

# ATI TJA-1537

## Implantable Metallic Biomaterials for Medical and Surgical Devices

(UNS R31537 &amp; R31538)

### 1. SPECIALTY STEELS

Material Designation	Common Name Trade Name	UNS Designation	ASTM Standard	ISO Standard
Fe-18Cr-14Ni-2.5Mo	316 L Stainless Steel	S31673	ASTM F 138	ISO 5832-1
Fe-18Cr-12.5Ni-2.5Mo, Cast	316 L Stainless Steel	Unassigned	ASTM F 745	---
Fe-21Cr-10Ni-3.5Mn-2.5Mo	"REX 734"	S31675	ASTM F 1586	ISO 5832-9
Fe-22Cr-12.5Ni-5Mn-2.5Mo	"XM-19"	S20910	ASTM F 1314	---
Fe-23Mn-21Cr-1Mo-1N	"108"	S29108	ASTM F 2229	---

### 2. COBALT BASE ALLOYS

Material Designation	Common Name Trade Name	UNS Designation	ASTM Standard	ISO Standard
Co-28Cr-6Mo Casting Alloy	Cast CoCrMo	R30075	ASTM F 75	ISO 5832-4
Co-28Cr-6Mo Wrought Alloy #1	Wrought CoCrMo, Alloy 1	R31537	ASTM F 1537	ISO 5832-12
Co-28Cr-6Mo Wrought Alloy #2	Wrought CoCrMo, Alloy 2	R31538	ASTM F 1537	ISO 5832-12
Co-28Cr-6Mo Wrought Alloy #3	Wrought CoCrMo, "GADS"	R31539	ASTM F 1537	---
Co-20Cr-15W-10Ni-1.5Mn	"L-605"	R30605	ASTM F 90	ISO 5832-5
Co-20Ni-20Cr-5Fe-3.5Mo-3.5W-2Ti	"Syncoben"	R30563	ASTM F 563	ISO 5832-8
Co-19Cr-17Ni-14Fe-7Mo-1.5Mn	Grade 2 "Phynox"	R30008	ASTM F 1058	ISO 5832-7
Co-20Cr-15Ni-15Fe-7Mo-2Mn	Grade 1 "Elgiloy"	R30003	ASTM F 1058	ISO 5832-7
Co-35Ni-20Cr-10Mo	"35N"	R30035	ASTM F 562	ISO 5832-6

### 3. TITANIUM AND TITANIUM ALLOYS

Material Designation	Common Name (Alloy Classification)	UNS Designation	ASTM Standard	ISO Standard
Ti CP-1	CP-1 (Alpha)	R50250	ASTM F 67	ISO 5832-2
Ti CP-2	CP-2 (Alpha)	R50400	ASTM F 67	ISO 5832-2
Ti CP-3	CP-3 (Alpha)	R50550	ASTM F 67	ISO 5832-2
Ti CP-4	CP-4 (Alpha)	R50700	ASTM F 67	ISO 5832-2
Ti-3Al-2.5V	Ti-3Al-2.5V (Alpha/Beta)	R56320	ASTM F 2146	---
Ti-5Al-2.5Fe	Tikrutan (Alpha/Beta)	Unassigned	---	ISO 5832-10

**Technical Data Sheet**

Ti-6Al-4V	Ti-6Al-4V (Alpha/Beta)	R56400	ASTM F 1472	ISO 5832-3
Ti-6Al-4V, Cast	Ti-6Al-4V (Alpha/Beta)	R56406	ASTM F 1108	---
Ti-6Al-4V ELI	Ti-6Al-4V ELI (Alpha/Beta)	R56401	ASTM F 136	ISO 5832-3
Ti-6Al-7Nb	Ti-6Al-7Nb (Alpha/Beta)	R56700	ASTM F 1295	ISO 5832-11
Ti-15Mo	Ti-15Mo (Metastable Beta)	R58150	ASTM F 2066	---
Ti-12Mo-6Zr-2Fe*	"TMZF" (Metastable Beta)	R58120	ASTM F 1813	---
Ti-11.5Mo-6Zr-4.5Sn	"Beta 3" (Metastable Beta)	R58030	AMS-T-9046	---
Ti-15Mo-5Zr-3Al	Ti-15Mo-5Zr-3Al (Metastable Beta)	Unassigned	---	ISO 5832-14
Ti-13Nb-13Zr*	Ti-13Nb-13Zr (Metastable Beta)	R58130	ASTM F 1713	---
Ti-45Nb	Ti-45Nb (Metastable Beta)	R58450	ASTM B 348	---
Ti-35Nb-7Zr-5Ta*	"TiOsteum" (Metastable Beta)	R58350	F-04.12.23	---

**4. SPECIALTY METALLIC BIOMATERIALS**

Material Designation	Common Name Trade Name	UNS Designation	ASTM Standard	ISO Standard
Ta, Unalloyed, Cast	Unalloyed Tantalum (Alpha)	R05200	ASTM F 560	---
Zr-2.5Nb	"Zircadyne" 705	R60901	ASTM F 2384	---
Ni-45Ti	NiTi Alloy (Intermetallic)	N01555	ASTM F 2063	---

**NOTES AND REFERENCES:**

1. Material designations with asterisks are patented. Common names in quotation marks may be proprietary or registered trademarks.
2. Information in italics refers to ASTM task groups (standards "in progress"), or other standards organizations such as SAE.
3. "Annual Book of ASTM Standards 2009", Vol 13.01, ASTM, West Conshohocken PA USA, [www.astm.org](http://www.astm.org).
4. "Metals and Alloys in the Unified Numbering System", 11th Edition, ASTM, West Conshohocken PA USA, [www.astm.org](http://www.astm.org).
5. "Stahlschlüssel (Key to Steels)", Verlag Stahlschlüssel Wegst GmbH, D-71672 Marbach, Germany
6. Not all of the materials in this cross-reference table are manufactured by or offered for sale by ATI.