

Ti12

Comparable specifications

ASME SFA-5.16 / AWS A5.16: ERTi-12
EN ISO 24034: S Ti 3401 (TiNi0.7Mo0.3)

Description and applications*

Titanium Grade 12 is an alloy that has higher strength and better formability than grades from 1 to 4. The presence of molybdenum and nickel in the chemical analysis of this grade, increases its corrosion resistance with a more cost-efficient solution than Grade 7, in which palladium is added instead. At high temperatures, it has better properties than Grade 2 and Grade 3.

Main applications:

- Aerospace industry: Grade 12, is often used for constructing aircrafts frames where joints between light materials are required.
- Chemical industry: this grade is used for welding titanium in the reaction vessel, storage of acidic substances or alkaline substance storage tubes.
- Marine and naval applications: Grade 12 titanium is used to build underwater equipment due to its remarkable corrosion resistance.
- Medical industry: due to the fact that it is biocompatible, Titanium Grade 12 finds different applications into this industry being suitable for making and repairing dental implants, prosthetics and surgical instruments.

Weldable base materials*

Titanium Grade 12, Grade 7, Grade 2 and Grade 3.

* Illustrative, not-exhaustive list

All-weld metal mech. properties*

Tensile strength (Rm): ≥ 480 N/mm² Yield Strength (Rp_{0.2}): ≥ 345 N/mm²
Elongation (A5d): $\geq 20\%$

* For reference only values

Chemical composition*

* For reference only values

C	O	N	H	Fe	Ni	Mo	Ti
max	0.08	max	max	max	0.6	0.2	rem.
0.03	16	0.015	0.008	0.15	0.9	0.4	

Standard packaging data*

Welding process	Product type	Ø mm (inches)	Packing type
GMAW **	filler wire	0.80 - 1.20 (0.030 - 0.047)	spools BS300 / D300
GTAW **	filler rod (1000 mm)	1.60 - 4.00 (1/16 - 5/32)	cardboard boxes / tubes

* Other sizes and packing types are available upon request

** GMAW: gas metal arc welding; GTAW: gas tungsten arc welding

Marking

Each filler rod for GTAW welding is durably marked with an identification traceable to the unique product type. Welding filler materials wound on spools or in coils are durably marked on the coil or spool with an identification traceable to the unique product type.

The outside of each unit package is suitably labelled with at minimum the following data: grade, diameter, heat, lot no., classifications.

Customized labels are available upon request.

Lot classification

All our productions fulfil the **Class S3** requirements acc. to EN ISO 14344.