Electrode Stickout (ESo)</th>
<th>Welding Positions</th>
</tr>
</thead>
<tbody>
<tr>
<td>1.2</td>
<td>220-250</td>
<td>27 - 29</td>
<td>13</td>
<td>Flat</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

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. Nicro 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% O2

COMPARABLE CIGWELD PRODUCTS:
Castcraft 55

Packaging Data:

<table>
<thead>
<tr>
<th>Wire Dia mm</th>
<th>Pack Type*</th>
<th>Pack Weight</th>
<th>Part No</th>
</tr>
</thead>
<tbody>
<tr>
<td>1.2</td>
<td>Handispool</td>
<td>6.8kg</td>
<td>724046</td>
</tr>
</tbody>
</table>

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 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 CO2 shielding gas with a flow rate of 15-20 litres/min.

<table>
<thead>
<tr>
<th>Wire Dia mm</th>
<th>Current Range (amps)</th>
<th>Voltage Range (volts)</th>
<th>Electrode Stickout (ESo)</th>
<th>Optimum Amps</th>
<th>Optimum Volts</th>
<th>Welding Positions</th>
</tr>
</thead>
<tbody>
<tr>
<td>2.4</td>
<td>300 – 400</td>
<td>27 – 30</td>
<td>60 – 70</td>
<td>400</td>
<td>30</td>
<td>Flat</td>
</tr>
<tr>
<td>2.8</td>
<td>350 – 450</td>
<td>28 – 32</td>
<td>60 – 70</td>
<td>450</td>
<td>31</td>
<td></td>
</tr>
<tr>
<td>2.4</td>
<td>280 – 330</td>
<td>27 – 30</td>
<td>60 – 70</td>
<td>370</td>
<td>28</td>
<td>HV Fillet</td>
</tr>
<tr>
<td>2.8</td>
<td>340 – 440</td>
<td>28 – 32</td>
<td>60 – 70</td>
<td>400</td>
<td>29</td>
<td></td>
</tr>
<tr>
<td>2.4</td>
<td>270 – 370</td>
<td>27 – 29</td>
<td>60 – 70</td>
<td>350</td>
<td>28</td>
<td>Horizontal</td>
</tr>
<tr>
<td>2.8</td>
<td>320 – 420</td>
<td>28 – 30</td>
<td>60 – 70</td>
<td>300</td>
<td>29</td>
<td></td>
</tr>
</tbody>
</table>

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:

<table>
<thead>
<tr>
<th>Wire Dia mm</th>
<th>Pack Type*</th>
<th>Pack Weight</th>
<th>Part No</th>
</tr>
</thead>
<tbody>
<tr>
<td>2.4</td>
<td>Coil</td>
<td>27kg</td>
<td>720907</td>
</tr>
<tr>
<td>2.8</td>
<td>Coil</td>
<td>27kg</td>
<td>720908</td>
</tr>
</tbody>
</table>

*for “as manufactured” product using the recommended E.S.O lengths.
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.

**Operating Data:**

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

<table>
<thead>
<tr>
<th>Wire Dia (mm)</th>
<th>Range (amps)</th>
<th>Voltage Range (volts)</th>
<th>Electrode Stickout (ESO)</th>
<th>Welding Positions</th>
</tr>
</thead>
<tbody>
<tr>
<td>1.2</td>
<td>180 – 230</td>
<td>16 – 18</td>
<td>15 – 20</td>
<td>F.F.</td>
</tr>
<tr>
<td>1.6</td>
<td>180 – 250</td>
<td>18 – 21</td>
<td>20 – 25</td>
<td></td>
</tr>
<tr>
<td>1.2</td>
<td>150 – 200</td>
<td>16 – 18</td>
<td>15 – 20</td>
<td>HV Fillet</td>
</tr>
<tr>
<td>1.6</td>
<td>180 – 240</td>
<td>18 – 21</td>
<td>20 – 25</td>
<td></td>
</tr>
<tr>
<td>1.2</td>
<td>130 – 180</td>
<td>16 – 18</td>
<td>15 – 20</td>
<td>Vertical up</td>
</tr>
<tr>
<td>1.6</td>
<td>160 – 210</td>
<td>18 – 21</td>
<td>20 – 25</td>
<td></td>
</tr>
<tr>
<td>1.2</td>
<td>130 – 180</td>
<td>16 – 18</td>
<td>15 – 20</td>
<td>Overhead</td>
</tr>
<tr>
<td>1.6</td>
<td>160 – 200</td>
<td>18 – 21</td>
<td>20 – 25</td>
<td></td>
</tr>
</tbody>
</table>

*Note: 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.

**Operating Data:**

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

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

*Note: 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.*

**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.

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

*Note: 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.

**Operating Data:**

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

<table>
<thead>
<tr>
<th>Wire Dia (mm)</th>
<th>Pack Type*</th>
<th>Pack Weight</th>
<th>Part No</th>
</tr>
</thead>
<tbody>
<tr>
<td>0.8</td>
<td>Spool</td>
<td>15kg</td>
<td>720923</td>
</tr>
<tr>
<td>0.9</td>
<td>Spool</td>
<td>15kg</td>
<td>720925</td>
</tr>
</tbody>
</table>

*Spool (additions)*

**Packaging Data:**

- **Wire Dia:** 0.8 mm
  - **Pack Type:** 100mm spool
  - **Pack Weight:** 0.45kg x (4/ctn)
  - **Part No:** 721956

- **Wire Dia:** 0.8 mm
  - **Pack Type:** 200mm Handispool
  - **Pack Weight:** 4.5kg
  - **Part No:** 721923

- **Wire Dia:** 0.9 mm
  - **Pack Type:** 100mm Minispool
  - **Pack Weight:** 0.45kg x (4/ctn)
  - **Part No:** 721976

- **Wire Dia:** 0.9 mm
  - **Pack Type:** 200mm Handispool
  - **Pack Weight:** 4.5kg
  - **Part No:** 721924

- **Wire Dia:** 1.2 mm
  - **Pack Type:** 200mm Handispool
  - **Pack Weight:** 4.5kg
  - **Part No:** 720392

*Note: 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.*
**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:**

- AS2203.1: (old) ETP-GnM W503A CM1
- AWS/ASME-SFA A5.20: E71T-8

**Operating Data:**

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

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

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 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 Diffusible Hydrogen Levels to AS3752:**

- 6–8 mls of hydrogen / 100gms of deposited weld metal.

**Recommended Shielding Gases:**

- *NOT REQUIRED*

**Classifications:**

- AS/NZS ISO 17632: (new) B T 49 2 T 1 N A N2 U H10.
- AS2203.1: (old) ETP-GnM 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.

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

**Typical 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 Diffusible Hydrogen Levels to AS3752:**

- 6–8 mls of hydrogen / 100gms of deposited weld metal.

**Recommended Shielding Gases:**

- *NOT REQUIRED*

**Classifications:**

- ABS Grade 3YSA H10.
- GL Phase Qualification: Grade 3S, 3YS H10.

**Operating Data:**

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

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

**Typical 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 Diffusible Hydrogen Levels to AS3752:**

- 6–8 mls of hydrogen / 100gms of deposited weld metal.

**Recommended Shielding Gases:**

- *NOT REQUIRED*
Verti-Cor Flux Cored Stainless Steel Welding Wires

Verti-Cor 308LT

- Verti-Cor stainless steel flux cored wires
- 308LT-All positional capabilities
- Vacuum sealed in aluminised plastic packs
- Formulated for CO2 or Argon +20-25% CO2 shielding gases
- High deposition rate welding of stainless steel

Classifications:
AWS/ASME-SFA A5.22: E308LT1-1 (CO2)
E308LT1-4 (Ar + 20-25% CO2)

Operating Data:
All welding conditions recommended below are for use with semi-automatic operation and DC electrode positive and welding grade CO2 shielding gas with a flow rate of 15-20 litres/min.

<table>
<thead>
<tr>
<th>Wire Dia (mm)</th>
<th>Current Range (amps)</th>
<th>Voltage Range (volts)</th>
<th>Electrode Stickout (ESo)</th>
<th>Welding Positions</th>
</tr>
</thead>
<tbody>
<tr>
<td>1.2</td>
<td>150 – 200</td>
<td>23 – 28</td>
<td>15 – 20</td>
<td>Flat</td>
</tr>
<tr>
<td>1.2</td>
<td>120 – 180</td>
<td>22 – 27</td>
<td>15 – 20</td>
<td>Vertical up</td>
</tr>
<tr>
<td>1.2</td>
<td>140 – 180</td>
<td>22 – 27</td>
<td>15 – 20</td>
<td>Overhead</td>
</tr>
</tbody>
</table>

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.

Mechanical Properties:
Using CO2: Argon + 20-25% CO2
- 0.2% Proof Stress: 390 MPa
- Tensile Strength: 610 MPa
- Elongation: 43%

Typical Weld Metal Analysis:
Using welding grade CO2:
- 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% CO2 or equivalent
ISO14175:M21
Welding grade CO2
ISO14175:C1

Verti-Cor 309LT

- Verti-Cor stainless steel flux cored wires
- 309LT-All positional capabilities
- Vacuum sealed in aluminised plastic packs
- Formulated for CO2 or Argon +20-25% CO2 shielding gases
- High deposition rate welding of stainless steel

Classifications:
AWS/ASME-SFA A5.22: E309LT1-1 (CO2)
E309LT1-4 (Ar + 20-25% CO2)

Operating Data:
All welding conditions recommended below are for use with semi-automatic operation and DC electrode positive and welding grade CO2 shielding gas with a flow rate of 15-20 litres/min.

<table>
<thead>
<tr>
<th>Wire Dia (mm)</th>
<th>Current Range (amps)</th>
<th>Voltage Range (volts)</th>
<th>Electrode Stickout (ESo)</th>
<th>Welding Positions</th>
</tr>
</thead>
<tbody>
<tr>
<td>1.2</td>
<td>150 – 250</td>
<td>23 – 28</td>
<td>15 – 20</td>
<td>Flat</td>
</tr>
<tr>
<td>1.6</td>
<td>280 – 400</td>
<td>28 – 34</td>
<td>25 – 35</td>
<td></td>
</tr>
<tr>
<td>1.2</td>
<td>250 – 350</td>
<td>28 – 34</td>
<td>25 – 30</td>
<td></td>
</tr>
<tr>
<td>1.2</td>
<td>120 – 180</td>
<td>22 – 27</td>
<td>15 – 20</td>
<td>Vertical up</td>
</tr>
<tr>
<td>1.2</td>
<td>190 – 250</td>
<td>23 – 27</td>
<td>20 – 25</td>
<td></td>
</tr>
</tbody>
</table>

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.

Mechanical Properties:
Using CO2: Argon + 20-25% CO2
- 0.2% Proof Stress: 410 MPa
- Tensile Strength: 550 MPa
- Elongation: 40%

Typical Weld Metal Analysis:
Using welding grade CO2:
- 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% CO2 or equivalent
ISO14175:M21
Welding grade CO2
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:

<table>
<thead>
<tr>
<th>Wire Dia (mm)</th>
<th>Pack Type</th>
<th>Pack Weight</th>
<th>Part No</th>
</tr>
</thead>
<tbody>
<tr>
<td>1.2</td>
<td>Spool</td>
<td>15kg</td>
<td>722889</td>
</tr>
</tbody>
</table>

* Spool (p/diameter)
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 CO2 or Argon +20-25% CO2 shielding gases
- High deposition rate welding of stainless steel

Classifications:
AWS/ASME-SFA A5.22: E316LT1-1 (CO2)
E316LT1-4 (Ar + 20-25% CO2)

Operating Data:
All welding conditions recommended below are for use with semi-automatic operation and DC electrode positive and welding grade CO2 shielding gas with a flow rate of 15-20 litres/min.

<table>
<thead>
<tr>
<th>Wire Dia (mm)</th>
<th>Current Range (amps)</th>
<th>Voltage Range (volts)</th>
<th>Electrode Stickout (ESO)</th>
<th>Welding Positions</th>
</tr>
</thead>
<tbody>
<tr>
<td>1.2</td>
<td>150 – 250</td>
<td>23 – 28</td>
<td>15 – 20</td>
<td>Flat</td>
</tr>
<tr>
<td>1.2</td>
<td>150 – 200</td>
<td>23 – 28</td>
<td>15 – 20</td>
<td>HV Fillet</td>
</tr>
<tr>
<td>1.2</td>
<td>126 – 180</td>
<td>22 – 27</td>
<td>15 – 20</td>
<td>Vertical up</td>
</tr>
<tr>
<td>1.2</td>
<td>140 – 180</td>
<td>22 – 27</td>
<td>15 – 20</td>
<td>Overhead</td>
</tr>
</tbody>
</table>

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 CO2: 400 MPa 410 MPa
Using Argon + 20-25% CO2: 450 MPa 470 MPa
Tensile Strength 555 MPa 580 MPa
Elongation 42% 39%

TYPICAL ALL WELD METAL ANALYSIS:
Using welding grade CO2:
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% CO2 or equivalent
ISO14175:M21
Welding grade CO2
ISO14175:G1

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:

<table>
<thead>
<tr>
<th>Wire Dia (mm)</th>
<th>Pack Type</th>
<th>Pack Weight (kg)</th>
<th>Part No</th>
</tr>
</thead>
<tbody>
<tr>
<td>1.2</td>
<td>Spool</td>
<td>15</td>
<td>722885</td>
</tr>
</tbody>
</table>

* 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

### Classifications:

<table>
<thead>
<tr>
<th>AS1858.1:</th>
<th>EL12</th>
</tr>
</thead>
<tbody>
<tr>
<td>AWS/ASME-SFA A5.17:</td>
<td>EL12</td>
</tr>
</tbody>
</table>

### Operating Data*:  

<table>
<thead>
<tr>
<th>Wire Dia (mm)</th>
<th>Current Range (amps)</th>
<th>Voltage Range (volts)</th>
<th>CTWD (mm)</th>
</tr>
</thead>
<tbody>
<tr>
<td>2.0</td>
<td>200 – 550</td>
<td>24 – 32</td>
<td>20 – 25</td>
</tr>
<tr>
<td>2.4</td>
<td>250 – 700</td>
<td>26 – 34</td>
<td>20 – 25</td>
</tr>
<tr>
<td>3.2</td>
<td>300 – 900</td>
<td>28 – 34</td>
<td>25 – 30</td>
</tr>
<tr>
<td>4.0</td>
<td>400 – 1000</td>
<td>30 – 38</td>
<td>30 – 35</td>
</tr>
</tbody>
</table>

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

### Packaging Data:  

<table>
<thead>
<tr>
<th>Wire Dia (mm)</th>
<th>Pack Type</th>
<th>Pack Weight (kg)</th>
<th>Part No</th>
</tr>
</thead>
<tbody>
<tr>
<td>2.0</td>
<td>Coil</td>
<td>30</td>
<td>720582</td>
</tr>
<tr>
<td>2.4</td>
<td>Coil</td>
<td>30</td>
<td>720583</td>
</tr>
<tr>
<td>3.2</td>
<td>Coil</td>
<td>30</td>
<td>720584</td>
</tr>
<tr>
<td>4.0</td>
<td>Coil</td>
<td>30</td>
<td>720585</td>
</tr>
</tbody>
</table>

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

### Typical Wire Analysis:

<table>
<thead>
<tr>
<th>Element</th>
<th>Content</th>
</tr>
</thead>
<tbody>
<tr>
<td>C</td>
<td>0.08%</td>
</tr>
<tr>
<td>Mn</td>
<td>0.50%</td>
</tr>
<tr>
<td>Si</td>
<td>0.01%</td>
</tr>
<tr>
<td>S</td>
<td>0.017%</td>
</tr>
<tr>
<td>P</td>
<td>0.010%</td>
</tr>
</tbody>
</table>

## 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.

### Classifications:

<table>
<thead>
<tr>
<th>AS1858.1:</th>
<th>EM12K</th>
</tr>
</thead>
<tbody>
<tr>
<td>AWS/ASME-SFA A5.17:</td>
<td>EM12K</td>
</tr>
</tbody>
</table>

### Operating Data*:  

<table>
<thead>
<tr>
<th>Wire Dia (mm)</th>
<th>Current Range (amps)</th>
<th>Voltage Range (volts)</th>
<th>CTWD (mm)</th>
</tr>
</thead>
<tbody>
<tr>
<td>2.0</td>
<td>200 – 550</td>
<td>24 – 32</td>
<td>20 – 25</td>
</tr>
<tr>
<td>2.4</td>
<td>250 – 700</td>
<td>26 – 34</td>
<td>20 – 25</td>
</tr>
<tr>
<td>3.2</td>
<td>300 – 900</td>
<td>28 – 34</td>
<td>25 – 30</td>
</tr>
<tr>
<td>4.0</td>
<td>400 – 1000</td>
<td>30 – 38</td>
<td>30 – 35</td>
</tr>
</tbody>
</table>

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

### Packaging Data:  

<table>
<thead>
<tr>
<th>Wire Dia (mm)</th>
<th>Pack Type</th>
<th>Pack Weight (kg)</th>
<th>Part No</th>
</tr>
</thead>
<tbody>
<tr>
<td>2.0</td>
<td>Coil</td>
<td>30</td>
<td>720662</td>
</tr>
<tr>
<td>2.4</td>
<td>Coil</td>
<td>30</td>
<td>720663</td>
</tr>
<tr>
<td>3.2</td>
<td>Coil</td>
<td>30</td>
<td>720664</td>
</tr>
<tr>
<td>4.0</td>
<td>Coil</td>
<td>30</td>
<td>720665</td>
</tr>
</tbody>
</table>

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

### Typical Wire Analysis:

<table>
<thead>
<tr>
<th>Element</th>
<th>Content</th>
</tr>
</thead>
<tbody>
<tr>
<td>C</td>
<td>0.10%</td>
</tr>
<tr>
<td>Mn</td>
<td>1.0%</td>
</tr>
<tr>
<td>Si</td>
<td>0.22%</td>
</tr>
<tr>
<td>S</td>
<td>0.017%</td>
</tr>
<tr>
<td>P</td>
<td>0.010%</td>
</tr>
</tbody>
</table>
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:  EL12-FMM-W403A

Autocraft SA2 & Satinarc 4
AWS A5.17:  F8P5-EM12K
AS1858:  EM12K-FMM-W503A

Packaging Data:

<table>
<thead>
<tr>
<th>Pack Type</th>
<th>Pack Weight</th>
<th>Part No</th>
</tr>
</thead>
<tbody>
<tr>
<td>4 ply paper bag</td>
<td>25kg</td>
<td>720412</td>
</tr>
</tbody>
</table>

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:  EL12-FGH-W500A

Autocraft SA2 & Satinarc 15
AWS A5.17:  F7A2-EM12K
AS1858:  EM12K-FGH-W502A

Packaging Data:

<table>
<thead>
<tr>
<th>Pack Type</th>
<th>Pack Weight</th>
<th>Part No</th>
</tr>
</thead>
<tbody>
<tr>
<td>4 ply paper bag</td>
<td>25kg</td>
<td>720415</td>
</tr>
</tbody>
</table>

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

Classifications:

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: 0.08%  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

FLUX CONSTITUENTS:

Basicity Index* = 1.6

SiO2 + TiO2  CaO+ MnO  Al2O3 + MnO  CaF2
20% 25% 35% 15%

*Basicity Index to Boniszewski

Autocraft SA1/Satinarc 15:

APPROVALS:
- Lloyds Register of Shipping  Grade 3Y40M
- American Bureau of Shipping  Grade 3Y400M

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

Classifications:

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

SiO2 + TiO2  CaO+ MgO  Al2O3 + MnO  CaF2
43-48% 22-29% 15-21% 4-6%

*Basicity Index to Boniszewski
We’ve got Cutting & Welding Covered.

Choose CIGWELD endorsed products for premium quality and reliability.