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Technical Services Department

Technical Tip

Eliminating Lens Edge Fractures

Today's more sophisticated lens materials can be affected by thermal or chemical stress, which may result in fractures. By following the information detailed in this Technical Tip, you will reduce the likelihood of lens edge fractures.

Eliminate processing heat:

- **Surfacing:** Typical polycarbonate processing techniques will provide excellent results when little heat is produced:
  - Cutters must be sharp and in good condition.
  - Fining and polishing require appropriate water and polish flow.
- **Lens Cleanup:** Minimize heat exposure time with the elevated temperatures of lens clean up procedures.
- **Back Side Coating:** Monitor specified temperatures within the curing process.
  - Clean accumulated dust from unit on a periodic schedule.
  - Poor ventilation will elevate temperatures to a destructive level.
- **Edging:** Cutters should be sharp and well maintained.
  - Edging must be dry – minimize moisture while reducing polycarbonate lens size.
  - Assure cutting waste is removed from the edging chamber, which can hold water and moisten the cutter.
- **Tinting:** Subjecting lenses of any material to dyes or neutralizers longer than one-half hour will degrade coatings and substrate material.
- **Glazing/Frame Adjustment:** Subjecting lenses to a heating medium while inserting or adjusting the frame can cause distortion and micro-fractures that may propagate fractures. Lenses mounted tight or with localized stress can also cause fractures.

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Technical Tip

Eliminating Lens Edge Fractures (Continued)

Minimize chemical contact:

- **Back-side Coating:** Assure coating compatibility with lens material. Isopropyl alcohol (IPA) is safe for cleaning cycles.
- **Lens Cleanup:** Customers should avoid petroleum products, acetone, MEK, and rubbing alcohol. Warm soapy water (mild dish soap/non-detergent, void of skin softeners) provides the best lens clean up.
  - Rinsing in warm water will remove excess soap.
  - Some commercial lens cleaning fluids contain solvents which may damage polycarbonate and are not recommended.
- **Edge Polishing:** Manufactured chemical polishes are NOT safe for polycarbonate. Mechanical polishes provide the best results with light pressure and adequate buffing compound.
- **Tinting:** Assure compatibility of lens material with dyes and neutralizers. A solution of one part baby shampoo in nine parts water provides an excellent neutralizer.
- **Recommend the proper lens cleaning technique** to the patient.

Polycarbonate provides one of the best ophthalmic materials available. Although an extremely stable material, our evaluations indicate the possibility of fractures developing – months after dispensing to the patient – when the above influences were proven suspect.

For any additional technical questions, call the toll-free Technical Services Hotline: (800) 367-2544 ext. 5301
You can also send messages to us via e-mail: techservices@vision-ease.com
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