

STAINLESS STEEL AND SPECIAL ELECTRODES

Description	Page No
Satincrome 308L-17	57
Satincrome 309Mo-17	58
Satincrome 316L-17	59
Satincrome 318-17	60
MUREX™ Speedex 308L-16	61
MUREX™ Speedex 309L-16	62
MUREX™ Speedex 316L-16	63
MUREX™ Speedex 312-16	64
Weldall	65
Castcraft 55	66
Castcraft 100	67
Bronzecraft AC-DC	68
Arcair DC Carbons	69

- ▲ Rutile Type, Stainless Steel Electrode.
- ▲ Outstanding Operator Appeal!
- ▲ Now with Improved Slag Lift!
- ▲ All Positional (except vertical down) Welding Capabilities.
- ▲ Advanced Moisture Resistant Flux Coating.

Classifications:

AS/NZS 1553.3: E308L-17.
AWS/ASME-SFA A5.4: E308L-17.

Description and Applications:

Satinchrome 308L-17 is a smooth running, rutile type stainless steel electrode manufactured by CIGWELD for the all positional (except vertical-down) fillet and butt welding of 19Cr/10Ni type stainless steels.

The features of Satinchrome 308L-17 include high AC arc stability, sound radiographic quality, smooth arc transfer characteristics, very low spatter levels and excellent bead shape and contour. The advanced moisture resistant (MR) flux coating provides improved resistance to start-of-run porosity. Slag lift of Satinchrome 308L-17 is enhanced in all welding positions, it is self peeling and non-spitting.

Applications of Satinchrome 308L-17 include the single and multi-pass welding of 19Cr/10Ni type stainless steel grades including 201, 202, 301, 302, 303, 304, 304L, 305, 308 etc.

COMPARABLE CIGWELD PRODUCTS:

Autocraft 308LSI GMAW wire
AWS A5.9: ER308LSI.
Comweld 308L Gas/TIG wire
AWS A5.9: ER308L.
Shieldchrome 308LT & FCAW wires
AWS A5.22: E308LT1-1/4

APPROVALS:

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

TYPICAL ALL WELD METAL MECHANICAL PROPERTIES:

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

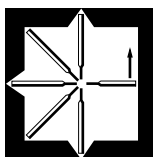
TYPICAL ALL WELD METAL ANALYSIS:

C: 0.025%	Mn: 0.76%	Si: 0.87%
Cr: 20.4%	Ni: 9.8%	S: 0.010%
P: 0.017%		

FERRITE NUMBER:

3.0 - 10.0 FN*

* - using Severn Gauge



All positional - except vertical down

Packaging and Operating Data:

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

Electrode Size mm	Length mm	Approx No. Rods/kg	Current Range (amps)	Packet	Carton	Part No
2.5	300	47	40-70	2.5kg	15kg - 6 x 2.5kg	611602
2.5	300	47	40-70	1kg	12kg - 12 x 1kg	610602
3.2	350	28	75-110	2.5kg	15kg - 6 x 2.5kg	611603
3.2	350	28	75-110	1kg	12kg - 12 x 1kg	610603
4.0	350	18	110-150	2.5kg	15kg - 6 x 2.5kg	611604
4.0	350	18	110-150	1kg	12kg - 12 x 1kg	610604

SATINCROME 309Mo-17

45
OCVAC
DC+

- ▲ Rutile Type, Stainless Steel Electrode.
- ▲ Outstanding Operator Appeal!
- ▲ Now with Improved Slag Lift!
- ▲ All Positional (except vertical down) Welding Capabilities.
- ▲ Advanced Moisture Resistant Flux Coating.

Classifications:

AS/NZS 1553.3: E309Mo-17.
AWS/ASME-SFA A5.4: E309Mo-17.

Description and Applications:

Satincrome 309Mo-17 is a rutile type, high alloy stainless steel electrode manufactured by CIGWELD for the all positional (except vertical-down) fillet and butt welding of 24Cr/13Ni type stainless steels.

The features of Satincrome 309Mo-17 include high AC arc stability, sound radiographic quality, smooth arc transfer characteristics, very low spatter levels and excellent bead shape and contour. The advanced moisture resistant (MR) flux coating provides improved resistance to start-of-run porosity.

Slag lift of Satincrome 309Mo-17 is enhanced in all welding positions, it is self peeling and non-spitting.

Applications of Satincrome 309Mo-17 include the single and multi-pass welding of matching 309 and 309L stainless steels. Satincrome 309Mo-17 is also suitable for the dissimilar welding of other "300 series" austenitic stainless steels and selected "400 series" ferritic grades to mild or low alloy steels such as 403, 405, 410, 416, 420, 430, 430F-Se, 446 etc and BHP 3CR12.

Packaging and Operating Data:

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

Electrode Size mm	Electrode Length mm	Approx No. Rods/kg	Current Range (amps)	Packet	Carton	Part No
2.5	300	52	40-70	2.5kg	15kg - 6 x 2.5kg	611692
2.5	300	20	40-70	1kg	12kg - 12 x 1kg	610692
3.2	350	30	75-110	2.5kg	15kg - 6 x 2.5kg	611693
3.2	350	15	75-110	1kg	12kg - 12 x 1kg	610693
4.0	350	19	110-150	2.5kg	15kg - 6 x 2.5kg	611694
4.0	350	10	110-150	1kg	12kg - 12 x 1kg	610694

COMPARABLE CIGWELD PRODUCTS:

Autocraft 309LSi GMAW wire
AWS A5.9: ER309LSi.
Comweld 309L Gas/TIG wire
AWS A5.9: ER309L.
Shieldcrome 309LT & FCAW wires
AWS A5.22: E309LT1-1

APPROVALS:

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

TYPICAL ALL WELD METAL MECHANICAL PROPERTIES:

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

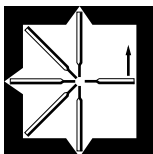
TYPICAL ALL WELD METAL ANALYSIS:

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

FERRITE NUMBER:

15.0 - 20.0 FN*

* - using Severn Gauge



All positional - except
vertical down

- ▲ Rutile Type, Stainless Steel Electrode.
- ▲ Outstanding Operator Appeal!
- ▲ Now with Improved Slag Lift!
- ▲ All Positional (except vertical down) Welding Capabilities.
- ▲ Advanced Moisture Resistant Flux Coating.

Classifications:

AS/NZS 1553.3: E316L-17.
AWS/ASME-SFA A5.4: E316L-17.

Description and Applications:

Satinchrome 316L-17 is a low carbon, rutile type stainless steel electrode manufactured by CIGWELD for the all positional (except vertical-down) fillet and butt welding of 19Cr/10Ni type stainless steels. The features of Satinchrome 316L-17 include high AC arc stability, sound radiographic quality, smooth arc transfer characteristics, very low spatter levels and excellent bead shape and contour. The advanced moisture resistant (MR) flux coating provides improved resistance to start-of-run porosity. Slag lift of Satinchrome 316L-17 is enhanced in all welding positions, it is self peeling and non-spitting. Applications of Satinchrome 316L-17 include the single and multi-pass welding of matching Molybdenum bearing stainless steels, 316 and 316L.

Satinchrome 316L-17 is also suitable for the general purpose welding of other "300 series" austenitic stainless steels including 301, 302, 303 and 304/304L, 305, 3CR12 types. The 2.5% Molybdenum content gives increased resistance to pitting corrosion and raises the creep strength for higher temperature applications.

COMPARABLE CIGWELD PRODUCTS:

Autocraft 316LSi GMAW wire
AWS A5.9: ER316LSi
Comweld 316L Gas/TIG wire
AWS A5.9: ER316L.
Shieldcrome 316LT & FCAW wires
AWS A5.20: E316LT1-1

APPROVALS:

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

TYPICAL ALL WELD METAL MECHANICAL PROPERTIES:

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

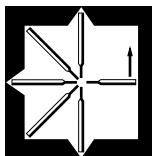
TYPICAL ALL WELD METAL ANALYSIS:

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

FERRITE NUMBER:

3.0 - 10.0 FN*

* - using Severn Gauge



All positional - except vertical down

Packaging and Operating Data:

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

Electrode Size mm	Electrode Length mm	Approx No. Rods/kg	Current Range (amps)	Packet	Carton	Easyweld Handpack	Part No
2.0	300	87	35-55	2.5kg	15kg - 6 x 2.5kg		611661
2.5	300	46	40-70	2.5kg	15kg - 6 x 2.5kg		611662
2.5	300	46	40-70	1kg	12kg - 12 x 1kg		610662
3.2	350	28	75-110	2.5kg	15kg - 6 x 2.5kg		611663
3.2	350	28	75-110	1kg	12kg - 12 x 1kg		610663
4.0	350	18	110-150	2.5kg	15kg - 6 x 2.5kg		611664
4.0	350	28	110-150	1kg	12kg - 12 x 1kg		610664

Easyweld Blister Pack:

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

322215

SATINCROME 318-17

45
OCVAC
DC+

(Supersedes Staincraft 318-16)

- ▲ Rutile Type, Stainless Steel Electrode.
- ▲ Outstanding Operator Appeal!
- ▲ Now with Improved Slag Lift!
- ▲ All Positional (except vertical down) Welding Capabilities.
- ▲ Advanced Moisture Resistant Flux Coating.

Classifications:

AS/NZS 1553.3: E318-17.

AWS/ASME-SFA A5.4: E318-17.

Description and Applications:

Satinchrome 318-17 is a Niobium stabilised, rutile type stainless steel electrode manufactured by CIGWELD for the all positional (except vertical-down) fillet and butt welding of stabilised and unstabilised 19Cr/10Ni type stainless steels, such as 316, 318 and 321.

The features of Satinchrome 318-17 include high AC arc stability, sound radiographic quality, smooth arc transfer characteristics, very low spatter levels and excellent bead shape and contour. The advanced moisture resistant (MR) flux coating provides improved resistance to start-of-run porosity. Slag lift of Satinchrome 318-17 is enhanced in all welding positions, it is self peeling and non-spitting.

The Molybdenum content of Satinchrome 318-17 gives improved resistance to pitting corrosion and the Niobium addition gives improved resistance to intergranular corrosion and good strength retention at elevated temperatures up to $\approx 700^{\circ}\text{C}$.

Packaging and Operating Data:

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

Electrode Size mm	Electrode Length mm	Approx No. Rods/kg	Current Range (amps)	Packet	Carton	Easyweld Handipaks	Part No
2.5	300	46	40-70	2.5kg	15kg - 6 x 2.5kg		611652
						20 rod	322105
3.2	350	28	75-110	2.5kg	15kg - 6 x 2.5kg		611653

TYPICAL ALL WELD METAL MECHANICAL PROPERTIES:

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

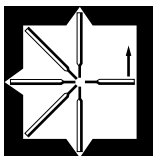
TYPICAL ALL WELD METAL ANALYSIS:

C: 0.04%	Mn: 0.8%	Si: 0.90%
Cr: 19.0%	Ni: 12.0%	Mo: 2.3%
Nb: 0.35%	S: 0.017%	P: 0.024%

FERRITE NUMBER:

5.0 - 10.0 FN*

* - using Severn Gauge



All positional - except vertical down

Murex™

- ★ Speedex™ 308L-16 is a E308L-16 type stainless steel electrode.
- ★ Designed for fillet & butt welding in all positions except vertical-down.
- ★ Speedex™ 308L-16 offers low spatter levels with smooth running.
- ★ Ideal for welding 304 and 304L stainless steel grades.
- ★ Applications for Speedex™ 308L-16 include stainless steel tanks, vessels, componentry.

Speedex™ 308L-16 is a E308L-16 type stainless steel electrode developed for the fillet & butt welding of 304 & 304L stainless steel grades.

Speedex™ 308L-16 offers low spatter levels with smooth running.

Applications for Speedex™ 308L-16 include the welding of stainless steel pipes, tanks and vessels.

CLASSIFICATIONS:

AS/NZS 1553.3:	E308L-16.
AWS A5.4:	E308L-16.

MECHANICAL PROPERTIES (TYPICAL):

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

CHEMICAL ANALYSIS (TYPICAL):

C: 0.03%	Cr: 20 %
Mn: 0.76%	Ni: 10%
Si: 0.87%	

PART NUMBERS:

2.5mm	SPS30825
3.2mm	SPS30832
4.0mm	SPS30840

WELDING POSITIONS



DOWNHAND



HORIZONTAL



VERTICAL



OVERHEAD

HORIZONTAL/
VERTICAL

OPERATING PARAMETERS & PACKAGING DETAILS:

Ø (mm)	Amperage	Polarity	OCV	Length (mm)	Pk	Carton
2.5	40-70	AC /DC electrode positive	45A min	300	2.5kg	15kg
3.2	75-110	AC /DC electrode positive	45A min	350	2.5kg	15kg
4.0	110-150	AC /DC electrode positive	45A min	350	2.5kg	15kg

SPEEDEX 309L-16

45
OCVAC
DC+**Murex™**

- ★ Speedex™ 309L-16 is a E309L-16 type stainless steel electrode.
- ★ Designed for fillet & butt welding in all positions except vertical down.
- ★ Speedex™ 309L-16 is a smoothing running electrode producing low spatter levels.
- ★ Ideal for the welding of matching 309 and 309L grades of stainless steel & dissimilar steels.
- ★ Also suitable as an intermediate buffer layer prior to hardfacing or as a stainless steel overlay on mild steel.

Speedex™ 309L-16 is a E309L-16 type stainless steel electrode designed for fillet & butt welding of matching 309 & 309L grades of stainless steel.

Speedex™ 309L-16 offers low spatter levels and smooth running.

Applications for Speedex 309L-16 include the welding of matching stainless steel grades and used as an intermediate buffer layer prior to hardfacing. It is also recommended for the dissimilar joining of mild steel to stainless steel

CLASSIFICATIONS:

AS/NZS 1553.3:	E309L-16.
AWS A5.4:	E309L-16.

MECHANICAL PROPERTIES (TYPICAL):

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

CHEMICAL ANALYSIS (TYPICAL):

C: 0.03%	Cr: 23 %
Mn: 0.75%	Ni: 13%
Si: 0.9%	

PART NUMBERS:

2.5mm	SPS30925
3.2mm	SPS30932
4.0mm	SPS30940

WELDING POSITIONS

DOWNHAND



HORIZONTAL



VERTICAL



OVERHEAD

HORIZONTAL/
VERTICAL**OPERATING PARAMETERS & PACKAGING DETAILS:**

Ø (mm)	Amperage	Polarity	OCV	Length (mm)	Pk	Carton
2.5	40-70	AC /DC electrode positive	45A min	300	2.5kg	15kg
3.2	75-110	AC /DC electrode positive	45A min	350	2.5kg	15kg
4.0	110-150	AC /DC electrode positive	45A min	350	2.5kg	15kg

MUREX™

- ★ Speedex™ 316L-16 is a E316L-16 type stainless steel electrode.
- ★ Designed for fillet and butt welding in all positions except vertical-down.
- ★ Speedex™ 316L-16 produces low spatter levels as well as smooth running.
- ★ For the welding of matching 316 and 316L stainless steel grades.

Speedex™ 316L-16 is a E308L-16 type stainless steel electrode designed for fillet & butt welding of matching 316 & 316L stainless steel grades.

Speedex™ 316L-16 offers low spatter levels with smooth running.

Applications for Speedex™ 316L-16 include the welding of matching grades used in pipes, tanks, vessels and componentry.

CLASSIFICATIONS:

AS/NZS 1553.3:	E316L-16.
AWS A5.4:	E316L-16.

MECHANICAL PROPERTIES (TYPICAL):

Yield Stress	480 MPa
Tensile Strength	630 MPa
Elongation	40%
CVN Impact Values	30J av @ -120°C

CHEMICAL ANALYSIS (TYPICAL):

C: 0.03%	Cr: 19.5 %
Mn: 0.8%	Ni: 11.5%
Si: 0.85%	Mo: 2.5%

PART NUMBERS:

2.5mm	SPS31625
3.2mm	SPS31632
4.0mm	SPS31640
5.0mm	SPS31650

WELDING POSITIONS



OPERATING PARAMETERS & PACKAGING DETAILS:

Ø (mm)	Amperage	Polarity	OCV	Length (mm)	Pk	Carton
2.5	40-70	AC /DC electrode positive	45A min	300	2.5kg	15kg
3.2	75-110	AC /DC electrode positive	45A min	350	2.5kg	15kg
4.0	110-150	AC /DC electrode positive	45A min	350	2.5kg	15kg
5.0	145-210	AC /DC electrode positive	45A min	350	2.5kg	15kg

SPEEDEX 312-16

45
OCVAC
DC+**Murex™**

- ★ Speedex™ 312-16 is a E312-16 type stainless steel electrode designed for fillet & butt welding in all positions except vertical down.
- ★ Speedex™ 312-16 produces low spatter levels as well as smooth running.
- ★ Applications include the joining of stainless steels to mild steel and the welding of "unknown" steels.

Speedex™ 312-16 is designed for repair and maintenance applications on tool and die steels and steels of unknown compositions.

Speedex™ 312-16 is also recommended for joining dissimilar steels such as mild steel to stainless steel.

CLASSIFICATIONS:

AS/NZS 1553.3:	E312-16.
AWS A5.4:	E312-16.

MECHANICAL PROPERTIES (TYPICAL):

Yield Stress	635 MPa
Tensile Strength	785 MPa
Elongation	25%
CVN Impact Values	30J av @ +20°C

CHEMICAL ANALYSIS (TYPICAL):

C: 0.10%	Cr: 26.5%
Mn: 0.62%	Ni: 9.15%
Si: 0.89%	

PART NUMBERS:

2.5mm	SPS31225
3.2mm	SPS31232
4.0mm	SPS31240

WELDING POSITIONS

DOWNHAND



HORIZONTAL



VERTICAL



OVERHEAD

HORIZONTAL/
VERTICAL**OPERATING PARAMETERS & PACKAGING DETAILS:**

Ø (mm)	Amperage	Polarity	OCV	Length (mm)	Pk	Carton
2.5	40-80	AC /DC electrode positive	45A min	300	2.5kg	15kg
3.2	75-110	AC /DC electrode positive	45A min	350	2.5kg	15kg
4.0	110-150	AC /DC electrode positive	45A min	350	2.5kg	15kg

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

Classifications:

AS/NZS 1553.3 E312-17.
AWS/ASME-SFA A5.4: E312-17.

Description and Applications:

WELDALL is a highly alloyed stainless steel electrode which deposits a strong and ductile duplex austenite-ferrite weld metal extremely resistant to cracking.

WELDALL has a host of features which make it suitable for the welding of all types of steels.

These include;

- ◆ Easy arc starting and excellent stability on low Open Circuit Voltage (O.C.V) welding machines such as the CIGWELD Easywelder EC.
- ◆ Rutile type flux coating gives smooth, stable running in all positions (except vertical down) especially on low current settings.
- ◆ High ferrite (= 40%) austenitic stainless steel deposit gives excellent resistance to hot cracking, even when diluted with carbon, austenitic and high alloy steels.
- ◆ Weld deposit gives excellent resistance to corrosion and oxidation.

WELDALL is recommended for the repair and maintenance of all steels, particularly those of unknown composition. It is suitable for;

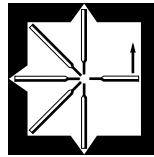
- ◆ Joining dissimilar steels, such as stainless steel to carbon steel.
- ◆ Repairing die or tool steels.
- ◆ Use as a protective overlay against corrosion.
- ◆ Use as an intermediate or buffer layer prior to hard surfacing.

TYPICAL ALL WELD METAL MECHANICAL PROPERTIES:

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

TYPICAL ALL WELD METAL ANALYSIS:

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



All positional - except vertical down

Packaging and Operating Data:

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

Size mm	Electrode Length mm	Approx No. Rods/kg	Current Range (amps)	Packet	Carton	Easyweld Handipaks	Part No
2.5	300	57	40-80	2.5kg	15kg - 6 x 2.5kg		611702
2.5	300	57	40-80	1kg	12kg - 12 x 1kg		610702
						20 rod	322101
3.2	350	30	75-110	2.5kg	15kg - 6 x 2.5kg		611703
3.2	350	30	75-110	1kg	12kg - 12 x 1kg		610703
						15 rod	322102
4.0	350	20	110-150	2.5kg	15kg - 6 x 2.5kg		611704

Easyweld Blister Pack:

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

322216

CASTCRAFT 55

45
OCVAC
DC-

- ▲ Maintenance Welding of S.G. Cast Irons.
- ▲ Joins Cast Iron to Steel.
- ▲ Lime Fluorspar / Graphite Coating.
- ▲ Higher Strength Nickel / Iron Deposit.
- ▲ Easy starting and Stable Running on Portable 240V Welding Machines.

Classifications:

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

Description and Applications:

Castcraft 55 is a basic, graphite coated Nickel / Iron electrode manufactured by CIGWELD for the higher strength repair and maintenance welding of Spheroidal Graphite (S.G.) irons, austenitic cast irons, meehanites and a wide range of grey cast irons.

It produces a soft stable arc with minimal penetration and spatter and is very tolerant to parent metal contaminants such as oil and dirt. The ductile Nickel / Iron weld deposit is machinable

with the higher strength required for welding S.G. irons. Where higher joint strength is important, Castcraft 55 may be used for root and fill passes followed by capping passes with Castcraft 100 for a smoother surface finish.

Procedure for Welding Oil Contaminated Cast Iron:

For welding oil impregnated cast iron an increased arc length of up to ≈ 6 mm is recommended to reduce the porosity in the weld deposit (caused by the oil) to an acceptable level. For heavy oil contamination, preheating the cast iron up to 200°C will also help to reduce porosity levels.

Packaging and Operating Data:

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

Electrode Size mm	Electrode Length mm	Approx No. Rods/kg	Current Range (amps)	Packet	Carton	Part No
3.2	350	31	75-120	2.5kg	15kg - 6 x 2.5kg	611723
3.2	350	31	75-120	1kg	12kg - 12 x 1kg	610723
4.0	350	21	100-150	2.5kg	15kg - 6 x 2.5kg	611724
4.0	350	21	100-150	1kg	12kg - 12 x 1kg	610724

CORE WIRE:

Nickel Iron (55% Ni, 45% Fe)

TYPICAL ALL WELD METAL MECHANICAL PROPERTIES:

Tensile Strength	500 MPa
Hardness.	220 HV30

TYPICAL ALL WELD METAL ANALYSIS:

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

COMPARABLE CIGWELD PRODUCTS:

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



All downhand welding

- ▲ Maintenance Welding of Cast Irons.
- ▲ Lime Fluorspar / Graphite Coating.
- ▲ Soft, Ductile Nickel Deposit.
- ▲ Easy starting and Stable Running on Portable 240V Welding Machines.
- ▲ Smoother Weld Deposit Surface Finish.

Classifications:

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

Description and Applications:

Castcraft 100 is a basic, graphite coated electrode manufactured by CIGWELD for the repair and maintenance of a wide range of cast iron components.

It produces a soft stable arc with minimal penetration and spatter and is very tolerant to parent metal contaminants such as oil and dirt. The ductile Nickel based weld deposit is readily machinable with good colour match to most cast irons.

Applications of Castcraft 100 include the repair and reclamation of engine blocks, cylinder heads, differential housings, gear boxes, pump and machine housings and cast iron pulleys etc. In some applications Castcraft 100 is preferred to Castcraft 55 because of the better 'wetting' action of the high nickel weld deposit.

Procedure for Welding Oil Contaminated Cast Iron:

For welding oil impregnated cast iron an increased arc length of up to = 6mm is recommended to reduce the porosity in the weld deposit (caused by the oil) to an acceptable level. For heavy oil contamination, preheating the cast iron up to 200°C will also help to reduce porosity levels.

Packaging and Operating Data:

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

Electrode Size mm	Electrode Length mm	Approx No. Rods/kg	Current Range (amps)	Packet	Carton	Easyweld Handipacks	Part No
2.5	300	49	55-85	2.5kg	15kg - 6 x 2.5kg		611732
2.5	300	49	55-85	1kg	12kg - 12 x 1kg		610732
						20 rod	322110
3.2	350	31	75-120	2.5kg	15kg - 6 x 2.5kg		611733
3.2	350	31	75-120	1kg	12kg - 12 x 1kg		610733
						15 rod	322111
4.0	350	21	100-150	2.5kg	15kg - 6 x 2.5kg		611734

Easyweld Blister Pack:

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

322217

CORE WIRE:

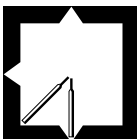
Nickel (98% Ni)

TYPICAL ALL WELD METAL MECHANICAL PROPERTIES:

Tensile Strength 400 MPa
Hardness 170 HV30

TYPICAL ALL WELD METAL ANALYSIS:

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



All downhand welding

BRONZECRAFT AC-DC

45
OCVAC
DC+

- ▲ For Welding Copper and Copper Alloys.
- ▲ Also for Joining Copper and Copper Alloys to Steel.
- ▲ Easy to use, High Quality Weld Deposit Appearance.

Classifications:

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

Description and Applications:

Fully extruded phosphor bronze electrode containing approximately 7% tin.

The covering is a fully extruded graphite / lime fluorspar type giving an extremely soft arc action similar to the CASTCRAFT series.

The BRONZECRAFT AC-DC electrode deposits dense, sound weld metal comparable in physical properties and colour to phosphor bronze.

Suitable for welding copper and copper base alloys. Building up parts in gun-metal, phosphor bronze, aluminium bronze and silicon bronze alloys.

- ◆ Bronze ship propellers
- ◆ Copper bus-bars
- ◆ Copper to steel
- ◆ Bearing surfaces
- ◆ Impeller blades

Suitable also for some cast irons.

Packaging and Operating Data:

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

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

TYPICAL ALL WELD METAL MECHANICAL PROPERTIES:

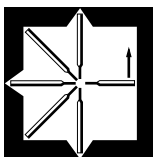
0.2% Proof Stress	315 MPa
Tensile Strength	460 MPa
Elongation	22%
Hardness.	120 HV30

TYPICAL ALL WELD METAL ANALYSIS:

Mn: 0.02%	Sn: 7.50%	Al: 0.008%
P: 0.26%	Fe: 0.20%	Cu: Bal

COMPARABLE CIGWELD PRODUCTS:

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



All positional - except vertical down

- ▲ Fast, Clean, Smooth, hassle-free Gouging.
- ▲ Able to Remove Metal from a Wide Range of Common Ferrous & Non-Ferrous Metals.
- ▲ Designed for DC Operation.
- ▲ Superior arc stability.

Description and Applications:

CIGWELD Arcair DC gouging carbons are made by mixing carbon/graphite with a binder, baking, and then coating with a controlled thickness of copper. Carbons are available in three types; Pointed, Jointed and Flat.

- ◆ Pointed carbons are the standard all purpose gouging electrode. Controlled copper coating improves electrical conductivity providing more efficient, cooler operation and helps maintain electrode diameter at the point of the arc.
- ◆ Jointed carbons have the added benefit of working without stub loss, with each rod having a female socket and matching male tang. They can be used with semi and fully automatic torches.
- ◆ Flat carbons are specially designed for close tolerance metal removal and scarfing applications, producing a rectangular groove.

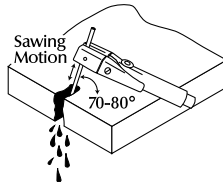
Air-carbon arc gouging is done in the downhand, vertical, horizontal and overhead position with a stick out of 180mm and an electrode angle of approximately 35 degrees, depending on the application.

The groove width obtained will be approximately 3mm wider than the carbon size.

The gouging action occurs when the arc is struck, removing molten metal as the electrode is moved along the workpiece. A slow travel speed produces a deep groove, a fast travel speed produces a shallow groove.

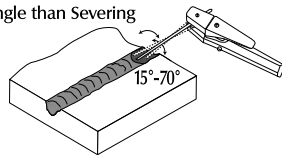
The air flow must be turned on before gouging commences. The operator must ensure that adequate eye (shade 12-14), ear and clothing protection is worn.

Severing (cutting) is a form of gouging where the operator holds the electrode at a steeper travel angle ($70 - 80^\circ$) to the workpiece and moves the arc in a sawing motion (Figure 1). A gouging carbon can cut non-ferrous materials 1.5 times its own thickness.

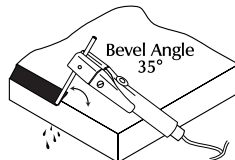


Washing is a form of gouging that allows the removal of metal from large areas, hardfacing deposits and riser pads on castings. An arc is struck and then the electrode is weaved from side to side using a travel angle of $15 - 70^\circ$ to the workpiece, depending on the required depth of the gouge. (Figure 2)

Electrode has shallower angle than Severing



Bevelling can be achieved by using a travel angle of 90 degrees and a work angle equal to the bevel angle (Figure 3).



ARCAIR® DC GOUGING CARBONS

DC

CIGWELD Arcair gouging carbons are used for the efficient gouging, back gouging, plate edge preparation, touching up and removal of old or defective hardfacing and stainless steel weld deposits. They are used for reworking plates, dies, castings, pipes, armour plating etc. They gouge and sever ferrous and non-ferrous metals such as carbon steel, low alloy steel, stainless steel, cast iron, nickel alloys (nickel less than 80%), magnesium alloys and aluminium on DCEP. Copper alloys, aluminium bronze alloys and aluminium nickel bronze alloys can be gouged using DCEN.

Air carbon-arc gouging is used in many industries such as agriculture, automotive, heavy fabrication, construction, foundries, maintenance and repair shops, mining and quarrying, military, shipyards, power plants, railroads, steel mills to name a few.

Conditioning Data:

If carbons are damp, they should be redried at 180°C for 10 hours, otherwise they may shatter.

Packaging and Operating Data:

	CIGWELD Part No.	Size (mm)	Rods per pack	Current range (Amps)	Air Pressure (kPa)	Air Pressure (L/min)
POINTED	22043003	6.5 x 305	50	300 - 400	550 - 690	450
	22053003	8 x 305	50	350 - 450	550 - 690	450
	22063003	9.5 x 305	50	450 - 600	550 - 690	450
JOINTED	24104003	16 x 430	100	1000 - 1250	550 - 690	930
	24124003	19 x 430	100	1250 - 1600	550 - 690	930
FLAT	35033003	15 x 5 x 305	50	450 - 600	550 - 690	450

Cobalarc and Stoody, the only choice for hardfacing.



CIGWELD is pleased to announce the addition of STOODY brand hardfacing wires to our already extensive line-up of

hardfacing products. As a market leader in the manufacture and supply of hardfacing wires STOODY has a comprehensive range

of fluxcored wires specifically formulated to meet the demanding requirements of industry. So, if you're serious about

the quality and performance of your hardfacing electrodes and wires, use CIGWELD and STOODY every time and get the job done right.