

Coreweld C6

Coreweld C6 was developed and "fine-tuned" especially for hand-held, automatic and robotic welding in the automotive industry, as well as rail car manufacturing, structural welding and other similar applications. Never before has there been such a perfect pairing of filler metal and industry requirements for quality, productivity and profitability.

Specifications	
Classifications	AWS A5.36 : E70T15-M20A2-CS1-H4 AWS A5.36 : E70T15-M21A4-CS1-H4 AWS A5.18 : E70C-6MD H4
Approvals	ABS CWB : CSA W48 E491C-6M-H4
Industry	Mobile Equipment Railcars Industrial and General Fabrication Bridge Construction Civil Construction Automotive Ship/Barge Building

Approvals are based on factory location. Please contact ESAB for more information.

Typical Tensile Properties				
Condition	Yield Strength	Tensile Strength	Elongation	Reduction in Area
75% Ar - 25% CO₂				
As Welded	505 MPa (74 ksi)	595 MPa (86 ksi)	27 %	64 %
90% Ar - 10% CO₂				
As Welded	545 MPa (79 ksi)	595 MPa (86 ksi)	25 %	63 %

Typical Charpy V-Notch Properties		
Condition	Testing Temperature	Impact Value
75% Ar - 25% CO₂		
As Welded	-29 °C (-20 °F)	76 J (56 ft-lb)
As Welded	-40 °C (-40 °F)	58 J (43 ft-lb)
90% Ar - 10% CO₂		
As Welded	-29 °C (-20 °F)	76 J (56 ft-lb)

Typical Weld Metal Analysis %				
C	Mn	Si	S	P
90% Ar 10% CO₂				
0.04	1.6	0.8	0.017	0.015
75% Ar 25% CO₂				
0.04	1.6	0.7	0.016	0.012

Deposition Data						
Diameter	Current	Voltage	Wire Feed Speed	Deposition Efficiency (%)	TTW Dist.	Deposition Rate
75% Ar - 25% CO₂						
1.4 mm (.052 in.)	190 A	24 V	440 cm/min (180 in./min)	94 %	16 mm (5/8 in.)	2.5 kg/h (5.5 lbs/h)
1.2 mm (.045 in.)	360 A	33 V	1400 cm/min (550 in./min)	99 %	16 mm (5/8 in.)	6.3 kg/h (13.9 lbs/h)
1.4 mm (.052 in.)	240 A	27 V	640 cm/min (250 in./min)	95 %	16 mm (5/8 in.)	3.5 kg/h (7.7 lbs/h)

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Deposition Data

Diameter	Current	Voltage	Wire Feed Speed	Deposition Efficiency (%)	TTW Dist.	Deposition Rate
1.4 mm (.052 in.)	310 A	27 V	890 cm/min (350 in./min)	98 %	16 mm (5/8 in.)	4.9 kg/h (10.7 lbs/h)
1.4 mm (.052 in.)	410 A	36 V	1330 cm/min (530 in./min)	99 %	16 mm (5/8 in.)	7.1 kg/h (15.7 lbs/h)
1.6 mm (1/16 in.)	230 A	26 V	380 cm/min (150 in./min)	91 %	19 mm (3/4 in.)	2.81 kg/h (6.2 lbs/h)
1.6 mm (1/16 in.)	290 A	26 V	510 cm/min (200 in./min)	95 %	19 mm (3/4 in.)	4.0 kg/h (8.8 lbs/h)
1.2 mm (.045 in.)	260 A	28 V	890 cm/min (350 in./min)	97 %	16 mm (5/8 in.)	4.1 kg/h (9.1 lbs/h)
1.4 mm (.052 in.)	340 A	31 V	1020 cm/min (400 in./min)	99 %	16 mm (5/8 in.)	5.1 kg/h (11.2 lbs/h)
1.2 mm (.045 in.)	170 A	24 V	510 cm/min (200 in./min)	94 %	16 mm (5/8 in.)	2.4 kg/h (5.2 lbs/h)
1.4 mm (.052 in.)	190 A	26 V	440 cm/min (180 in./min)	94 %	16 mm (5/8 in.)	2.5 kg/h (5.5 lbs/h)
1.6 mm (1/16 in.)	430 A	29 V	890 cm/min (350 in./min)	99 %	19 mm (3/4 in.)	7.2 kg/h (15.9 lbs/h)
1.2 mm (.045 in.)	230 A	25 V	760 cm/min (300 in./min)	96 %	16 mm (5/8 in.)	3.5 kg/h (7.7 lbs/h)
1.6 mm (1/16 in.)	510 A	33 V	1210 cm/min (480 in./min)	99 %	19 mm (3/4 in.)	9.4 kg/h (20.7 lbs/h)
1.2 mm (.045 in.)	290 A	29 V	1020 cm/min (400 in./min)	98 %	16 mm (5/8 in.)	4.6 kg/h (10.2 lbs/h)
1.4 mm (.052 in.)	280 A	28 V	760 cm/min (300 in./min)	97 %	16 mm (5/8 in.)	4.2 kg/h (9.2 lbs/h)
1.2 mm (.045 in.)	390 A	32 V	1650 cm/min (650 in./min)	99 %	16 mm (5/8 in.)	7.5 kg/h (16.5 lbs/h)
1.2 mm (.045 in.)	330 A	29 V	1270 cm/min (500 in./min)	99 %	16 mm (5/8 in.)	5.8 kg/h (12.7 lbs/h)
1.6 mm (1/16 in.)	430 A	32 V	890 cm/min (350 in./min)	99 %	19 mm (3/4 in.)	7.2 kg/h (15.9 lbs/h)
1.6 mm (1/16 in.)	510 A	36 V	1210 cm/min (480 in./min)	99 %	19 mm (3/4 in.)	9.4 kg/h (20.7 lbs/h)
1.2 mm (.045 in.)	200 A	27 V	640 cm/min (250 in./min)	95 %	16 mm (5/8 in.)	3.0 kg/h (6.5 lbs/h)
1.6 mm (1/16 in.)	340 A	29 V	640 cm/min (250 in./min)	98 %	19 mm (3/4 in.)	5.6 kg/h (12.3 lbs/h)
1.2 mm (.045 in.)	330 A	32 V	1270 m/min (500 in./min)	99 %	16 mm (5/8 in.)	5.8 kg/h (12.7 lbs/h)
1.4 mm (.052 in.)	370 A	30 V	1140 cm/min (450 in./min)	99 %	16 mm (5/8 in.)	6.2 kg/h (13.6 lbs/h)
1.4 mm (.052 in.)	420 A	32 V	1400 cm/min (550 in./min)	99 %	16 mm (5/8 in.)	7.5 kg/h (16.6 lbs/h)
1.6 mm (1/16 in.)	230 A	24 V	380 cm/min (150 in./min)	91 %	19 mm (3/4 in.)	2.81 kg/h (6.2 lbs/h)
1.6 mm (1/16 in.)	290 A	27 V	510 cm/min (200 in./min)	95 %	19 mm (3/4 in.)	4.0 kg/h (8.8 lbs/h)
1.6 mm (1/16 in.)	370 A	28 V	700 cm/min (280 in./min)	96 %	19 mm (3/4 in.)	5.7 kg/h (12.5 lbs/h)

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Deposition Data

Diameter	Current	Voltage	Wire Feed Speed	Deposition Efficiency (%)	TTW Dist.	Deposition Rate
1.2 mm (.045 in.)	290 A	27 V	1020 cm/min (400 in./min)	98 %	16 mm (5/8 in.)	4.6 kg/h (10.2 lbs/h)
1.4 mm (.052 in.)	240 A	25 V	640 cm/min (250 in./min)	95 %	16 mm (5/8 in.)	3.5 kg/h (7.7 lbs/h)
90% Ar - 10% CO₂						
1.4 mm (.052 in.)	190 A	24 V	440 cm/min (180 in./min)	94 %	16 mm (5/8 in.)	2.5 kg/h (5.5 lbs/h)
1.2 mm (.045 in.)	360 A	33 V	1400 cm/min (550 in./min)	99 %	16 mm (5/8 in.)	6.3 kg/h (13.9 lbs/h)
1.4 mm (.052 in.)	240 A	27 V	640 cm/min (250 in./min)	95 %	16 mm (5/8 in.)	3.5 kg/h (7.7 lbs/h)
1.4 mm (.052 in.)	310 A	27 V	890 cm/min (350 in./min)	98 %	16 mm (5/8 in.)	4.9 kg/h (10.7 lbs/h)
1.4 mm (.052 in.)	410 A	36 V	1330 cm/min (530 in./min)	99 %	16 mm (5/8 in.)	7.1 kg/h (15.7 lbs/h)
1.6 mm (1/16 in.)	230 A	26 V	380 cm/min (150 in./min)	91 %	19 mm (3/4 in.)	2.81 kg/h (6.2 lbs/h)
1.6 mm (1/16 in.)	290 A	26 V	510 cm/min (200 in./min)	95 %	19 mm (3/4 in.)	4.0 kg/h (8.8 lbs/h)
1.2 mm (.045 in.)	260 A	28 V	890 cm/min (350 in./min)	97 %	16 mm (5/8 in.)	4.1 kg/h (9.1 lbs/h)
1.4 mm (.052 in.)	340 A	31 V	1020 cm/min (400 in./min)	99 %	16 mm (5/8 in.)	5.1 kg/h (11.2 lbs/h)
1.2 mm (.045 in.)	170 A	24 V	510 cm/min (200 in./min)	94 %	16 mm (5/8 in.)	2.4 kg/h (5.2 lbs/h)
1.4 mm (.052 in.)	190 A	26 V	440 cm/min (180 in./min)	94 %	16 mm (5/8 in.)	2.5 kg/h (5.5 lbs/h)
1.6 mm (1/16 in.)	430 A	29 V	890 cm/min (350 in./min)	99 %	19 mm (3/4 in.)	7.2 kg/h (15.9 lbs/h)
1.2 mm (.045 in.)	230 A	25 V	760 cm/min (300 in./min)	96 %	16 mm (5/8 in.)	3.5 kg/h (7.7 lbs/h)
1.6 mm (1/16 in.)	510 A	33 V	1210 cm/min (480 in./min)	99 %	19 mm (3/4 in.)	9.4 kg/h (20.7 lbs/h)
1.2 mm (.045 in.)	290 A	29 V	1020 cm/min (400 in./min)	98 %	16 mm (5/8 in.)	4.6 kg/h (10.2 lbs/h)
1.4 mm (.052 in.)	280 A	28 V	760 cm/min (300 in./min)	97 %	16 mm (5/8 in.)	4.2 kg/h (9.2 lbs/h)
1.2 mm (.045 in.)	390 A	32 V	1650 cm/min (650 in./min)	99 %	16 mm (5/8 in.)	7.5 kg/h (16.5 lbs/h)
1.2 mm (.045 in.)	330 A	29 V	1270 cm/min (500 in./min)	99 %	16 mm (5/8 in.)	5.8 kg/h (12.7 lbs/h)
1.6 mm (1/16 in.)	430 A	32 V	890 cm/min (350 in./min)	99 %	19 mm (3/4 in.)	7.2 kg/h (15.9 lbs/h)
1.6 mm (1/16 in.)	510 A	36 V	1210 cm/min (480 in./min)	99 %	19 mm (3/4 in.)	9.4 kg/h (20.7 lbs/h)
1.2 mm (.045 in.)	200 A	27 V	640 cm/min (250 in./min)	95 %	16 mm (5/8 in.)	3.0 kg/h (6.5 lbs/h)
1.6 mm (1/16 in.)	340 A	29 V	640 cm/min (250 in./min)	98 %	19 mm (3/4 in.)	5.6 kg/h (12.3 lbs/h)
1.2 mm (.045 in.)	330 A	32 V	1270 m/min (500 in./min)	99 %	16 mm (5/8 in.)	5.8 kg/h (12.7 lbs/h)

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Deposition Data

Diameter	Current	Voltage	Wire Feed Speed	Deposition Efficiency (%)	TTW Dist.	Deposition Rate
1.4 mm (.052 in.)	370 A	30 V	1140 cm/min (450 in./min)	99 %	16 mm (5/8 in.)	6.2 kg/h (13.6 lbs/h)
1.4 mm (.052 in.)	420 A	32 V	1400 cm/min (550 in./min)	99 %	16 mm (5/8 in.)	7.5 kg/h (16.6 lbs/h)
1.6 mm (1/16 in.)	230 A	24 V	380 cm/min (150 in./min)	91 %	19 mm (3/4 in.)	2.81 kg/h (6.2 lbs/h)
1.6 mm (1/16 in.)	290 A	27 V	510 cm/min (200 in./min)	95 %	19 mm (3/4 in.)	4.0 kg/h (8.8 lbs/h)
1.6 mm (1/16 in.)	370 A	28 V	700 cm/min (280 in./min)	96 %	19 mm (3/4 in.)	5.7 kg/h (12.5 lbs/h)
1.2 mm (.045 in.)	290 A	27 V	1020 cm/min (400 in./min)	98 %	16 mm (5/8 in.)	4.6 kg/h (10.2 lbs/h)
1.4 mm (.052 in.)	240 A	25 V	640 cm/min (250 in./min)	95 %	16 mm (5/8 in.)	3.5 kg/h (7.7 lbs/h)

Recommended Welding Parameters

Current	Wire Diameter	TTW Dist.	Voltage	Wire Feed Speed
75% Ar - 25% CO2				
230-430 A	1.6 mm (1/16 in.)	19 mm (3/4 in.)	24-29 V	381-1219 cm/min (150-480 in./min)
200-260 A	1.2 mm (.045 in.)	16 mm (5/8 in.)	27-28 V	635-889 cm/min (250-350 in./min)
230-340 A	1.6 mm (1/16 in.)	19 mm (3/4 in.)	26-29 V	381-635 cm/min (150-250 in./min)
190-310 A	1.4 mm (.052 in.)	16 mm (5/8 in.)	24-27 V	457-889 cm/min (180-350 in./min)
330-390 A	1.2 mm (.045 in.)	16 mm (5/8 in.)	29-32 V	1270-1651 cm/min (500-650 in./min)
260-330 A	1.2 mm (.045 in.)	16 mm (5/8 in.)	26-29 V	889-1270 cm/min (350-500 in./min)
310-360 A	1.2 mm (.045 in.)	16 mm (5/8 in.)	30-33 V	1143-1397 cm/min (450-550 in./min)
430-510 A	1.6 mm (1/16 in.)	19 mm (3/4 in.)	30-33 V	889-1219 cm/min (350-480 in./min)
370-420 A	1.4 mm (.052 in.)	16 mm (5/8 in.)	30-32 V	1143-1397 cm/min (450-550 in./min)
190-420 A	1.4 mm (.052 in.)	16 mm (5/8 in.)	24-32 V	457-1346 cm/min (180-530 in./min)
430-510 A	1.6 mm (1/16 in.)	19 mm (3/4 in.)	32-36 V	889-1219 cm/min (350-480 in./min)
340-410 A	1.4 mm (.052 in.)	16 mm (5/8 in.)	31-36 V	1016-1346 cm/min (400-530 in./min)
370-430 A	1.6 mm (1/16 in.)	19 mm (3/4 in.)	28-30 V	711-889 cm/min (280-350 in./min)
280-340 A	1.4 mm (.052 in.)	16 mm (5/8 in.)	28-31 V	762-1016 cm/min (300-400 in./min)
260-310 A	1.2 mm (.045 in.)	16 mm (5/8 in.)	28-30 V	889-1143 cm/min (350-450 in./min)
230-370 A	1.6 mm (1/16 in.)	19 mm (3/4 in.)	24-28 V	381-711 cm/min (150-280 in./min)

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Recommended Welding Parameters

Current	Wire Diameter	TTW Dist.	Voltage	Wire Feed Speed
190-280 A	1.4 mm (.052 in.)	16 mm (5/8 in.)	29-28 V	457-762 cm/min (180-300 in./min)
170-390 A	1.2 mm (.045 in.)	16 mm (5/8 in.)	24-32 V	640-1397 cm/min (250-550 in./min)
170-260 A	1.2 mm (.045 in.)	16 mm (5/8 in.)	24-26 V	508-889 cm/min (200-350 in./min)
340-430 A	1.6 mm (1/16 in.)	19 mm (3/4 in.)	29-32 V	635-889 cm/min (250-350 in./min)
310-370 A	1.4 mm (.052 in.)	16 mm (5/8 in.)	27-30 V	889-1143 cm/min (350-450 in./min)
90% Ar - 10% CO₂				
230-430 A	1.6 mm (1/16 in.)	19 mm (3/4 in.)	24-29 V	381-1219 cm/min (150-480 in./min)
200-260 A	1.2 mm (.045 in.)	16 mm (5/8 in.)	27-28 V	635-889 cm/min (250-350 in./min)
230-340 A	1.6 mm (1/16 in.)	19 mm (3/4 in.)	26-29 V	381-635 cm/min (150-250 in./min)
190-310 A	1.4 mm (.052 in.)	16 mm (5/8 in.)	24-27 V	457-889 cm/min (180-350 in./min)
330-390 A	1.2 mm (.045 in.)	16 mm (5/8 in.)	29-32 V	1270-1651 cm/min (500-650 in./min)
260-330 A	1.2 mm (.045 in.)	16 mm (5/8 in.)	26-29 V	889-1270 cm/min (350-500 in./min)
310-360 A	1.2 mm (.045 in.)	16 mm (5/8 in.)	30-33 V	1143-1397 cm/min (450-550 in./min)
430-510 A	1.6 mm (1/16 in.)	19 mm (3/4 in.)	30-33 V	889-1219 cm/min (350-480 in./min)
370-420 A	1.4 mm (.052 in.)	16 mm (5/8 in.)	30-32 V	1143-1397 cm/min (450-550 in./min)
190-420 A	1.4 mm (.052 in.)	16 mm (5/8 in.)	24-32 V	457-1346 cm/min (180-530 in./min)
430-510 A	1.6 mm (1/16 in.)	19 mm (3/4 in.)	32-36 V	889-1219 cm/min (350-480 in./min)
340-410 A	1.4 mm (.052 in.)	16 mm (5/8 in.)	31-36 V	1016-1346 cm/min (400-530 in./min)
370-430 A	1.6 mm (1/16 in.)	19 mm (3/4 in.)	28-30 V	711-889 cm/min (280-350 in./min)
280-340 A	1.4 mm (.052 in.)	16 mm (5/8 in.)	28-31 V	762-1016 cm/min (300-400 in./min)
260-310 A	1.2 mm (.045 in.)	16 mm (5/8 in.)	28-30 V	889-1143 cm/min (350-450 in./min)
230-370 A	1.6 mm (1/16 in.)	19 mm (3/4 in.)	24-28 V	381-711 cm/min (150-280 in./min)
190-280 A	1.4 mm (.052 in.)	16 mm (5/8 in.)	29-28 V	457-762 cm/min (180-300 in./min)
170-390 A	1.2 mm (.045 in.)	16 mm (5/8 in.)	24-32 V	640-1397 cm/min (250-550 in./min)
170-260 A	1.2 mm (.045 in.)	16 mm (5/8 in.)	24-26 V	508-889 cm/min (200-350 in./min)
340-430 A	1.6 mm (1/16 in.)	19 mm (3/4 in.)	29-32 V	635-889 cm/min (250-350 in./min)

MILD STEEL

GAS-SHIELDED FLUX-CORED WIRES (FCAW/MCAW)



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Recommended Welding Parameters

Current	Wire Diameter	TTW Dist.	Voltage	Wire Feed Speed
310-370 A	1.4 mm (.052 in.)	16 mm (5/8 in.)	27-30 V	889-1143 cm/min (350-450 in./min)