

Polycarbonate Sheet Grade

**Panlite**<sup>®</sup> L-1250ZW

 TEIJIN CHEMICALS LTD.

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## 1. Special Characteristics

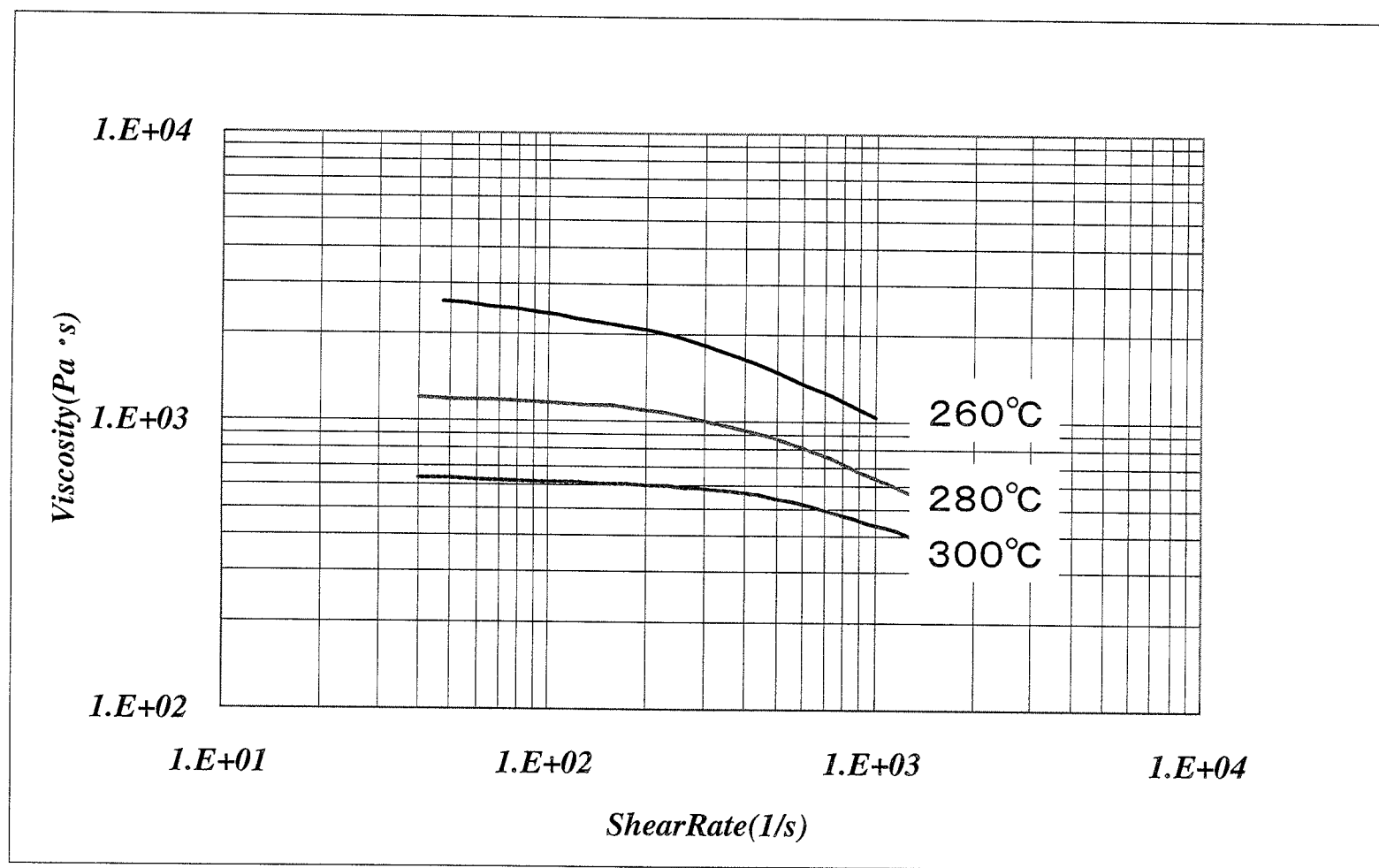
- **Panlite**® is a polycarbonate resin first commercialized in Japan by Teijin Chemicals Limited. **Panlite**® possesses a number of attractive characteristics, of which impact strength, dimensional stability, electrical qualities, transparency and sanitary qualities are deserving of special mention. **Panlite**® has found wide acceptance in fields as diverse electronic appliances, medical equipment and housewares.
- **Panlite**® L-1250ZW is a newly developed extrusion-type polycarbonate resin designed for sheet production. In comparison with traditional high-viscosity grades, **Panlite**® L-1250ZW exhibits the following special characteristics:
  - 1) Highly cost-effective, due to its low torque during extrusion.
  - 2) Low flow resistance, leading to significant gains in production rates.
  - 3) Suitable for wide range of applications, whether thick or thin walled.
  - 4) Outstanding weatherability.
  - 5) Excellent heat stability; Our customers can be confident of producing products with exceptional mechanical properties and good color.

## 2. Material Data

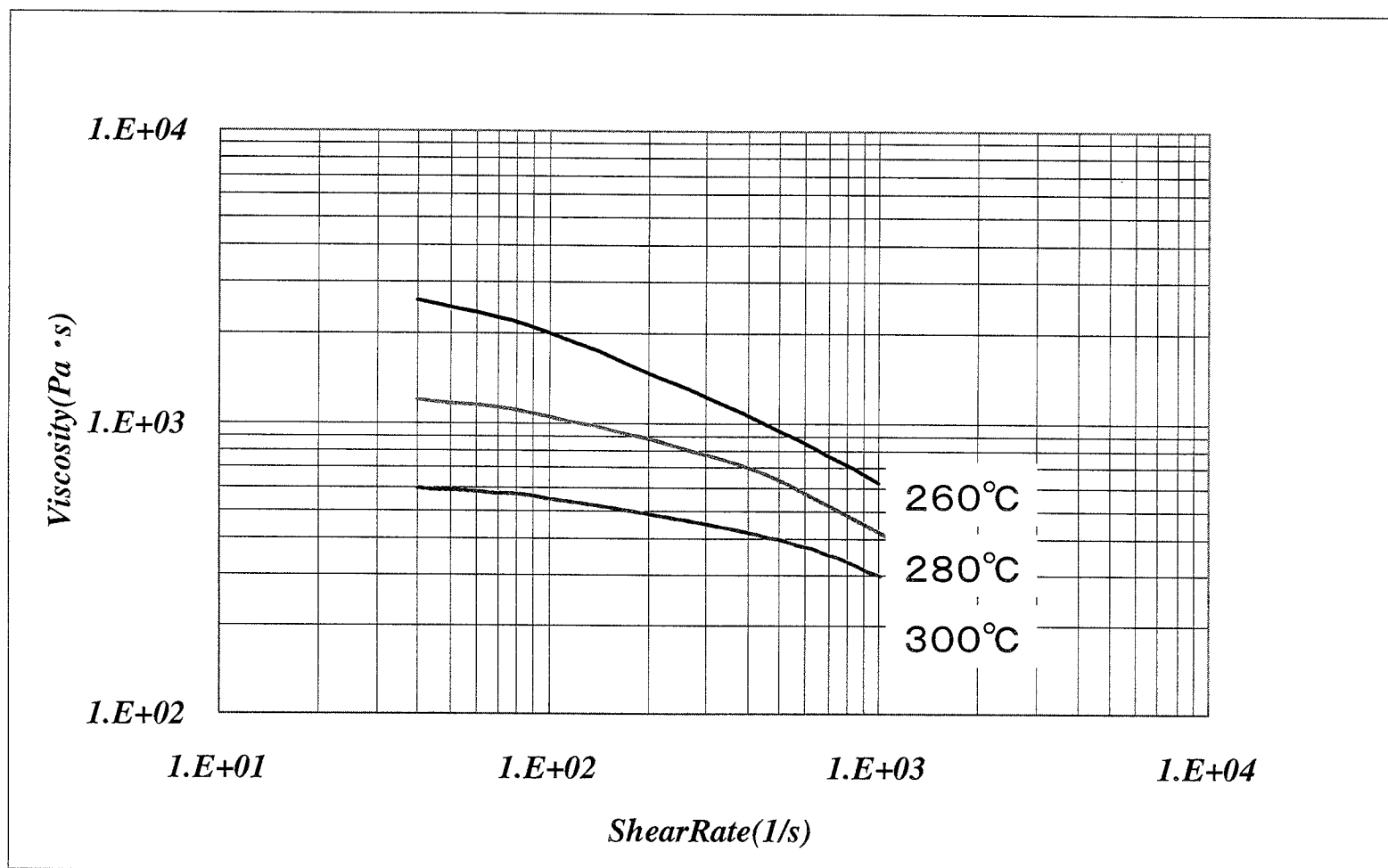
(1) Property : **Panlite®** L-1250ZW

Item s	Condition	Test Method	Unit	<b>Panlite®</b> L-1250ZW
Specific gravity	—	ASTM D792	—	1.2
Light transmission	3mm thick	ASTM D1003	%	89
Refractive index	—	ASTM D542	—	1.585
Tensile strength	Yield	ASTM D638	MPa	62
	Break		MPa	80
Tensile elongation	Yield	ASTM D638	%	6
	Break		%	140
Flexural strength	—	ASTM D790	MPa	90
Flexural modulus	—		MPa	2,260
Impact strength	Izod notched 3.2mm t	ASTM D256	J/m	930
Heat distortion temperature	Load 1.813MPa	ASTM D648	°C	131
MVR (Melt Volume-flow Rate)	300°C、Load 1.2kg	ISO 1133	cm <sup>3</sup> /10min	7

(2) Melt Viscosity : **Panlite®** L-1250ZW



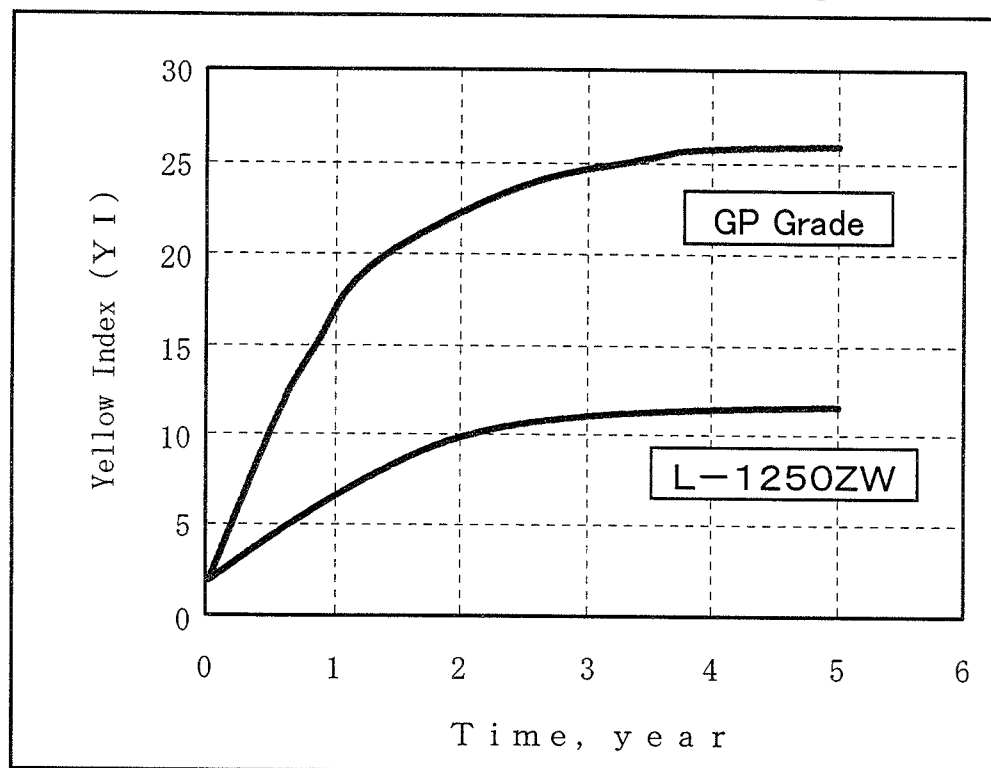
### (3) Melt Viscosity : Our Competitor's Extrusion Grade



(4) **Panlite**® L-1250ZW Weatherability (Outdoor Exposure)  
- Changes in Yellow Index (YI)

**Panlite**® L-1250ZW has been developed as a sheet-use polycarbonate resin having excellent weatherability and mechanical characteristics. Discoloration due to exposure has also been minimized.

Test Location: Matsuyama City, Ehime Prefecture, Japan

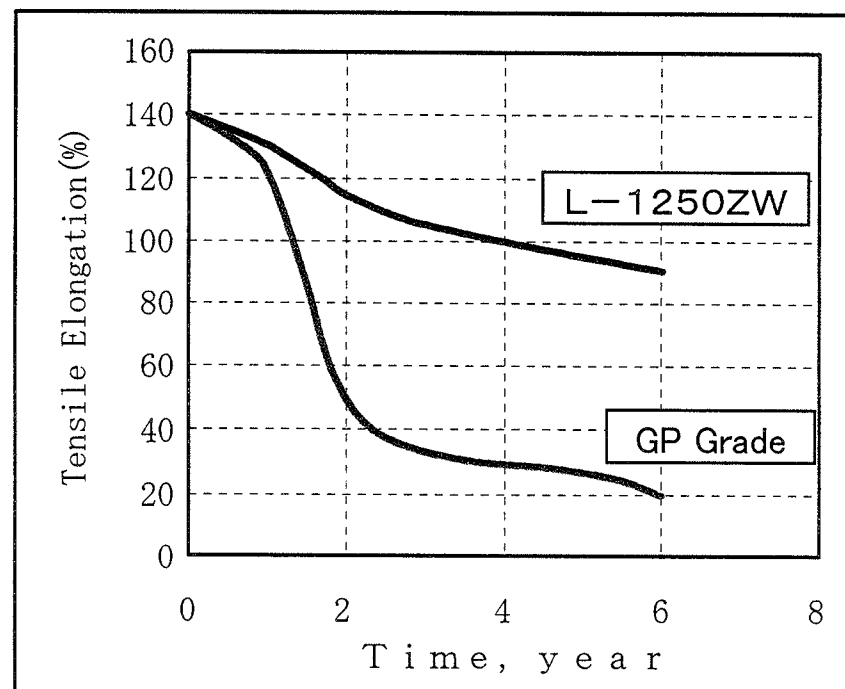
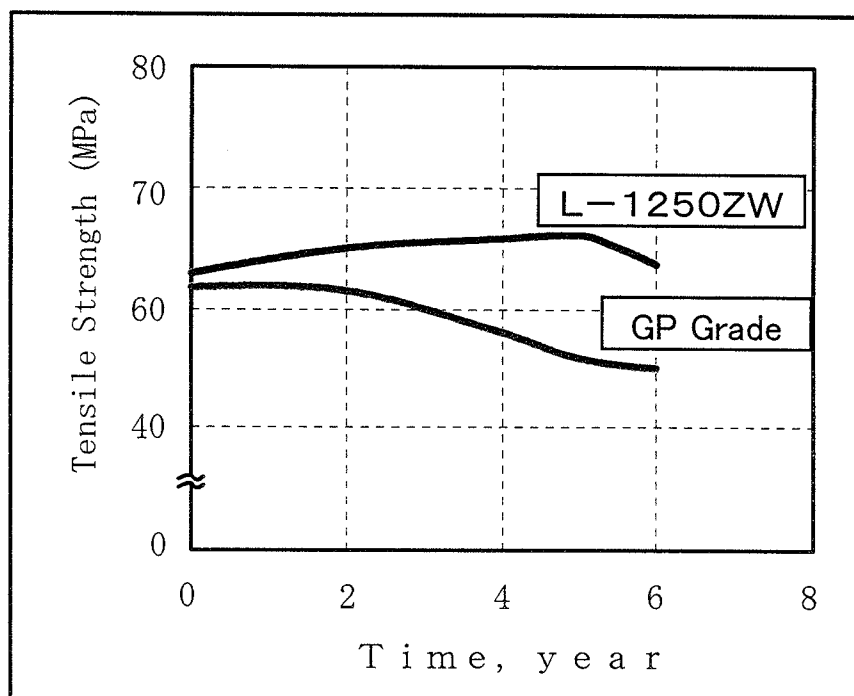


(Note 1) YI: Yellow Index measured by transparency from “C” light source

(Note 2) Test Piece Thickness: 2mm

(Note 3) GP = General Purpose Grade

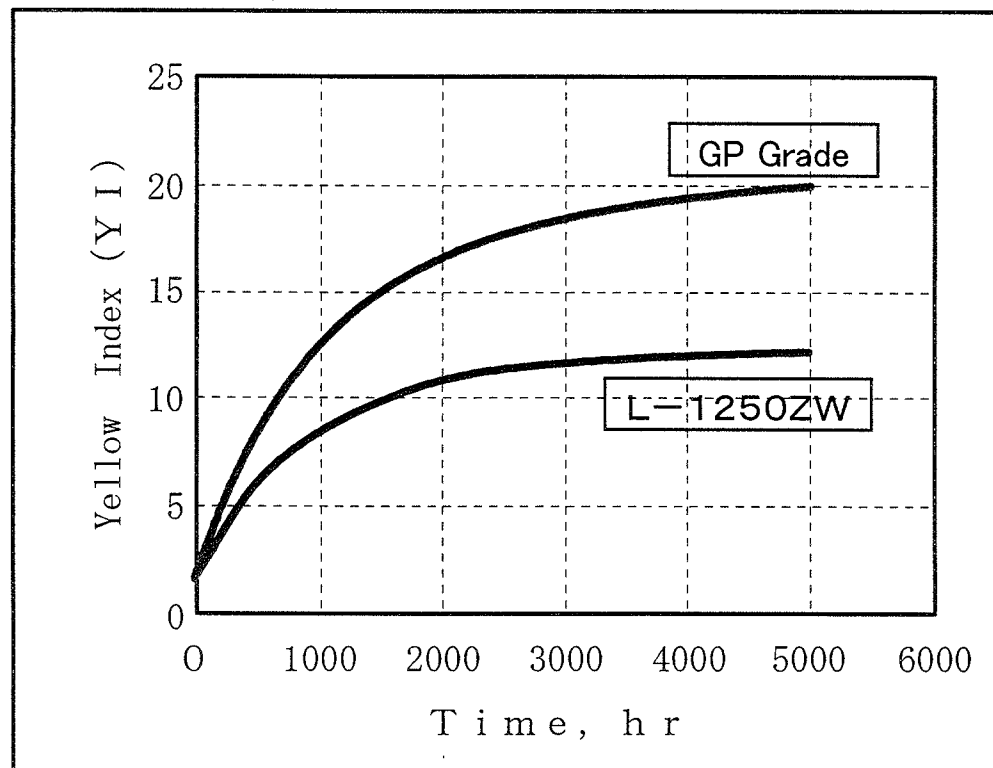
(5) **Panlite®** L-1250ZW Weatherability (Outdoor Exposure)  
- Changes in Tensile Property





(6) **Panlite**® L-1250ZW Weatherability (Time Simulation)

- Changes in Yellow Index



(Note 1) Sunshine Weather Meter employed during testing

(Note 2) Black Panel Temp. 63°C, 120 min. (18 min. rain simulation), Test Piece 2mm

### 3. Molding

#### (1) Standard Molding Conditions

- ① Dry pellets at 120°C for 5 hours.
- ② If using vent-type extrusion equipment, reduce pressure to under 30mmHg.
- ③ Molding Temperature  
Cylinder and die settings are given on the following page. (Keeping resin at a relatively low temp. will lead to better transparency and outer appearance.)
- ④ Set roll temp. to 110~160°C; temperature variation of less than 2°C is best.  
Also, it is recommended that the second roll be the most highly heated.
- ⑤ Take care to prevent introduction of contaminants that can lead to such defects as fish eye. It is especially important to maintain a clean work environment when re-processing materials.

## (2) Molding Temperature

