

# Bionate® 90A

Polycarbonate + TPU

DSM Biomedical Inc.

## Message:

Bionate® 90A is a Polycarbonate + TPU (PC+TPU) product. It can be processed by extrusion or injection molding and is available in North America. Applications of Bionate® 90A include medical/healthcare and food contact applications. Characteristics include:

- Biocompatible
- Good Aesthetics
- Good Flexibility
- High ESCR (Stress Crack Resistant)
- Wear Resistant

General Information			
Features	Biocompatible		
	Good Abrasion Resistance		
	Good Flexibility		
	Good Strength		
	High ESCR (Stress Crack Resist.)		
	Opticals		
	Oxidation Resistant		
Uses	Medical/Healthcare Applications		
Agency Ratings	DMF Unspecified Rating		
	FDA Unspecified Rating		
Appearance	Clear Amber		
Forms	Pellets		
Processing Method	Extrusion		
	Injection Molding		
Physical	Nominal Value	Unit	Test Method
Specific Gravity	1.20	g/cm <sup>3</sup>	ASTM D792
Melt Mass-Flow Rate (MFR) (224°C/1.2 kg)	14	g/10 min	ASTM D1238
Molding Shrinkage - Flow			ASTM D955
-- <sup>1</sup>	1.2	%	
-- <sup>2</sup>	0.0 to 3.0	%	
Hardness	Nominal Value	Unit	Test Method
Durometer Hardness (Shore A)	91		ASTM D2240
Mechanical	Nominal Value	Unit	Test Method
Tensile Strength			ASTM D638
Ultimate	55.1	MPa	

50% Strain	7.99	MPa	
100% Strain	11.1	MPa	
300% Strain	36.9	MPa	
Tensile Elongation (Break)	410	%	ASTM D638
Flexural Modulus - 1% Secant	41.6	MPa	ASTM D790
Flexural Strength (5.0% Strain)	1.90	MPa	ASTM D790
Taber Abrasion Resistance (1000 Cycles, 1000 g, H-18 Wheel)	9.10	mg	ASTM D1044
<b>Elastomers</b>	<b>Nominal Value</b>	<b>Unit</b>	<b>Test Method</b>
Tear Strength <sup>3</sup>	96.3	kN/m	ASTM D624
<b>Thermal</b>	<b>Nominal Value</b>	<b>Unit</b>	<b>Test Method</b>
Vicat Softening Temperature	88.0	°C	ASTM D1525
CLTE - Flow	1.6E-4	cm/cm/°C	ASTM E831
<b>Electrical</b>	<b>Nominal Value</b>	<b>Unit</b>	<b>Test Method</b>
Dielectric Strength	19	kV/mm	ASTM D149
Dielectric Constant (60 Hz)	4.80		ASTM D150
<b>Extrusion</b>	<b>Nominal Value</b>	<b>Unit</b>	
Melt Temperature	177 to 210	°C	
<b>NOTE</b>			
1.	4.0 in disk		
2.	Flame bar		
3.	Die C		

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