

## PPG Develops First Lens Material to Meet All Three Performance Standards

Profile: Dr. Robert "Chip" McCauley  
Occupation: Optometrist



*Dr. Robert "Chip" McCauley has been an optometrist for 24 years, prescribing virtually every kind of corrective eyewear for patients ranging in age from "3 to 93." So when he learned about Trivex lens material from PPG, he had just one question. "What's the catch?"*

McCauley was skeptical because optometrists are resigned to conventional knowledge that any prescription for lenses means a sacrifice in performance. "It's just a fact of life," McCauley says. "We're always making compromises."

With the introduction of the Trivex lens material, however, optometrists for the first time can prescribe lenses that meet all three critical requirements for eyewear. It offers excellent optics in a thin and light lens while satisfying the industry's highest standards for impact resistance.

McCauley says most patients are only concerned that their lenses be thin and light. "They just assume that whatever lenses you put in their frames are going to be optically clear," he says.

Many lens materials that meet patient preferences, however, offer less than satisfactory optical performance, which concerns McCauley.

"I don't mind if someone comes back to me and complains that their glasses are thick and heavy," McCauley says. "I can explain the physics of why that is so. And most patients requiring strong corrections to their vision are resigned to thick and heavy glasses. But if someone comes back to me and says these glasses are blurred, that reflects directly on me and what I do for a living. My job is to make their vision clearer."

The density of the Trivex lens material is about 20 percent less than some high-index materials. In addition, the thickness at the lens center can be 20 to 50 percent thinner for some prescriptions than with other materials and still meet Food and Drug Administration requirements for impact resistance. Most important, lenses made from the Trivex material offer the highest visual acuity that the human eye can detect.

To refine the material, PPG formed partnerships from the start with two of the world's leading lens manufacturers, both of which plan to introduce new lines using PPG's latest optical technology breakthrough in 2001. The world's leading manufacturer of optical resins, PPG introduced the first hard resin material, CR-39 monomer, in 1947. It is also majority owner of Transitions Optical, which produces Transitions photochromic lenses.

McCauley says PPG's lens material is well suited to meet the needs of as much as 80 percent of his patients, many of whom he's known for years and in some cases are sons and daughters of his very first patients.

"Patient satisfaction is critical for independent optometrists," says McCauley, who with his partner sees 5,000 to 6,000 patients a year at two suburban Pittsburgh offices. "We don't participate in many insurance plans. A lot of my patients come to me (paying) out of pocket. So they don't want any complications, and neither do we."



### 1945

A tank car at the Barberton, Ohio, chemicals plant containing 38,000 pounds of leftover CR-39 monomer manufactured for wartime aircraft applications prompts a search for civilian uses, leading to the revolution in lightweight plastic ophthalmic lenses and the birth of PPG's optical products business unit.

*"If someone comes back to me and says these glasses are blurred, that reflects directly on me and what I do for a living."* Dr. Robert "Chip" McCauley