

*Panlite*®

Non-halogen PC high—resistant grade

***MN-3600H***

(Comparison of MN-3600H with  
an company's heat resistant grade : A

Technical note

TEIJIN CHEMICALS LTD.

## 1. Introduction

Panlite® MN-3600H is a non-halogen type, flame retardant, high-resistant grade.

MN-3600H is superior to heat resistance, mold ability, flame resistance.

### 〈 Special properties of Panlite® MN-3600H 〉

- |                                |                                       |
|--------------------------------|---------------------------------------|
| (1) Excellent flame resistance | Can be used under high temperature    |
| (2) Excellent impact strength  | Excel in impact strength by free fall |
| (3) Excellent flow ability     | Can mold thin-walled products         |
| (4) Excellent flame resistance | Excel in flame resistance             |
1. 0mm V-1
  1. 5mm V-0
  2. 0mm 5VB

## 2. General properties

Category		Method	Condition	Unit	MN - 3600H	An company's Heat resistant grade A
Density		ISO 1183	—	kg/m <sup>3</sup>	1, 190	1, 200
Tensile	Strength at yield	ISO 527-1 and ISO 527-2	50mm/min	MPa	60	60
	Yield distortion			%	7	6
	Strength at break			MPa	50	60
	Elongation(break)			%	100	100
Flexural	Strength	ISO 178	2mm/min	MPa	95	95
	Modulus			MPa	2, 300	2, 400
CHARPY impact strength		ISO 179	Notched	kJ/m <sup>2</sup>	45	14
Load-deflection temperature		ISO 75-1 and ISO 75-2	0.45MPa	°C	125	125
			1.80MPa	°C	112	112
Mold shrinkage		In-house method	Parallel (4mmt)	%	0.5~0.7	0.5~0.7
			Vertical (4mmt)		0.5~0.7	0.5~0.7
Ball pressure temperature		IEC 335-1	—	°C	125	125
Heat durability		UL-94	—	—	1. 0mm V-1 1. 5mm V-0 2. 0mm 5VB	1. 5mm V-0 2. 0mm 5VB

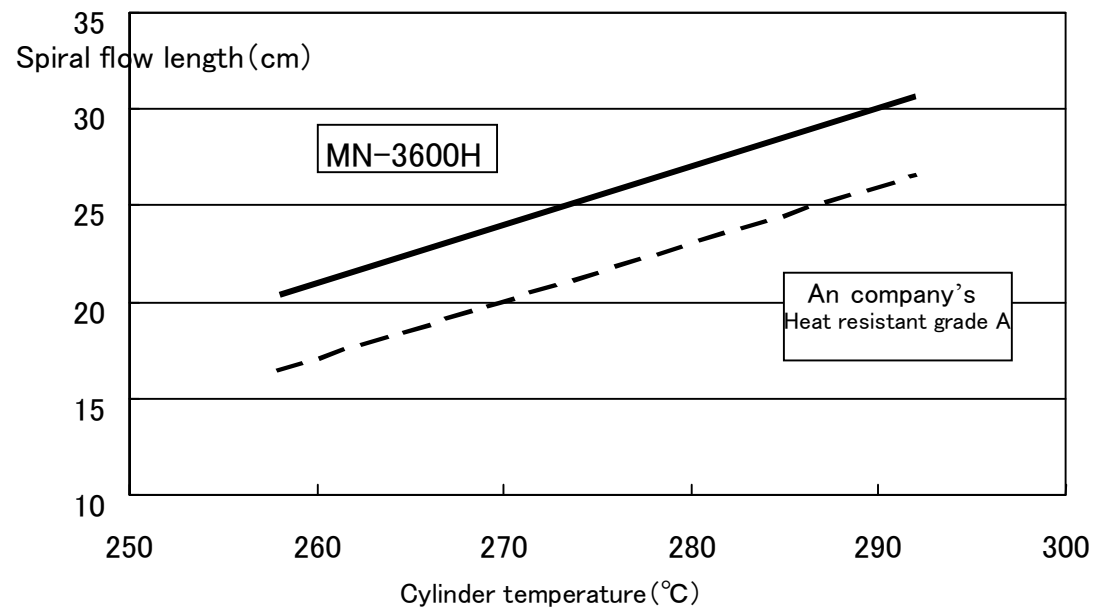
The figures given above are representative, but are not guaranteed of individual results.

### 3. *Flow ability*

Panlite® possesses an excellent flow ability.

#### 《Measurement

Condition》	Molding apparatus	Sumitomo Heavy Industries	SG-150U
	Injection pressure	9.8 MPa	
	Die temperature	70 °C	
	Flow channel thickness	2 mm	



## 4. Injection molding

### (1) Pre-drying

When pre-drying Panlite MN-3600H® using a box-type dryer, the thickness of pellet layer should be less than 3cm, and the dryer should be run for 4 to 8 hours, maintaining the temperature of 100°C. Temperature inside the dryer should be maintained 90 to 100°C, taking care that the pellets are not exposed to moisture.

### (2) Injection molding

It is recommended that the shot capacity of the cylinder be about 1.5 to 3 times the weight of the product. It is also recommended that cylinder temperature be 260 to 290°C, die temperature 60 to 90°C, and injection pressure 59 to 147MPa (600~1,500kgf/cm<sup>2</sup>)

《Molding conditions for Panlite® MN-3600H》

Category	Unit	MN-3600H
Molding temperature	°C	260 ~ 290
Die temperature	°C	60 ~ 90
Injection pressure	MPa (kgf/cm <sup>2</sup> )	59 ~ 147 (600 ~ 1,500)
Pre-drying temp.	°C	100
Pre-drying period	Hour	5 ~ 8

The accumulated resins in cylinder cause a defective appearance and debasement of properties. When the molding machine does not operate for a long stretch of time, it is recommended that the cylinder temperature be around 150°C and these accumulated resins be removed completely. And then restart the machine.

### (3) Care and Maintenance of the Molding Equipment

#### 1. Cleaning of Deposits on Die

In the event that deposits do form, cleaning is strongly recommended.

《Suggested Cleaning Agents》

- ☆Sumi mold cleaner (Sumiko Lubricants)
- ☆Sumi mold DR (Sumiko Lubricants)
- ☆Micro check cleaning agents (Nihon Engineering Chemicals)

#### 2. Long Term Care of the Mold

Clean the interior of the mold, wipe the pins using a cleaner such as acetone. Generously apply an anti-rust agent to them as well for added protection.

### Caution

- The figures listed in this catalogue are typical values obtained under standard test methods, and may not be applicable for products that are used under different application condition.
- The combustion figures listed in this catalogue are from small-scale test and may not be applicable for hazards during a major fire.
- Please refer to us for an advice regarding the application conditions for medical equipment, food service application, and toys.
- When any kind of additives (such as anti-bacterial agents, stabilizers and flame retardants) or coloring agents are to be added to this resin, please be sure to consult with Teijin chemicals Ltd. , in advance. However, even after consultation, Teijin Chemicals Ltd. will not guarantee nor bear responsibility in any form for the usage of such additives.
- The property values of other plastics have been quoted from pertinent catalogues and literature.
- Please carefully consider all potential industrial property rights when considering applications

introduced in this catalogue.

- The contents of this catalogue may be changed without prior notice.
- Please refer to the Material Data Sheet (MSDS) before use for other warnings in detail.
- Please direct inquiries to Polycarbonate Plastics Sales Division, Teijin Chemicals Ltd., for detailed technical information.