Fire damage assessment through structural steel hardness testing

The Equotip hardness testers - Equotip 550 Leeb, Equotip Bambino 2 and Equotip Piccolo 2 - are used for checking steel structures for fire damage. For example, during construction work at Kirkintilloch High School in Scotland, there was a fire on the ground floor. Initial visual inspection was unable to establish for certain whether one of the steel beams had deformed. Hence, a hardness test was required to determine the residual strength of the beam after the fire.

An Equotip portable hardness tester was used to test the hardness values of the steel beam. The test results indicated that the steel beam had retained its original design strength at 275 N/mm\(^2\) after the fire incident. It was concluded that the steel beam still retained the required 60-minute fire resistance.