Technical Bulletin

RoofEdge® by LiveRoof is extruded from Alloy 6063, one of the most popular alloys in the 6000 series as it provides good extrudability and a high quality surface finish, which makes it ideal for architectural and building product applications.

Alloy 6063 Chemical Analysis — **Liquidus Temperature:** 1211°F **Solidus Temperature:** 1139°F **Density:** 0.097 lb./in.^{3}

Percent Weight	Elements										
	Si	Fe	Cu	Mn	Mg	Cr	Zn	Ti	Others Each	Others Total	Aluminum
Minimum	.20	—	—	—	.45	—	—	—	—	—	
Maximum	.6	.35	.10	.10	.9	.10	.10	.10	.05	.15	Remainder

Average Coefficient of Thermal Expansion (68° to 212°F) = 13.0 x 10^{-6} (inch per inch per °F)

The T6 temper used with RoofEdge is the strongest, hardest available for ultimate long term integrity. The product is solution heat-treated and artificially aged. When anodized, the T6 temper also provides a very lustrous anodized finish. RoofEdge is available in black and bronze anodize finishes.

The Standard and Lite RoofEdge profiles are a minimum thickness of 0.085" and the Deep and Maxx profiles are a minimum thickness of 0.115".

Alloy 6063 Mechanical and Physical Property Limits

Temper[1]	Specified Section or Wall Thickness[2] (inches)	Tensile Strength (ksi)				Elongation[3]	Typical Brinell Hardness	Typical Ultimate Shearing Strength	Typical Electrical Conductivity
		Ultimate		Yield (0.2% offset)		Percent Min. in 2 inch or 4D[4]			
		Min.	Max.	Min.	Max.		(500 kg load/ 10 mm ball)	(ksi)	(%IACS)
T6	Up thru 0.124	30	--	25	--	8	73	22	53

① The mechanical property limits for standard tempers are listed in the "standards section" of the Aluminum Association's Aluminum Standards and Data manual and Tempers for Aluminum and Aluminum Alloy Products. ② The thickness of the cross section from which the tension test specimen is taken determines the applicable mechanical properties. ③ For material of such dimensions that a standard test specimen cannot be obtained, or for shapes thinner than 0.062", the test for elongation is not required. ④ D = Specimen diameter.

Comparative Characteristics of Related Alloys/Tempers[1]

Alloy	Temper	Formability	Machinability	General Corrosion Resistance	Weldability (Arc with Inert Gas)	Brazeability	Anodizing Response	Electrical Conductivity (%IACS) @ 68°F
		Low High	D C B A	D C B A	D C B A	D C B A	D C B A	40 50 60
6101	-T6, T63						N/A	

① Rating: A=Excellent B=Good C=Fair D=Poor For further details of explanation of ratings, see Aluminum Association's Aluminum Standards and Data manual.

Material statistics courtesy of Alcoa.

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