



Grade	Code	UNS	Titanium
TiGr2	3.7035	R50400	

Titanium Properties

TiGr2 is one of the most widely used unalloyed commercially pure titanium grades. It combines good ductility, high formability and excellent weldability with moderate mechanical strength. Titanium is the balance element; Fe, O, C, N and H are controlled to specified maximum limits.

Chemical Analysis

Ti %	Fe %	O %	C %	N %	H %	Other each %	Other total %
Balance	0.30 max.	0.25 max.	0.08 max.	0.03 max.	0.015 max.	0.10 max.	0.40 max.

Mechanical Properties

Product	Rp0.2, MPa	Rm, MPa	Elongation [%]	Hardness [HB]	Density, g/cm ³
Bar, Plate, Sheet and Tube/Pipe	≥ 275	≥ 345	≥ 20	~145 - 200	4.51

Application Areas

Sector	Product	Short Description
Chemical and process industry	Reactor vessels, tank linings / liners, piping systems	Used in chemical process equipment due to its good resistance to chloride and corrosive media.
Heat exchanger and energy sector	Heat exchanger tubes, condenser tubes, tube sheets	Common in heat transfer equipment, especially with seawater or aggressive cooling fluids.
Marine and desalination	Seawater piping, pump and valve parts, brine connections	Preferred for seawater, warm chloride media and applications requiring SCC resistance.
Oil, gas and geothermal	Corrosion-resistant piping, heat exchanger parts, pressure vessel / process parts	Suitable for selected chloride, brine and aggressive-fluid services; higher strength may require Grade 5 or Grade 12.
Aerospace and defense	Light formed sheet parts, aircraft attachment / cover parts, cryogenic vessels	Used where low density, corrosion resistance and formability are needed without very high strength.
Medical and dental	Dental implant components, surgical instrument parts, orthopedic auxiliary parts	May be used due to biocompatibility and corrosion resistance; Grade 4 and Ti-6Al-4V are also common in implants.
Electroplating and surface treatment	Anode baskets, hanging fixtures, pickling baskets	Suitable for carriers, baskets and fixtures used in acidic and corrosive bath environments.



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Architectural and industrial design	Facade panels, decorative sheet parts, lightweight structural elements	Used in special architectural and design applications due to corrosion resistance, low density and surface appearance.
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Description

TiGr2 has manufacturing characteristics that should be considered during fabrication. Its relatively low elastic modulus can cause more noticeable springback after forming. Sharp tools, suitable lubrication and sufficient cooling are recommended during machining and bending to reduce galling risk. It performs well in seawater and chloride environments, but strongly reducing acids, fluoride-containing solutions and dry chlorine should be reviewed separately.

Specification

TiGr2, 3.7035, UNS R50400, Titanium Grade 2, Ti Grade 2 / Ti Gr. 2, CP Titanium Grade 2, Commercially Pure Titanium Grade 2, ASTM Grade 2, Ti2, Ti99.4, T40, IMI 125

Standard

Form	ASTM	AMS
Bar	ASTM B348 / B348M	—
Plate	ASTM B265	AMS 4902
Sheet	ASTM B265	AMS 4902
Seamless pipe	ASTM B861	—
Seamless tube	ASTM B338	AMS 4942
Welded pipe	ASTM B862	—
Welded tube	ASTM B338	AMS 4941

Other Grades You May Review

1. Titanium Grade 1 / UNS R50250
2. Titanium Grade 3 / UNS R50550