Alleima® Pt/Ir alloy medical wire
Wire
Datasheet

Alleima® platinum iridium alloys (Alleima® Pt10Ir and Alleima® Pt20Ir) are precious metal medical wires that combine excellent biocompatible properties with excellent radiopacity, moderate strength and good formability. These alloys can be provided in an annealed, stress relieved or cold worked condition depending on the post processing requirements.

For medical use, Alleima® Pt10Ir and Alleima® Pt20Ir medical wire is delivered with the highest surface finish (Medical class) in order to maximize the fatigue strength which is critical in implant devices such as lead wires for cochlear implants and implant electrodes. Stress relieved conditioned wire is also often required when straightness is critical to the application.

Standards

- ASTM: B684

Applications

Alleima® Pt10Ir and Alleima® Pt20Ir can be used for cochlear implants, stimulated electrode implants, sensors for continuous glucose monitors and neurological stimulation devices.

These wires can be provided in as drawn condition, annealed or coated with a suitable polymer or PTFE coating.

Note : PtW wire can be supplied

Chemical composition (nominal) %

	Pt	Ir
Alleima® Pt10Ir	90	10
Alleima® Pt20Ir	80	20

Forms of supply

Alleima® Pt10Ir and Alleima® Pt20Ir medical wire can be supplied as follows:

Size range :

- Round wire : 0.018 to 0.254 mm (0.0007 to 0.010 in.)

Mechanical properties

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Round wire

Alleima®	Condition	Tensile strength R_m		Elongation A,	Hardness
		MPa	ksi	%	
		min	min	in 4D	typical
Pt10Ir	Annealed	380	55	20	44 HRA
Pt10Ir	Cold worked	896	130	2	55 HRA
Pt10Ir	Stress relieved	586	85	3	50 HRA
Pt20Ir	Annealed	690	100	20	57 HRA
Pt20Ir	Cold worked	1000	145	2	64 HRA
Pt20Ir	Stress relieved	827	120	3	60 HRA

Physical properties

Property	Exera® Pt10Ir	Exera® Pt20Ir
Density (20 °C)	21.5 g/cm^3	21.7 g/cm^3
annealed work-hardened Modulus of elasticity, x10^3 (20°C)	202 MPa 219 MPa	- 233 MPa
Specific heat capacity (20°C)	485 J/(kg °C)	0.11Btu/(lb °F)
Thermal conductivity (20°C)	14W/(m °C)	8 Btu/(lb °F)
Thermal expansion, x10^{-6} (30-100°C)	16.5 per °C	9.5 per °F

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