

Ti-15Mo (DAT[®]15Mo,ASTMF2066)

*DATは大同特殊鋼株式会社の登録商標です

Vanadium-Free Titanium Alloy with High Strength, Excellent Corrosion Resistance, and Adjustable Young's Modulus

Key Features

- ★ Proven performance as implant material
Used in intramedullary nails (for fracture treatment) and other orthopedic components.

- Registered under ASTM F2066 for medical titanium alloys
- Contains no V or Al, providing high biocompatibility
- FDA-approved track record for orthopedic implant applications in the United States

★ High Strength Compared to Ti-6Al-4V (ELI)

- In the annealed condition, the alloy offers:
 - Low Young's modulus, ○ High ductility and toughness,
 - Suitable for cold working such as drawing, wire forming, forging, and tube processing
- Age-hardening heat treatment further increases tensile and fatigue strength, exceeding Ti-6Al-4V ELI (F136)

★ Excellent Corrosion Resistance

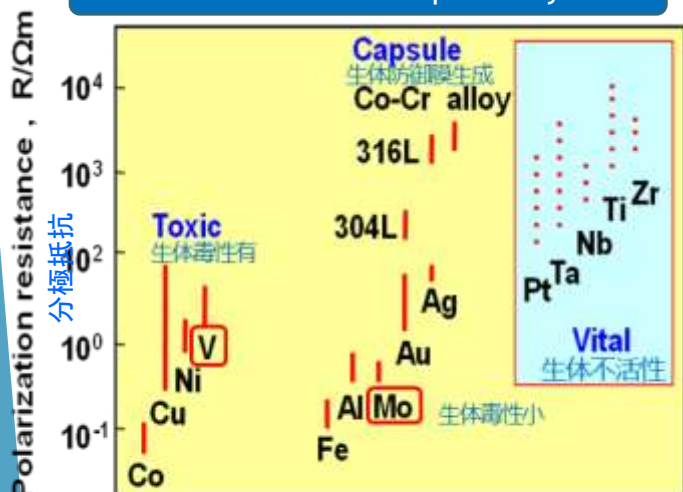
- Exhibits chemical and corrosion resistance equivalent to Pd-containing titanium, which is widely used as a corrosion-resistant material

Chemical Composition

(mass%)

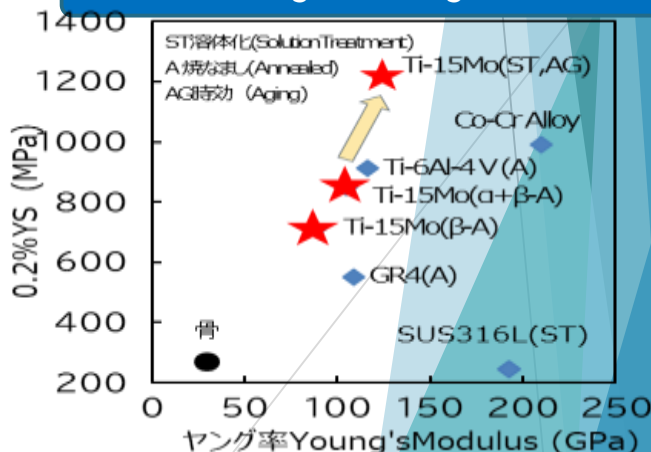
材質	T i	A l	V	M o	N	C	H	O	F e
Ti-15Mo (DAT15Mo)	Bal.	—	—	14.0/ 16.0	Max 0.05	Max 0.10	Max 0.015	Max 0.20	Max 0.10
Reference: Ti6Al4V(ELI)	Bal.	5.5/ 6.50	3.5/ 4.5	—	Max 0.05	Max 0.08	Max 0.012	Max 0.13	Max 0.25

Elemental Biocompatibility



*Y. Okazaki, Y. Ito, K. Kyo and T. Tateishi: Mat. Sci. Eng. A, A213 (1996), p. 138.

Yield Strength & Young's Modulus



熱処理	TS MPa	YS MPa	EL %	RA %	ヤング率 GPa
(α+β)ST+AG	1150	1050	10	25	122
β-ST	690	483	20	60	78