

S-717 X M-12K

Type : Neutral



Conformances

AWS A5.17 / ASME SFA5.17 F7A(P)6-EM12K
JIS Z3183 S502-H
EN ISO 14174 S A AB 1 / EN ISO 14171 S2Si
KR 3M,3YM
ABS 3M,3YM
LR 3YM
BV A3,A3YM
DNV IIIYM
GL 3YM

NK KAW53M
RS 3YM
CWB CSA W48 F49A(P)5-EM12K
TÜV EN ISO 14174 - S A AB 1
EN ISO 14171-A - S2Si
CE
DB DIN EN 760-S A AB1
DIN EN ISO 14171-A-S2Si

Applications

- Pressure vessels
- Windtower
- Structural steels

Features

- Good performance with thick plates
- Good resistance to crack
- Density : 1.1g/cm³

Flux Composition

Consumable	Chemical Composition, wt%			
	SiO ₂ + TiO ₂	Al ₂ O ₃ + MnO	CaO + MgO	CaF ₂
S-717	10	30	35	10

Diameter / Packaging

Diameter mm (in)	Spool			Basket						Coil					Pac				
	20kg (44lbs)	25kg (55lbs)	100kg (220lbs)	25kg (55lbs)	100kg (220lbs)	200kg (440lbs)	250kg (551lbs)	300kg (661lbs)	500kg (1102lbs)	200kg (440lbs)	250kg (551lbs)	300kg (661lbs)	350kg (771lbs)	400kg (881lbs)	200kg (440lbs)	250kg (551lbs)	300kg (661lbs)	350kg (771lbs)	400kg (881lbs)
1.6 (1/16)	✓			✓														✓	
2.0 (5/64)	✓			✓												✓		✓	✓
2.4 (3/32)		✓	✓	✓	✓														✓
3.2 (1/8)		✓	✓	✓	✓					✓									✓
4.0 (5/32)		✓	✓	✓	✓	✓			✓	✓	✓						✓		✓
4.8 (3/16)				✓	✓			✓	✓	✓									

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Typical Chemical Composition of All-Weld Metal(%)

Wire	C	Si	Mn	P	S	BM	Th.(mm)
M-12K	0.09	0.26	1.40	0.023	0.004	SS400	25
	0.08	0.54	1.47	0.025	0.018	BS4360-Gr.50D	44

Typical Mechanical Properties of All-Weld Metal

Wire	YS Mpa(lbs/in ²)	TS Mpa(lbs/in ²)	EL (%)	Temp °C(°F)	CVN-Impact Value J (ft.-lbs)	BM	Th.(mm)
M-12K	555 (80,500)	614 (89,100)	29	-51 (-60)	60 (44)	SS400	25
	510 (74,000)	580 (84,200)	28	-20 (-4)	70 (52)	BS4360-Gr.50D	44

Typical Welding Conditions

Wire	Dia. (mm)	Th. (mm)	Groove Design (mm)	Pass	Amp. (A)	Volt. (V)	Speed (cm/min)	Remarks
M-12K	4.0	25		1~13	570	30	40	AWS A5.17
M-12K	4.0	44		1	500	32	40	1st
				2~14	600	36	50	ML
				15 16~23	500 600	32 36	40 50	2nd