

**Technical Data Sheet**

- Type:** Polyester Thermoplastic Polyurethane (TPU)
- Special Feature:** Excellent foam-ability and rebound efficiency, and low temperature properties
- Process:** Foam injection molding and extrusion foaming

Physical Properties	Value (Metric)	Unit	Test Method
Hardness (5 sec)	<b>77</b>	<b>Shore A</b>	<b>ASTM D-2240</b>
Specific Gravity	<b>1.17</b>		<b>ASTM D-792</b>
Tensile Strength	<b>5400 (37)</b>	<b>lb/in<sup>2</sup> (MPa)</b>	<b>ASTM D-412</b>
Ultimate Elongation	<b>540</b>	<b>%</b>	<b>ASTM D-412</b>
Melting Temperature	<b>165</b>	<b>°C</b>	<b>Lubrizol DSC</b>
Glass Transition	<b>-40</b>	<b>°C</b>	<b>Lubrizol DSC</b>

- Prior to testing samples were conditioned at 23°C for 48 hours.
- Based on injection molded parts (0.125").
- Listed values are "typical (average) values" and should/cannot be applied for specification purposes.

**Application Information: Foam Injection Molded Part\***

Application Specific Properties	Value (Metric)	Unit	Test Method
Foam Specific Gravity	<b>0.29</b>		<b>ASTM D-792</b>
Foam Hardness	<b>45</b>	<b>Asker C</b>	<b>ASTM D-2240</b>
Foam Vertical Resiliency	<b>53</b>	<b>%</b>	<b>ASTM D-2632</b>
Foam Compression Set at Room Temp	<b>6.7</b>	<b>%</b>	<b>ASTM D-395</b>
Foam Compression Set at 50°C	<b>17.4</b>	<b>%</b>	<b>ASTM D-395</b>
<b>Lubrizol Foam Fatigue Compression Test (50,000 cycles)</b>			
Dynamic Foam Compression Set	<b>7</b>	<b>%</b>	
Energy Efficiency, Initial	<b>54</b>	<b>%</b>	
Energy Efficiency Change after 50,000 cycles	<b>5</b>	<b>%</b>	

\*Properties of foamed articles may vary depending on blowing agents, processing methods, processing condition and part design. These values should be taken as exemplary properties of foamed parts consisted of BCX33 and supercritical nitrogen fluid.

**Supply Form and Standard Packaging**

- **BCX33** is supplied in pellet form and packaged in 25 kg bags or 500 kg boxes.

***Please see reverse side for processing information.***

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**Material Preparation**

- Prior to processing, **BCX33** must be dried at 220°F (104°C) for 2-4 hours.
- It is recommended to dry the material in a desiccant type dryer. Target dew point should be -40°C.
- Depending on the applied processing technique, the maximum moisture level should be 0.02%.

**Processing Conditions**

- **BCX33** can be processed on any conventional injection molding machine and extruder
- SUGGESTED START-UP CONDITIONS – Injection Molding

	°F/°C
<b>Zone 1</b>	<b>370/188</b>
<b>Zone 2</b>	<b>380/193</b>
<b>Zone 3</b>	<b>390/199</b>
<b>Zone 4</b>	<b>400/204</b>
<b>Nozzle</b>	<b>400/204</b>

**Mold Temperature = 90°F/32°C**

*For further information refer to Lubrizol Advanced Materials processing guides.*

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