

# RED BIORES - MEDICAL/WEARABLE



Ideal for medical manufacturing and consumer tech environments, BioRes is ISO 10993 biocompatible red material.

Formulated for rapid prototyping of medical devices to production runs of thousands, surgical tools, anatomical models, medical research, and wearable technology.

## KEY FEATURES

- Translucent
- Polishable
- Durable
- High-detail
- ISO 10993 Biocompatible



## RED BIORES - MEDICAL/WEARABLE B9R-BIO-00R

	METRIC	IMPERIAL	METHOD
<b>TENSILE PROPERTIES</b>			
Tensile Strength	47 MPa	6.8 ksi	ASTM D638 Type IV
Tensile Modulus	2140 MPa	310.4 ksi	ASTM D638 Type IV
Elongation	5.5%	5.5%	ASTM D638 Type IV
<b>FLEXURAL PROPERTIES</b>			
Flexural Strength	74 MPa	10.7 ksi	ISO 178
Flexural Modulus	1900 MPa	275.6 ksi	ISO 178
<b>IMPACT PROPERTIES</b>			
IZOD Impact Strength (notched)	13 J/m	.24 ft-lbf/in	ASTM D256
IZOD Impact Strength (unnotched)	161 J/m	3 ft-lbf/in	ASTM D4812
<b>TEMPERATURE PROPERTIES</b>			
Heat Deflection Temp @ 1.80 MPa	46 °C	114.8 °F	ISO 75
Heat Deflection Temp @ 0.45 MPa	68 °C	154.4 °F	ISO 75
<b>SHORE "D" HARDNESS</b>			
	85	85	ASTM D2240
<b>VISCOSITY</b>			
	1400 CPS @ 26 °C	1400 CPS @ 79 °F	
<b>SPECIFIC GRAVITY</b>			
	1.116	1.116	
<b>DENSITY</b>			
	1.13 g/mL	9.31 Lbs/Gallon	

## RED BIORES - MEDICAL/WEARABLE B9R-BIO-00R

**Red BioRes - Medical/Wearable** is a monomer based on acrylic esters which may be suitable for a range of 3D printed medical applications. The product has been tested according to ISO 10993-5 and 10993-10 guidelines for prolonged skin contact applications up to 30 days.

### Instructions for Use

**PPE:** Use nitrile gloves, protective jacket and protective lenses.

**Resin Preparation:** Prior to printing, shake the bottle of resin for 10 sec of make sure the liquid is uniform.

**3D Printing:** Pour resin into the resin vat of your B9Creations 3D printer. Choose your material layer thickness. Print.

**Cleaning:** After printing, take the Build Table out, place it in the B9Clean and clean using Isopropanol (IPA) for 10 minutes. Peel off the 3D printed plastic film from the Build Table, place the film in B9Clean for 10 minutes again, to wash off any residual resin remain on the film.

**Post Curing:** Cut the film to size and immerse the film in DI water and post cure the film a B9Creations curing unit at 405nm for 20 minutes (10 minutes each side).

**Extra Cleaning:** One of two types of cleaning may be used.

- A. Immerse the post cured film in fresh IPA to wash for 2 hours. Immerse the film in DI water twice (30 minutes each). Then wash with DI water at room temperature. Allow to completely dry.
- B. Immerse the post cured film in DI water. Then place it in 50°C oven for 24 hours. Change the DI water halfway through the soaking. Dry the film a using paper towel then allow to completely dry.

### Curing Procedures

Product.....	B9R-BIO-00R
Time (minutes) .....	20 (10 each side)
Wavelength (nm).....	405
Total Output Light (watt).....	65

### Biocompatibility Testing

Resin printed and processed as outlined in this document has been tested in accordance with ISO 10993-5:2009, Biological evaluation of medical devices - Part 5: Tests for in vitro cytotoxicity, and ISO 10993-10:2010, Biological evaluation of medical devices - Part 10: Tests for irritation and skin sensitization (GPMT). Red BioRes - Medical/Wearable passed the requirements for biocompatibility according to the above tests. If tested according to the procedures above the material does not contain leachable substances that may cause cytotoxicity. B9Creations makes no representation and is not responsible for the results of any biocompatibility tests other than those specified above.

### DISCLAIMER

Biocompatibility results may vary if protocols are used other than those outlined in this document Do not use Red BioRes - Medical/Wearable in medical applications involving implantation in the human body or contact with body fluids or tissues. B9CREATIONS LLC. MAKES NO REPRESENTATION, WARRANTY OR IMPLIED WARRANTY CONCERNING THE SUITABILITY OF THESE MATERIALS FOR USE IN THE IMPLANTATION IN THE HUMAN BODY OR IN CONTACT WITH BODY FLUIDS OR TISSUES. IT IS THE SOLE RESPONSIBILITY OF THE MANUFACTURER OF THE END-USE-PRODUCT TO DETERMINE THE BIOCOMPATIBILITY OF ALL PRINTED PARTS FOR THEIR RESPECTIVE USES.

Please see the product SDS for further regulatory and safety information.