Aluminum 1100

Aufhauser
Corporation
39 West Mall
Plainview, NY 11803
Telephone:
516-694-8696
800-645-9486
Fax:
516-694-8690

♦ INTRODUCTION

Aufhauser Aluminum 1100 is highly resistant to chemical attack and weathering. It is a relatively soft alloy that is very formable and is used extensively in thin gauge and foil products. It has good welding characteristics and is also used as a filler alloy for welding purposes. A desirable characteristic of the alloy is the bright finishes obtained by anodizing.

♦ APPLICATIONS

- Welding filler wire
- Rivets
- Heat exchangers
- Tie wire
- Food handling equipment
- Metallizing

♦ GENERAL INFORMATION

- Non-Heat treatable
- ISO designation: AI99.0 Cu
- Principle alloying elements: Copper

♦ CHEMICAL COMPOSITION

Silicon	Iron	Copper	Manganese	Zinc	Others Each	Others Total	Aluminum (min.)
*	*	0.50-0.20	0.05	0.10	0.05	0.15	99.00

* Silicon plus Iron 0.95
Note: All values are maximum percentage, unless shown in range.

♦ PHYSICAL PROPERTIES

Melting Range:	1190-1215°F
Density, at 68°F:	0.098 lb/in^3
Electrical Conductivity, at 68°F:	59% IACS (-H12)
Resistance to Corrosion:	A (Gen) A (SCC)
Workability Rating:	A (-H14)
Anodize Color:	Light Golden

♦ SPECIFICATIONS MEET or EXCEED

- AWS A5.10 (ER & R 1100)
- AMS 4102
- ASTM B316
- QQ-A-430

♦ STANDARD SIZES AND DIAMETERS

Diameters	Package Form
.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

♦ MECHANICAL PROPERTIES

Temper	UTS (KSI)	UYS (KSI)	%E (2 in.)	BHN	Shear (KSI)
-O	13.0	5.0	35	23	9
-H12	16.0	15.0	2	28	10
-H14	18.0	17.0	9	32	11
-H16	21.0	20.0	6	38	12
-H18	24.0	22.0	5	44	13

♦ TYPICAL BEND RADII

	THICKNESS .062"	.125"	.187"	.250"	.375"	.500"
-H12	0	1/2T	1T	1T	1 1/2T	2T
-H18	1T	1 1/2T	2 1/2T	3T		

NOTE: Expressed in terms of sheet and plate thickness (T).

Aufhauser
Corporation
39 West Mall
Plainview, NY 11803
Telephone:
516-694-8696
800-645-9486
Fax:
516-694-8690

Aluminum 1100

♦ TYPICAL THERMAL TREATMENT

	METAL TEMPERATURE	TEMPER
Annealing Practice	650°F	-O

♦ TYPICAL GMAW PARAMETERS

	RANGE		BASE MATERIAL	SUGGESTED				CONSUMPTION
WIRE DIA. (IN)	AMPS	VOLTS	THICKNESS (INCHES)	AMPS	VOLTS	WIRE FEED (IPM)	GAS FLOW (CFH)	100 FT OF WELD (LBS)
0.030	60-170	13-24	0.062	90	22	260	25	1.5
			0.094	110	23	320		1.8
			0.125	130	23	380		2
			0.187	150	24	430		4
			0.250	175	24	510		6
0.035	70-180	15-26	0.062	90	23	250	35	1.5
			0.125	130	24	360		2
			0.250	170	25	470		6
0.047	140-260	20-29	0.094	110	25	215	45	1.8
			0.125	150	26	370		2
			0.250	190	26	370		6
			0.375	220	27	430		16
0.062	190-350	25-30	0.250	200	26	190	55	6
			0.375	230	27	215		16
			0.500	260	28	240		30
			0.750	280	29	261		50
			1.000	300	30	280		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		105+

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