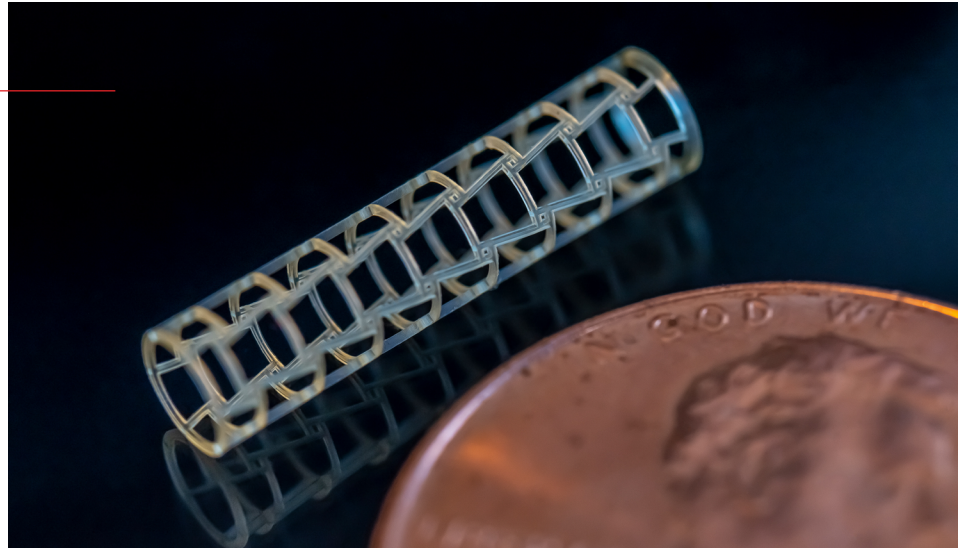


# BIO Resin

BIO is a biocompatible resin suitable for non-implantable medical applications. Bio can undergo sterilization and has passed numerous ISO 10993 biocompatibility tests for skin irritation and sensitization, toxicity, cytotoxicity, pyrogenicity, and in vitro hemolysis.



ISO Standard	Test Description
ISO 10993-10: 2010; ISO 10993-12: 2012; ISO 10993-2: 2006	Skin Irritation Test
ISO 10993-10: 2010; ISO 10993-12: 2012; ISO 10993-2: 2006	Skin Sensitization Test
ISO 10993-4: 2017	In Vitro Hemolytic Test
ISO 10993-11: 2017; ISO 10993-12: 2012; ISO 10993-2: 2006	Pyrogen Test
ISO 10993-5: 2009; ISO 10993-12: 2012	In Vitro Cytotoxicity Test
ISO 10993-11: 2017; ISO 10993-12: 2012; ISO 10993-2: 2006	Acute Systemic Toxicity Test

		Cured Parts	Standard
<b>Tensile Properties</b>	TENSILE STRENGTH	56.0 MPa	ASTM D638
	ELASTIC MODULUS	1614 MPa	ASTM D638
	ELONGATION AT BREAK	6.2%	ASTM D638
<b>Flexural Properties</b>	FLEXURAL STRENGTH	106.6 MPa	ASTM D790
	FLEXURAL MODULUS	3.5 GPa	ASTM D790
<b>Thermal Properties</b>	CTE @ 60C	170.3 $\mu\text{m}/\text{m}/^\circ\text{C}$	
	HDT @ 0.45 MPA	85.7 $^\circ\text{C}$	ASTM D648 - 07
<b>General Properties</b>	CONTACT ANGLE	50-70 $^\circ$	ASTM D7334
	WATER ABSORPTION (24h)	0.69%	ASTM D570
	DIELECTRIC CONSTANT (10 GHz)	2.75	-
	DF	0.0458	-
	HARDNESS	84 Shore D	ASTM D785
	VISCOSITY	300 cP	-
	STANDARD COLOR	Yellow trans	-
	CELL CULTURE SURVIVAL RATE INVITRO	75%	-
	COMPATIBLE BMF SYSTEMS	S130, S140, S230, S240, S350	-

<sup>1</sup> Final properties are dependent on print conditions, post-processing operations, and part geometry.

<sup>2</sup> Test samples were UV cured and heat cured.