The Merits of a Front Surface Toric Lens Design

For over 20 years Alden Optical has offered the HP Toric to eye care practitioners who demand a high performance design for their challenging high cylinder astigmatic fits. HP Toric has developed the reputation as an incredibly stable toric design. Many practitioners are unaware that HP Toric, unless specified otherwise, is by default a front surface toric. This means that both the optics and stabilization geometry reside on the anterior surface of the lens. Despite the conventional wisdom that back surface torics “align” to the asymmetrical toric cornea, fitters have come to rely on the impressive rotational stability of HP Toric.

- The front surface design has the optical advantage of allowing for a larger, rounder optic zone than what typically would result from a back surface toric design.
- The dual slab-off stabilization of the front surface toricity also provides more consistency of axis orientation, because changes to the lens Rx or axis alignment on the front surface of the lens Rx are less likely to impact the lens fit or rotation than would changes made on the back surface of the lens. As a result, calculations from cross-cylinder over-refractions and compensations for lens rotation will tend to be more effective and predictable due to this consistency of lens fit.
- With a dual slab-off design the lens optics are thinner and drape the cornea better than a prism design. This allows the lens to fit within the corneal toricity just as well as a back surface toric. During developmental testing of the HP toric design, there was no perceived benefit to back surface toricity with regards to lens stabilization.
- Many practitioners prefer having the dual thin zones for stabilization because of concerns about the decreased oxygen transmissibility that occurs with thicker prism ballasted lenses.

"With over 30 years’ experience working with consultative contact lens patients, I have had the opportunity to work with most of the available custom toric contact lenses on the market. Alden Optical delivers the HP custom toric in their unique double slab-off design which minimizes lens thickness and delivers superior stabilization and vision performance. For those patients who are in need of a standard prism ballast design, they provide the Classic design as well. We have found Alden's quality, reproducibility, and optics to be superior to all other custom contact lens companies we work with. Additionally, their speedy delivery on most products in 3 days is outstanding. Lastly, when working with a company, you want a partner who will work closely with you to solve problems, and provide reasonable exchange policies. Alden is an outstanding partner for our practice."

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