

## ORMOCER® Scratch and Abrasion Resistant Coatings



1. Magnifying lens with scratch resistant PMMA coating  
 © Eschenbach

2. Production of the coated magnifying lenses at project  
 partner Eschenbach Optik GmbH © Eschenbach

3. UV curing © Fraunhofer ISC

Greetings from Fraunhofer Office India.

Founded in 1949, **Fraunhofer-Gesellschaft** is the leading organization for applied research in Europe, where 69 Institutes and Research units conduct its research activities across locations in Germany. Fraunhofer-Gesellschaft employs a staff of 24,500, who are qualified scientists and engineers working with an annual research budget totalling more than 2.1 billion Euros. Our global footprint is very strong with offices and research centres in the USA, Europe and Asia. Some of our renowned innovations are the birth of MP3 format, the white LED, record for best solar cell efficiency and the smallest of cameras ever imagined.

The Fraunhofer Institute for Silicate Research ISC has established itself as one of the most important centers for material-based energy and resource efficiency. In addition to contract research and development, the ISC offers production-accompanying analytics and characterization, process optimization, device engineering as well as the upscaling of production and processing methods down to the pilot scale.

Fraunhofer ISC has developed a new Scratch and Abrasion resistant coating based on the patented technology ORMOCER®, an inorganic-organic hybrid polymer synthesized via the sol-gel-process. Such coating can be applied using dip-, spin-, spray-coating or casting methods. The coating technology addresses the most significant issue of poor surface hardness possessed by lightweight polymer surfaces, often used in optical technology touch panels or displays for industrial machinery or instruments as well as for plastic furniture, substituting glass, due to its brittleness. However, such polymer surfaces after short operation times, attains scratches, often reducing their optical quality and durability.

The new Scratch and Abrasion resistance coating applied at thin coating thicknesses possess excellent scratch resistance properties along with superior transparency. Such coating system can be tailored for imparting a coloured effect using pigments and anti-soiling or smudge resistance functionality to introduce self-cleaning action.

Kindly get in touch with us if you are interested in this technology or require further information.

Thanks and Regards,

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