

MATERIAL DATA SHEET · TITANIUM

Titanium Grade 5 (Ti-6Al-4V) — Chemical Composition & Mechanical Properties

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Titanium Grade 5 (Ti-6Al-4V) is a titanium grade for titanium forgings & bar (UNS R56400, EN / W.Nr 3.7165). This sheet summarises its chemical composition limits, minimum mechanical properties, heat treatment and typical service. Teshi Group manufactures flanges and fittings in this grade.

At a glance

Material family	Titanium
Product form	Titanium forgings & bar
UNS	R56400
EN / W.Nr	3.7165
Also known as	Ti-6Al-4V

Mechanical properties

Tensile strength, min	895 MPa
Yield strength (0.2 % offset), min	828 MPa
Elongation, min	10 %
Hardness	Not specified

Chemical composition (weight %)

Ti balance	Al 5.5–6.75	V 3.5–4.5	Fe 0.40 max	O 0.20 max
C 0.08 max	N 0.05 max	H 0.015 max		

Single values are maximums unless shown as a range or “min”.

Heat treatment

Annealed

Typical service

High-strength forgings, fasteners and offshore riser components

International equivalents (nearest)

USA — specification	Titanium Grade 5 (Ti-6Al-4V)
USA — UNS	R56400
Europe — EN designation	TiAl6V4
Europe — W.Nr	3.7165
Japan — JIS	TAP6400 (JIS H4600) / TAB6400 (JIS H4650)
China — GB / NB	TC4 (GB/T 3620.1)
China — old GB designation	TC4
UK — BS (withdrawn)	BS TA10–13

Same alloy in other product forms

Flanges & forgings	ASTM B381 F-5
Butt-weld fittings	ASTM B363 WPT5
Seamless pipe	ASTM B861 Grade 5
Welded pipe	ASTM B862 Grade 5
Plate	ASTM B265 Grade 5
Bar	ASTM B348 Grade 5

Teshi Group — OEM manufacturer of flanges, pipe fittings, fasteners, valves and fabrications; stockist and supplier of pipes, plates and structural steel. ISO 9001:2015 · IBR approved · since 1971. Enquiries: info@teshigroup.com · sales@teshigroup.com · +91 78900 09110

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