

SELECTED TITANIUM ALLOY PROPERTIES

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CHEMICAL COMPOSITION¹ AND PHYSICAL PROPERTIES

ALLOY	UNS NO.	C	N	O	H	Fe	Al	V	Others	Density (lbs/in ³)	Modulus 10 ⁶ psi	Coefficient Thermal Expansion ²	Electrical Resistivity ³
Grade 2	R50400	<.08	<.003	<.025	<.0015	<.3	-	-	-	.163	14.9	4.8	56
Grade 7	R52400	<.1	<.003	<.025	<.0015	<.3	-	-	0.2Pd	.163	14.9	4.8	56
Grade 12	R53400	<.008	<.002	<.012	<.0015	<.3	-	-	0.3Mo 0.8Ni	.164	15.0	5.3	52
Grade 9 (3AL-2.5V)	R56320	<.005	<.002	<.012	<.0015	<.25	3.0	2.5	-	.162	15.0	5.3	126
Grade 5 (6AL-4V)	R56400	<.008	<.005	<.2	<.0015	<.4	6.0	4.0	-	.160	16.5	5.0	171
Grade 29 (6AL-4V ELI-Ru)	R56404	<.008	<.003	<.013	<.0015	<.25	6.0	4.0	.11Ru	.160	16.5	5.0	171
6AL-6V-2Sn	R56620	<.005	<.004	<.002	<.0015	<.65	6.0	6.0	2.0Sn 0.75Cu	.164	16.5	5.0	157
6AL-2Sn 4Zr-6 Mo	R56260	<.004	<.004	<.15	<.0015	<.15	6.0	-	2.0Sn 4.0Zr 6.0Mo	.168	16.5	4.1	NA
Grade 19 (Beta-C)	R58640	<.005	<.003	<.012	<.002	<.3	3.0	8.0	4.0Zr 4.0Mo 6.0Cr	.174	15.5	5.4	157

¹Nominal Composition Wt, (%)

²10-6 in/in/°F 32-212

³@R.T. microhms cm.

MECHANICAL PROPERTIES⁴

ALLOY	UNS NO.	Condition	Yield Strength (0.2%) (Ksi)	Tensile Strength (Ksi)	Elongation (%)	Reduction in Area (%)	Hardness	NACE MRO175 Listed
Grade 2	R50400	Anneal	40	50	20	30	88-100Rb	100Rb Max
Grade 7	R52400	Anneal	40	50	20	25	88-100Rb	No
Grade 12	R53400	Anneal	50	70	18	25	88-100Rb	92Rb Max
Grade 9 (3AL-2.5V)	R56320	Anneal	70	90	15	-	24-28Rc	No
Grade 5 (6AL-4V)	R56400	Anneal	120	130	10	20	28-35Rc	No
Grade 29 (6AL-4V ELI-Ru)	R56404	Anneal	110	120	6	15	28-35Rc	35Rc Max
6AL-6V-2Sn	R56620	Anneal	135-160	147-170	8-12	15-30	28-36Rc	No
6AL-2Sn 4Zr-6 Mo	R56260	Solution Treat & Age	135-165	145-175	6-20	10-35	35-45Rc	45Rc Max
Grade 19 (Beta-C)	R58640	Solution Treat & Age	115-180	120-190	5-20	10-35	32-45Rc	42Rc Max

⁴Minimum Values except as noted

SUPPLIED MATERIAL AVAILABLE

ASTM B-265
ASTM B-338
ASTM B-348
ASTM B-363

TI. SHEET, PLATE
TI. TUBE SMLS. & WELDED
TI. BAR & BILLET
TI. BW FITTINGS SMLS. & WELDED

ASTM B-367
ASTM B-381
ASTM B-861
ASTM B-862

TI. ALLOY CASTINGS
TI. FORGINGS
TI. SMLS. PIPE
TI. WELDED PIPE