

Beta 21S Titanium is a high strength, heat treatable, metastable beta titanium alloy. It is engineered specifically to improve resistance to oxidation and creep along with enhanced elevated temperature strength and stability. It has excellent resistance to the hydraulic fluids used in aircraft. Beta 21S Titanium can be successfully cold rolled to the dimensions shown below.

Dimensional

Thickness	Maximum Width
0.025" - 0.003" (.635 - .08mm)	17.5" (444.5mm) as rolled edge 17.0" (431.8mm) with a slit edge
0.0029" - 0.001" (.079 - .0254mm)	16.5" (419.1mm) as rolled edge 16.0" (406.4mm) with a slit edge
0.0009" - 0.0004" (.025 - .01mm)	15.5" (393.7mm) as rolled edge 15.5" (393.7mm) with a slit edge
0.00039" - 0.00008" (.099 - .002mm)	4.25" (107.95mm) as rolled edge 4.0" (101.6mm) with a slit edge

Typical Mechanical Properties (Solution Annealed)

UTS ksi (MPa)	YS (.2% offset) ksi (MPa)	Elongation %
155 (1172) min	110 (758) min	Information only

Chemical Composition (wt %)

Element	Minimum	Maximum	Element	Minimum	Maximum
Al	2.5	3.5	N	-	.05
Nb (Cb)	2.4	3.2	C	-	.05
Mo	14.0	16.0	H	-	.015
Fe	-	.4	O	.11	.17
Si	.15	.25	Residual - each	-	.1 (.4 total)

Physical Properties

Density	0.178 lb/in ³ (4.93 g/cm ³)
Beta Transus	1485 ±25°F (807 ±10°C)
Melting (liquidus) Point	3034°F (1668°C)
Thermal Conductivity	91-498°F (33-259°C) 4.4-6.8 Btu/hr/ft/°F (7.6-11.8 W/m/°K)
Modulus of Elasticity	10.5 – 12 x 10 ⁶ lb/in ² (72-85 x 10 ³ MPa)

TYPICAL AEROSPACE APPLICATIONS

- Honeycomb structures
- Metal matrix composites
- Propellant tanks
- Seamless tubing

DELIVERY

Availability

Global.

Size

Available in thicknesses and widths per table.

Temper

Available in the annealed or as rolled condition.

Surface

Clean uniform surface, 1Ra - 16Ra without discoloration or surface defects. Available with a slit edge (typical burr <10% of strip thickness) or an as-rolled edge.

Packing

Properly packaged to avoid damage in transit. International packaging available upon request.

Conformance

ASTM B265 (latest revision) with exceptions per ED-RP-0003, DFARS Compliant.

Certifications

ISO9001, AS9001, Nadcap.