

Titanium grade 2 fasteners are known for being lightweight and providing superior resistance to chlorides and saltwater. In saltwater, Titanium bolts provide excellent resistance even after years of exposure and at high temperatures. Grade 2 titanium is almost inert to most chlorides, chlorines, and wet chlorine gas because its protective passive layer regenerates almost instantly in oxygen or water. Beware, titanium can rapidly ignite in dry chlorine when less than 1% water is present.

### Properties

|                           |               |
|---------------------------|---------------|
| Ultimate Tensile Strength | 70 ksi        |
| Yield Strength at 0.2%    | 50 ksi        |
| Elongation %              | 28            |
| Usable Temperature Limit  | 850°F / 454°C |

### Key Benefits

- Ultra-Lightweight
- Excellent resistance to saltwater
- Resists erosion from high velocity seawater
- Almost inert to most chlorides and chlorines, as well as solutions containing chlorites, hypochlorites, chlorates, perchlorates and chlorine dioxide

### Chemistry & Specifications

| Titanium Grade 2 | Ti  | Fe   | O    | C    | N    | H     |
|------------------|-----|------|------|------|------|-------|
| Min %            | -   | -    | -    | -    | -    | -     |
| Max %            | Bal | 0.30 | 0.25 | 0.08 | 0.03 | 0.015 |

SPECIFICATIONS: UNS R50400, ASTM B 348, AMS 4921, ASTM F 67, ISO 5832-2, Werkstoff 3.7035

### Material Data

#### TITANIUM GRADE 2 - Tensile Data

| Temperature (°F) | Ultimate Tensile (ksi) | Yield Strength at 0.2% Offset (ksi) | Elongation % |
|------------------|------------------------|-------------------------------------|--------------|
| Room Temp.       | 70                     | 50                                  | 28           |
| 212              | 56                     | 37                                  | 31           |
| 392              | 41                     | 28                                  | 37           |
| 572              | 33                     | 18                                  | 43           |
| 752              | 27                     | 13                                  | 38           |
| 842              | 26                     | 11                                  | 34           |

#### TITANIUM RESISTANCE TO CHLORINE

| GRADE 2                            |                |                           |
|------------------------------------|----------------|---------------------------|
| Media                              | Temperature °F | Corrosion Rate mpy (mm/y) |
| Wet Chlorine                       | 50-190         | Nil - 0.02 (0.001)        |
| Water Saturated, Chlorine Cell Gas | 190            | 0.065 (0.002)             |
| Dry Chlorine                       | 86             | Rapid Attack, Ignition    |

## Our Engineers Are Here to Help

Americans / Asia  
Europe

888.393.4517  
+45 70 777 677

[www.extreme-bolt.com](http://www.extreme-bolt.com)  
[sales@extreme-bolt.com](mailto:sales@extreme-bolt.com)  
[europe@extreme-bolt.com](mailto:europe@extreme-bolt.com)