



ZEISS CleanGuard Technology

At a Glance

<p>What is ZEISS CleanGuard technology?</p>	<p>ZEISS CleanGuard is a new coating technology that makes lenses three times faster to clean thanks to the improved lens surface repellence against oil, water and dirt.¹</p>
<p>How does ZEISS CleanGuard make lenses not only easier, but also faster to clean?</p>	<p>Reason for the improved cleanability is a new chemical formula that harnesses a molecular structure to reduce lens surface energy to a minimum. This helps increase the contact angles for water and especially oily and greasy substances. With high contact angles, external agents (e.g. dirt and smudges) have a relatively small contact surface, so, even if they stick to the lens surface, they are easier to remove. Things like fingerprints, skin grease, rain drops can potentially dirty and stain lenses, but ZEISS CleanGuard has a better resistance to smudge compared to existing ZEISS DuraVision coating generations. Furthermore, lenses are up to three times faster to clean than lenses with previous ZEISS DuraVision coating generations. According to consumer surveys, 90% of consumers find ZEISS lenses with CleanGuard technology easier and faster to clean compared to previous most premium coatings from ZEISS.²</p>
<p>How is ZEISS CleanGuard’s better oil and water repellence substantiated?</p>	<p>Lenses with ZEISS CleanGuard technology attract less dirt and smudge compared to existing ZEISS DuraVision coatings. Accordingly, 91% of consumers perceive lenses with ZEISS CleanGuard technology to be more smudge resistant than previous generations of ZEISS lenses.³ In industry standard measurements, improved water repellence is demonstrated by significant elevation of the water drop contact angle. Also, the contact angle for oil-like substances (exemplarily tested under the use of hexadecane) can be increased from 68 to 73 angle degrees. Consumer research shows that 93% of lens wearers find it is easier to remove fingerprints from lenses with CleanGuard technology compared to previous generations of ZEISS lenses.⁴</p>
<p>How is better cleanability measured?</p>	<p>Optically, lenses are defined as clean when their surfaces are free of any visual disturbance. The absence of so-called haze equals the highest level of lens cleanliness. Applying industry</p>

¹ Compared to previous generation of ZEISS coatings
² Eyeglass wearer consumer research study 2023 in Germany, n=105
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	<p>standard haze measurement methods, it could be proved that ZEISS CleanGuard technology makes lenses up to three times faster to clean compared to existing ZEISS DuraVision coatings. When ZEISS CleanGuard undergoes a haze measurement test and lenses are intentionally treated with a smearing oil-like substance, haze absence is (almost) restored after the first cleaning cycle. Previous ZEISS top coat generations tested in identical conditions need up to three more cleaning cycles to show a similar level of haze absence. Simply put, compared to the other ZEISS DuraVision coatings, ZEISS DuraVision Gold UV with ZEISS CleanGuard technology is up to three times faster to clean because wearers will normally need only once to remove dirt and smears from the lens surface to restore a level of superior vision clarity. ZEISS CleanGuard technology is designed to make life easier for those who wear glasses, setting new standards of clear and hassle-free vision.</p>
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