



# ZEON CORPORATION

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## ZEONEX®E48R, 480R and 480 Injection Molding Conditions (Quick Guidelines)

### Pre-Drying (Heating):

Air (Oxygen) dissolved in ZEONEX pellets can cause discoloration, carbide and void, ZEONEX should be dried (heated) to remove air in the pellets for 4 to 12 hours at 100°C to 110°C (212°F to 230°F) before molding. Drying too long period may cause heat deterioration and possibly discoloration in the molded articles.

### Recommended purging cycle:

- (1) Pull the screw out of the barrel and clean the screw; check ring and barrel.
- (2) Purge with ZEONEX at 250°C/482°F for 10 injections, then at 290°C/554°F for 10 injections. This cycle can be modified per the application. It has been found that less material is wasted because of contamination by following this cycle than by using other purging methods.

For Optical Lenses: Barrel Zones 1 and 2 are typically 270 - 310°C (518 - 590°F)  
Mold temperature is typically 90 -135°C (194 - 275°F)  
Cycle time is typically 60 - 300 sec. (long cooling) for small size  
Cycle time is typically 300 - 600 sec. (longer cooling) for large size

### Typical molding conditions for ZEONEX E48R, 480R and 480:

Mold	Clamp Face	Nozzle	Zone 1*	Zone 2	Zone 3	Throat**
90 -135°C	90 -135°C	270°C	280°C	275°C	260°C	240°C
194-275°F	194-275°F	518°F	536°F	527°F	500°F	464°F

\* Remark: Zone 1 is typical example between 270 - 310°C (518 -590°F) range.

\*\* Remark: Under the hopper 50 - 90°C (122 - 194°F) are recommended if it can be controllable.

### Injection speed, Holding pressure, Screw speed etc:

Injection & Holding pressure	Injection speed	Screw speed	Back pressure	Suckback position
Small size. 40~60MPa	20~80 mm/sec.	20~80 r.p.m.	4 ~10MPa	1~3 mm
Large size. 50~150MPa				
Small size. 5800~8700 psi	0.79~3.15 inch/sec		580~1450 psi	0.04~0.12 inch
Large size. 7200~22000 psi				

### Nitrogen purging:

**Nitrogen purge is recommended in barrel throat while molding to avoid oxidative degradation!!!**  
**Please refer to ZEONEX Injection Molding Guide for more details.**

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