

*A new day is  
dawning for  
progressive  
addition lens  
technology*

# SEIKO

## Internal Free-Form Lenses



# Succeed Ws

# Succeed

| Lens              | Min. Fit. Ht. (Corridor) | Material & Coating Options                    | Features   |
|-------------------|--------------------------|---|--|
| <b>Succeed Ws</b> | 15mm (11mm)              | Clear<br>1.50, 1.59, 1.60, 1.67               | <ul style="list-style-type: none"> <li>• Harder back surface design</li> <li>• Viewing area up to 30% larger than conventional progressives</li> <li>• Ideal for seasoned wearers and those requiring medium to high add power</li> <li>• Best for smaller frames</li> </ul>   |
|                   | 17mm (13mm)              | Transitions® Gray & Brown<br>1.50, 1.59, 1.67 |  |
| <b>Succeed</b>    | 17mm (13mm)              | Polarized True Gray & Brown<br>1.50, 1.67     | <ul style="list-style-type: none"> <li>• Softer back surface design</li> <li>• Viewing area up to 20% larger than conventional progressives</li> <li>• Ideal for first time wearers &amp; conventional PAL non-adapts</li> <li>• Low to medium add power</li> <li>• Best for standard to larger size frames</li> </ul> |
|                   | 19mm (15mm)              | Tintable<br>1.50 & 1.67                       |  |

Contact: Luzerne Optical Laboratories, Ltd. 1-800-233-9637 or at [www.LuzerneOptical.com](http://www.LuzerneOptical.com)

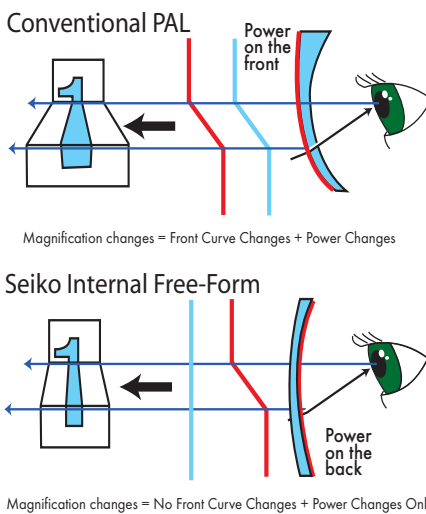
**Transitions® VI**  
ADVANCED PERFORMANCE  
FOR HEALTHY SIGHT

## Patented 100% back surface design technology

- The patient's entire prescription is three-dimensionally fused onto the back surface of the lens. This eliminates front-curve distortion, providing total control of marginal astigmatism and power error
- True, customized, Rx-specific aspheric power compensation in the progressive channel results in billions of optically precise prescriptions
- All visual fields are significantly expanded, with consistently wide near vision



Seiko Succeed Ws and Succeed Internal Free-Form progressive addition lenses are made using a patented, technologically advanced design that 3-dimensionally fuses the patient's entire prescription onto the back surface of the lens. This offers tremendous advantages over conventional front-surface progressive designs. To begin with, the front surface shape magnification differences between visual areas are eliminated. In conventional progressive lenses, distortion is induced by the shape changes on the pre-molded front curve, and by power changes on the back. The front surface on Seiko Internal Free-Form lenses is a perfect sphere, eliminating distortion due to front surface shape changes (Fig 1). The wearer experiences a considerable reduction in overall size and skew distortion, with a virtual elimination of image sway & swim (Fig 2). A second advantage of internal free-form design is that, by placing the progressive surface on the back of the lens, it is closer to the eye. This considerably expands all the fields of view (distance, intermediate and near). These larger fields of vision in turn provide better image stability, greatly exceeding the limitations of conventional progressives (Fig 3).



**Fig. 1.** Distortion in PAL lenses is the mainly the result of changes in the front surface curvature. Seiko Internal Free-Form lenses have a spherical front surface that does not contribute to distortion.

In conventional PAL design, any particular base curve covers a wide range of power. Consequently, each base curve is optimized only for a specific spherical Rx at the center of its range. Therefore, good visual acuity is only effective somewhere in the middle of the entire range for each base curve. This affects the reading area the most, due to the fact that it is "off-center," meaning that power error and unwanted astigmatism are induced and automatically present. Therefore, optics are compromised by these naturally occurring primary aberrations in all prescriptions that fall outside this narrow band.

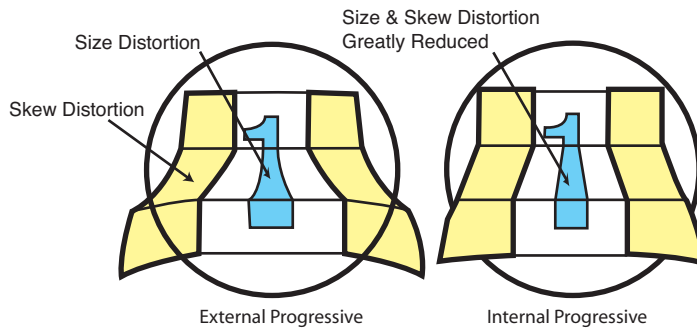
Seiko Internal Free-Form lenses fuse toric and progressive surfaces into one complex curve. Aspheric compensation is customized in the progressive channel based on the patient's complete Rx. This compensation specifically takes into consideration each sphere, cylinder, axis, prism and add power combination. This means that Seiko Internal Free-Form lenses can be surfaced into billions of unique Rx combinations (considering each sphere, cylinder, axis, prism and add), all of them exact. A conventional progressive lens can have, strictly speaking, only one optically precise Rx per base curve and add combination (generally around 65 total).

Seiko Internal Free-Form lenses provide total control of off-center astigmatism and power error. This gives the lens accurate power throughout the expanded reading area. The design also incorporates aspheric power control in the corridor, along the entire principle meridian. This compensates for changes in vertex distance as well as the degree of visual axis (rotation) as the eye focuses from distance to near. The resulting gradient cylinder control within the corridor vastly improves intermediate vision.

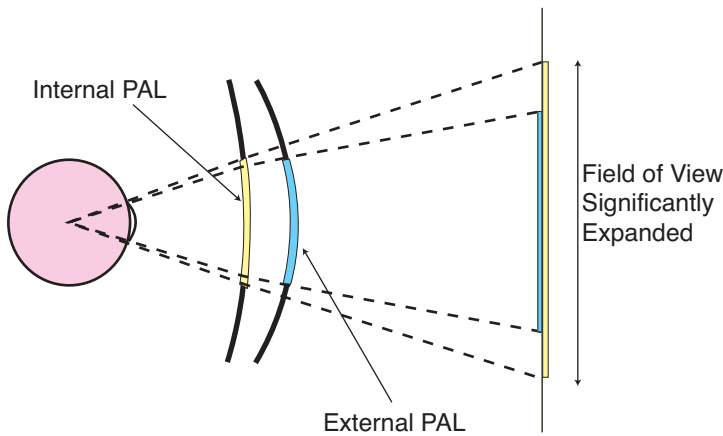
Seiko Internal Free-Form lenses provide distortion-free distance vision. At a prescription of Plano with a +3.00 add, Succeed Ws Internal Free-Form contains 30% less distortion with a 30% wider visual field. Internal Free-Form lenses provide an exact Rx for distance, intermediate and near (Fig 4), and improve image stability. Patient accommodation is automatic, as each lens is truly prescription-specific.

After a decade of continual design advances and global distribution, the wearer success rate is over 99%.

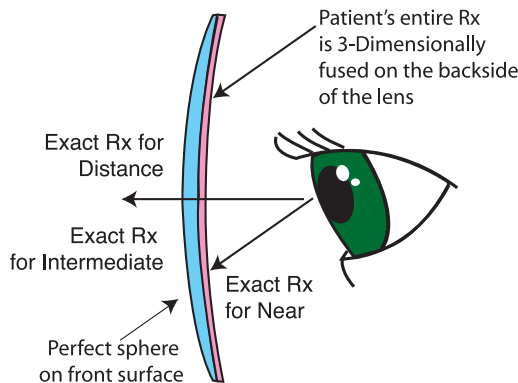
Seiko Internal Free-Form lenses are available in 1.67, 1.60, polycarbonate and 1.50 index, with a variety of coatings, including clear, polarized and Transitions Lenses, featuring the latest Transitions VI photochromic. They are also compatible with high-quality aftermarket anti-reflective (AR) coatings.



**Fig. 2.** A back surface progressive lens has significantly less size and skew distortion.



**Fig. 3.** Seiko Succeed Internal Free-Form lenses provide wider fields of view in *all* visual zones -- distance, intermediate and near.



**Fig. 4.** A true, customized lens can now be made with an exact Rx for distance, an exact Rx for intermediate, and an exact Rx for near.

## Quick Facts

Seiko Internal Free-Form lenses are new, innovative progressive lens products that feature Seiko Epson's patented 100% back surface design technology. They have been available world wide for over a decade, and are now available—with the latest design advancements—in the U.S. marketplace.

Seiko Internal Free-Form lenses are designed for people who appreciate wide distance vision and who require the widest reading and intermediate areas. They are the perfect first pair of progressive lenses, and ideal for replacement, or for patients sensitive to the distortion in regular progressive lenses.

These lenses owe their success to the exclusive design, which 3-dimensionally fuses the patient's entire prescription onto the back surface of the lens. This complex surface gives accurate power throughout the reading area, provides gradient cylinder control along the entire intermediate area, and has a significantly wider, distortion-free distance vision area.

Technically, the lens provides for total control of marginal astigmatism and power error through aspheric compensation for each Rx. This means for each sphere, cylinder, axis, prism and add power, the patient receives a truly customized lens with an exact Rx for near, an exact Rx for intermediate, and an exact Rx for distance.

Seiko Internal Free-Form lenses are as easy to fit as a conventional progressive lens using a monocular PD while ensuring proper lens height. Be sure to always verify the lens cut-out on every Rx using the fitting and cutout guide.

## Specifications

### Succeed Ws - Wide & Short Internal Free-Form

- Lens Design: 100% back surface design technology
- Fitting Height: Succeed Ws: 15 & 17mm (min)  
Succeed: 17 & 19mm (min)
- Adds: 0.50 to 3.50 (in 0.25 steps)
- Rx Prism: Up to 3.00 diopters

#### 1.67 Index

- Material: Super High Index MR-10 Resin\*
- Availability: Clear, Transitions, Polarized
- Strength: Ideal for drill mounting\*
- Softening Point: Less heat sensitive\*
- Refractive Index: 1.67
- Specific Gravity: 1.36g/cm<sup>3</sup>
- Abbe: 32
- UV Protection: 100% UV-A & UV-B

#### 1.60 Index

- Material: High Index Resin
- Availability: Clear
- Refractive Index: 1.60
- Specific Gravity: 1.30g/cm<sup>3</sup>
- Abbe: 42
- UV Protection: 100% UV-A & UV-B

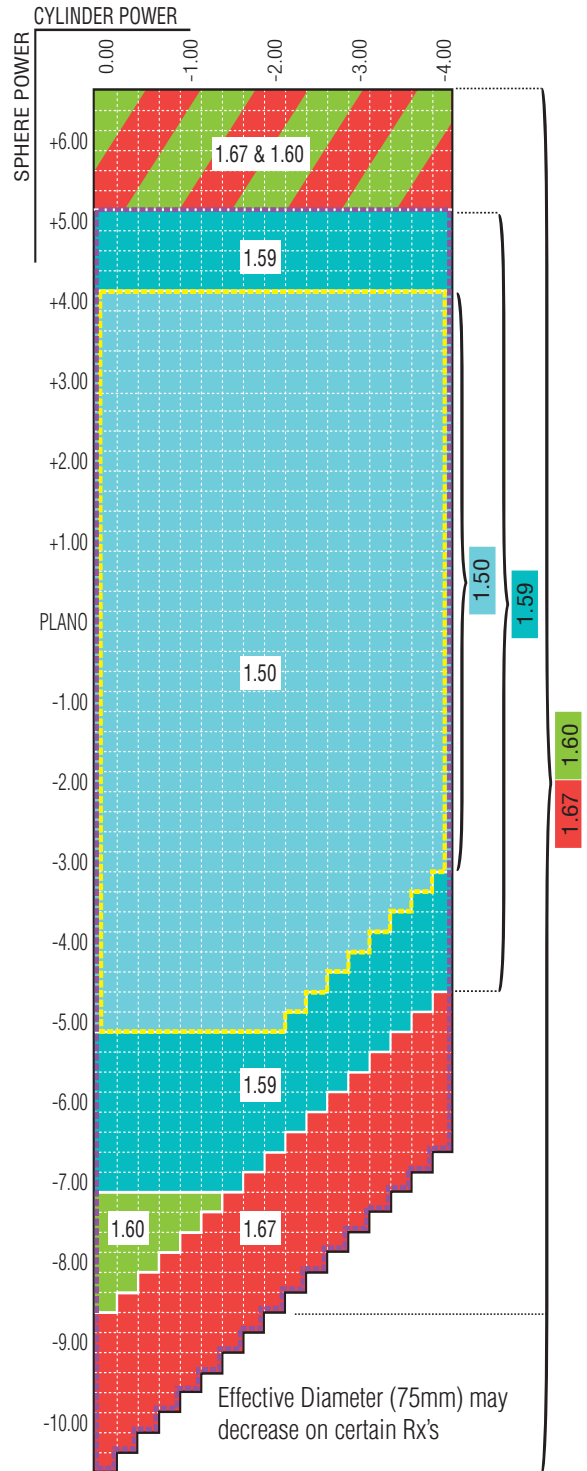
#### 1.59 Index

- Material: Polycarbonate
- Availability: Clear & Transitions
- Refractive Index: 1.59
- Specific Gravity: 1.20g/cm<sup>3</sup>
- Abbe: 30
- UV Cutoff: 380nm

#### 1.50 Index

- Material: Plastic
- Availability: Clear, Transitions, Polarized
- Refractive Index: 1.50
- Specific Gravity: 1.32g/cm<sup>3</sup>
- Abbe: 58
- UV Cutoff: 360nm

\* More stable, less heat sensitive and easier to process than conventional (MR-7) resin.  
Tensile Strength: 50% stronger than polycarbonate; Three times stronger than plastic  
Flexural Strength: Twice that of polycarbonate.



| Clear & Transitions |                             | Polarized                                       |                             |
|---------------------|-----------------------------|---|-----------------------------|
| 1.67                | -10.50 to +6.50 (TP -10.50) | 1.67  | -10.50 to +5.00 (TP -10.50) |
| 1.60                | -8.50 to +6.50 (TP -8.50)   | 1.50  | -5.00 to +4.00 (TP -7.00)   |
| 1.59                | -7.00 to +5.00 (TP -8.50)   | Adds: +0.50 to +3.50 in 0.25 steps (all Powers) |                             |
| 1.50                | -5.00 to +4.00 (TP -7.00)   |   |                             |