AWS E81T5-B2M H8

FabCO® XTREME® B2

DESCRIPTION:

XTREME B2 is a gas shielded flux cored wire that deposits weld metal chemistry similar to those found in 1 1/4% Chrome/ 1/2% Molybdenum steels including ASTM A335 Grade P11 chrome-moly pipe. FabCO XTREME B2 is a highly basic slag system but has the slag removal and spatter of a T1 electrode. FabCO XTREME B2 has excellent Charpy Impact values which far exceed those of either a T5 basic or E8018-B2 electrode!

FabCO XTREME B2 is used in high temperature service applications where high tensile strength and creep resistance is required. The excellent all-position characteristics make this an excellent alternative to E8018-B2 electrodes. It is recommended for single-and multi-pass welding using 75% Ar/25% CO_2 shielding gas.

APPLICATIONS:

1 1/4% Chromium - 1/2% Molybdenum steels such as ASTM A335 grade P11 pipes, high temperature applications where creep resistance is required such as boiler and pressure vessel piping, fittings, and high temperature valves.

FEATURES:	BENEFITS:
• Excellent Toughness Properties	• Increased weld toughness with a chrome-moly filler metal!
• Low X-factor	• Reduced chance of temper embrittlement
• Low Hydrogen (<6 ml/100g)	• Minimizes crack susceptibility

SHIELDING GAS: 75 % Ar/25% CO_2, 35-50 cfh

TYPE OF CURRENT: DCEN

TYPICAL WELD METAL COMPOSITION*(Chem Pad):

Weld Metal Analysis	75% Ar/25% CO_2
Carbon (C)	0.098
Manganese (Mn)	1.08
Silicon (Si)	0.10
Phosphorus (P)	0.008
Sulphur (S)	0.003
Chromium (Cr)	1.22
Nickel (Ni)	0.04
Molybdenum (Mo)	0.50
Antimony (Sb)	0.005
Tin (Sn)	0.007
Arsenic (As)	0.0027

X-FACTOR:

Typical X-Factor = 8-13
X-Factor = {10xP+5xSb+4xSn+As}/100 in ppm

FabCO XTREME B2 1/16" diameter electrode was welded using 75% Argon/25% CO_2 shielding gas with a flow rate of 40 cfh, 280 amps (200 ipm), 25V, 10 ipm (25 cm/min) travel speed with DCEN polarity. Heat input was about 42.0 kJ/in (1.65 kJ/mm).

TYPICAL MECHANICAL PROPERTIES: PWHT 690°C (1275°F) - 1 HR:

	75% Ar/25% CO_2
Tensile Strength	86,100 psi (594 MPa)
Yield Strength	68,800 psi (474 MPa)
Elongation % in 2"	24%

TYPICAL CHARPY V-NOTCH IMPACT VALUES*:

(PWHT 690°C (1275°F) - 1 HR):

	75% Ar/25% CO_2
Avg. at -40°F (-40°C)	91.25 ft•lbs (123 Joules)

AS WELDED:

	75% Ar/25% CO_2
Avg. at -40°F (-40°C)	50.2 ft•lbs (68 Joules)

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TOTAL DIFFUSIBLE HYDROGEN: 5.2 ml/100g weld metal

CONFORMANCES AND APPROVALS: AWS A5.29, E81T5-B2M H8

WELDING DATA:
Information listed below was determined using 75% Ar/25% CO_2 shielding gas with flow range between 35 to 40 cubic feet per hour. Welding was performed in position designated below with DCEN welding current.

Diameter Tip-To-Plate Distance, Position	Arc Voltage (volts)	Current DCEN (-) Amps	Wire Feed Speed In/Min	Deposition Rate lbs/hr.
0.045" 1/2" to 3/4" 3/4" to 1" Flat and Horizontal	21 23 25.5 26.5	160 200 240 290	180 240 350 450	3.3 4.4 6.1 8.6
0.045" 1/2" to 3/4" Vertical and Overhead	21 22 23	160 180 200	180 210 240	3.3 3.8 4.4
1/16" 1/2" to 3/4" Flat and Horizontal	24 25 26 26.5	220 260 285 325	180 200 250 280	3.8 4.1 9.6 11.4
1/16" 1/2" to 3/4" Vertical and Overhead	22 23 23	180 195 200	120 135 150	3.0 3.5 4.0
3/32" 3/4" to 1" Flat and Horizontal	22.5 23 23 24 25	90 120 140 160 180	270 325 365 410 430	

CAUTION:
Consumers should be thoroughly familiar with the safety precautions shown on the warning label posted in each shipment and in the American National Standards Z49.1, "Safety in Welding and Cutting", published by the American Welding Society, 550 NW LeJeune Road, Miami, Florida 33126; OSHA Safety and Health Standards 29 CFR 1910 is available from the U.S. Department of Labor, Washington, D.C. 20210.

Material Safety Data Sheets on any Hobart Brothers Company product may be obtained from Hobart Customer Service.

Because Hobart Brothers Company is constantly improving products, Hobart reserves the right to change design and/or specifications without notice.

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