



# MEDICAL STANDARD TITANIUM ALLOY CANNULATED BARS (Part 1/2)

#### **GENERAL FEATURES**

|                                       | UTS<br>MPa / (ksi) |               | YS<br>MPa / (ksi) |              | E%   |         | RA % |         |
|---------------------------------------|--------------------|---------------|-------------------|--------------|------|---------|------|---------|
|                                       | mini               | typical       | mini              | typical      | mini | typical | mini | typical |
| ASTM F136<br>ISO 5832-3<br>Ti6Al4VELI | 860<br>(125)       | 990<br>(144)  | 795<br>(115)      | 835<br>(121) | 10*  | 12      | 25   | 33      |
| ASTM F1472<br>ISO 5832-3<br>Ti6Al4V   | 930<br>(135)       | -             | 860<br>(125)      | -            | 10*  | -       | 25   | -       |
| ASTM F1295<br>ISO 5832-11<br>Ti6AI7Nb | 900<br>(131)       | 1000<br>(145) | 800<br>(116)      | 830<br>(120) | 10*  | 11      | 25   | 34      |

\* gage length = (5D) to meet ASTM requirement.

## **MICROGRAPHIC ISO AND ASTM SPECIFICATIONS :**

- Free of visible micro inclusion (x 200).
- $\alpha$ + $\beta$  equiaxed structure, according to ETTC2 A1-A9 reference pictures.
- Free of a case (hole surface and OD).
- Free of a network and a platelets.

### **SAMPLING PROCEDURE :**

• Each and every batch is sampled according to ANSI / ASQC Z1.4 1993.

### **TENSILE TEST :**

• Mechanical tests are performed according to ASTM E8/E8M as specified in reference specification (ASTM and ISO).

• Tensile strength, yield strength, elongation, reduction of area, are tested for each and every batch in our laboratory with a 200 KN testing equipment.

• Typical test curve is following.

Please contact our office for any additional information or documentation. Dimensional information and technical drawings in this document are for reference only. Some of the product characteristics indicated in this document may be modified at any time at the company's discretion. Our company is not responsible for the use of our products outside standards prescription and what our commercial documents are indicating.

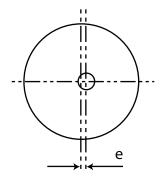




# **MEDICAL STANDARD TITANIUM ALLOY CANNULATED BARS (Part 2/2)**

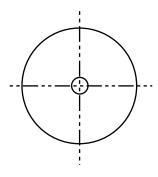
#### **GEOMETRY**

| Tolerance :         | +/-5% ID       |
|---------------------|----------------|
| Concentricity :     | e < 1.6% OD    |
| ID Roundness :      | < 7% ID        |
|                     | (IDmaxIDmin.)  |
| Max. Defects (ID) : | <0.05mm (50µm) |



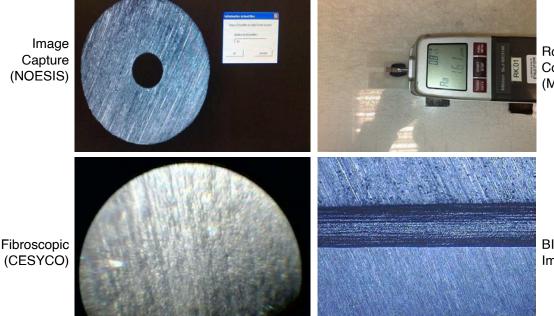
## **RUGOSITY TESTING (MITUTOYO)**

| Length     | Longitudinal<br>Rz | Longitudinal<br>Ra |
|------------|--------------------|--------------------|
| 5 x 0.8 mm | 8.0                | 1.13               |
| 5 x 0.8 mm | 11.65              | 1.71               |
| 5 x 0.8 mm | 11.17              | 1.30               |



## HOLE SURFACE CONDITION

Image Capture (NOESIS)



Roughness Control (MITUTOYO)

BINOCULAR Image x15