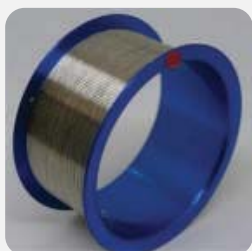


# MEDICAL DEVICE COMPONENTS



## Precious Metal Fine Wires

This product has a smooth surface, low inclusions, no coil cracking, and maintains a consistent cross-sectional shape and size.



Diameter: **10 $\mu$ m [0.394mil] min.**  
(\*Depends on the type of material)

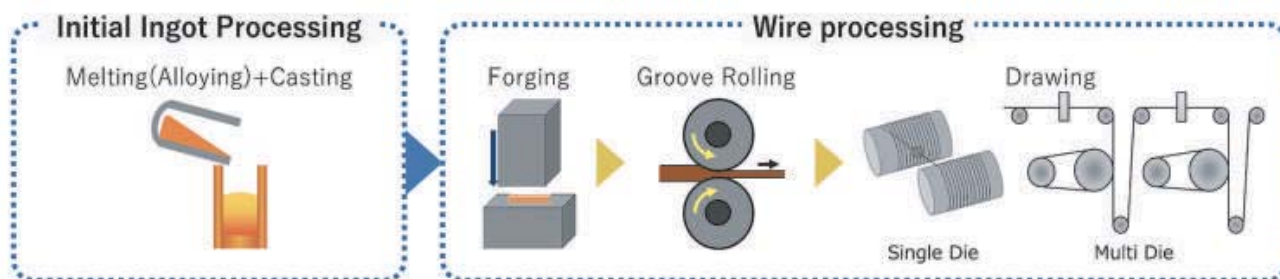
Material:  
**Pt, Au, Ag, Rh, Ir and its alloys**

Medical Wires:  
**Pt, Pt-W, Pt-Ni, Pt-Ir, Au-Pt**



*VisiFine*  
Custom Alloys Available

## Wire Production Process



Lab-scale prototyping is available

ISO 13485 Certified

## TECHNOLOGY



### MELTING / CASTING

TANAKA offers a specialized casting process for select medical device components, which significantly reduces insoluble inclusions in both the raw material and melting stages. This process is particularly suited to applications such as wire forming, as well as ring/tubing, sheet, and micromachining components. TANAKA's proprietary technology is specifically designed for small-diameter Pt and Pt alloy wires.

### CCIM (Cold Crucible Induction Melting)

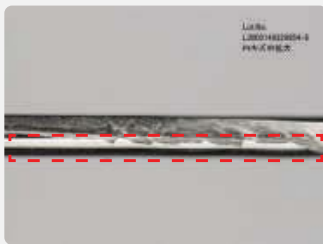
### +CC (Continuous Casting Specialized Ingot technology)

As wire diameter decreases, the risk of breakage increases. TANAKA's technology helps prevent wire breakage during wire drawing and subsequent processes, such as braiding.

#### Contamination



#### Cast defect



#### A) Causes of Wire Breakage

Wire breakage can occur due to defects in the alloy ingots, such as inclusions, like ceramic particles introduced during the melting and casting processes, or casting imperfections, like shrinkage cavities.

#### B) What are the causes of contamination by inclusions?

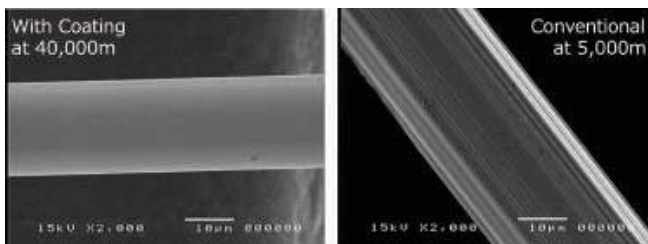
There are two primary causes of contamination by inclusions: one is the crucible, and the other is the raw materials.

#### C) How does the CCIM and CC work

CCIM prevents crucible-related contamination by using a water-cooled copper crucible. CC suppresses raw material-related inclusions from contaminating the ingot by using bottomless continuous casting, which allows inclusions to float to the top of the molten metal as it solidifies. Most inclusions are ceramic, so they are significantly less dense than precious metals and float to the surface.

## Nano-scale Gold Coating

### Specialized Wire technology



Pt-8W fine wire (20 µm, 0.787mil)

This technology ensures consistent cross-sectional shapes over long lengths without abnormalities, which stabilizes subsequent processing steps, such as coiling.

Patent Registered



**TANAKA**  
TANAKA PRECIOUS METALS

San Jose: +1.408.779.0461 [tki-usa@ml.tanaka.co.jp](mailto:tki-usa@ml.tanaka.co.jp)

Chicago: +1.224.653.8309 <https://tanaka-preciousmetals.com/en/>

# MEDICAL DEVICE COMPONENTS



## RING/TUBING

### • Marker Bands and EP Bands



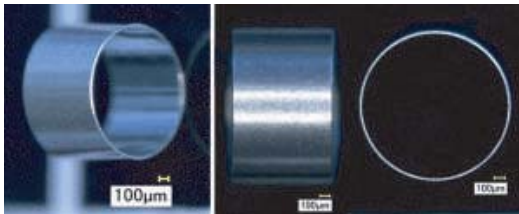
Smooth Surface



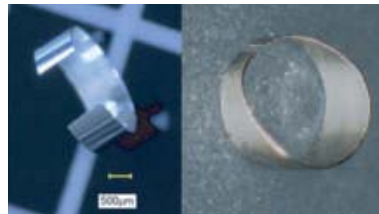
Fast Leadtime

The production of smooth-surface tubing is achieved by selecting pure materials and optimizing the manufacturing process. This tubing is available in alloys such as PtIr10, Pt (99.95%), and others. Split marker bands are also available.

#### SOLID



#### SPLIT



Prototypes are available for sizes beyond those listed in the table.

		Thickness(mm)											
		0.020	0.025	0.030	0.040	0.050	0.055	0.065	0.075	0.080	0.100	0.130	0.200
Outer Diameter (mm)	5												
	3.5												
	3.4												
	2.6												
	2.5												
	2.4												
	2.2												
	2.1												
	2.0												
	1.2												
	0.8												
	0.7												
	0.6												
	0.5												
	0.4												
	0.3												

※Notes

【 About plate thickness 】

• Managed in units of 0.005mm

Example: Unprocessable t=0.027, t=0.038 etc

【 About Outer diameter/Inner diameter 】

• Managed in units of 0.01mm

Example: Unprocessable } OD=0.505, OD=1.535 etc

Tolerance		
	Outer diameter	Inner diameter
	±0.02	±0.02
	±0.01	±0.01
	±0.03	±0.03
	±0.01	±0.02

※Tolerance negotiable

ISO 13485 Certified



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# MEDICAL DEVICE COMPONENTS



## MICROMACHINING COMPONENTS

Precious metal micromachined components are available for use in medical devices, including those for cardiovascular and peripheral vascular applications.

Processing Methods: **Machining, Femtosecond Laser, Stamping, Welding, etc.**

Materials: **Pt, Pt-Ir, Pt-Ni, Pt-W**

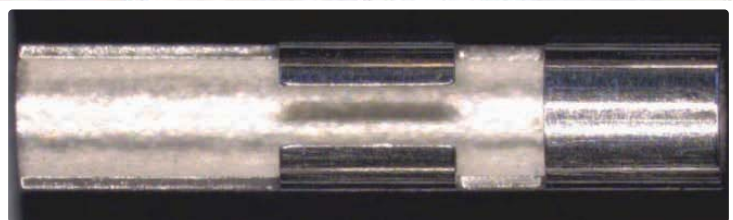
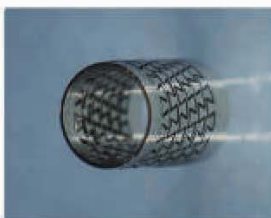
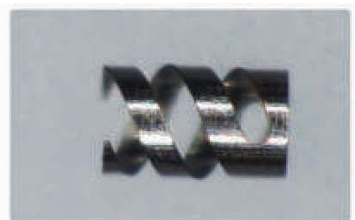
### Complex Shapes Available



Good Control of Bur



Clean Surface Finish



500µm



500µm



500µm



500µm

### Samples



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## MEDICAL DEVICE COMPONENTS



### Rh SHEET FOR MAMMOGRAPHY FILTER



**Figure**

**Rh Sheet, 0.05mm Thickness**



**Figure**

**Surface of Rh Sheet observed  
with microscope**



**Smooth Surface**



**Crackless**



**Good Thickness Control**

TANAKA provides Rh sheet with high quality characteristics which are important for mammography filter application.



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