

Aluminum 5654

◆ INTRODUCTION

Aluminum 5654 was originally developed in 1968 to provide controlled low limits of manganese and copper. The result was a unique filler alloy that can be used to weld tanks for storage of hydrogen peroxide. This alloy contains more than 3% magnesium, therefore it is not recommended for elevated temperature applications due to its susceptibility to stress corrosion cracking.

◆ APPLICATIONS

- Welding filler wire

◆ GENERAL INFORMATION

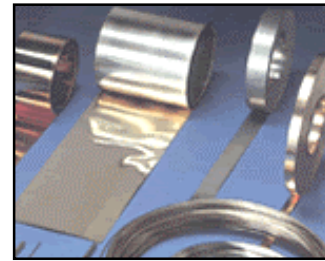
- Non-Heat treatable
- Principle alloying elements: Magnesium, Chromium, Titanium

◆ CHEMICAL COMPOSITION

<u>Silicon</u>	<u>Iron</u>	<u>Copper</u>	<u>Beryllium</u>	<u>Manganese</u>	<u>Magnesium</u>	<u>Zinc</u>	<u>Titanium</u>	<u>Others</u>	
(1)	(1)	0.05	0.0008	0.01	3.1-3.9	0.20	0.05-0.15	<u>Each</u>	<u>Total</u>
<u>Aluminum</u>		<u>Chromium</u>							
Remainder		0.15-0.35							

(1) Silicon + Iron = 0.45 maximum.

Note: All values are maximum percentage, unless shown in range.



◆ PHYSICAL PROPERTIES

Melting Range:	1100-1190°F
Density, at 68°F:	0.096 lb/in ³
Resistance to Corrosion:	A (Gen) A (SCC)
Anodize Color:	White

◆ SPECIFICATIONS MEET or EXCEED

- ANSI/AWS A5.10 (ER & R 5654)

◆ STANDARD SIZES AND DIAMETERS

<u>Diameters</u>	<u>Package Form</u>
.030, .035, 3/64, 1/16, 3/32, 1/8	4 & 12 in. Spools
1/16, 3/32, 1/8, 5/32, 3/16, 1/4	Straight lengths



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◆ TYPICAL GMAW PARAMETERS

Wire diameter	Range		Base material thickness	Suggested		Wire feed	Gas flow	Consumption 100 ft of weld
	<u>Inches</u>	<u>Amps</u>		<u>Volts</u>	<u>Amps</u>			
0.030	60-170	13-24	0.062	90	22	350	25	1.5
			0.094	110	23	560		1.8
			0.125	130	23	670		2
			0.187	150	24	780		4
			0.250	175	24	510		6
0.035	70-180	15-26	0.062	90	23	350	35	1.5
			0.125	130	24	420		2
			0.250	170	25	640		6
0.047	140-260	20-29	0.094	110	25	150	45	1.8
			0.125	150	26	220		2
			0.250	190	26	320		6
			0.375	220	27	400		16
0.062	190-350	25-30	0.250	200	26	200	55	6
			0.375	230	27	220		16
			0.500	260	28	270		30
			0.750	280	29	300		50
			1.000	300	30	320		105
0.094	280-400	26-31	0.500	280	28	170	65	30
			0.750	290	29	175		50
			>1.000	300	30	180		150+

NOTE: Parameters based on flat position, groove joint, backing strip, and 100% argon gas.