

# KEYFLEX BT 1040D

Injection Molding, TPC-ET

## Description

General Purpose, Medium Modulus

## Application

Antenna Cover, Injection Parts for Leisure & Sports, etc.

Properties	Test Condition	Test Method	Unit	Typical Value
<b>Physical</b>				
Specific Gravity		ASTM D792	-	1.13
Molding Shrinkage (Flow), 3.2mm		ASTM D955	%	0.6~1.0
Melt Flow Rate	200 °C/2.16kg	ASTM D1238	g/10min	20
Water Absorption	23 °C, 24hrs	ASTM D570	%	0.7
<b>Mechanical</b>				
Tensile Strength, 2mm		ASTM D638		
@ Yield	50mm/min		kg/cm <sup>2</sup>	
@ Break	50mm/min		kg/cm <sup>2</sup>	250
Tensile Elongation, 2mm		ASTM D638		
@ Yield	50mm/min		%	
@ Break	50mm/min		%	900
Flexural Strength, 6.4mm	15mm/min	ASTM D790	kg/cm <sup>2</sup>	
Flexural Modulus, 6.4mm	15mm/min	ASTM D790	kg/cm <sup>2</sup>	800
Tear Strength @ Break	50mm/min	ASTM D624	kg/cm	
IZOD Impact Strength, 6.4mm (Notched)		ASTM D256		
	23 °C		kg·cm/cm	No break
	-40 °C		kg·cm/cm	No break
Shore Hardness	Shore D	ASTM D2240	-	40
Shore Hardness	Shore A	ASTM D2240	-	92
<b>Thermal</b>				
Melt Temperature @ Peak		ASTM D3418	°C	178
Heat Deflection Temperature, 6.4mm (Unannealed)	4.6kg	ASTM D648	°C	60
Flammability		UL94		
1.5mm			class	HB
3.0mm			class	HB
<b>Electrical</b>				
Comparative Tracking Index(CTI)	Solution A	IEC 60112	Volts	600
Surface Resistivity		IEC 60093	Ohm	
Volume Resistivity	23 °C	ASTM D257	Ohm·m	>E13
Dielectric Strength, 1mm	23 °C	ASTM D149	kV/mm	26
Dielectric Constant (10 <sup>6</sup> Hz)	23 °C	ASTM D150	sec	

Note) Typical values are only for material selection purpose, and variation within normal tolerances are for various colors.

Values given should not be interpreted as specification and not be used for part or tool design.

All properties, except melt flow rate are measured on injection molded specimens and after 48 hours storage at 23 °C, 50% relative humidity.

Updated : 25-Jun-14

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### Processing Guide (Injection Molding)

Processing Parameters	Unit	Value	
Drying Temperature	°C	80 ~ 90	
Drying Time	hrs	3 ~ 4	
Maximum Moisture Content	%	0.01	
Melt Temperature	°C	180 ~ 220	
Cylinder Temperature	Rear	°C	180 ~ 200
	Middle	°C	190 ~ 210
	Front	°C	200 ~ 220
Nozzle Temperature	°C	200 ~ 220	
Mold Temperature	°C	10 ~ 35	
Back Pressure	kg/cm <sup>2</sup>		
Screw Speed	rpm		

Note) Back Pressure & Screw Speed are only mentioned as general guidelines.

These may not apply or need adjustment in specific situations such as low shot sizes, thin wall molding and gas-assist molding.

### Processing Guide (Extrusion Molding)

Processing Parameters	Unit	Value	
Drying Temperature	°C	80 ~ 90	
Drying Time	hrs	3 ~ 4	
Maximum Moisture Content	%	0.01	
Melt Temperature	°C	180 ~ 220	
Barrel Temperature	Zone 1	°C	180 ~ 200
	Zone 2	°C	190 ~ 210
	Zone 3	°C	190 ~ 210
	Zone 4	°C	190 ~ 210
Adapter Temperature	°C	190 ~ 210	
Die Temperature	°C	190 ~ 210	

Note) Recommend initial lower temperatures settings to avoid material degradation/hang-up in die & purge material from extruder prior to shutdown.

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