

Art & Science of



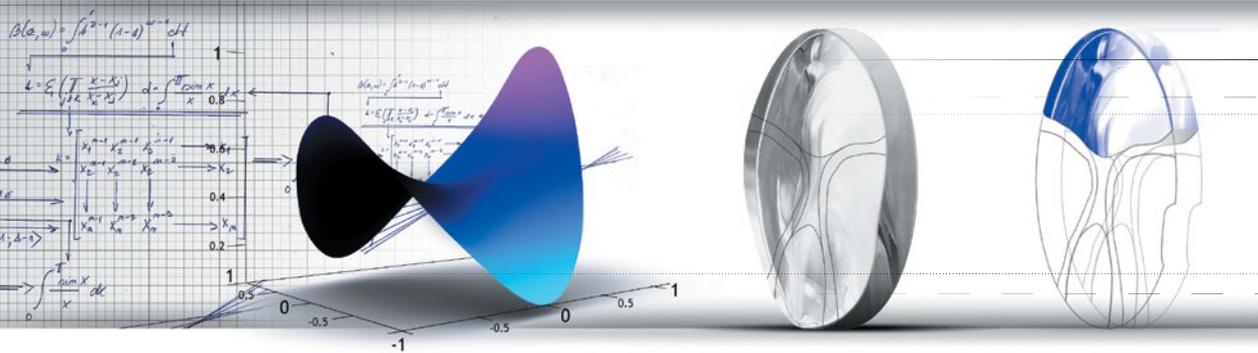
IMAGE[®]
P R O G R E S S I V E L E N S

FROM MATHEMATICS

PRINCIPLES OF THE IMAGE PROGRESSIVE DESIGN

Starting from advanced lens design technology and a desire to attain optimum wearer comfort in all viewing zones were the design principles that brought the IMAGE progressive to life. Eye-path tracing technology has been utilized to analyze and understand what the wearer sees in all viewing areas, in all prescriptions, in many different lifestyle activities.

CLEAR DISTANCE WITH UNRESTRICTED PERIPHERAL AREA – FUNCTIONAL, STABILIZED



State of the art mathematics to world class progressive lens design

Younger's technology guarantees best replication of progressive design in all materials

DISTANCE ZONE
IMAGE features a large and clear distance, particularly important for outdoor activities, driving, and sunwear

PROGRESSIVE ADDITION LENSES

MATCHING THE SPECIFIC LENS TO PATIENT NEEDS

Following is a summary of an article written by Dr. James E. Sheedy, published in the February 2004 edition of Optometry. The progressive lens analysis was conducted at Ohio State University, College of Optometry. A reprint of the complete article is also being provided in the back pocket of this brochure. We at Younger Optics feel that Dr. Sheedy's analysis and his conclusions need to be given a broad audience within the ophthalmic industry.

STUDY METHODOLOGY

The objective of the study was to utilize state of the art methods to measure the optical characteristics of commonly used PAL's (progressive addition lenses). The results demonstrate wide ranges of optical characteristics across the PAL designs tested. Ratings were calculated based on equal weighting of zone width and area for distance, intermediate, and near zones, and also for magnitude of unwanted astigmatism. In the published study Dr. Sheedy states that his analysis is the most recent systematic report on PAL characteristics since 1987, and the previous report included only contour plots, which did not include quantification or analysis of the viewing zones.

DISTANCE AREA CONCLUSIONS

The study found that the Younger IMAGE had the widest distance area of any design at the fitting cross and also at 1mm above the fitting cross. The IMAGE was also one of only four lens designs that met or exceeded Dr. Sheedy's defined minimum distance area criteria at 1mm above the fitting cross (see Figure 3 and page 10 for explanation). In fact, IMAGE had a distance performance rating in the top two of all the designs tested.

In the published study Dr. Sheedy states, "The distance zone at the level of the fitting cross is particularly meaningful to vision because it represents the width of clear distance vision with the eyes in the straight-ahead position". He continues, "Because of the downward gaze of the eyes, the distance zone near the fitting cross is the most important for visual use".

GENERAL USAGE CONCLUSIONS

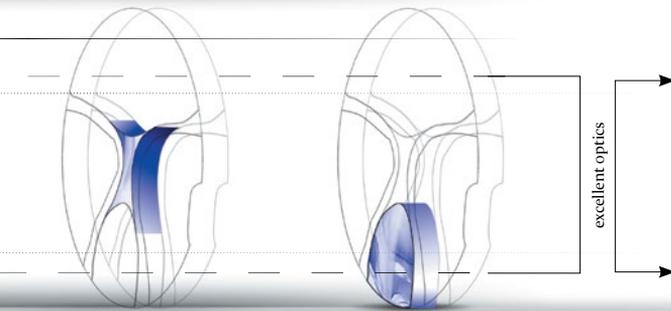
In the analysis to determine the General Usage combination ratings (distance, intermediate and near), IMAGE rated number two overall for an 18mm fitting height and number

TO AWARD WINNING LENS DESIGN

IMAGE IS AN EASY CHOICE FOR ALL LENS AND FRAMES

IMAGE provides stabilized viewing zones in all prescriptions, ensuring the reading area is not compromised as the add power increases. IMAGE boasts one of the widest distortion free distance zones in the industry, which is an essential attribute for a quality progressive design.

INTERMEDIATE AND NEAR ZONES IN ALL ADDS



INTERMEDIATE ZONE
Both functional and practical to accommodate the widest range of frame sizes

READING ZONE
Stabilized near zone ensures easy adaptation and patient satisfaction when reading

three overall for a 22mm fitting height. Dr Sheedy mentions, "the widths and areas in lenses are less than normal eye fixation movements and also less than the calculated eye fixation requirement of most common tasks. Therefore, it can be expected that lenses with greater widths and areas will provide better vision. The lenses with better optical characteristics in the distance, intermediate or near zone will enable a wearer to have a wider and larger area of the task that can be fixated at the viewing distance without head movement".

Summary Outline:

Article by James E. Sheedy O.D., Pd.D. title "Progressive Addition Lenses - Matching the Specific Lens to Patient Needs". *Optometry* 2004; 75(2):83-102.

Younger is pleased to have been included in Dr. Sheedy's independent study and agrees with his conclusion that the IMAGE matches favourably with many premium progressive designs.

SUNGLASS WRAP FRAMES

The IMAGE design is available in the steep front curves required for popular wrap sunglasses. The IMAGE design is decentered to maximize the usable lens area and the low level of unwanted astigmatism in the periphery of the distance zone makes it an ideal choice for any sunglasses, particularly high end wrap styles.



AVAILABLE IN IMAGE WRAP® POLY!

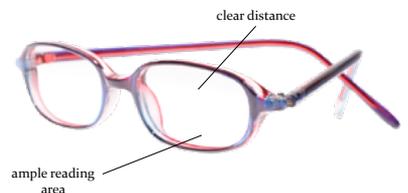
RIMLESS OR DRILLED FRAMES

Rimless high fashion frames are elegant, yet these frames present lots of challenges. Having IMAGE available in Trilogy®, polycarbonate, and 1.67 index gives you the flexibility to make the best choice balancing the factors of material strength, optics, weight, and progressive design.



FASHIONABLE SMALL FRAMES

Small frames are particularly challenging for progressive lenses. IMAGE balances a clear unobstructed distance area with a short corridor allowing fitting heights as low as 18mm.



GREAT CHOICE

YOUNGER OPTICS ADVANCED TECHNOLOGY

IMAGE is available in more materials and treatment combinations than any other progressive. One of the major challenges for any lens designer is to maintain design integrity across the material offerings. Younger has maintained consistency in the award winning *IMAGE* design throughout the entire range.

NUPOLAR® LENSES

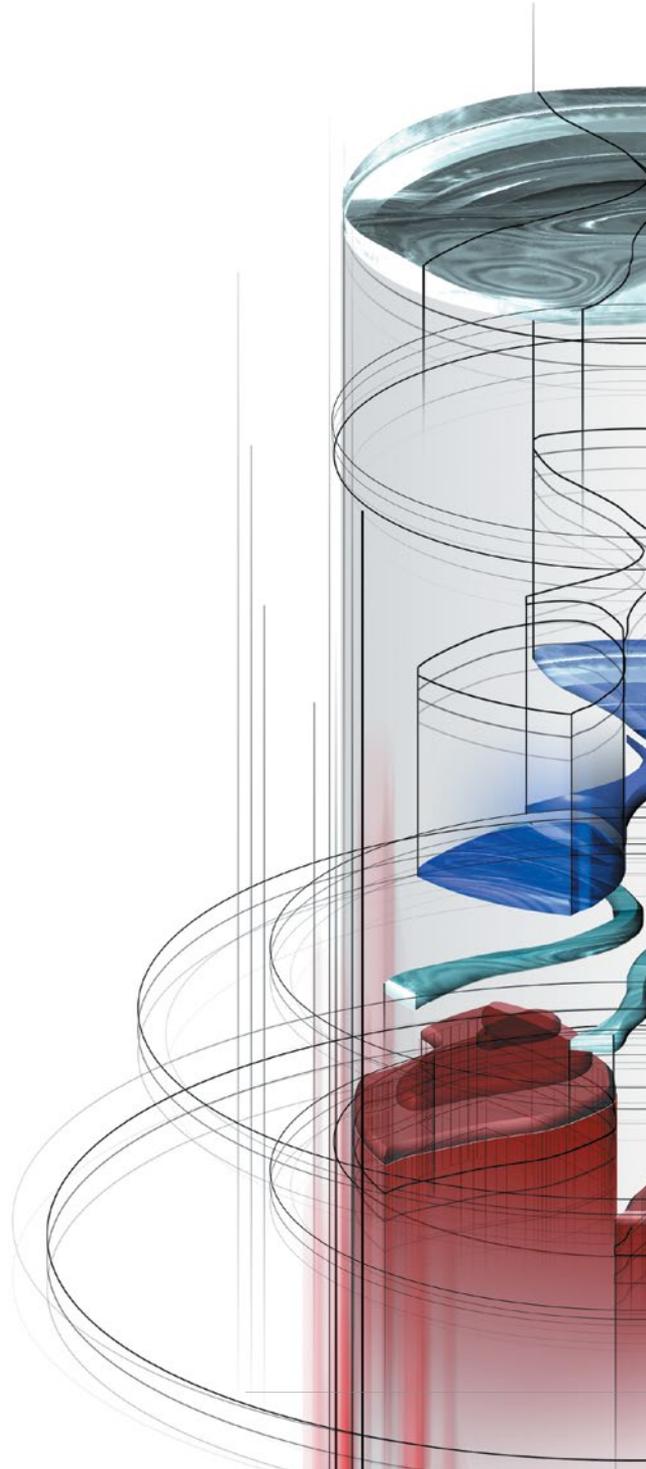
Many of today's progressive designs do not perform well as Rx Sunwear. *IMAGE* was designed with sunwear in mind, with an emphasis on maintaining clear unobstructed distance vision. In fact, in an independent study, it was found that *IMAGE* had the widest distance zone in the industry. NuPolar is the world's most popular prescription polarized sunwear.

POLYCARBONATE

For sports, active lifestyles, or when safety is your patient's primary concern, polycarbonate can be a great choice. Light weight, thin, and safe, *IMAGE* polycarbonate is available in clear, NuPolar polarized, and Transitions® in both gray and brown.

TRILOGY® LENSES

The *IMAGE* Trilogy lens is an ideal choice for rimless drill mounts. Made from the revolutionary, lightweight Trivex® material, it has high impact resistance but low internal stress. It also has superior optical characteristics (Abbe value 45) when compared to other lightweight materials and blocks 100% UV light.



FOR ALL PATIENTS

FOR EVERY LIFESTYLE NEED

TRANSITIONS® DRIVEWEAR® LENSES

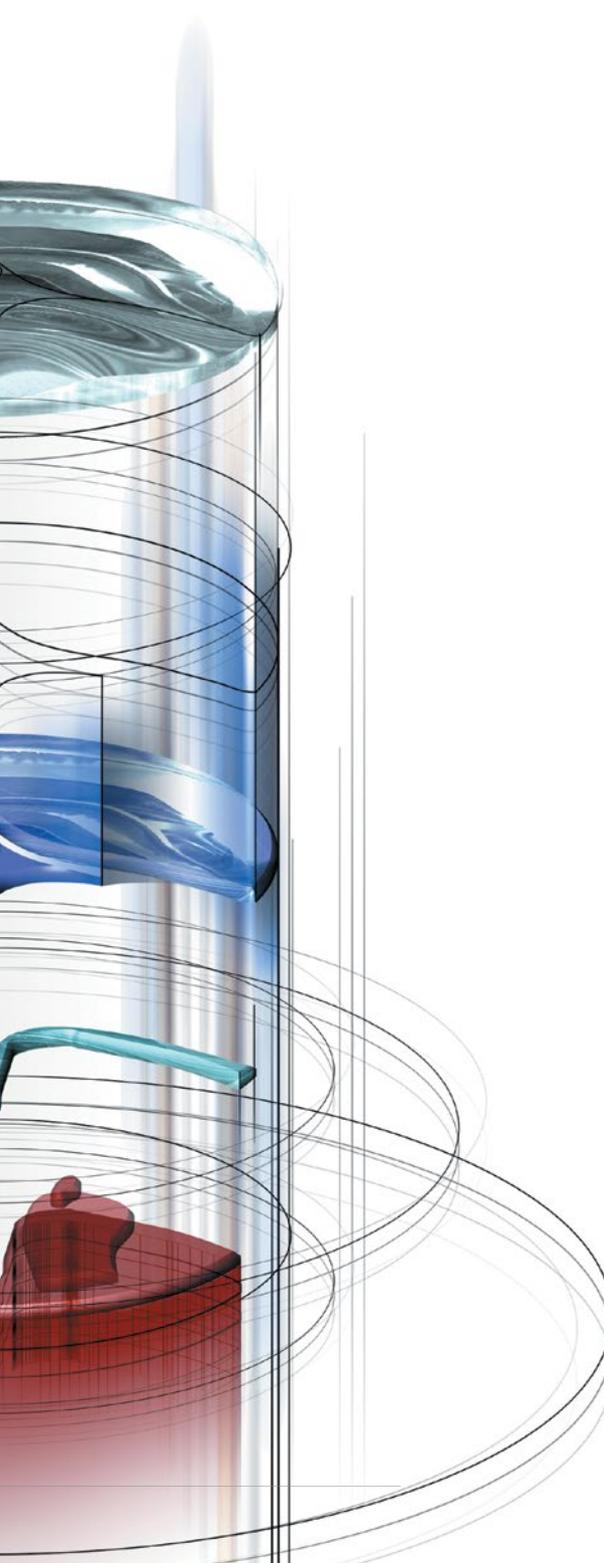
IMAGE boasts one of the widest distortion-free distance zones in the industry, a key advantage for the driving task. From the dashboard to the road ahead, IMAGE provides excellent viewing at near, far, and intermediate distances. Designed specifically to meet the unique visual demands of the driving task, Transitions Drivewear is the first polarized photochromic sun lens to darken behind the windshield of a car. This allows Transitions Drivewear sun lenses to change color depending on current driving conditions in order to enhance the driver's vision.

TRANSITIONS® LENSES

Transitions lenses are an excellent choice for a primary pair of prescription eyewear. Virtually clear indoors, automatically darkening outdoors, they block 100% UV for optimum versatility. IMAGE is available in the industry's widest selection of Transitions options. Available in hard resin, polycarbonate, Trilogy and 1.67, there is an IMAGE Transitions for every lifestyle!

ULTRA THIN 1.67 LENSES

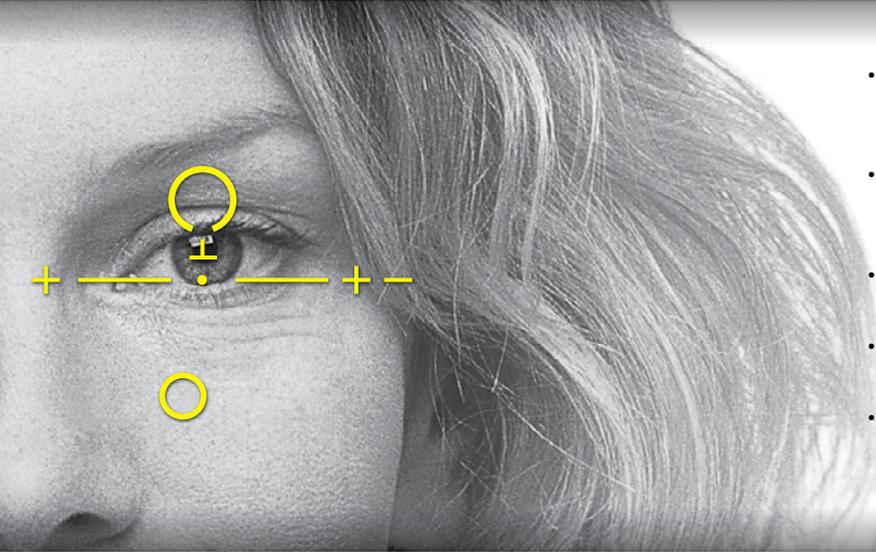
IMAGE is now available in MR-10™ resin, providing a high-performance 1.67 index material in an ultra-reliable design. This will be your material of choice for patients with high prescriptions, or when lens thickness consideration is essential (especially in rimless eyewear).



FITTING GUIDE

ONE CLEAR CHOICE, ONE EASY FIT

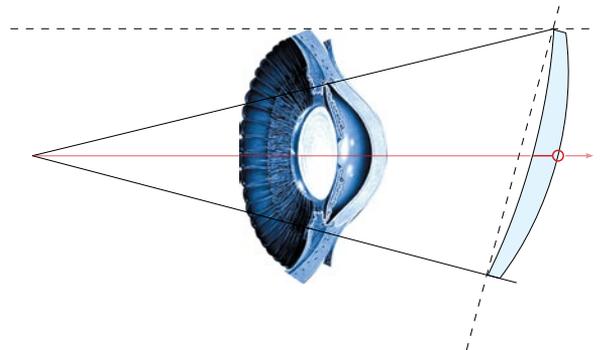
CHOOSE AND ADJUST THE FRAME



- IMAGE has a minimum fitting height of 18mm, suitable for small frames.
- Avoid frames with deep nasal cuts like aviators that may cut into the reading zone.
- Adjust the frame to fit close to the eye, 12-14mm.
- Pantoscopic Tilt should ideally be 10-12 degrees.
- Adjust temples to straighten horizontal fit prior to dotting the pupil.

DOT PUPIL CENTER FOR FITTING HEIGHT

- Align your eyes at the same height as the patient's. Have the patient look straight at your eyes, focusing on your left eye when dotting the patient's right eye and vice versa.
- Dot pupil center on the frame.
- Remove the frames and draw a short horizontal line through the dot.
- Put the frames back on the patient.
- Ask the patient to stand and look at a distant object. This allows you to view their posture standing as well as sitting.
- View the patient's line of sight from the side – it should pass through the line; alter if necessary.
- Adjust the height of the fitting cross for posture, patient height, task, etc.
- IMAGE has an 18mm minimum fitting height from the pupil center to the bottom inside rim of the frame.



FOR ALL IMAGE PROGRESSIVE LENSES

AVAILABLE IN MORE MATERIALS AND TREATMENT COMBINATIONS

MEASURE MONOCULAR PD'S

Use a pupilometer, set the focusing distance at infinity, and measure monocular distance PD.

VERIFY LENS CUT-OUT

- Place the dotted lens over the fitting cross on the IMAGE verification chart.
- Both right and left frame shape should fit within the lens circle.

SEMI-VISIBLE IDENTIFICATION MARKINGS

Hard Resin and Polycarbonate	Y
Trilogy	Y
1.67	Y HI

IMAGE LENS AVAILABILITY

HARD RESIN	RX RANGE	ADD POWER RANGE
Clear	-8.00D to +6.00D	1.00 — 3.00
NuPolar Gray & Brown	-8.00D to +6.00D	1.00 — 3.00
Transitions Drivewear	-8.00D to +6.00D	1.00 — 3.00
Transitions Signature™ Gray & Brown	-8.00D to +6.00D	1.00 — 3.00
Transitions XTRActive® Gray	-8.00D to +6.00D	1.00 — 3.00
POLYCARBONATE	RX RANGE	ADD POWER RANGE
Clear	-9.00D to +7.00D	1.00 — 3.00
NuPolar Gray & Brown	-9.00D to +7.00D	1.00 — 3.00
Transitions Drivewear	-9.00D to +7.00D	1.00 — 3.00
Transitions Signature Gray & Brown	-9.00D to +7.00D	1.00 — 3.00
Transitions XTRActive Gray	-9.00D to +7.00D	1.00 — 3.00
Transitions Vantage™ Gray	-9.00D to +7.00D	1.00 — 3.00
Image Wrap NuPolar Gray (8 Base)	-9.00D to +7.00D	1.00 — 3.00
TRILOGY	RX RANGE	ADD POWER RANGE
Clear	-8.00D to +8.00D	1.00 — 3.00
Transitions Signature Gray	-8.00D to +8.00D	1.00 — 3.00
Transitions XTRActive Gray	-8.00D to +8.00D	1.00 — 3.00
HIGH INDEX 1.67	RX RANGE	ADD POWER RANGE
Clear	-10.00D to +7.00D	1.00 — 3.50
Transitions Signature Gray	-10.00D to +8.50D	1.00 — 3.50



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