

December 10, 2025
Mitsui Chemicals, Inc.

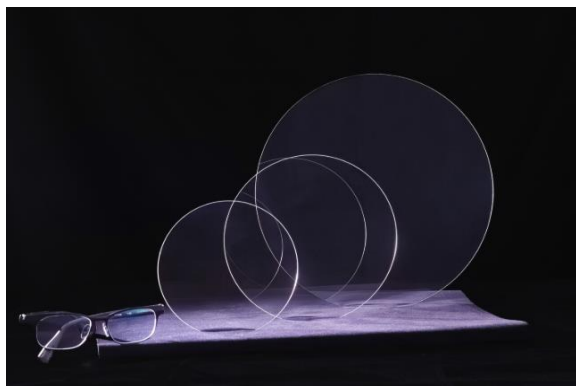
Mitsui Chemicals Develops Diffrar™ Optical Polymer Wafer for AR Glasses

World's first 12-inch wafers with high refractive indices of 1.67 and 1.74 for Augmented Reality (AR) glasses

Mitsui Chemicals, Inc. (Tokyo: 4183; President & CEO: HASHIMOTO Osamu) is advancing the development of Diffrar™ polymer wafers for waveguides used in augmented reality (AR) glasses, with a view to expanding the augmented and virtual reality markets. The company has now developed the world's first* optical polymer wafers with refractive indices of 1.67 and 1.74 in a 12-inch size, specifically for AR glasses.

Equipped with outstanding optical properties, including a high refractive index of 1.67 or higher and extreme flatness, Diffrar™ optical polymer wafers offer users of AR glasses a wider Field of View (FOV). In addition, the use of Mitsui Chemicals proprietary polymer allows Diffrar™ to achieve greater impact resistance, making devices safer and lighter than glass, and thereby enabling users to wear them comfortably for extended periods of time.

Available in 1.67 and 1.74 refractive indices, the product lineup features 6-inch (for sample testing only), 8-inch (200mm) and 12-inch options (300mm), providing a wider variety of options for AR Optical Designers and increasing efficiencies in their manufacturing processes.



From left: Diffrar™ 6-inch, 8-inch, 12-inch



The recently developed Diffrar™ optical polymer wafers will be exhibited at the Mitsui Chemicals Group Booth # 6630, at SPIE Photonics West-AR/VR/MR Expo, which takes place in San Francisco, California on January 20-22, 2026.

■ The Meaning of Diffrar™

Derived from the word “diffraction” and the abbreviation of “AR,” the name Diffrar™ has been coined to express the value provided to customers, where the letter “D” of the logo represents a door opening up to new products and opportunities for customers.

*According to our research

For inquiries about Diffrar™, please contact:
ICT Materials Business Division, Mitsui Chemicals, Inc.
https://form.mitsuichemicals.com/business/diffrar_en