Polybutylene Terephthalate (PBT)

DURANEX®

3105H

EF2001/ED3002

HB, standard

POLYPLASTICS CO., LTD.

General Properties of 3105H

table1-1 General Properties（ISO）

Item	Unit	Test Method	HB, standard 3105H GF15% reinforced, toughness
Color			EF2001/ED3002
ISO(JIS)quality-of-the-material display:		ISO11469 (JIS K6999)	>PBT-GF15<
Density	g/cm^3	ISO 1183	1.41
Water absorption (23°C,24hrs,1mmt)	%	ISO 62	0.2
Tensile strength	MPa	ISO 527-1,2	108
Strain at break	%	ISO 527-1,2	3.3
Flexural strength	MPa	ISO 178	170
Flexural modulus	MPa	ISO 178	5,270
Charpy notched impact strength (23℃)	kJ/m^2	ISO 179/1eA	6.6
Temperature of deflection under load (1.8MPa)	℃	ISO 75-1,2	206
Coefficient of linear thermal expansion (23 - 55℃、Flow direction)	x10^{-5}/℃	Our standard	4
Coefficient of linear thermal expansion (23 - 55℃、Transverse direction)	x10^{-5}/℃	Our standard	10
Electric strength (3mmt)	kV/mm	IEC 60243-1	20
Volume resistivity	Ω·cm	IEC 60093	5 × 10^{16}
Tracking resistance (CTI)	V	IEC 60112	-
Rockwell hardness	M(Scale)	ISO2039-2	95
Flammability		UL94	HB
The yellow card File No.			E213445
Appropriate List number of Ministerial Ordinance for Export Trade Control			Item 16 of Appendix -1

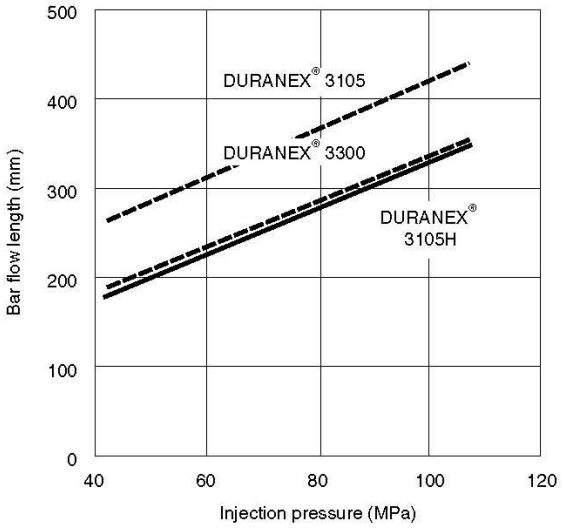
All figures in the table are the typical values of the material and not the minimum values of the material specifications.

2. Processing characteristics of DURANEX® 3105H

2.1 Flow characteristics

Figure 2-1 shows the results of bar flow length tests using injection molding for **3105H** compared with 3105 and 3300. As can be seen from the figure, the bar flow length of **3105H** is slightly lower than 3105, which has the same level of glass fiber loading, but it is almost the same as that of 3300, a standard **Duranex** slow-burning grade.

Figure 2-1 Bar flow length of DURANEX® 3105H (2 mmt)



Processing parameters (nozzle)
- Cylinder temperature: 250-240-220-200°C
- Mold temperature : 70°C
- Injection speed : 58 mm/sec
- Cycle time : 12 s holding phase/7 s cooling
- Mold : Bar flow length test mold
- Cavity thickness : 2 mm

2.2 Mold shrinkage ratio

The mold shrinkage ratio for a 120 mm□×3 mmt flat plate is shown in **Table 2-1**. A difference arises between the shrinkage ratios between the flow and transverse directions due to orientation of the glass fibers.

Table 2-1 Mold shrinkage ratio of DURANEX® 3105H (%)

Direction	Injection pressure (MPa)		
	49	58	68
Flow direction	0.7	0.7	0.6
Transverse flow direction	1.5	1.3	1.2

Processing parameters (nozzle)
- Cylinder temperature: 250-240-220-200°C
- Mold temperature : 70°C
- Injection speed : 50 mm/sec
- Cycle time : 15 s holding phase/15 s cooling

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NOTES TO USERS

- All property values shown in this brochure are the typical values obtained under conditions prescribed by applicable standards and test methods.
- 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 appropriate technical catalogs for specific material processing.
- For safe handling of materials we supply, it is advised to refer to the Safety Data Sheet "**SDS**" of the proper material.
- This brochure is edited based on reference literature, information and data available to us at the time of creation. The contents of this brochure are subject to change without notice upon achievement of 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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