



Description:

Stainless-Steel Jacketing is manufactured from AISI-304, AISI-304L, AISI-316 and AISI-316L prime grade Austenitic Stainless Steel with regular 2B finish for flatness and reduced glare. The yield strength is 30,000/45,000 Psi, the tensile 75,000/100,000 Psi. For easy field fabrication, Stainless Steel Jacketing is supplied in the annealed or soft condition. AISI-304 AND AISI-304L is normally used except in the most corrosive areas where AISI-316 and AISI-316L is justified. All AISI-304, AISI-304L, AISI-316 AND AISI-316L Stainless steel are described in ASTM A-240M/480.

Stainless Steel Jacketing has a melting point of approximately 2500°F Stainless Steel offers the best fire protection of all metals used for metal jacketing.

Thickness	010", 016", 020", 024", 032", 040", 050"
Width and Description	Coils and flat Sheets 24" through 48", 2-1/4 and 2-1/2" deep Corrugated sheets 33", 4" x 1" Box Rib – 28", 38- 1/2"

Finish

Stainless Steel jacketing is available in several finishes, which include smooth, stucco embossed, and in the lighter gauges, 3/16" corrugated. The stucco embossed finish on Stainless Steel Jacketing reduces glare from sun-light, adds strength and has more potential for masking application fingerprints, scratches, dents and other minor surface blemishes.

Applications

The primary use of Stainless Steel sheet and jacketing is for hostile environments such as the pulp, paper, textile, refinery and Petro-Chemical applications.

Stainless Steel Characteristics

AISI-304: Most widely used steel type. SS 304 are known for good corrosion resistance, thermal resistance, low-temperature strength and mechanical properties. SS 304 have good draw ability such as deep drawing and bending. SS 304 is not hardened by heat treatment. (Non-magnetic, usable temperature: -196~800°C)

AISI-316: Excellent corrosion resistance, pitting corrosion resistance and high temperature strength by adding Mo. Useful in severe/harsh conditions. Excellent work hardening (non-magnetic)

AISI-316L: Low carbon steel type. Has the normal properties of 316 plus excellent inter-granular corrosion



**Chemical Composition (ASTM A240)**

SS	C	Mn	P	S	Si	Cr	Ni
304	0.08 max	2.0	0.045	0.030	1.0	18.0 to	8.0 to 10.50
304L	0.03 max	max	max	max	max	20.0	8.0 - 12.0

SS	C	Mn	P	S	Si	Cr	Ni	Mo	Ti
SS316	0.08 max	2.0	0.045	0.030	1.0	16.0	10.0	2.00	-
SS316L	0.03 max	max	max	max	max	to	to	to	0.5 max
SS316Ti	0.08 max					18.0	14.0	3.00	5X%C

Mechanical Properties at Room Temperature

	304		304L	
	Typical	Minimum	Typical	Minimum
Tensile Strength, MPa	600	515	590	485
Proof Strength, (Offset 0.2 %), MPa	310	205	310	170
Elongation (Percent in 50mm)	60	40	60	40
Hardness (Brinell)	170	-	170	-
Endurance (fatigue) limit, MPa	240	-	240	-

	SS316		SS316L		SS316Ti	
	Typical	Minimum	Typical	Minimum	Typical	Minimum
Tensile Strength, MPa	580	515	570	485	600	515
Proof Stress (0.2 % offset), MPa	310	205	300	170	320	205
Elongation (Percent in L = 5.65 S ₀)	55	40	60	40	50	40
Hardness (Brinell)	165	-	165	-	165	-
Erichsen Cup Test Value mm	8 - 10	-	10 - 11	-	-	-
Endurance (fatigue) limit, MPa	260	-	260	-	260	-

**DESCRIPTION**

Aluminum Jacketing is manufactured from alloys 1100, 3105, 3003 or 5005, conforming to ASTM B-209 designation, within (H-14) half hard temper and heavier gauges quarter-hard (H-12 lock-forming quality). **Aluminum jacketing is available in Smooth, Stucco Embossed, Corrugated and Cross-Crimped finishes.** It is also available totally uncoiled and dried, with level tensioning. Available Corrugated Size 6 x 32mm, 16 x 64mm and 19 x 76mm while Cross-Crimped is available in 3/16" size only. Also available 20 /100, 35/200, 45/250 & 45/150.

COMPOSITION

Commercially pure aluminum is relatively soft as structural material. Its strength can be greatly improved by alloying aluminum with small percentages of one or more other elements such as manganese, silicon, copper, magnesium or zinc. Additional strength can be achieved by cold working, such as cold rolling. Unless a specific alloy is requested we reserve the right to ship whichever alloy is in stock at time of order placement. Other alloys are special order and minimum quantities and extended lead-time is required.

*Alloy's Chemical Composition & Mechanical Properties**Chemical Composition*

Alloy	Si	Fe	Cu	Mn	Zn	Mg	Ti	Cr	Other Elements		AL
									Each	Total	
1100	Si + Fe = 1.00		0.05-0.20	0.05	0.10	-	-	-	0.05	0.15	Remainder
3003	0.60	0.70	0.05 - 0.20	1.0 - 1.50	0.10	-	-	-	0.05	0.15	Remainder
3105	0.60	0.70	0.30	0.30 - 0.80	0.40	0.20 – 0.80	0.10	0.20	0.05	0.15	Remainder
5005	0.30	0.70	0.20	0.20	0.25	0.50 - 1.10	-	0.10	0.05	0.15	Remainder

Mechanical Properties (Alloy 3003)

Alloy	Temper	Gauge Range mm		Ultimate Tensile Strength MPA			Yield Strength MPA		Elongation in 50 mm %
		Over	Up To	Min.	Typical	Max.	Min.	Typical	Min.
3003	H14	0.29	0.32	140	150	180	115	145	1
		0.32	0.63	140	150	180	115	145	2
		0.63	1.20	140	150	180	115	145	3
		1.20	3.20	140	150	180	115	145	5

COMPLIANCE TO STANDARDS

All Aluminium Jacketing complies with the requirements of the ASTM B209 (Aluminium Alloy Standard) which includes all the necessary strength and chemical composition requirements.

RECOMMENDED USES

Aluminum Jacketing is recommended for HVAC, Insulated Piping, Tanks & vessels less than 8 feet in diameter. Deep corrugated sheets are recommended for diameters greater than 8 feet.



Suggested Applications

Thickness	Applications
0.016" (0.4mm) & 0.020" (0.5mm)	The standard for industrial use. Recommended over insulated lines up to 36" O.D including insulation.
0.024" (0.6mm)	A heavier weight jacketing used on larger diameter lines and large equipment up to 8 feet in diameter.
0.029" (0.75mm) & 0.032" (0.8mm)	Used in special applications where extra thickness and protection is required, such as fabricated tank head covers and other special fabrications.
0.035" (0.9mm) & 0.040" (1.0mm) & 0.050" (1.2mm)	Available in rolls, where extra heavy gauges are required because of severe mechanical abuse or special fabricating requirements, such as flat ducts or precipitators. Also recommended for areas subject to high wind conditions
Width	686 mm, 914 mm, 1,000 mm, 1219 mm and any width on request subject to minimum ordered quantity.
Length	30 Meters, 60 Meters, 90 Meters, Coils & Flat Sheets

