



**CASE STUDY**

<b>Case Study:</b>	<b>Brann Football Stadium, Bergen, Norway</b>
<b>Contracted by:</b>	<b>Mastercare AS</b>
<b>Application:</b>	<b>Lightweight / Fire-Retardant Spray Concrete</b>
<b>Requirements:</b>	<b>Fire-Retardant Coating to Underside of Wooden Stadium Roof</b>
<b>Solution / Product:</b>	<b>LightCem® FIRESHIELD®™</b>

**THE PROBLEM** When pieces of concrete began to break free from the underside of the cantilever roof at Brann Stadium, the Norwegian authorities had no choice but to close the building. Engineers subsequently reported that the steel reinforcing suffered from inadequate coverage and that large areas of the concrete were already "blown" and likely to fall on the seats below. The report made it clear that not only would the repairs be both difficult and time consuming, but additional structural supports would be required just to carry the extra weight imposed by the repairs.

However, an analysis of the costing revealed that there was little difference between the cost of the repair program and a brand new roof. Either way the financial burden would be prohibitive.

The wooden structure would also need to be fire proofed.

**THE SOLUTION** Removing all loose and "blown" concrete. Sand blast exposed reinforcing along with the complete underside of the cantilever roof. Using wet-spray method apply Lightcem's FIRESHIELD to the entire area strengthening the steel and wooden structure and adding fire protection to the wooden components of the structure.

**The Result** A cost effective solution, with the minimum of fuss and the shortest possible shutdown period. It was completed by the addition of white cement to the FIRESHIELD formula, leaving the stadium looking light, bright and brand new, structurally repaired and fire resistant.

The application of LightCem's FIRESHIELD™ was a very quick and cost effective way of repairing rather than replacing the roof which is still in use today.



**Brann Stadium Canopy Roof** Old concrete and cement was stripped off.



**Brann Stadium Canopy Roof** Old cement was replaced with sprayed on LightCem FIRESHIELD.



"LightCem FIRESHIELD is the ideal product for this work and is still functioning perfectly after 20 years.

Mr SK,  
MD  
CemPro

