

 <b>CASE STUDY</b>	<b>Case Study:</b>	<b>Grenfell Tower</b>
	<b>Date:</b>	<b>14<sup>th</sup> June 2017</b>
	<b>Application:</b>	<b>Spray on Fire-Check Coatings</b>
	<b>Requirements:</b>	<b>Fire-Retardant Spray Coatings to Exterior Cladding</b>
	<b>Solution / Product:</b>	<b>LightCem® FIRESHIELD®™</b>



**LightCem® FireShield™ could have prevented this !**

The Grenfell Tower fire spread primarily through flames penetrating the external cladding and igniting the aluminum clad fibre-glass thermal insulation.

LightCem's FireShield product is a spray on, cement based coating that will provide a fire-stop layer to structures and cladding.

LightCem fire-check coatings can be configured to adhere to various materials such as metal cladding, steels, wood and even glass.

Most people are aware of the terrible tragedy where a small fire in a flat in the Grenfell Tower in Kensington, London, eventually spread and engulfed the whole building.

Since the original design was specified and subsequently constructed, the building had been modified (upgraded), notably with UPVC framed double glazed windows and exterior thermal insulation held in place with external cladding. All materials used were 'approved' within the realms of current fire and Building Regs, and were, in effect, classified as 'fire-retardant.'

However, as events transpired on the tragic night, no one could have anticipated the way the fire developed and spread. Building Regs were designed to contain any fire within the flat until fire services attended. Whilst the London Fire Brigade were quickly on the scene, by this time the fire had penetrated around the PVC window frames and had started to affect the metal cladding and fire-retardant fibre-glass based insulation outside.

The exceptional heat of the burning PVC quickly produced sufficient heat to start burning the metal and fibre-glass. As there were no fire-proof flame baffles within the cladding, the venturi effect quickly funneled the flames up the building exterior.

A preventative solution would have been simple – to spray on an additional thin layer of fire-retarding concrete to seal the outer surfaces. LightCem's FIRESHIELD™ would have been an ideal solution. Just a 20mm coating of FIRESHIELD™ sprayed onto the outer surfaces would have been required to provide a structural seal to the cladding surfaces and fire protection up to 1350°C.