

**KEYFLEX BT-1040D**
**>TPC-ET<**

IMDS ID : 12175841

Properties	Value	Unit	Standard
<b>Mechanical properties</b>			
Tensile Stress – 5% Strain		MPa	ISO 527-1/-2
Tensile Stress – 10% Strain	<b>5.4</b>	MPa	ISO 527-1/-2
Tensile Stress – 50% Strain	<b>8.6</b>	MPa	ISO 527-1/-2
Tensile Stress (at break)	<b>30</b>	MPa	ISO 527-1/-2
Tensile Strain (at break)	<b>600</b>	%	ISO 527-1/-2
Flexural Modulus	<b>66</b>	MPa	ISO 178
Hardness, Durometer – Shore D, 15s	<b>38</b>		ISO 868
Hardness, Durometer – Shore D, Maximum	<b>40</b>		ISO 868
Izod Impact, notched, 80 × 10 × 4, -40°C	<b>NB</b>	kJ / m <sup>2</sup>	ISO 180/1A
Izod Impact, notched, 80 × 10 × 4, +23°C	<b>NB</b>	kJ / m <sup>2</sup>	ISO 180/1A
Charpy Impact, notched, 80 × 10 × 4, -40°C	<b>NB</b>	kJ / m <sup>2</sup>	ISO 179/1eA
Charpy Impact, notched, 80 × 10 × 4, +23°C	<b>NB</b>	kJ / m <sup>2</sup>	ISO 179/1eA
Tear Strength (Method B, unnicked)	<b>98</b>	kN / m	ISO 34
<b>Thermal properties</b>			
Melt volume-flow rate	<b>19</b>	cm <sup>3</sup> / 10 min	ISO 1133
Temperature / Load – 2.16 kg	<b>200</b>	°C	ISO 1133
Temp. of deflection under load (0.45 MPa)	<b>52</b>	°C	ISO 75-1/-2
Melting Temperature (at peak)	<b>178</b>	°C	ISO 11357-1/-3
Glass transition Temperature	<b>-45</b>	°C	ISO 11357-1/-3
Vicat softening temperature (50°C / h, 10 N)	<b>130</b>	°C	ISO 306
Vicat softening temperature (50°C / h, 50 N)		°C	ISO 306
<b>Electrical properties</b>			
Surface resistivity	<b>&gt; E14</b>	Ohm	IEC 60093
Volume resistivity	<b>&gt; E15</b>	Ohm × m	IEC 60093
Relative permittivity (1 MHz)		-	IEC 60250
Relative permittivity (700 MHz)	<b>1.6</b>	-	IEC 60250
Dissipation factor (1 MHz)		E-4	IEC 60250
Dissipation factor (700 MHz)	<b>1,450</b>	E-4	IEC 60250
Electric strength, Short Time, 1 mm	<b>26</b>	kV / mm	IEC 60243-1
Comparative tracking index	<b>600</b>	-	IEC 60112
<b>Other properties</b>			
Density	<b>1,130</b>	kg / m <sup>3</sup>	ISO 1183
Humidity absorption – Equilibrium 50% RH	<b>0.2</b>	%	Sim. to ISO 62
Water absorption – Immersion, 24 h	<b>0.7</b>	%	Sim. to ISO 62
Water absorption – Saturation, immersed	<b>0.7</b>	%	Sim. to ISO 62
Mold Shrinkage (normal)	<b>1.0</b>	%	ISO 2577, 294-4
Mold Shrinkage (parallel)	<b>1.0</b>	%	ISO 2577, 294-4
<b>Test specimen production</b>			
Injection Molding, melt temperature	<b>200</b>	°C	ISO 294
mold temperature – range	<b>20 ~ 40</b>	°C	ISO 10724
mold temperature – optimum	<b>30</b>	°C	ISO 10724
<b>Flammability</b>			
Flammability Classification	<b>HB</b>	-	UL94
Oxygen Index		-	ISO 4589

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## Injection Molding Guideline

Conditions		Unit	Value
Preliminary Drying Temperature		°C	80 ~ 100
Preliminary Drying Time		hour	3 ~ 4
Cylinder Temperature	Rear	°C	190 ~ 200
	Middle	°C	200 ~ 210
	Front	°C	200 ~ 210

1) The above is a table of standard processing conditions and subject to change dependent upon shapes of injection molds.

## Drying

If the resin has an excessively high moisture content, this can result in surface defects, i.e. silver streaks, and impaired properties of molded parts. To ensure optimum part performance and prevent surface defects, Keyflex BT resins must be dried prior to processing, and moisture level should be maintained less than 0.02%. A dehumidifying hopper dryer is highly recommended. The hopper dryer should be preheated to the suggested drying temperature before the pellets are loaded in.

## Holdind Time / Pressure

Volume shrinkage takes place when the molded part cools in the mold. Holding pressure serves to offset the volume shrinkage. Holding pressure should be maintained until the gate has "frozen". The required holding pressure time can be determined by checking the weight of the molded part.

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