

<b>Ti CP Grade 1</b>	<b>Ti CP Grade 2</b>	<b>TI CP GRADE 3</b>
Lower Strength, softest, unalloyed Ti grade with highest ductility, cold formability, and impact toughness, with excellent resistance to mildly reducing to highly oxidizing media with or without chlorides and high weldability.	Moderate strength unalloyed Ti with excellent weldability, cold formability, and fabricability; Excellent resistance to mildly reducing to highly oxidizing media with or without chlorides. Approved for sour service use under the NACE MR-01-75 Standard	Slightly stronger version of Ti CP Grade 2 with similar corrosion resistance with good weldability and reasonable cold formability/ductibility.
<b>Ingot/Bloom, Bar, Billet, Plate, Strip, Welded Pipe/Tubing, Wire.</b>	<b>Ingot/Bloom, Bar, Billet, Plate, Strip, Welded Tubing/Pipe, Seamless Tubing, Wire, Foil</b>	<b>Ingot/Bloom, Bar, Billet, Plate, Strip, Welded Tubing/Pipe</b>
<b>Ti Grade 16</b>	<b>Ti Grade 17</b>	<b>Ti Grade 26</b>
Lower cost, leaner Pd version of Ti Grade 7 with equivalent physical/mechanical properties, and similar corrosion resistance. Tubing Welded Pipe.	Lower cost, leaner Pd version of Ti. Grade 11 with equivalent physical, mechanical properties and fabricability (soft grade) and similar corrosion resistance. Tubing Welded Pipe.	Lower cost, Ru-containing alternative for Ti Grade 7 with equivalent physical/mechanical properties and fabricability and similar corrosion resistance. Tubing, welded pipe.
<b>Ingot/Bloom, Bar, Billet, Plate, Strip, Welded Tubing/Pipe, Wire</b>	<b>Ingot/Bloom, Bar, Billet, Plate, Strip, Welded Tubing/Pipe, Wire</b>	<b>Ingot/Bloom, Bar, Billet, Plate, Strip, Welded Tubing/Pipe, Wire</b>
<b>Ti Grade 18</b>	<b>Ti Grade 28</b>	<b>Ti Grade 6</b>
Pd-enhanced version of Ti-3Al-2.5V with equivalent physical and mechanical properties and fabricability, offering elevated resistance to dilute reducing acids and crevice corrosion in hot halide (brine) media.	Ru-enhanced version of Ti-3Al-2.5V with equivalent physical and mechanical properties and fabricability, offering elevated resistance to dilute reducing acids and crevice corrosion in hot halide (brine) media. Approved for sour service use under the NACE MR-01-75 Standard.	Weldable, non-ageable, high-strength alloy offering good high temperature stability, strength, oxidation and creep resistance.
<b>Ingot/Bloom, Billet, Welded Pipe, Plate, Strip, Welded Tubing, Seamless Pipe</b>	<b>Ingot/Bloom, Billet, Welded Pipe, Plate, Strip, Welded Tubing, Seamless Pipe, Wire</b>	<b>Ingot/Bloom, Bar, Billet, Sheet</b>
<b>Ti 6Al-4V [Ti-6-4] (Grade 5)</b>	<b>Ti-6Al-4V ELI [Ti-6-4-ELI] (Grade 23)</b>	<b>Ti-6Al-4V-0.1Ru (Grade 29) [Ti-6-4-Ru]</b>
Heat treatable, high-strength, most commercially available Ti alloy ("workhorse" alloy for aerospace applications), for use up to 400C offering an excellent combination of high strength, toughness, and ductility along with good weldability and fabricability.	Extra low interstitial version of Ti-6Al-4V offering improved ductility and fracture toughness in air and saltwater environments, along with excellent toughness, strength, and ductility in cryogenic service as low as -255C. Typically used in a non-aged condition for maximum toughness.	Extra low interstitial, Ru-containing version of Ti-6Al-4V offering improved fracture toughness in air, seawater, and brines, along with resistance to localized corrosion in sweet and sour acidic brines as high as 330 C. Approved for sour service use under the NACE MR-01-75 Standard.

<b>Ingot/Bloom, Bar, Billet, Plate, Sheet, Seamless Pipe/Tubing, Wire, Foil</b>	<b>Ingot/Bloom, Bar, Billet, Plate, Sheet, Wire, Seamless Tubing, Foil</b>	<b>Ingot/Bloom, Bar, Billet, Plate, Sheet, Seamless Pipe, Wire</b>
<b>Ti-6Al-2Sn-2Zr-2Mo-2Cr-0.15Si [Ti-6-22-22]</b>	<b>Ti-4.5V-3V-2Mo-2Fe [SP-700]</b>	<b>Ti-5Al-4Cr-4Mo-2Sn-2Zr [Ti-17]</b>
<p>Heat treatable, high strength forging alloy with good strength and creep resistance to temperature as high as 400 C.</p>	<p>Heat treatable, high strength Ti alloy with strength and fracture toughness-to-strength properties superior to those of Ti-6Al-4V, with excellent superplastic formability and thermal stability.</p>	<p>Heat treatable, high strength Ti alloy with superior strength and exceptional hot and superplastic formability compared to Ti-6Al-4V, combined with good ductility and fatigue resistance.</p>
<b>Ingot/Bloom, Bar, Billet, Plate, Sheet, Wire</b>	<b>Ingot/Bloom, Bar, Billet, Plate, Sheet</b>	<b>Ingot/Bloom, Bar, Billet</b>
<b>Ti-3Al-8V-6Cr-4Zr-4Mo-0.05Pd [Ti Beta-C/Pd] (Grade 20)</b>		
<p>A Pd-containing version of the Ti-38644 alloy (Beta-C/Pd) possessing equivalent physical/mechanical properties, but with significantly enhanced resistance to stress and localized corrosion in high temperature brines.</p>		
<b>Ingot/Bloom, Bar, Billet, Seamless Pipe</b>		

<b>TI CP GRADE 4</b>	<b>TI GRADE 7</b>	<b>TI GRADE 11</b>
Much Stronger, high interstitial version of Grades 2 and 3 Ti with reasonable weldability, and reduced ductility and cold-formability.	Most resistant Ti alloy to corrosion in reducing acids and localized attack in hot halide media, with physical/mechanical properties equivalent to Grade 2 and excellent weldability/fabricability.	Most resistant Ti alloy to corrosion in reducing acids and localized attack in hot halide media, with physical, mechanical, formability properties equivalent to Gr.1 Ti (soft grade) and excellent weldability.
<b>Ingot, Bloom, Bar, Billet, Plate, Strip</b>	<b>Ingot/Bloom, Bar, Billet, Plate, Strip, Welded Tubing/Pipe, Wire</b>	<b>Ingot/Bloom, Bar, Billet, Plate, Strip, Welded Tubing/Pipe, Wire</b>
<b>Ti Grade 27</b>	<b>Ti Grade 12</b>	<b>Ti Grade 9</b>
Lower cost, Ru-containing alternative for Ti Grade 11 with equivalent physical/mechanical properties (soft grade) and fabricability and similar corrosion resistance	Highly weldable and fabricable Ti alloy offering improved strength and pressure code design allowables, hot brine crevice corrosion, and reducing acid resistance compared to Ti Grade 1, 2, and 3. Approved for sour service use under the NACE MR-01-75 Standard.	Medium strength, non-ageable Ti alloy offering highest strength and design allowables under the pressure vessel code, with good weldability and cold fabricability for mildly reducing to mildly oxidizing media.
<b>Ingot/Bloom, Bar, Billet, Plate, Strip, Welded Tubing/Pipe</b>	<b>Ingot/Bloom, Billet, Welded Pipe, Plate, Strip, Welded Tubing, Seamless Pipe, Wire</b>	<b>Ingot/Bloom, Billet, Welded Pipe, Plate, Strip, Welded Tubing, Foil, Seamless Pipe, Wire</b>
<b>Ti 5Al-2.5Sn ELI [Ti-5-2.5 ELI]</b>	<b>Ti-8Al-1Mo-1V [Ti-8-1-1]</b>	<b>Ti-6Al-2Sn-4Zr-2Mo-0.1Si [Ti-6-2-4-2S]</b>
Extra low interstitial version of Ti-5Al-2.5Sn exhibiting an excellent combination of toughness and strength at cryogenic temperatures; suited for cryogenic vessels for service as low as -255C.	Highly creep-resistant, non-ageable, weldable, high-strength Ti alloy for use up to 455C; exhibiting the lowest density and highest modulus of all commercial Ti alloys.	Weldable, high strength Ti alloy offering excellent strength, stability, and creep resistance to temperatures as high as 550C.
<b>Ingot/Bloom, Bar, Billet</b>	<b>Ingot/Bloom, Bar, Billet, Sheet</b>	<b>Ingot/Bloom, Bar, Billet, Sheet</b>
<b>Ti-6Al-7Nb</b>	<b>Ti-6Al-6V-2Sn [Ti-6-6-2]</b>	<b>Ti-6Al-2Sn-4Zr-6Mo [Ti-6-2-4-6]</b>
High strength Ti alloy with good toughness and ductility, used primarily for medical implants stemming from its excellent biocompatibility.	Heat treatable, high strength Ti alloy with higher strength and section hardenability than Ti-6Al-4V, but with lower toughness and ductility, and limited weldability. Can be used in mill annealed or in the aged (very high strength) condition.	Heat-treatable, deep hardenable, very high strength Ti alloy with improved strength to temperatures as high as 450C, with limited weldability. Approved for sour service under the NACE MR-01-75 Standard.

Ingot/Bloom, Bar, Billet, Wire	Ingot/Bloom, Bar, Billet, Plate, Sheet	Ingot/Bloom, Bar, Billet
<b>Ti-10V-2Fe-3Al [Ti-10-2-3]</b>	<b>Ti-3Al-8V-6Cr-4Zr-4Mo [Ti Beta-C] (Grade 19)</b>	<b>Ti-3Al-8V-6Cr-4Zr-4Mo [Ti Beta-C] (Grade 19)</b>
<p>Heat treatable, deep section hardenable, very high strength Ti alloy with superior strength and creep resistance over Ti-6Al-4V to temperatures as high as 400 C and limited weldability.</p>	<p>Heat treatable, deep hardenable, very high strength Ti alloy possessing superior fatigue and strength/toughness combinations, with exceptional hot-die forgeability, but limited weldability.</p>	<p>A heat-treatable, deep section hardenable, very high strength Ti alloy possessing good toughness/strength properties, low elastic modulus and elevated resistance to stress and localized corrosion in high temperature sweet and sour brines. Approved for sour service under the NACE MR-0175 Standard</p>
<b>Ingot/Bloom, Bar, Billet</b>	<b>Ingot/Bloom, Bar, Billet, Seamless Pipe, Wire</b>	<b>Ingot/Bloom, Bar, Billet, Seamless Pipe</b>