

# Bionate® II 55D

Polycarbonate + TPU  
DSM Biomedical Inc.

Message:

Bionate® II 55D 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® II 55D include medical/healthcare and food contact applications. Characteristics include:  
Good Mold Release  
Good Toughness  
High Strength  
Wear Resistant

General Information			
Features	Aromatic		
	Good Abrasion Resistance		
	Good Mold Release		
	Good Toughness		
	High Strength		
	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
Melt Mass-Flow Rate (MFR) <sup>1</sup>	35	g/10 min	ASTM D1238
Molding Shrinkage - Flow	0.80 to 2.3	%	ASTM D955
Water Absorption (Saturation)	0.54	%	ASTM D750
Average Molecular Weight	231000	Mw	Internal Method
Hardness	Nominal Value	Unit	Test Method
Durometer Hardness (Shore D)	56		ASTM D2240
Mechanical	Nominal Value	Unit	Test Method
Tensile Strength (Break)	61.8	MPa	ASTM D1708
Tensile Stress			ASTM D1708
50% Strain	13.6	MPa	
100% Strain	18.1	MPa	
300% Strain	49.0	MPa	

Tensile Elongation (Break)	370	%	ASTM D1708
Flexural Modulus - 1% Secant	95.1	MPa	ASTM D790
Flexural Strength (5.0% Strain)	3.52	MPa	ASTM D790
Coefficient of Friction (vs. Itself - Dynamic)	0.46		ASTM D1894
Taber Abrasion Resistance (1000 Cycles, 1000 g, H-18 Wheel)	11.0	mg	ASTM D1044
<b>Thermal</b>	<b>Nominal Value</b>	<b>Unit</b>	<b>Test Method</b>
Glass Transition Temperature	1.00	°C	ASTM E1356
Vicat Softening Temperature	107	°C	ASTM D1525
Melting Temperature	180	°C	ASTM E1356
<b>Electrical</b>	<b>Nominal Value</b>	<b>Unit</b>	<b>Test Method</b>
Dielectric Strength	17	kV/mm	ASTM D149
Dielectric Constant (60 Hz)	3.71		ASTM D150
<b>Injection</b>	<b>Nominal Value</b>	<b>Unit</b>	
Processing (Melt) Temp	191 to 218	°C	
<b>Extrusion</b>	<b>Nominal Value</b>	<b>Unit</b>	
Melt Temperature	177 to 210	°C	
<b>NOTE</b>			
1.	224°C		

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