

CIGWELD

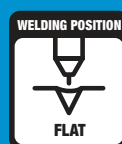
AN ESAB BRAND



METAL CORED WIRES



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WHY USE METAL-CORED WIRES?

IN TODAY'S HIGHLY COMPETITIVE MARKET, where companies are constantly searching for ways to reduce cost and increase productivity, metal-cored wires may be an answer.

Metal-cored wires offer several advantages over their solid wire counterparts. Since metal-cored wires carry the current on the outer sheath, current densities are considerably higher than those found in solid wires where the load is carried across the entire cross-sectional area. As a result, the metal-cored arc tends to be softer and can bridge gaps easier with reduced tendency for burn-through. Metal-cored wires provide excellent arc stability and outstanding penetration and wetting, with excellent fusion at the root joint and sidewall. The result is a high-quality weld with minimal slag and spatter and fewer residual silicon islands.

The higher current density can produce higher deposition rates and can also yield higher travel speeds than solid wires. In addition, the lower clean-up requirement and reduced need for post-weld operations can save significantly on labor costs and improve overall productivity. Although metal-cored wires cost more than solid wires, increases in efficiency and productivity, coupled with the reduction of labor costs for repairs and clean-up, typically lead to lower total costs.

Metal-cored wires can be used with equal success in both hand-held and automated welding scenarios, as well as in pulse welding. They also yield exceptional welds with high deposition rates and higher feed speeds than their solid wire counterparts

CIGWELD AND ESAB METAL-CORED WIRES

CIGWELD AND ESAB METAL-CORED WIRES have been developed to meet the needs of demanding applications such as structural steel construction, heavy equipment, transportation, bridges, petrochemical processing, offshore rigs, railcars, shipbuilding, pressure vessels and general fabrication.

Utilizing advanced manufacturing processes and specially formulated composite fillers, our metal-cored wires combine high deposition rates, high deposition efficiencies, high travel speeds, excellent penetration and ease of use. These qualities make CIGWELD and ESAB the brand of choice for operators who want to see production levels increase, costs decrease and profits rise.

Like all CIGWELD and ESAB products, our metal-cored wires are backed by our technical support team and satisfaction is 100% guaranteed. If you are currently using solid or flux-cored wire, a switch to metal-cored wire may be advantageous to you. Your CIGWELD sales representative would be happy to review your application to determine potential cost savings and aid in selecting the right filler metal for your needs.

METAL-CORED



SOLID CORED



FEATURES AND BENEFITS

- High deposition rates and travel speeds
- No slag and almost no spatter
- Little to no postweld clean-up or cleaning between passes
- Excellent side-wall fusion and root penetration
- Ability to bridge part gaps without burn-through
- Ability to weld thin materials at high amperages without burn-through
- Ability to use next larger electrode diameter
- Capability to weld out-of-position with pulsed spray or short-circuit transfer

**PRO
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METAL-COR INCREASING TENSILE AND IMPACT STRENGTH

SEAMED VS SEAMLESS

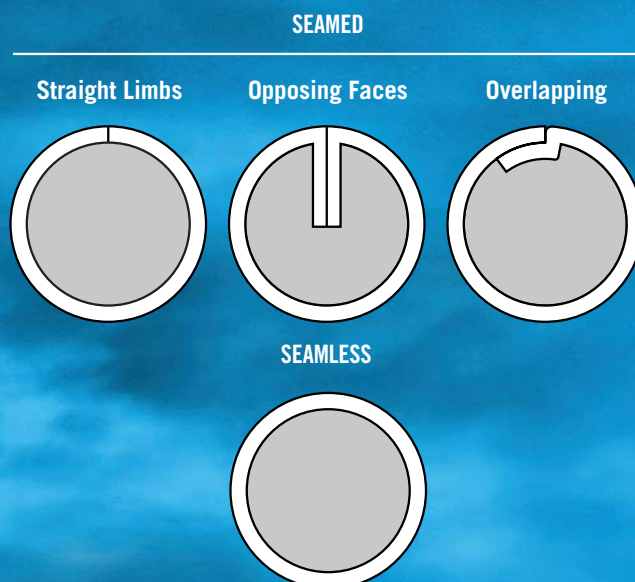
FLUX CORED WIRES can be supplied in two types. These being Seamed and Seamless. (See the diagram right showing the cross section of each.

- Seamed wire can let moisture into the flux in the core, as the tube is not fully sealed.
- Seamless wire prevents any moisture getting into the flux.

When welding highly constrained joints in thicker section steel it is critical not to have moisture in the flux as that can cause hydrogen embrittlement i.e. the welds crack and fail.

- Thinner fabrications with low stress can be welded with seamed metal cored wires i.e. Metal-Cor XP and 5XP
- Thicker fabrications with higher stress should be welded with seamless metal cored wires i.e. Coreweld Prime MC3 and MC4

TYPES OF FLUXCORED WELDING WIRE



RANGE SUMMARY

Metal Cored Wire	Brand	Product	Classifications	Wire type	Part No	Description
480MPa min Tensile >47J at -30 deg C	CIGWELD	Metal-Cor XP	AWS A5.18: E70C-6M H4	Seamed Wire	720912	Metal-Cor XP 1.2mm 15kg VP
					720913	Metal-Cor XP 1.6mm 15kg VP
	ESAB	Coreweld Prime MC3	EN ISO 17632-B: T 49 3 T15 0 M A U H5	Seamless Wire	35MP12247V	Coreweld Prime MC3 H4 1.2mm 15kg VP
					35MP16247V	Coreweld Prime MC3 H4 1.6mm 15kg VP
480MPa min Tensile >47J at -40 deg C	CIGWELD	Metal-Cor 5XP	AWS A5.18: E70C-6M H4	Seamed Wire	721552	Metal-Cor 5XP 1.2mm 15kg VP
					721553	Metal-Cor 5XP 1.6mm 15kg VP
	ESAB	Coreweld Prime MC4	EN ISO 17632-B: T 49 4 T15 0 M A U H5	Seamless Wire	35MR12247V	Coreweld Prime MC4 H4 1.2mm 15kg VP
					35MR16247V	Coreweld Prime MC4 H4 1.6mm 15kg VP
550MPa min Tensile >47J at -40 deg C	CIGWELD	Metal-Cor 80Ni1	AWS A5.28: E 80 C Ni 1 EN ISO 17632-B: T 57 4 T15 0 M A N1 U H5	Seamed Wire	721555	Metal-Cor 80Ni1 1.2mm 15kg VP
					721556	Metal-Cor 80Ni1 1.6mm 15kg VP
550MPa min >47J at -60 deg C	ESAB	Coreweld 69LT	AWS A5.36: E111T15- M21A4-G H4 EN ISO 17632-B: T 76 6 N4M2 T15 MA 2 UH5	Seamed Wire	35LL12773V	Coreweld 69 LT H4 1.2mm 16kg VP
					35LL16773V	Coreweld 69 LT H4 1.6mm 16kg VP

PRO
SERIES



METAL-COR XP

METAL-COR XP is a full iron powder cored wire recommended for a wide range of high speed fillet and butt welding applications in all downhand positions. Combining the high deposition rates of a flux cored wire and the high efficiency of a solid wire, METAL-COR XP is ideal for the high productivity fillet and butt welding of mild and medium strength carbon steels.

METAL-COR XP produces low fume levels. The smooth "spray arc transfer" gives low spatter levels and good weld metal edge wetting for exceptional operator appeal.

CLASSIFICATIONS

AS/NZS ISO 17632 B: T493T15-OMA-UH5

AWS/ASME-SFA A5.18: E70C-6M H4

AWS/ASME-SFA A5.36: E70T15-M21A3-CS1

TYPICAL DIFFUSIBLE HYDROGEN LEVELS TO AS3752:

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

TYPICAL ALL WELD METAL MECHANICAL PROPERTIES: USING ARGON +18-25% CO₂

Yield Stress	460 MPa
Tensile Strength	560 MPa
Elongation	28%
CVN Impact Values	>47J av @ -30°C.

RECOMMENDED SHIELDING GASES

Argon + 18-25% CO₂ or equivalent EN439: M21

All welding conditions recommended below are for use with semi-automatic operation, DC electrode positive using Argon +10-25% CO₂ shielding gas with a flow rate of 15–20 litres/min.

Wire Diameter (mm)	Current Range (amps)	Voltage Range (volts)	CTWD	Welding Positions
1.2	280-350	28-33	20-25	Flat
1.6	350-450	29-33	25-30	
1.2	250-300	27-31	20-25	HV Fillet
1.6	300-380	27-31	25-30	
1.2	250-300	27-31	20-25	Horizontal
1.6	300-380	27-31	25-30	

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

FEATURES

Metal Cored Wire

- High deposition efficiency & deposition rates
- Vacuum packed in foil for protection against moisture
- Product label including Batch Number, P/N and Description, Size & Weight on the foil
- Spool wrapped in VPI paper and a Silica Gel satchel to prevent any moisture build up or rusting
- Precision layered wound
- Low level of remaining manufacturing lubricant
- Product labels on both sides of the spool
- Easy bend and snap of the wire for restarts
- Metal-Cor XP is Grade-3 with a H4 classification.
- It is designed to run on Mixed Argon+CO₂ shielding gases, ranging from 10-25% CO₂.
- For use with lower CO₂ concentrations ~10% use a closer stick out to achieve spray arc (same as MIG Welding).
- Weld layer transitions in multilayer fillet welds are very smooth and even.
- Spatter levels on Metal-Cor XP are very low to extremely low

ORDERING INFO

Size	Type	Weight	Part No.
1.2mm	Spool	15kg	720912
1.6mm	Spool	15kg	720913

COREWELD PRIME MC3 H4

Seamless metal cored wire for mild steel and 490N/mm² class high tensile strength steel. Coreweld Prime MC3 H4 is a metal cored wire that combines the high deposition rates of a rutile slag flux-cored electrode with the high efficiencies of solid wire.

CLASSIFICATIONS WELD METAL

EN ISO 17632-B	T 49 3 T15 0 M21 A U H5
SFA/AWS A5.18	E70C-6M H4
JIS Z 3313	YFW-A50DM
KS D 7104	YFW-A50DM
EN ISO 17632-A	T 42 3 M M21 3 H5

Shielding Gas	M21 (EN ISO 14175)
Polarity	DC+
Alloy Type	C Mn
Fill Type	Metal Cored
Diff Hydrogen	<4 ml/100g

TYPICAL ALL WELD METAL ANALYSIS

Chemical Composition

C: 0.12%	Si: 0.90%	Mn: 1.75%	P: 0.03%	S: 0.03%
Cr: 0.20%	Ni: 0.50%	Mo: 0.30%	V: 0.08%	Cu: 0.50%

SPECIFICATIONS

Diameter (mm)	Current Range (amps)		Voltage Range (Volts)		CTWD (mm)
	Min	Max	Min	Max	
1.2	250	350	31	35	15-20
1.6	280	390	31	35	15-20

TYPICAL MECHANICAL PROPERTIES

Using Argon +10 to 25% CO₂

Yield Stress	450 MPa
Tensile Strength	550 MPa
Elongation	30%
CVN Impact Values	60J @ -30°C

FEATURES

Metal Cored Wire

- Seamless wire for guaranteed low hydrogen levels
- No copper coating for lower fume
- ASC coating for rust prevention and outstanding feedability
- High deposition efficiency & deposition rates
- Vacuumed packed in foil for protection against moisture
- Precision layered wound
- Grade-3 with a H4 classification.
- It is designed to run on Mixed Argon+CO₂ shielding gases, ranging from 10-25% CO₂.
- Weld layer transitions in multilayer fillet welds are very smooth and even.
- Spatter levels are very low to extremely low

ORDERING INFO

Size	Type	Weight	Part No.
1.2mm	Spool	15kg	35MP12247V
1.6mm	Spool	15kg	35MP16247V

METAL-COR 5XP

METAL-COR 5XP is an impressive Grade 4 impact, full iron powder cored wire recommended for a wide range of high speed fillet and butt welding applications in all downhand positions. Combining the high deposition rates of a flux cored wire and the high efficiency of a solid wire, Metal-cor 5XP is ideal for the high productivity fillet and butt welding of mild and medium strength carbon steels requiring high impact strength.

METAL-COR 5XP produces low fume levels. The smooth “spray arc transfer” gives low spatter levels and good weld metal edge wetting for exceptional operator appeal.

CLASSIFICATIONS

AS/NZS ISO 17632 B: T494T15-OMA-UH5

AWS/ASME-SFA A5.18: E70C-6M H4

AWS/ASME-SFA A5.36: E70T15-M21A4-CS1

TYPICAL DIFFUSIBLE HYDROGEN LEVELS TO AS3752:

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

TYPICAL ALL WELD METAL MECHANICAL PROPERTIES: USING ARGON +10-25% CO₂

Yield Stress	460 MPa
Tensile Strength	560 MPa
Elongation	28%
CVN Impact Values	>47J av @ -40°C.

RECOMMENDED SHIELDING GASES

Ar + 10 to 25% CO₂ or Equivalent EN439: M21

All welding conditions recommended below are for use with semi-automatic operation, DC electrode positive using Argon +10-25% CO₂ shielding gas with a flow rate of 15–20 litres/min.

Wire Diameter (mm)	Current Range (amps)	Voltage Range (volts)	CTWD	Welding Positions
1.2	280-350	28-33	20-25	Flat
1.6	350-450	29-33	25-30	
1.2	250-300	25-31	20-25	HV Fillet
1.6	300-380	27-31	25-30	
1.2	250-300	27-31	20-25	Horizontal
1.6	300-380	27-31	25-30	

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

FEATURES

Metal Cored Wire

- High deposition efficiency & deposition rates
- Vacuum packed in foil for protection against moisture
- Product label including Batch Number, P/N and Description, Size & Weight on the foil
- Spool wrapped in VPI paper and a Silica Gel satchel to prevent any moisture build up or rusting
- Precision layered wound
- Low level of remaining manufacturing lubricant
- Product labels on both sides of the spool
- Metal-Cor 5XP is Grade-4 with a H4 classification.
- It is designed to run on Mixed Argon+CO₂ shielding gases, ranging from 10-25% CO₂.
- For use with lower CO₂ concentrations ~10% use a closer stick out to achieve spray arc (same as MIG Welding).
- Weld layer transitions in multilayer fillet welds are very smooth and even.
- Spatter levels on Metal-Cor 5XP are very low to extremely low

ORDERING INFO

Size	Type	Weight	Part No.
1.2mm	Spool	15kg	721552
1.6mm	Spool	15kg	721553

COREWELD PRIME MC4 H4

Seamless metal cored wire for mild steel and 490N/mm² class high tensile strength steel. Coreweld Prime MC4 H4 is a metal cored wire that combines the high deposition rates of a rutile slag flux-cored electrode with the high efficiencies of solid wire.

CLASSIFICATIONS WELD METAL

EN ISO 17632-B T 49 4 T15 0 M A U H5

SFA/AWS A5.18 E70C-6M H4

JIS Z 3313 YFW-A50DM

KS D 7104 YFW-A50DM

EN ISO 17632-A T 42 4 M M21 3 H5

Shielding Gas M21 (EN ISO 14175)

Polarity DC+

Alloy Type C Mn

Fill Type Metal Cored

Diff Hydrogen <4ml/100g

TYPICAL ALL WELD METAL ANALYSIS

Chemical Composition

C: 0.12% Si: 0.90% Mn: 1.75% P: 0.03% S: 0.03%
Cr: 0.20% Ni: 0.50% Mo: 0.30% V: 0.08% Cu: 0.50%

SPECIFICATIONS

Diameter (mm) Current Range (amps) Voltage Range (Volts)

	Min	Max	Min	Max	CTWD (mm)
1.2	250	350	31	35	15-20
1.6	280	390	31	35	15-20

TYPICAL MECHANICAL PROPERTIES

Using Argon +10 to 25% CO₂

Yield Stress 470 MPa
Tensile Strength 550 MPa
Elongation 26%
CVN Impact Values 60J @ -40°C

FEATURES

Metal Cored Wire

- Seamless wire for guaranteed low hydrogen levels
- No copper coating for lower fume
- ASC coating for rust prevention and outstanding feedability
- High deposition efficiency & deposition rates
- Vacuum packed in foil for protection against moisture
- Precision layered wound
- Grade-4 with a H4 classification.
- It is designed to run on Mixed Argon+CO₂ shielding gases, ranging from 10-25% CO₂.
- Weld layer transitions in multilayer fillet welds are very smooth and even.
- Spatter levels are very low to extremely low

ORDERING INFO

Size	Type	Weight	Part No.
1.2mm	Spool	15kg	35MR12247V
1.6mm	Spool	15kg	35MR16247V

METAL-COR 80Ni1

METAL-COR 80Ni1 is a low alloyed wire with impressive tensile strength, full iron powder cored wire recommended for a wide range of high speed fillet and butt welding applications in all downhand positions. Combining the high deposition rates of a flux cored wire and the high efficiency of a solid wire, Metal-Cor 80Ni1 is ideal for automated welding applications including fillet and butt welding of medium strength structural steels.

Metal-Cor 80Ni1 produces low fume levels and a soft arc with "spray arc transfer" gives low spatter levels and good weld metal edge wetting for exceptional operator appeal. For optimum performance Metal-Cor 80Ni1 is recommended for use on DC electrode positive polarity (DCEP).

CLASSIFICATIONS

AS/NZS ISO 17632 B: T 57 4 T15 0 M A N1 U H5

AWS/ASME-SFA A5.18: E80C Ni 1 M H4

TYPICAL ALL WELD METAL ANALYSIS

Using Argon + 5-25% CO₂

C: 0.05% Mn: 1.2% Si: 0.5% Ni: 1.0%

TYPICAL DIFFUSIBLE HYDROGEN LEVELS TO AS3752

<4 mls of hydrogen / 100gms of deposited weld metal.

TYPICAL WELD DEPOSIT HARDNESS

Using Argon + 5-25% CO₂

Yield Stress 500min MPa.

Tensile Strength 560-720 MPa.

Elongation 24min %

CVN Impact Values >47J min @ -40°C

RECOMMENDED SHIELDING GASES

Argon + 18-25% CO₂ or equivalent EN439: M21

OPERATING DATA

All welding conditions recommended below are for use with semi-automatic operation, DC electrode positive using Argon + 18-25% CO₂ shielding gas with a flow rate of 15-20 litres/min.

Wire Diameter (mm)	Current Range (amps)	Voltage Range (volts)	CTWD	Welding Positions
1.2	280-350	28-33	20-25	Flat
1.6	350-450	29-33	25-30	
1.2	250-300	27-31	20-25	HV Fillet
1.6	300-380	27-31	25-30	
1.2	250-300	27-31	20-25	Horizontal
1.6	300-380	27-31	25-30	

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

FEATURES

Metal Cored Wire

- Low alloy Metal Cored wire
- High deposition efficiency & deposition rates
- Slag free, low silica surface finish
- For welding medium strength steels
- Precision Layer Wound
- Soft Arc, deep penetration, good bead

ORDERING INFO

Size	Type	Weight	Part No.
1.2mm	Spool	15kg	721555
1.6mm	Spool	15kg	721556

COREWELD 69LT H4

COREWELD 69LT H4 is a metal cored wire for the welding of high strength steels (>690 MPa) with excellent sub-zero toughness down to -60 degrees C and low diffusible hydrogen levels. Suitable for welding with Ar/CO2 gas mixtures.

CLASSIFICATIONS WELD METAL

SFA/AWS A5.28	E110C-G-H4
EN ISO 18276-A	T 69 6 Mn2NiMo M M21 2 H5
EN ISO 18276-B	T 76 6 T15 0M21A N4M2 U H5

APPROVALS

CE	EN 13479
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Shielding Gas	M21 (EN ISO 14175)
Polarity	DC+
Alloy Type	C Mn, low alloy steel (2% Ni, 0.5% Mo)
Fill Type	Metal cored
Diff Hydrogen	< 4ml/100g

SPECIFICATIONS

Diameter (mm)	Current Range (amps)		Voltage Range (Volts)	
	Min	Max	Min	Max

	Min	Max	Min	Max
1.2	100	320	16	32
1.6	140	450	18	36

TYPICAL MECHANICAL PROPERTIES

Using Argon +10 to 25% CO₂

Yield Stress	755 MPa
Tensile Strength	790 MPa
Elongation	20%
CVN Impact Values	> 47J @ -60°C

FEATURES

Metal Cored Wire

- High deposition efficiency & deposition rates
- Suitable for welding of high strength steels (>690 MPa)
- Excellent sub-zero toughness down to -60 degrees C
- Low diffusible hydrogen levels with H4 classification
- Suitable for welding with Ar/CO2 gas mixtures.
- Vacuumed packed in foil for protection against moisture
- Precision layered wound
- Spatter levels very low to extremely low

ORDERING INFO

Size	Type	Weight	Part No.
1.2mm	Spool	15kg	35LL12773V
1.6mm	Spool	15kg	35LL16773V

CIGWELD

AN ESAB BRAND



METAL CORED WIRES



OPTIONAL ACCESSORIES

ProGuard Auto-Darkening Welding Helmet	454641
Heavy Duty Welding Gloves	646755
MIG Gun Tweco No4, 3.6m, 1.2 wire	0TWX412/3545
Fillet Gauges	CIGAGE
CIGWELD Welding Blanket 1.8x1.8m	646778
Welding Curtain Red 1.74 x 1.74m	646777
Welding Curtain - SQUARE Frame 1.8 x 1.8m	646776

OPTIONAL ACCESSORIES

Savage A40 Welding Helmet	700000490
MIG PLIERS	WSPLIER
Weld Gauge	646265
Nozzle Dip Protection Jelly 350g Tin	707958
CIGWELD Welding jacket Blue/Black	646773
MIG Gun PSF415 4 Metre Euro	700025041
Welding Curtain Dark Green 1.74 x 1.74m	646770



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CIGWELD.COM.AU

WE RECOMMEND GENUINE CIGWELD PRODUCTS

BIGGEST RANGE, BEST QUALITY & GUARANTEED PERFORMANCE



In the interest of continuous improvements, CIGWELD Pty Ltd ABN 56 007 226 815 (An ESAB Brand) reserves the right to change specifications or design on any of its products without prior notice.