

## First time ever ! Introduction to Elgiloy small-diameter pipes

Do you know about the cobalt-alloy **Elgiloy** ELGILOY Co40-Cr20-Ni15-Mo7?  
Because it is a **bio-certified material** and has superior wear resistance to titanium, It is also used for artificial bone. Compared with conventional spring steel, **it is approximately three times more durable**,  
It is also used for high-performance springs and diaphragms.



### ■ World's first! New development of Elgiloy small diameter pipe!!

This is the first Elgiloy small-diameter pipe (outside diameter  $\Phi 1.6\text{mm}$ , inside diameter  $\Phi 0.7\text{mm}$ ) produced by the bottom right photo ①. The strength of the product was measured using our universal testing machine (Photo 2 on the lower right). I was very surprised to find that the thin pipe has **2.5 times the strength of stainless steel**.

① **【ELGILOY】**



Outside diameter  $\Phi 1.6\text{ mm}$   
Inner diameter  $\Phi 0.7\text{ mm}$

### ■ History of Development

- We have developed an elastic, light, and tough  $\beta$ -titanium small-diameter pipe in-house. Manufactured and selling. Therefore, we focused on the characteristics different from those of  $\beta$  titanium. The alloy material is "**Elgiloy**".
- Application to structural parts due to wear resistance, tensile strength, and high hardness.
- To medical equipment that touches the human body as a bio-certified material.

### ■ Features of Elgiloy Small Diameter Pipe

- Corrosion resistance of Elgiloy (without corrosion in hydrochloric acid test, lactic acid test, and phosphate test for 500 hours)
- Physical Characteristics (Non-magnetic, Specific Gravity 8.3, Electrical Resistance  $99.8\ \mu\Omega\text{cm}$ )

	ELGILOY	SUS316	$\beta$ titanium
Tensile strength	<b>2470 MPa</b>	1064 MPa	1351 MPa
0.2% proof stress	2056 MPa	803 MPa	1188 MPa
Vickers hardness	600 HV	365 HV	390 HV
Rockwell hardness	HRC 55	HRC 37	HRC 39



**Development Voice** : Every time a pipe is constructed by repeatedly changing conditions Tensile tests have been carried out to develop high-quality pipes!



② **【Universal testing machine】**

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