

# PurSil™ 20 80A

Thermoplastic Polyurethane Elastomer

DSM Biomedical Inc.

## Message:

PurSil™ 20 80A is a Thermoplastic Polyurethane Elastomer product. It can be processed by coating, compression molding, dip coating, extrusion, injection molding, or spraying and is available in North America. Applications of PurSil™ 20 80A include medical/healthcare and food contact applications.

Characteristics include:

- Biocompatible
- Good Flexibility
- Hydrolytically Stable

General Information			
Features	Biocompatible		
	Good Flexibility		
	Good Strength		
	Hydrolytically Stable		
	Oxidation Resistant		
Uses	Medical/Healthcare Applications		
Agency Ratings	DMF Unspecified Rating		
	FDA Unspecified Rating		
Appearance	Translucent		
Forms	Pellets		
Processing Method	Coating		
	Compression Molding		
	Dip Coating		
	Extrusion		
	Injection Molding		
	Spraying		
Physical	Nominal Value	Unit	Test Method
Specific Gravity	1.11	g/cm <sup>3</sup>	ASTM D792
Melt Mass-Flow Rate (MFR) (224°C/1.2 kg)	30	g/10 min	ASTM D1238
Molding Shrinkage - Flow			ASTM D955
-- <sup>1</sup>	1.1	%	
-- <sup>2</sup>	0.80 to 2.3	%	
Hardness	Nominal Value	Unit	Test Method
Durometer Hardness (Shore A)	80		ASTM D2240
Mechanical	Nominal Value	Unit	Test Method
Tensile Strength (Ultimate)	32.2	MPa	ASTM D1708
Tensile Stress			ASTM D1708

50% Strain	4.73	MPa	
100% Strain	6.18	MPa	
300% Strain	12.7	MPa	
Tensile Elongation (Break)	570	%	ASTM D1708
Flexural Modulus - 1% Secant	38.3	MPa	ASTM D790
Flexural Strength (5.0% Strain)	1.52	MPa	ASTM D790
Taber Abrasion Resistance (1000 Cycles, 1000 g, H-18 Wheel)	26.0	mg	ASTM D1044
<b>Elastomers</b>	<b>Nominal Value</b>	<b>Unit</b>	<b>Test Method</b>
Tear Strength <sup>3</sup>	68.3	kN/m	ASTM D624
Compression Set (25°C, 22 hr)	28	%	ASTM D395
<b>Thermal</b>	<b>Nominal Value</b>	<b>Unit</b>	<b>Test Method</b>
Glass Transition Temperature	-27.0	°C	ASTM D3418
Vicat Softening Temperature	73.0	°C	ASTM D1525
CLTE - Flow	1.9E-4	cm/cm/°C	ASTM E831
<b>Electrical</b>	<b>Nominal Value</b>	<b>Unit</b>	<b>Test Method</b>
Dielectric Strength	14	kV/mm	ASTM D149
Dielectric Constant (60 Hz)	6.70		ASTM D150
<b>Extrusion</b>	<b>Nominal Value</b>	<b>Unit</b>	
Melt Temperature	182 to 204	°C	
<b>NOTE</b>			
1.	4 in disk		
2.	Flame bar		
3.	Die C		

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