

ST-80B2



❖ Specification

AWS A5.28

ER80S-B2

❖ Applications

ST-80B2 is used to weld 1.25%Cr– 0.5%Mo steels used for high temperature service.

❖ Characteristics on Usage

ST-80B2 is used for joining carbon steel and Cr–Mo alloys. Careful control of preheat, interpass temperatures, and postweld heat treatment is essential to prevent cracking.

❖ Note on Usage

Use 100% Ar

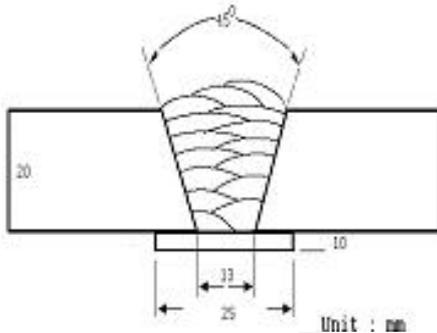
❖ Packing

Dia.	2.0mm (5/64in)	2.4mm (3/32in)	3.2mm (1/8in)
TIG	5kg (11lbs)		



Mechanical Properties & Chemical Composition of All Weld Metal

❖ Welding Conditions



[Joint Preparation & Layer Details]

Diameter(mm)	: 2.4mm
Shielding Gas	: 100%Ar
Flow Rate(ℓ /min.)	: 20~25
Amp./ Volt.	: 160~240 / 13~16
Pre-Heat(℃)	: 150 ± 15
Interpass Temp.(℃)	: 150 ± 15
Polarity	: DC(-)
PWHT(℃)	: 620 ± 15

❖ Mechanical Properties of All weld metal

Consumable	Tensile Test			CVN Impact test Joule (ft·lbs)	
	YS Mpa (ksi)	TS MPa (ksi)	EL(%)	0℃ (32°F)	-20℃ (-4°F)
ST-80B2	698 (101)	771 (112)	21	252 (186)	181 (133)
AWS A5.28 ER80S-B2	470	550	19	Not Required	

❖ Chemical Analysis of the wire(wt%)

Consumable	Chemical Composition (wt%)								
	C	Si	Mn	P	S	Ni	Cr	Mo	Cu
ST-80B2	0.111	0.65	0.68	0.010	0.002	0.027	1.28	0.51	0.11
AWS A5.28 ER80S-B2	0.07 ~0.12	0.40 ~0.70	0.40 ~0.70	≤0.025	≤0.025	≤0.20	1.20 ~1.50	0.40 ~0.65	≤0.35

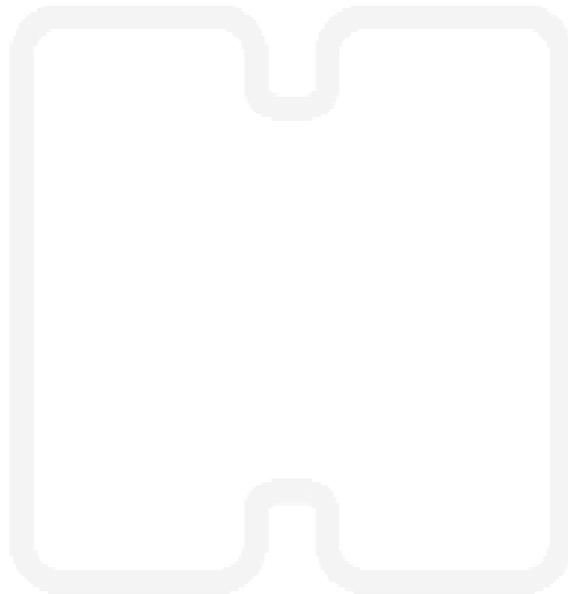
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**Mechanical Properties
& Chemical Composition of All Weld Metal**

❖ **Chemical Analysis of All weld metal(wt%)**

Consumable	Chemical Composition (wt%)								
	C	Si	Mn	P	S	Ni	Cr	Mo	Cu
ST-80B2	0.109	0.54	0.73	0.010	0.003	0.023	1.17	0.44	0.11

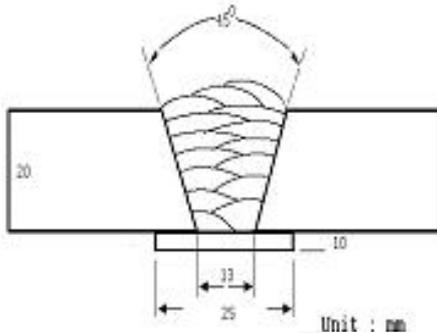


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Mechanical Properties & Chemical Composition of All Weld Metal

❖ Welding Conditions



[Joint Preparation & Layer Details]

Diameter(mm)	: 2.4mm
Shielding Gas	: 100%Ar
Flow Rate(ℓ /min.)	: 20~25
Amp./ Volt.	: 160~240 / 13~16
Pre-Heat(℃)	: 150 ± 15
Interpass Temp.(℃)	: 150 ± 15
Polarity	: DC(-)
PWHT(℃)	: 690 ± 15 (4hr)

❖ Mechanical Properties of All weld metal

Consumable	Tensile Test			CVN Impact test Joule (ft·lbs)
	YS Mpa (ksi)	TS MPa (ksi)	EL(%)	-20℃ (-4°F)
ST-80B2	590 (86)	668 (97)	24	151 (111)
AWS A5.28 ER80S-B2	470	550	19	Not Required

❖ Chemical Analysis of All weld metal(wt%)

Consumable	Chemical Composition (wt%)								
	C	Si	Mn	P	S	Ni	Cr	Mo	Cu
ST-80B2	0.109	0.54	0.73	0.010	0.003	0.023	1.17	0.44	0.11

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