



SEIKO

Supercede & Supercede Ws

Patented 100% Back Surface Design
with Advanced Aspheric Compensation for
Improved Intermediate and Near Vision

Internal Free-Form PALs

Nothing Short of Superior Optics

Transitions® VI

SEIKO

SEIKO Optical Products of America, Inc.

For more information please contact:
Luzerne Optical Laboratories, Ltd. 1-800-233-9637 or at www.LuzerneOptical.com

- Patented 100% back-surface design eliminates all front curve distortion
- Advanced Aspheric Compensation (AAC) in the intermediate and near zones optimizes the optical performance of the lens in the as-worn position
- Intermediate and near visual fields are up to 35% larger than conventional PALs
- Available in a variety of materials and coatings including polarized and Transitions® lenses

Seiko Supercede and Supercede Ws (Wide & Short) Internal PALs use the latest and most advanced patented 100% back surface design technology. They surpass the performance of our Seiko Succeed Internal Free-Form lenses and provide features and benefits that simply cannot be achieved by conventional front-surface or split-surface progressive lens designs.

First, like previous Seiko Succeed Internal Free-Form lenses, Supercede and Supercede Ws lenses 3-dimensionally fuse the patient's entire Rx (sphere, cylinder, axis, add power and prism) onto the back surface of the lens. This eliminates all front curve distortion factors, resulting in a tremendous reduction in total

size and skew distortion, and the effective elimination of image sway and swim (see Figure 1).

Second, the 100% back surface design expands the intermediate and reading zones because the progressive and distance powers are closer to the eye, as shown in Figure 2. These larger fields of view provide better image stability, far exceeding the limitations of conventional progressive lens designs.

Supercede & Supercede Ws lenses, on the other hand, raise the bar in free-form PAL technology by introducing Advanced Aspheric Compensation (AAC) into the intermediate and near visual zones. AAC optimizes the optical performance of the lens in the as-worn position, taking

into account eye rotation in relation to the visual and optical axis of the lens.

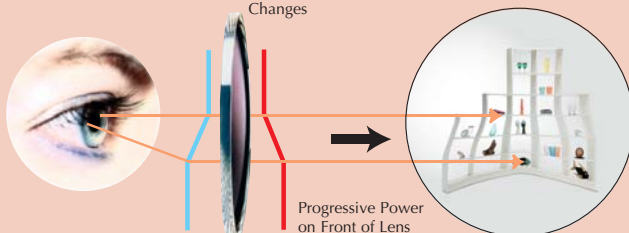
AAC also reduces the aberrations caused by varying vertex distance, while compensating for pantoscopic tilt as the eyes converge from the fitting cross through the reading area. This is a tremendous benefit to patients with difficult prescriptions, such as strong near or distance powers or high cylinders.

The combination of 100% back surface design and AAC gives Supercede and Supercede WS lenses the widest intermediate and near visual areas possible—up to 35% wider than conventional short-corridor PALs.

Supercede lenses have a softer back-surface design that is

Conventional PAL Design

$$\text{Changes in Magnification} = \text{Front Curve Changes} + \text{Power Changes}$$



SEIKO Back Surface Design

$$\text{Changes in Magnification} = \text{No Front Curve Changes} + \text{Power Changes Only}$$

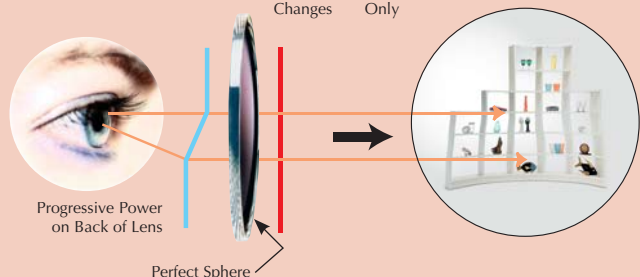
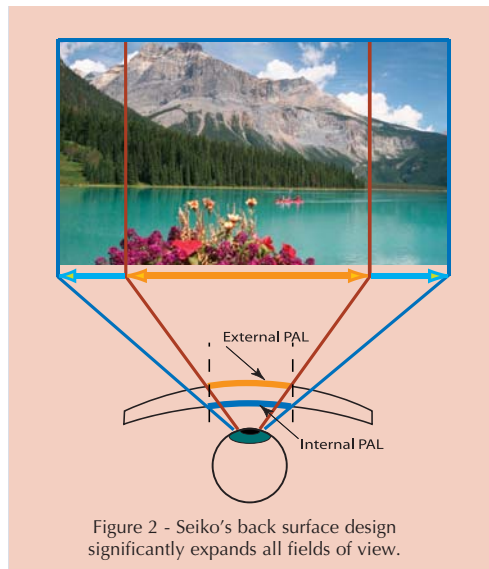


Figure 1 - Distortion in progressive lenses is caused by changes in the front surface curvature and power changes. The spherical front surface on a Seiko internal free-form lens does not contribute to distortion.

ideal for first time PAL wearers, prescriptions with low to medium add powers and for people who have experienced difficulty adapting to conventional progressive lenses in the past. Supercede lenses are available in two corridor lengths, with minimum fitting heights of 16 and 18mm, respectively.

Supercede Ws lenses have a harder back surface design that is ideal for frames with a narrow B measurement, seasoned PAL wearers, medium to high add powers, and for people who work on computers or do other close-up activities. Supercede Ws lenses are also available in two corridor lengths, with minimum fitting heights of 14 and 16mm.



Fitting & Power Verification

Supercede and Supercede Ws lenses are fit as easily as conventional PALs. Always take accurate monocular PD readings and ensuring proper lens height, and measure the lens cutout on every prescription using the appropriate fitting guide.

Due to the advanced aspheric compensation, the near lensometer reading will indicate the surface power required to deliver the prescribed power to the retina, that is, when the lens is positioned properly in front of the eye. This is referred to as targeted measured power, which is an improvement over the prescribed power. The targeted measured power is calculated when the lens is processed and is printed on the job order.

Supercede lenses are available in a variety of indexes, materials and coating options, including polarized and Transitions® lenses. Please consult the Seiko Internal PAL product availability chart for the most up to date information.

Why Are Seiko Internal Progressive Lenses Better?

Conventional external PAL designs use a number of base curves, each designed to accommodate a wide range of powers. This means that for each base curve and range there is one optimum spherical Rx at the center of the range. This limitation affects the reading area the most, since it is "off-center," meaning that power error and unwanted astigmatism are naturally induced. In other words,

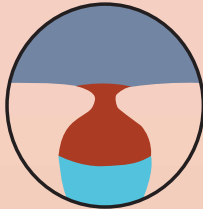
optics are compromised by these primary aberrations in all external PALs, except for one specific optically precise sphere power.

Seiko's internal lens designs fuse the toric and progressive surfaces into one complex curve, customizing the lens power for each visual area based on the patient's complete prescription. The lens power in each viewing area is specific for each sphere, cylinder, axis, prism and add

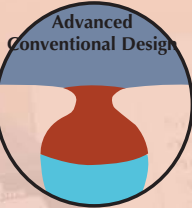
power combination. This means that the patient receives a truly customized lens with an exact near, intermediate and distance Rx. While a conventional PAL can have, strictly speaking, only one optically precise Rx per base curve/add-power combination (around 65 total), a Seiko internal free-form lens has billions of exact Rx combinations (considering each sphere, cylinder, axis, prism and add power).

Advanced Aspheric Compensation for Unequaled Optical Performance

Old PAL Design



Old progressive lens designs have narrow corridors not well suited to intermediate visual use. Small reading areas required significant chin or nose pointing to keep material in focus.



Advanced Conventional Design

As progressive lens design evolved, corridor width increased. Even with wider visual fields, users had to settle for visual compromises in the intermediate and near zones, and still needed to make chin or nose movements to keep material in focus.



SEIKO Supercede Internal Free-Form

Advanced aspheric compensation in the reading and intermediate fields gives the Supercede lenses a corridor that is up to 35% wider than conventional PALs. Supercede provides excellent distance vision and a wide usable corridor that is ideal for tasks requiring intermediate vision. A correspondingly wide reading zone allows for natural head or eye movements.



For more information, contact your Authorized Seiko Distributor

Luzerne Optical Laboratories, Ltd. 1-800-233-9637 or at www.LuzerneOptical.com

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