

PBT(Polybutylene terephthalate)

**DURANEX<sup>®</sup>**

6370B

(Low warpage, Flame retardant, Standard grade)

**WinTech Polymer Ltd.**

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## NOTES TO USERS

- All property values shown in this brochure are the typical values obtained under varying conditions prescribed by applicable standards and test method.
- This brochure has been prepared based on our own experiences and laboratory test data, and therefore all data shown here are not always applicable to parts used under different conditions. We do not guarantee that these data are directly applicable to the application conditions of users and we ask each user to make his own decision on the application.
- It is the users' responsibility to investigate patent rights, service life and potentiality of applications introduced in this brochure. Materials we supply are not intended for the implant applications in the medical and dental fields, and therefore are not recommended for such uses.
- For all works done properly, it is advised to refer to the appropriate **“Technical Catalog”** for specific material processing.
- For safe handling of materials we supply, it is advised to refer to the Material Safety Data Sheet **“MSDS”** of the proper material.
- This brochure is edited based on reference literatures, information and data currently available to us. So the contents of this brochure are subject to change without notice due to new data.
- Please contact our office for any questions about products we supply, descriptive literatures or any description in this brochure.

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- \* WinTech Polymer Ltd. is a member of the Polyplastics Group, while the “DURANEX®” PBT resin manufactured and sold by that firm is marketed by Polyplastics affiliated companies.

# 1. General physical properties of DURANEX 6370B

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Table 1-1 General properties (ISO)

Item	Unit	Testing Method	Low warpage, Flame retardant, Standard
			6370B
			GB30% filled, Anisotropy improved
Density	g/cm <sup>3</sup>	ISO 1183	1.67
Tensile strength	MPa	ISO 527-1,2	47
Strain at break	%	ISO 527-1,2	1.8
Flexural strength	MPa	ISO 178	84
Flexural modulus	MPa	ISO 178	4360
Charpy impact strength(notched)	kJ/m <sup>2</sup>	ISO 179/1eA	1.9
Temperature of deflection under load(1.8MPa)	°C	ISO 75-1,2	90
Coefficient of linear thermal expansion(23 55 low direction)	x10 <sup>-5</sup> /°C	ISO 11359-2	7
Coefficient of linear thermal expansion(23 55 Transverse direction)	x10 <sup>-5</sup> /°C	ISO 11359-2	8
Dielectric breakdown strength(Thickness 3mm)	kV/mm	IEC 60243-1	15
Volume resistivity	Ohm·cm	IEC 60093	2×10 <sup>15</sup>
Surface resistivity	Ohm	IEC 60093	3×10 <sup>16</sup>
Tracking resistance (CTI)	CTI	IEC 60112	225
Flammability		UL94	V-0

All figures in the table are the typical values of the material and not the minimum values of the material specifications.

\*1)For qualified values of UL (Underwriters Laboratories Inc.) refer to the yellow card (File No.E213445 ) issued by UL.

\*2)This grade comes under Item 16 of Annex 1 of the Export Trade Control Order on the basis of the Foreign Exchange and Foreign Trade Law of Japan.

Table 1-2 General properties (ASTM)

Item	Unit	Testing Method	Low warpage, Flame retardant, Standard
			6370B
			GB30% filled, Anisotropy improved
Specific gravity		ASTM D792	1.67
Tensile strength	MPa	ASTM D638	53
Tensile elongation	%	ASTM D638	2.0
Flexural strength	MPa	ASTM D790	85
Flexural modulus	MPa	ASTM D790	5,780
Izod impact strength(Notch side, 1/4")	J/m	ASTM D256	19
Izod impact strength(Reversed notch side)	J/m	ASTM D256	190
Izod impact strength(Notch side, 1/8")	J/m	ASTM D256	-
Temperature of deflection under load(1.82MPa)	°C	ASTM D648	190
Coefficient of linear thermal expansion(room temperature , low direction)	$\times 10^{-5}/^{\circ}\text{C}$	ASTM D696	-
Coefficient of linear thermal expansion(room temperature , Transverse direction)	$\times 10^{-5}/^{\circ}\text{C}$	ASTM D696	-
Dielectric breakdown strength(Short-time test: 1mmt)	MV/m	ASTM D149	-
Dielectric breakdown strength(Short-time test: 2mmt)	MV/m	ASTM D149	-
Volume resistivity(Thickness 3mm)	Ohm·cm	ASTM D257	$2 \times 10^{15}$
Surface resistivity(Thickness 3mm)	Ohm	ASTM D257	$3 \times 10^{16}$
Arc resistance	s	ASTM D495	-
Tracking resistance (CTI)		ADTM D3638	-
Flammability		UL94	V-0

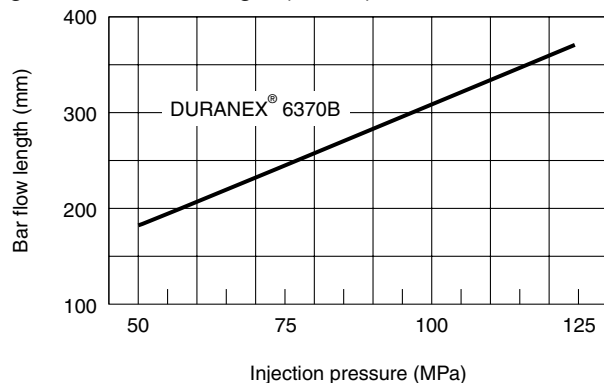
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## 2. Processing characteristics of DURANEX® 6370B

Figure 1 Bar flow length (2 mm $t$ )



Processing parameters

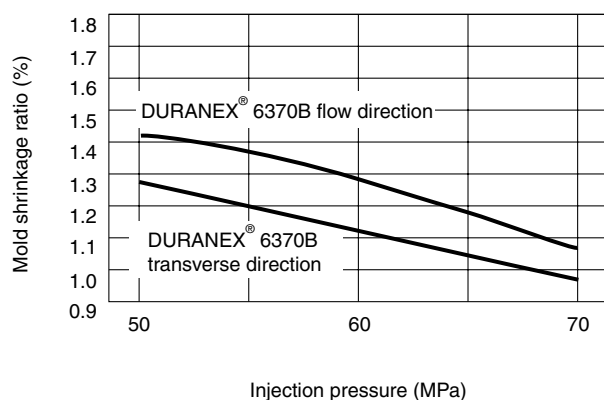
Cylinder temperature: 260-260-230-210°C

Mold temperature: 65°C

Injection speed: 67 mm/sec

Mold: Bar flow length test mold

Figure 2 Mold shrinkage ratio (120 $\square$ ×2 mm $t$ )



Processing parameters

Cylinder temperature: 260-260-230-210°C

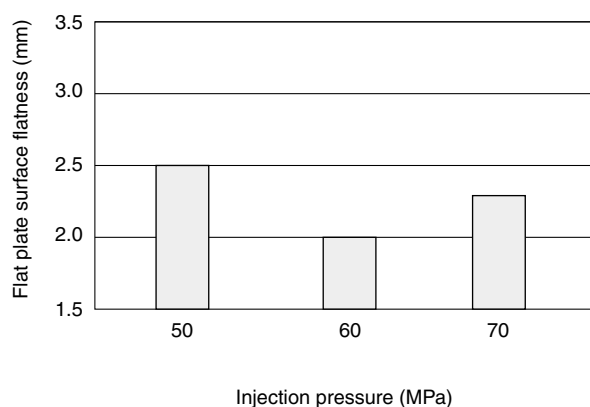
Mold temperature: 65°C

Injection speed: 17 mm/sec

Mold: 120×120×2 mm $t$  flat plate

Gate size: 4 (W)×2 $t$

Figure 3 Flat plate surface flatness (120 $\square$ ×2 mm $t$ )



Processing parameters

Cylinder temperature: 260-260-230-210°C

Mold temperature: 65°C

Injection speed: 17 mm/sec

Mold: 120×120×2 mm $t$  flat plate

Gate size: 4 (W)×2 $t$

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WinTech Polymer Ltd. is a member of the Polyplastics Group, while the "DURANEX<sup>®</sup>" PBT resin manufactured and sold by that firm is marketed by Polyplastics affiliated companies in the regions listed below.  
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