

SAIW 5183

GB/T 10858	SAI 5183[AlMg4.5Mn0.7(A)]
AWS A5.10	ER5183/R5183
EN ISO 18273	SAI 5183[AlMg4.5Mn0.7(A)]

Characteristics: SAIW 5183 is used for welding base metals with high magnesium content and strong tensile strength. For tensile strength of 276MPa or higher, it is used for 5083 and 5654 base metal. It has excellent resistance to seawater corrosion. In addition, the wire also is excellent welding performance, beautiful and bright bead shape and profile, stable arc, and low spatter.

Application: It is widely used in welding aluminum alloys related to ship structure, drilling platform, nuclear facilities, cryogenic vessels, railway locomotives and automotive industry.

Wire chemical composition

Element (wt%)	Si	Fe	Cu	Mn	Mg	Cr	Zn	Ti	Al
Standard value	0.40	0.40	0.10	0.5-1.0	4.3-5.2	0.05-0.25	0.25	0.15	margin
Typical value	0.30	0.35	0.06	0.7	4.7	0.15	0.18	0.12	margin

Mechanical properties of deposited metal



Testing status	Tensile strength (MPa)	Yield strength (MPa)	Elongation (%)
Standard value	-	-	-
As-Welded condition	280	150	18

Note: welding method: MIG; shielding gas: 100%Ar

Physical properties of deposited metal

Melting temperature range (°C)	Density (g/mm ³)
579-638	2.66

Shielding gases, polarity and welding position

Gas composition	Power polarity	Welding position
99.99%Ar、75%Ar+25%He、 50%Ar+50%He	 DCEP	

Recommended welding specifications

Welding method	Wire diameter (mm)	Arc voltage (V)	Welding current (A)	Wire stick-out (mm)	Gas flow rate (L/min)
MIG	1.2	18-26	180-300	15-25	20
	1.6	20-28	200-400	15-25	20
	2.0	22-32	240-450	15-25	20
TIG	1.6-2.5		150-250		20
	2.5-4.0		200-320		20
	4.0-5.0		220-400		20