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COMPOSITE LENSES: TWO ARE BETTER THAN ONE

Composite optics combines the best features of two lens materials to make an exceptional lens.

Historically, lenses have been made the same way for centuries—a single piece of transparent material surfaced on both sides in a particular configuration. In 1908, two different index glass materials were fused together to create the first segmented multifocal lens. Some commercial attempts have been made to marry plastic lens material to glass, but they failed. Now, PixelOptics, Inc. has introduced a composite plastic lens that has the potential to revolutionize the lens industry.

WHAT IS COMPOSITE OPTICS?

Composite optics can best be described as marrying two dissimilar lens materials together to create a lens. When properly designed and constructed, a composite lens can provide features that surpass what either material can provide independently.

There are two elements in the creation of a composite lens, the materials that are used and the way they are combined. In addition to the quality of the lens materials you start with, the manner in which those materials are combined determines the final quality, integrity, and performance of the resulting composite.

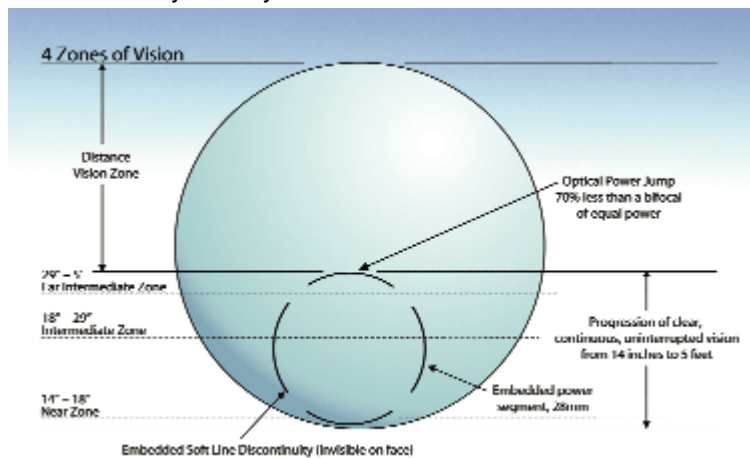
A good example of this is composite armor used by military vehicles such as Humvees and tanks. The armored exterior of these vehicles consists of layers of different materials, resulting in lighter weight and greater protection from projectile penetration in an attack.

WHAT IS COMPOSITE 67?

PixelOptics has created a composite material known as Composite 67. This material combines Trivex® and 1.67 lens materials. As PixelOptics describes it, the two materials are joined so that they are bonded together at the molecular level—what the company calls “intra-molecular bonding.” Unlike laminated lenses, which can partially or completely separate, in-tramolecular bonding means that they are virtually impossible to



Front and back components of an atLast! Composite 67 lens.



The resulting combination delivers +0.50D immediately below the soft power jump and a continuous increase plus in the lower section.

separate. Think of it as interlocking the fingers of both your hands together and you'll have an idea of how this kind of bonding works.

Why make a composite lens using Trivex and the MR-10™ resin? Both Trivex and MR-10 (known by most eyecare professionals as 1.67 index lens material) bring a unique set of features and benefits to the table. Trivex is remarkably impact-resistant, lightweight, chemically-resistant, and optically clear. The 1.67 material is lightweight and thin. Both drill well and the resulting composite can be surfaced thinner than either lens material could be on its own.

A composite provides the capability to create a material that is better than either of its parts. While Pixel has introduced Composite 67 with Trivex and 1.67, the potential for joining other materials is clearly on the horizon, each with its own unique set of features and benefits.

Composite optics provides a new platform that opens the door to a seemingly unlimited variety of new and highly innovative lens products. Stay tuned for news on PixelOptics' electroactive lenses made with composite construction.

*Ed De Gennaro is Director,
Professional Content of First Vision
Media Group.*

WHERE TO FIND IT

PixelOptics, Inc.
888-749-3567 • pixeloptics.com

ATLAST! THE WORLD'S FIRST ENHANCED MULTIFOCAL

It's not a bifocal, a blended multifocal, or a progressive addition lens. It's *atLast!*, the world's first enhanced multifocal. PixelOptics, Inc.'s lens uses a front power gradient component and an embedded segment back. When intra-molecularly bonded, the resulting composite lens offers four zones—a distance zone, and then after a soft image jump the eye can see, a far intermediate, intermediate, and near that are all continuous.

Because of its design, 70% of the potential optical jump is eliminated, the embedded segment is nearly invisible, and the lens has no telltale ledge or ridge. The company also claims that the area of clear vision within 5 ft. of the wearer's face is increased by 10 times compared to that of a bifocal or equal optical power. *atLast!* is aimed at satisfying the needs of the 35 million flat-top wearers in the U.S.

