



## Basotect® G + provides effective sound insulation for China's largest retractable sports stadium roof

### Case Study

#### Ready, set, go

More than 30,000 m<sup>2</sup> of ceiling baffles made from BASF's foam Basotect® have been installed on the retractable roof of the Dongsheng National Fitness Center Stadium in the city of Ordos, northern China, in order to optimize the acoustics. The 50 m high and 320 m wide construction has a seating capacity of 50,000 and thus is China's largest stadium with a retractable roof. The stadium was designed by Cui Kai, chief architect and vice president of China Architecture Design & Research Group (CADRG), Beijing, and his team, as well as Li Yanyun, vice chief architect of CADRG. The complex construction required not only an effective sound insulation but also a lightweight solution.

During sporting events or performances, the cacophony of sounds can be quite intense in a stadium. Thanks to its open cell and fine foam structure, Basotect® effectively absorbs reverberations caused by multiple reflections of sounds on hard surfaces. This provides audiences with a more comfortable acoustic experience. Furthermore, Basotect® baffles are easy to install and because of the low density of the material, at 9 kg/m<sup>3</sup>, the retractable roof needs to carry only very little additional weight. "This project once again demonstrates Basotect®'s potential for large scale applications," said Dr. Tobias Haber, regional head, Specialty Plastics Asia Pacific at BASF.

The School of Architecture of Tsinghua University, who advised the owners of the stadium on how to optimize the construction for acoustics, opted for Basotect® G+. This grade was recently launched and has the same proven properties of Basotect® G, such as flame resistance and simple, fiber-free processing. In addition, Basotect® G+ is considerably lighter in color – the light reflective value is more than 30 % higher than that of Basotect® G. This makes it easier to design the interior lighting as the foam re-

flects light well. "Providing effective sound absorption for a stadium of such a large volume is quite a challenge. But we were convinced of Basotect®'s quality and reliability," said Prof. Yan Xiang, the acoustic consultant for the stadium and the director of the acoustic lab of the School of Architecture, Tsinghua University.

The Basotect® baffles were processed and installed by Entech Co., Ltd., Shanghai, Beijing Di Ma-Tech Technology Development Co., Ltd. and Beijing Zhongya Kangyang Environmental Protection Project Co., Ltd.

