



Smootharc 5356

AWS ER5356

Replaces 081101

131-B, INDEX: 100326

DESCRIPTION:

A Magnesium based alloy with much higher strength than 4043, which makes it ideal for structural type applications, particularly in the transportation field. When arc welded, this alloy gives minimum loss of strength and is essentially free from hot cracking. **5356** has become the most widely used of all aluminum welding alloys because of its compatibility with most base alloys, its strength and good feedability, when used in the MIG process.

This alloy is not suitable for sustained temperatures above 150°F (65°C). It is a good choice for components that need to be anodized.

TYPICAL WIRE ANALYSIS, %*:

Weld Chemistry	AWS*A5.10
Silicon (Si)	0.25
Iron (Fe)	0.40
Copper (Cu)	0.10
Manganese (Mn)	0.05 - 0.20
Magnesium (Mg)	4.5 - 5.5
Zinc (Zn)	0.10
Titanium (Ti)	0.06 - 0.20
Beryllium (Be)	<0.0008
Chromium (Cr)	0.05 - 0.20
Aluminum (Al)	Remainder

*unless noted—values listed are maximums

TYPICAL PROPERTIES:

Melting Range	1060 - 1175°F	Corrosion Resistance	A (Gen) C (SCC)
Density	0.096 lbs/cu in	Anodized Color	White
Conductivity	29% IACS (-0) 27% IACS (-H18)		

AVAILABLE DIAMETERS AND PACKAGING:

Diameter	1-lb. Spool	12-lb. Reel	16-lb. Reel	300-lb. Drum	36-In Cut Lengths
.030	S383806-Z18	S383806-Z24			
.035	S383808-Z18		S383808-Z25	S383808-Z73	
3/64	S383813-Z18		S383813-Z25	S383813-Z73	
1/16			S383818-Z25	S383818-Z73	S383818-Z12
3/32					S383837-Z12
1/8					S383846-Z12

CONFORMANCES AND APPROVALS:

- AWS A5.10
- CWB
- ABS

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WELDING DATA: The information listed below was determined by GMAW welding performed with DCEP welding current with 100% argon shielding gas.

Wire Dia Inches	DC (EP) ³ Range		Base ¹ Thickness Inches	DC (EP) ³ Suggested		Wire Feed IPM	Argon Gas Flow CFH	Approximate Consumption ² Lbs/100 Ft.
	Amps	Volts		Amps	Volts			
.030	100-130	18-22	.094	100	22	500	30	0.75
	125-150	20-24	.125	120	22	600	30	1
.035	85-120	20-23	.094	110	22	480	30	0.75
	125-150	20-24	.125	130	22	566	30	1
	170-190	21-26	.250	170	22	740	30	4
.047	125-150	20-24	.125	150	23	360	30	1
	180-210	22-26	.187	180	23	410	30	2.3
	170-240	24-28	.250	190	24	470	40	4
.062	190-260	21-26	.250	200	23	265	50	4
	240-300	22-27	.375	230	24	300	50	9
	260-310	22-27	.500	260	26	240	60	16
	280-320	24-28	.750	280	27	385	65	36
	290-340	26-30	1.000	300	28	420	70	64

1. Metal thickness of 3/4" or greater for fillet welds sometimes employs a double vee bevel of 50 deg or greater included vee with 3/32 to 1/8 inch land thickness on the abutting member.
2. Number of weld passes and electrode consumption given for weld on one side only.
3. For 5XXX series electrodes use a welding current in the high side of the range given and an arc voltage in the lower portion of the range. 1XXX, 2XXX and 4XXX series electrodes would use the lower currents and higher arc voltage.

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