# Bionate® 55D

Polycarbonate + TPU

DSM Biomedical Inc.

## Message:

Bionate® 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® 55D 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 | 1.21 | g/cm³ | ASTM D792 |
| Melt Mass-Flow Rate (MFR) (224°C/1.2 kg) | 20 | g/10 min | ASTM D1238 |
| Molding Shrinkage - Flow | | | ASTM D955 |
| -- [1] | 1.2 | % | |
| -- [2] | 0.50 to 2.0 | % | |
| Water Absorption (Saturation) | 0.90 | % | ASTM D570 |
| **Hardness** | **Nominal Value** | **Unit** | **Test Method** |
| Durometer Hardness (Shore D) | 56 | | ASTM D2240 |
| **Mechanical** | **Nominal Value** | **Unit** | **Test Method** |
| Tensile Strength | | | ASTM D638 |

| | | | |
|---|---|---|---|
| Ultimate | 60.5 | MPa | |
| 50% Strain | 12.2 | MPa | |
| 100% Strain | 17.0 | MPa | |
| 300% Strain | 48.0 | MPa | |
| Tensile Elongation (Break) | 370 | % | ASTM D638 |
| Flexural Modulus - 1% Secant | 48.3 | MPa | ASTM D790 |
| Flexural Strength (5.0% Strain) | 2.07 | MPa | ASTM D790 |
| Coefficient of Friction (vs. Itself - Dynamic) | 0.81 | | ASTM D1894 |
| Taber Abrasion Resistance (1000 Cycles, 1000 g, H-18 Wheel) | 7.40 | mg | ASTM D1044 |
| **Elastomers** | **Nominal Value** | **Unit** | **Test Method** |
| Tear Strength [3] | 137 | kN/m | ASTM D624 |
| **Thermal** | **Nominal Value** | **Unit** | **Test Method** |
| Vicat Softening Temperature | 98.0 | °C | ASTM D1525 |
| CLTE - Flow | 1.4E-4 | cm/cm/°C | ASTM E831 |
| **Electrical** | **Nominal Value** | **Unit** | **Test Method** |
| Dielectric Strength | 21 | kV/mm | ASTM D149 |
| Dielectric Constant (60 Hz) | 4.50 | | ASTM D150 |
| **Extrusion** | **Nominal Value** | **Unit** | |
| Melt Temperature | 188 to 220 | °C | |
| **NOTE** | | | |
| 1. | 4.0 in disk | | |
| 2. | Flame bar | | |
| 3. | Die C | | |



## Recommended distributors for this material

### Susheng Import & Export Trading Co.,Ltd.

Tel: +86 21 5895 8519

Phone: +86 13424755533

Email: sales@su-jiao.com

No. 215, Lianhe North Road, Fengxian District, Shanghai, China