Unibraze 70S-B2L

Classification: AWS A5.28 / ASME SFA5.28 Class ER70S-B2L UNS K20500

Description: **Unibraze 70S-B2L** is a low alloy steel copper coated wire used to weld 1¼% Cr/½% Mo steels. It is identical to Unibraze 80S-B2 except it has a carbon content of less than .05%. It exhibits greater resistance to cracking and is more suitable for welds to be left in the as-welded condition or when the accuracy of the postweld heat treatment operation is questionable. The classification was previously ER80S-B2L but the strength requirements and classification designator have been changed to reflect the true strength capabilities due to the lower carbon content in the chemical composition.

Applications: **Unibraze 70S-B2L** is used to weld at elevated temperatures and corrosive service. It is also used for joining dissimilar combinations of Cr-Mo and carbon steels. A preheat and interpass temperature of not less than 275°F should be maintained during welding.

Chemical Composition

	C	Mn	Si	P	S	Ni	Cr	Mo	Cu	Others
AWS/ASME Spec	.05 max	.40-.70	.40-.70	.025 max	.025 max	.20 max	1.2-1.5	.40-.65	.35 max	.50 max
Typical Results	.04	.58	.51	.009	.014	.08	1.24	.43	.16	.016

Mechanical Properties

	AWS/ASME Spec	Typical Results*
Tensile Strength	75,000 psi min(515 MPa)	82,680 psi (570 MPa)
Yield Strength	58,000 psi min (400 MPa)	55,720 psi (460 MPa)
Elongation	19%	23%

***** Welding Guidelines for typical results:
Preheat and interpass temperature 300*°F (150°C). PWHT 1150°F (620°C) for 1 hr.*

Recommended Welding Parameters

Process	Dia.	Amperage	Voltage	Gas
GTAW (TIG)	1/16"	50 - 120	7 - 13	Argon
	3/32"	120 - 200	10 - 16	Argon
	1/8"	150 - 200	12 - 18	Argon
GMAW (MIG) Short Arc	.035	90 - 160	14 - 20	CO_2
	.045	120 - 200	16 - 20	CO_2 or 75% Argon / 25% CO_2
GMAW (MIG) Spray Arc	.035	180 - 230	25 - 28	98% Argon / 2% O_2
	.045	250 - 350	25 - 30	75% Argon / 25% CO_2

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