

ALUMINUM MECHANICAL PROPERTIES

Typical Properties for Comparison Only

Alloy and Temper	Tension				Brinell Hardness*	Ultimate Shear Strength, KSI	Endurance Limit, KSI	Mod. ² of Elast. KSI×10 ³
	Strength, % Elong. in 2"							
	Ultimate	Yield	1/4"	1/2"				
1060-O	10	4	43	—	19	7	3	10.0
1060-H12	12	11	16	—	23	8	4	10.0
1060-H14	14	13	12	—	26	9	5	10.0
1060-H16	16	15	8	—	30	10	6.5	10.0
1060-H18	19	18	6	—	35	11	6.5	10.0
1100-O	13	5	35	45	23	9	5	10.0
1100-H12	16	15	12	25	28	10	6	10.0
1100-H14	18	17	9	20	32	11	7	10.0
1100-H16	21	20	6	17	38	12	9	10.0
1100-H18	24	22	5	15	44	13	9	10.0
1350-O	12	4	—	—	—	8	—	10.0
1350-H12	14	12	—	—	—	9	—	10.0
1350-H14	16	14	—	—	—	10	—	10.0
1350-H16	18	16	—	—	—	11	—	10.0
1350-H19	27	24	—	—	—	15	7	10.0
2011-T3	55	43	—	15	95	32	18	10.2
2011-T8	59	45	—	12	100	35	18	10.2
2014-O	27	14	—	18	45	18	13	10.6
2014-T4, T451	62	42	—	20	105	38	20	10.6
2014-T6, T651	70	60	—	13	135	42	18	10.6
Alclad 2014-O	25	10	21	—	—	18	—	10.5
Alclad 2014-T3	63	40	20	—	—	37	—	10.5
Alclad 2014-T4, T451	61	37	22	—	—	37	—	10.5
Alclad 2014-T6, T651	68	60	10	—	—	41	—	10.5
2017-O	26	20	—	22	45	18	13	10.5
2017-T4, T451	62	40	—	22	105	38	18	10.5
2018-T61	61	46	—	12	120	39	17	10.8
2024-O	27	11	20	22	47	18	13	10.6
224-T3	70	50	18	—	120	41	20	10.6
2024-T4, T351	68	47	20	19	120	41	20	10.6
2024-T361 ¹	72	57	13	—	130	42	18	10.6
Alclad 2024-O	26	11	20	—	—	18	—	10.6
Alclad 2024-T3	65	45	18	—	—	40	—	10.6
Alclad 2024-T4, T351	64	62	19	—	—	40	—	10.6
Alclad 2024-T361 ¹	67	53	11	—	—	41	—	10.6
Alclad 2024-T81, T851	65	60	6	—	—	40	—	10.6
Alclad 2024-T861 ¹	70	66	6	—	—	42	—	10.2
2025-T6	58	37	—	19	110	35	18	10.4
2036-T4	49	28	24	—	—	—	18 ^b	10.3
2117-T4	43	24	—	27	70	28	14	10.3
2124-T851	70	64	—	8	—	—	—	10.6
2218-T72	48	37	—	11	95	30	—	10.8
2219-O	25	11	18	—	—	—	—	10.6
2219-T42	52	27	20	—	—	—	—	10.6
2219-T31, T351	52	36	17	—	—	—	—	10.6
2219-T37	57	46	11	—	—	—	—	10.6
2219-T62	60	42	10	—	—	—	15	10.6
2219-T81, T851	66	51	10	—	—	—	15	10.6
2219-T87	69	57	10	—	—	—	15	10.6
2618-T61	64	54	—	10	115	38	18	10.8
3003-O	16	6	30	40	28	11	7	10.0
3003-H12	19	18	10	20	35	12	8	10.0
3003-H14	22	21	8	16	40	14	9	10.0
3003-H16	26	25	5	14	47	15	10	10.0
3003-H18	29	27	4	10	55	16	10	10.0

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	Strength, % Elong. in 2"							
	Ultimate	Yield	1/4"	1/2"				
Alclad 3003-O	16	6	30	40	—	11	—	10.0
Alclad 3003-H12	19	18	10	20	—	12	—	10.0
Alclad 3003-H14	22	21	8	16	—	14	—	10.0
Alclad 3003-H16	26	25	5	14	—	15	—	10.0
Alclad 3003-H18	29	27	4	10	—	16	—	10.0
3004-O	26	10	20	25	45	16	14	10.0
3004-H32	31	25	10	17	52	17	15	10.0
3004-H34	35	29	9	12	63	18	15	10.0
3004-H36	38	33	5	9	70	20	16	10.0
3004-H38	41	36	5	6	77	21	16	10.0
Alclad 3004-O	26	10	20	25	—	16	—	10.0
Alclad 3004-H32	31	25	10	17	—	17	—	10.0
Alclad 3004-H34	35	29	9	12	—	18	—	10.0
Alclad 3004-H36	38	33	5	9	—	20	—	10.0
Alclad 3004-H38	41	36	5	6	—	21	—	10.0
3105-O	17	8	24	—	—	12	—	10.0
3105-H12	22	19	7	—	—	14	—	10.0
3105-H14	25	22	5	—	—	15	—	10.0
3105-H16	28	25	4	—	—	16	—	10.0
3105-H18	31	28	3	—	—	17	—	10.0
3105-H25	26	23	8	—	—	15	—	10.0
4032-T6	55	46	—	9	120	38	16	11.4
5005-O	18	6	25	—	28	11	—	10.0
5005-H12	20	19	10	—	—	14	—	10.0
5005-H14	23	22	6	—	—	14	—	10.0
5005-H16	26	25	5	—	—	15	—	10.0
5005-H18	29	28	4	—	—	16	—	10.0
5005-H32	20	17	11	—	36	14	—	10.0
5005-H34	23	20	8	—	41	14	—	10.0
5005-H36	26	24	6	—	46	15	—	10.0
5005-H38	29	27	5	—	51	16	—	10.0
5050-O	21	8	24	—	36	15	12	10.0
5050-H32	25	21	9	—	46	17	13	10.0
5050-H34	28	24	8	—	53	18	13	10.0
5050-H36	30	26	7	—	58	19	14	10.0
5050-H38	32	29	6	—	63	20	14	10.0
5052-O	28	13	25	30	47	18	16	10.2
5052-H32	33	28	12	18	60	20	17	10.2
5052-H34	38	31	10	14	68	21	18	10.2
5052-H36	40	35	8	10	73	23	19	10.2
5052-H38	42	37	7	8	77	24	20	10.2
5056-O	42	22	—	35	65	26	20	10.3
5056-H18	63	59	—	10	105	34	22	10.3
5056-H38	60	50	—	15	100	32	22	10.3
5083-O	42	21	—	22	—	25	—	10.3
5083-H321, H116	46	33	—	16	—	—	23	10.3
5086-O	38	17	22	—	—	23	—	10.3
5086-H32, H116	42	30	12	—	—	—	—	10.3
5086-H34	47	37	10	—	—	27	—	10.3
5086-H112	39	19	14	—	—	—	—	10.3
5154-O	35	17	27	—	58	22	17	10.2
5154-H32	39	30	15	—	67	22	18	10.2
5154-H34	42	33	13	—	73	24	19	10.2
5154-H36	45	36	12	—	78	26	20	10.2
5154-H38	48	39	10	—	80	28	21	10.2
5154-H112	35	17	25	—	63	—	17	10.2

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	Strength, % Elong. in 2"							
	Ultimate	Yield	1/4"	1/2"				
5252-H25	34	25	11	—	68	21	—	10.0
5252-H38, H28	41	35	5	—	75	23	—	10.0
5254-O	35	17	27	—	58	22	17	10.2
5254-H32	39	30	15	—	67	22	18	10.2
5254-H34	42	33	13	—	73	24	19	10.2
5254-H36	45	36	12	—	78	26	20	10.2
5254-H38	48	39	10	—	80	28	21	10.2
5254-H112	35	17	25	—	63	—	17	10.2
5454-O	36	17	22	—	62	23	—	10.2
5454-H32	40	30	10	—	73	24	—	10.2
5454-H34	44	35	10	—	81	26	—	10.2
5454-H111	38	26	14	—	70	23	—	10.2
5454-H112	36	18	18	—	62	23	—	10.2
5456-O	45	23	—	24	—	—	—	10.3
5456-H112	45	24	—	22	—	—	—	10.3
5456-H321, H116	51	37	—	16	90	30	—	10.3
5457-O	19	7	22	—	32	12	—	10.0
5457-H25	26	23	12	—	48	16	—	10.0
5457-H38, H28	30	27	6	—	55	18	—	10.0
5652-O	28	13	25	30	47	18	16	10.2
5652-H32	33	28	12	18	60	20	17	10.2
5652-H34	38	31	10	14	68	21	18	10.2
5652-H36	40	35	8	10	73	23	19	10.2
5652-H38	42	37	7	8	77	24	20	10.2
5657-H25	23	20	12	—	40	14	—	10.0
5657-H38, H28	28	24	7	—	50	15	—	10.0
6061-O	18	8	25	30	30	12	9	10.0
6061-T4, T451	35	21	22	25	65	24	14	10.0
6061-T6, T651	45	40	12	17	95	30	14	10.0
Alclad 6061-O	17	7	25	—	—	11	—	10.0
Alclad 6061-T4, T451	33	19	22	—	—	22	—	10.0
Alclad 6061-T6, T651	42	37	12	—	—	27	—	10.0
6063-O	13	7	—	—	25	10	8	10.0
6063-T1	22	13	20	—	42	14	9	10.0
6063-T4	25	13	22	—	—	—	—	10.0
6063-T5	27	21	12	—	60	17	10	10.0
6063-T6	35	31	12	—	73	22	10	10.0
6063-T83	37	35	9	—	82	22	—	10.0
6063-T831	30	27	10	—	70	18	—	10.0
6063-T832	42	39	12	—	95	27	—	10.0
6066-O	22	12	—	18	43	14	—	10.0
6066-T4, T451	52	30	—	18	90	29	—	10.0
6066-T6, T651	57	52	—	12	120	34	16	10.0
6070-T6	55	51	10	—	—	34	14	10.0
6101-H111	14	11						