

Polyethylene terephthalate (PET)

RENATUS®

RH036

RF2001/RD3002

Standard

Introduction

RENATUS® PET is a polyethylene terephthalate (PET) based crystalline engineering plastic. It is utilized in many different industrial fields including electrical and automotive due to its superior physical and molding properties.

RENATUS® PET RH036 (36%GF reinforced grade) introduced here has high strength, stiffness and heat resistance.

General Properties of RH036

table1-1 General Properties (ISO)

Item	Unit	Test Method	Standard
			RH036
			GF Reinforced
Color			RF2001/RD3002
ISO(JIS)quality-of-the-material display:		ISO11469 (JIS K6999)	>PET-GF36<
Density	g/cm ³	ISO 1183	1.66
Water absorption (23°C,24hrs,1mmt)	%	ISO 62	-
Tensile strength	MPa	ISO 527-1,2	190
Strain at break	%	ISO 527-1,2	2.2
Flexural strength	MPa	ISO 178	275
Flexural modulus	MPa	ISO 178	12,700
Charpy notched impact strength (23°C)	kJ/m ²	ISO 179/1eA	9.0
Temperature of deflection under load (1.8MPa)	°C	ISO 75-1,2	235
Coefficient of linear thermal expansion (Normal temperature, Flow direction)	x10 ⁻⁵ /°C	Our standard	2
Coefficient of linear thermal expansion (Normal temperature, Transverse direction)	x10 ⁻⁵ /°C	Our standard	6
Electric strength (3mmt)	kV/mm	IEC 60243-1	24
Volume resistivity	Ω·cm	IEC 60093	7 × 10 ¹⁶
Tracking resistance (CTI)	V	IEC 60112	225
Flammability		UL94	-
The yellow card File No.			-
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. Molding Properties

2.1 Mold Shrinkage

Table 2-1: Mold shrinkage of RENATUS® PET RH036

Cavity pressure		RH036
60MPa	Flow direction	0.3
	Transverse direction	0.8
70MPa	Flow direction	0.3
	Transverse direction	0.8

(Unit: %)

Molding conditions

Cylinder temperature: 295°C

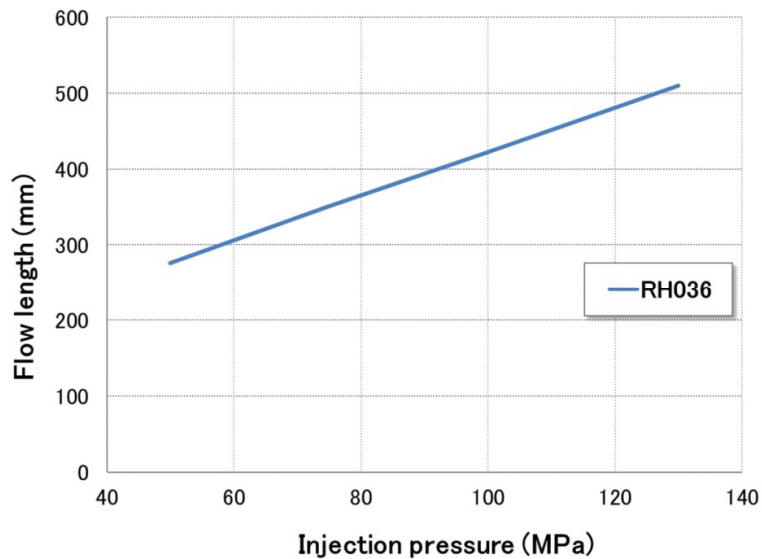
Mold temperature: 135°C

Injection speed: 24 mm/s

Mold used: 60×60×2mmt flat plate

Film gate

2.2 Flowability



Molding conditions

Cylinder temperature: 285°C

Mold temperature: 135°C

Injection speed: 66.7 mm/s

Mold used: 2mm bar flow

Graph 2-1: Flowability of RENATUS® PET RH036

NOTES TO USERS

- Consult the appropriate technical data or Safety Data Sheet(SDS) for proper use of RENATUS® PET.
- Dry pellets before molding. Pre-dry pellets by a dehumidification dryer at 130 - 140°C for more than 5 hours. (Max. 24 hours)
It is also advisable to use a hopper dryer to keep pellets dry during molding.
- Optimum material temperatures: 270 - 290°C (Non-flame retardant grade), 265 - 280°C (Flame retardant grade)
[Do not heat the material above 300°C]
- In case of decomposition of the material or any fear of decomposition, lower the cylinder temperature and purge (discharge) the material from the cylinder.
- During purging, wear safety goggles and keep your hands and face away from the nozzle section.
- Keep the workplace ventilated locally or entirely during operation.
- To prevent the danger of slip and environmental hazard, rake the spilled pellets and place them in proper containers for disposal.

RENATUS® is a registered trademark of Polyplastics Co.,Ltd. in Japan and other countries.

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