

## ACRYLITE®

### A Specialized material, reliable and durable



Sochi ring road: ACRYLITE® Soundstop noise barrier



Central Square in Sochi: Decorative posters glazed with ACRYLITE®

**Market segment:** Noise Barrier and Specialty Glazing

**Location:** Sochi, Russia

**Product:** ACRYLITE® Soundstop and ACRYLITE® LED

The first winter games to be held in a sub-tropical resort became a serious challenge for organizers. Located less than an hour from the coast, the combination of its Black Sea coastline and mountain skiing facilities; Sochi offers multi-season tourist potential.

From the beginning, a much needed modernization process, especially concerning infrastructure, proved to be complicated. New highways, tunnels, roads, bridges, train terminal, airport, and cable cars all had to be realized quickly while minimizing the damage to the unique nature, landscape and biosphere environment – as well as protect nearby residents. All requiring the use of technologies and

materials, not only from Russia, but from experts worldwide.

As an expert in the field of acrylic noise protection barriers and wind screens, Evonik Industries actively participated in the construction of ACRYLITE® sound and wind protection walls along highways and railroads as part of the new transport infrastructure.

ACRYLITE® is one of the world's highest-quality and most versatile plastics. It can be manufactured with many different functional properties and surfaces for specific applications, such as bird protection.

ACRYLITE® Soundstop was specially developed in the 1980s for use in noise protection barriers. Today, Evonik is one of the market leaders with over 30 years of experience in this segment. The winter game organizers benefited from time-tested products as well as comprehensive technical advice and support. Evonik's products

have been successfully applied on the highest bridges in Europe and several tunnels in Asia and America.

Besides its certified sound reflection, the material withstands rough treatment and is easy to fabricate. ACRYLITE® weighs only half as much as glass, but offers 11 times its impact strength. With its special properties, ACRYLITE® Soundstop also meets the most stringent requirements in terms of resistance to wind pressure. The material also offers excellent weather resistance. ACRYLITE® comes with a 30-year non-yellowing guarantee and is as clear years later as it was on day one. There is no yellowing or embrittlement.

Noise barriers in Sochi not only need to be protective, but also decorative to minimize the impact on the landscape without affecting the view of forests and mountains along the highway. Designers of Sochi's infrastructure developed special colors and requirements for noise barriers to harmonically combine both technical constructions and panorama. One of ACRYLITE® colors, Steel Blue, was used as a base for many objects around the game site.

In addition, newly reconstructed roads in Russia are exploited by trucks losing stones on the roads and damaging the noise barriers. Acrylic sheets proved to be the optimal solution. Additional service was granted due to Evonik's production in Russia – this allowed a quick replacement of sheets excluding delays related to international transports.

Sochi is a very sunny city. The sun light damages all plastics. Transparent ACRYLITE® is known for offering 30 years guarantee against yellowing of acrylic sheets from sun. That is why Evonik's sheets are very cost effective. Frequent renovation isn't needed.

Another challenge is many roads are close to the coast. Usually each supplier defines strict rules for installation and the removal of protective film from sheets after installation. Not all constructors follow these rules accurately; usually without consequences for the product. However, in Sochi, strong wind and salt water reacted with packaging materials much faster than on typical roads. Therefore, constructors had to pay additional attention to exactly follow Evonik's guidelines during the removal of masking film and to exclude salt water bubbles below the high-class protective film during installation.



Since Evonik is a leading producer of creative specialties, some ACRYLITE® solutions were also used for decorating the airport and other places in Sochi where light and color played an important role.