

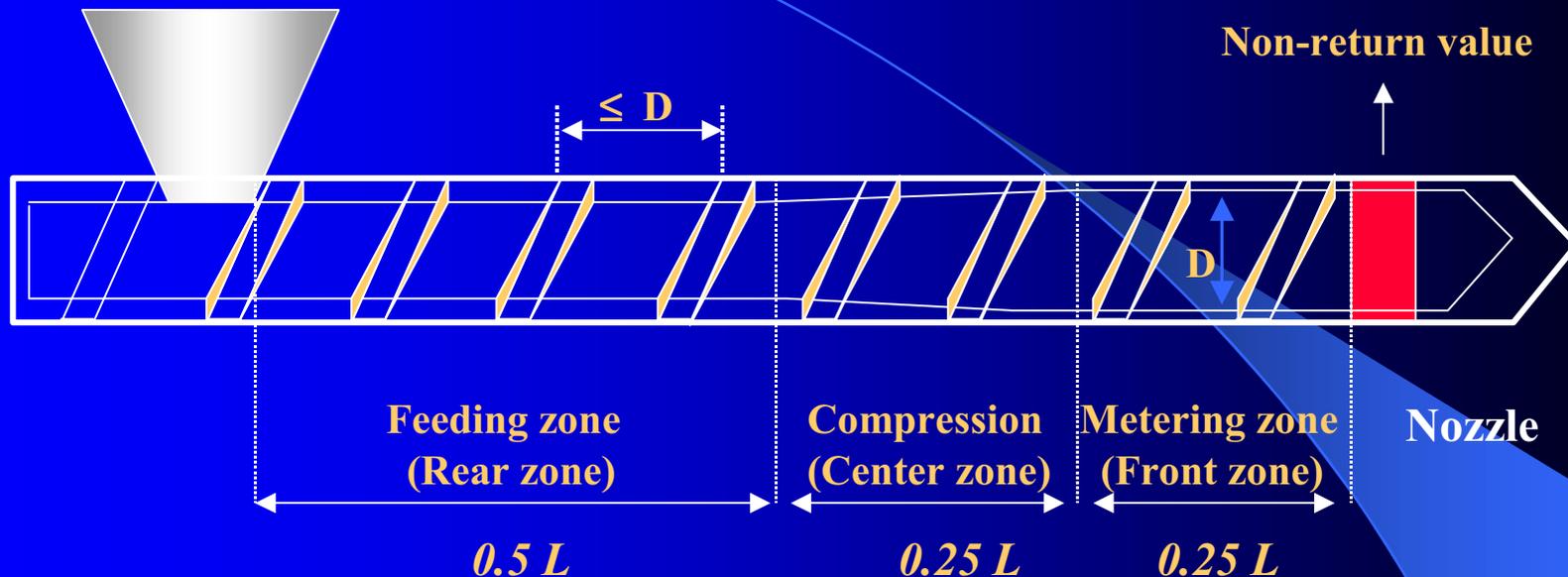
KEPITAL

Injection Molding Guide

KOREA ENGINEERING PLASTICS CO., LTD.

KEP Research Center

1. Molding temperature



Standard	330-340 °F (160-170 °C)	355 °F (180 °C)	375°F (190 °C)	355-410°F(180-210 °C)
Anti-wear	340-375 °F (180-200 °C)	355 °F (180 °C)	355°F (180 °C)	355-400°F(180-200 °C)
Reinforced	355 °F (180 °C)	375 °F (190 °C)	390°F (200 °C)	355-410°F(180-210 °C)
Impact resistance	340 °F (170 °C)	355 °F (190 °C)	375°F (190 °C)	355-400°F(180-200 °C)

2. Pre-drying condition

- 1) Natural pellets: 80 - 100 °C (175 - 210 °F), 3-4 hrs
- 2) Colored resin: 100 - 110 °C (210 - 230 °F), 3-4 hrs
- 3) Moisture content: not surpassing 0.1%

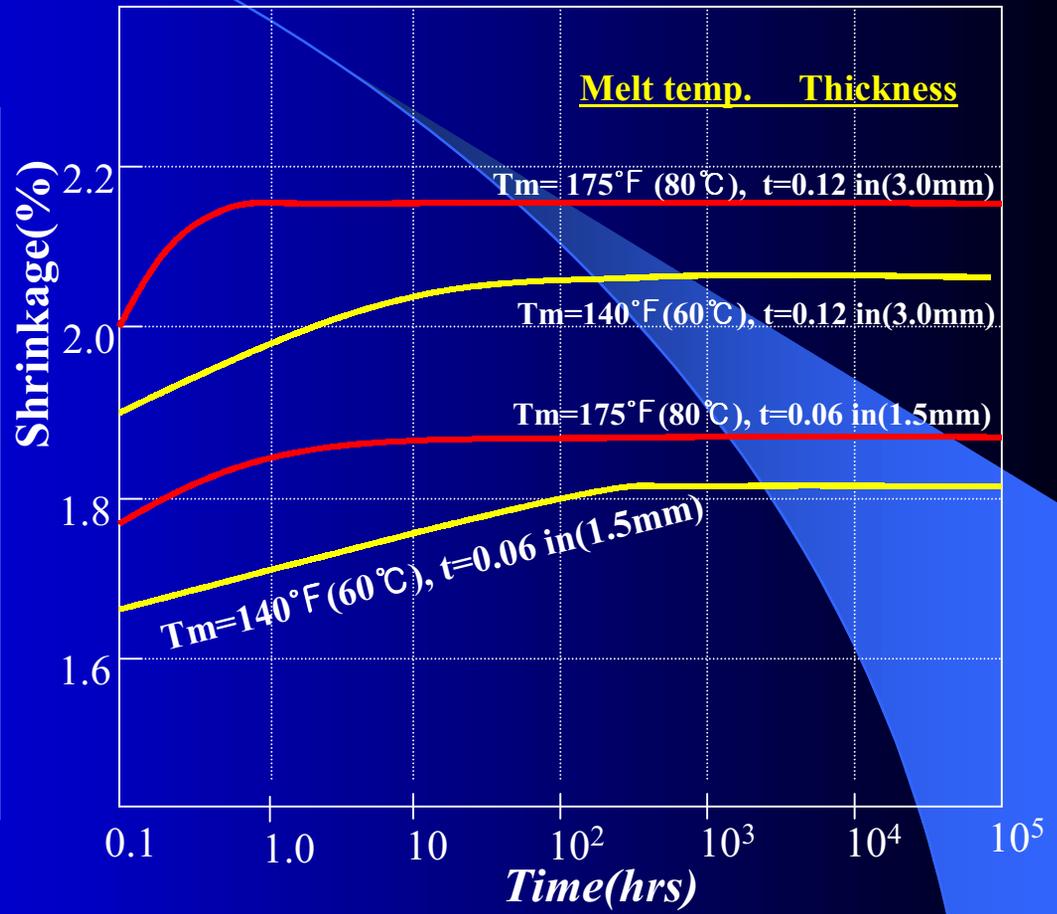
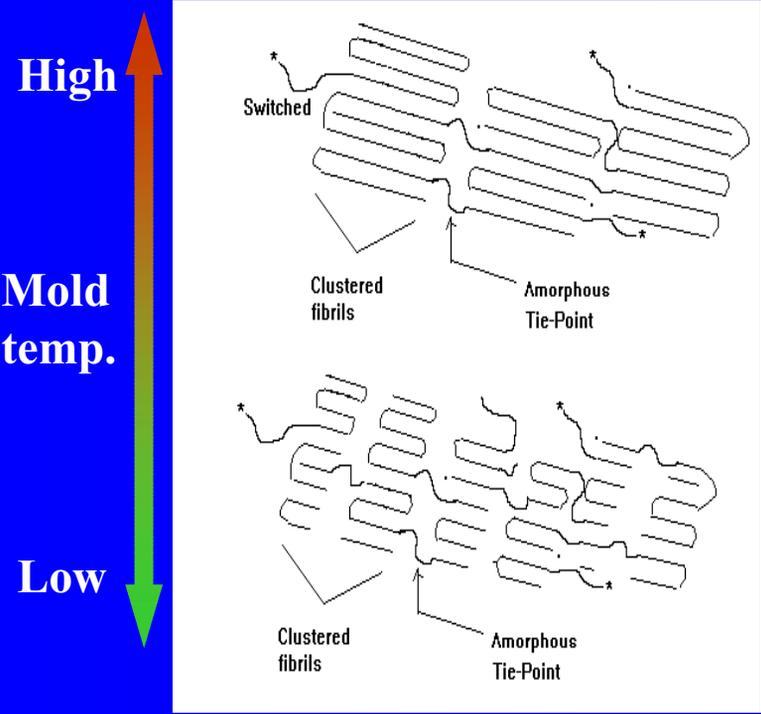
3. Mold temperature c

Items	Celsius	Fahrenheit
General range	40 ~ 100 °C	105 ~ 210 °F
Recommendation	60 ~ 80 °C	160 ~ 175 °F
FU, TE Grades	40 ~ 50 °C	105 ~ 120 °F
For better surface	120 °C	250 °F

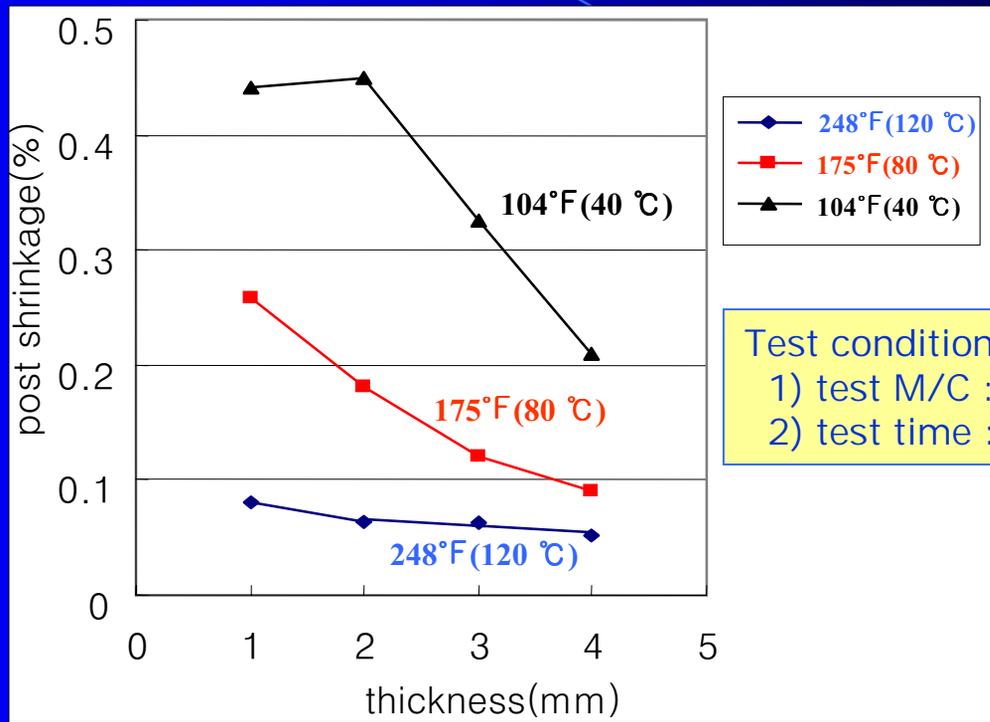
4. Injection time (Injection time + Hold time) > Gate seal time

5. Cooling time ($a \cdot t^2$) \propto second power of thickness

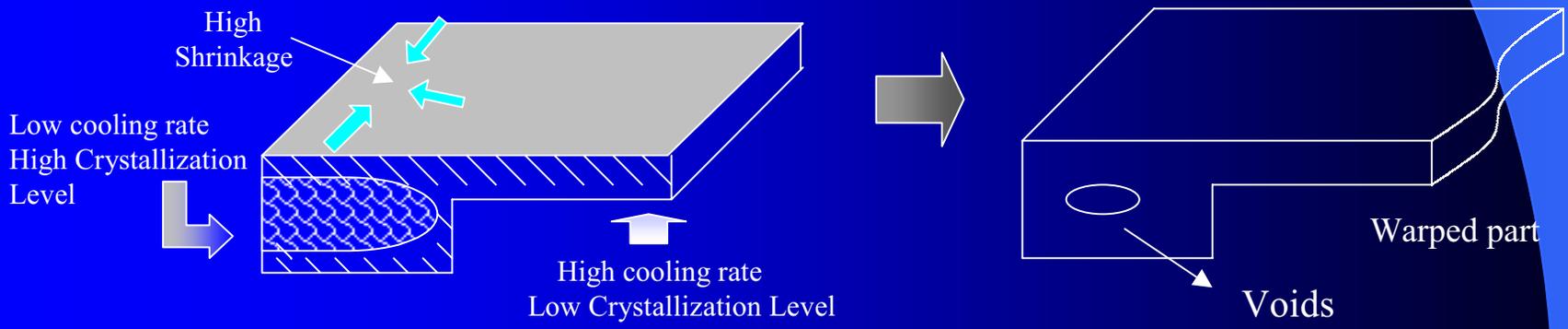
Molding shrinkage upon mold temp. & thickness



Post Molding Shrinkage upon Mold temperature & thickness



Test condition
 1) test M/C : dry oven
 2) test time : 300 hrs



6. Injection Pressure (IP) : 7,110 ~ 17,070 psi (500 ~ 1,200 kg/cm²)

Hold Pressure (HP) : 50% ~ 100% of Injection Pressure

Turning point from IP to HP: 80 ~ 90% filling of cavity

7. Back Pressure: 71 ~ 142 psi (5 ~ 10 kg/cm²)

8. Injection speed

1) Standard: 0.2 ~ 2.0 in/sec (5 ~ 50 mm/sec = 0.3 ~ 3 m/min)

2) Velocity

Fast ←————→ Slow

Part design

Thin parts

Thick parts

Grades

TE,FU < Anti-wear < ET-20

9. Screw RPM: 80 ~ 120

10. Material replacement and Work Interruption

1) It is recommended that cylinder should be cleaned with PE, PP or PS before and after processing of KEPITAL

2) In case of work interruption, you need to purge out molten KEPITAL inside of cylinder with above materials, and maintain the temperature of cylinder at 165°C (329 , melting point of polyacetal copolymer)