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## TESTING ESSILOR LENSES IN EXTREME CONDITIONS: THE RESULTS

In December 2012, Essilor began a partnership with Eric Brossier, a French geophysicist and scientific explorer living with his family aboard the expedition boat Vagabond in the Arctic circle. Objective: to evaluate the performance of lenses in extreme light and weather conditions through a unique live testing of eyewear.

The Extreme Testing project is just one example of Essilor's desire to further knowledge of the human and technical challenges of vision and inspire future innovation in preventive eye care. The conditions are extreme - daily winter temperatures as low as minus 50°C and polar summers of intense luminosity 24 hours a day. Such an environment justifies the need for high performance eyewear. As Eric explains, "At the North Pole, to see well is to stay safe..."



The unique conditions of the 'Extreme Testing' project meant developing a special test protocol, focused on qualitative feedback, comparing the visual experience of different types of eyewear in different situations/tasks, for example working inside on the computer or checking exterior equipment in sub-zero temperatures. Eric and his wife, France Pinczon du Sel, were equipped with 12 different pairs of lenses to report back on the perceived benefits.

## **Xperio: high performance polarized sun lenses**

Snow is the surface that most reflects the sun's rays, 80% of which are UV rays, that can cause serious damage to our eyes. In Grise Fiord, the sun never sets for 6 months, creating extreme and varying light conditions. Xperio lenses were highly accepted as the best sun protection equipment by the crew, testing very well for "colour contrast level", "tint of lenses", and "overall satisfaction". Our testers were amazed by Xperio lenses ability to reduce glare and protect against dazzling light. France Pinczon du Sel: "When I had to wear non-Xperio lenses, I felt less protected."

## **Crizal protection for clear vision**

With scientific work inside the Vagabond and outside on the ice floe, Essilor set out to test how Crizal coated lenses could keep the crew's vision clear from glare, smudges, scratches, dust and water. On all tested criteria, the Crizal lenses showed better satisfaction, on "ease of cleaning", "smudge protection" and perhaps the most important added-value - "glare reduction" and "transparency". Eric Brossier: "When the light is strong, lateral glare can be very annoying, especially inside the boat. Global comfort with Crizal was clearly higher."

## **Anti-fatigue lenses**

Eric and France must make a visual effort in their close work activities, including using a computer. Essilor wanted to evaluate how anti-fatigue solution relieved visual fatigue that can cause eyestrain, burning eyes or headache. Our testers noticed an important lack of "visual comfort on computer" when not equipped with Essilor anti-fatigue lenses. Eric Brossier: "With Pack B, after a long day in front of the computer screen, my eyes are burning or itching."

## **Optifog lenses**

Fog always occurs following a quick temperature change - when going from a cold to a hot environment. Eric can testify, it is a common problem in Grise Fiord, which has an average temperature of -16°. The Optifog system prevents water from condensing into tiny droplets and instead, spreads the water uniformly as a thin film on the lens surface, making it invisible. The Optifog experience continues as Eric will test soon the new Optifog Activation System. The full test results will be available in the coming year.

For more details on the Extreme Testing results, explore our dedicated website: <http://www.essilor-extremetesting.com>

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