

## First eco-friendly fire protection for exposed steel

Occasionally, the launch of a new product changes the way that people think. In creating the fully-certified S708, Nullifire has not merely opened fresh possibilities for specifiers, but mandated a new approach to specifying. For the first time, a water-based alternative to solvent products allows them to fire-protect exposed structural steel without threatening the environment or compromising health and safety. The development of Nullifire S708 means that it is no longer reasonable to specify a solvent-based intumescent coating for such applications.

Specifiers, understanding intumescent coatings, know that solvent-based products are not perfect. The lack of a safer alternative to solvents has meant that health and safety and environmental issues have always been unavoidable when protecting exposed steel.

Solvent-based coatings emit 'volatile organic compounds' (VOCs) during application and 'trapped solvent' for weeks afterwards while drying. Inhalation or skin contact with VOCs is harmful and subject to very low occupational exposure limits: in enclosed areas, VOCs represent a serious hazard. They also threaten the environment, reacting to create ground-level ozone and photochemical smogs, and are implicated in ozone layer damage. Strict worldwide limits on VOCs in paints are regularly tightened. In any application, alternative non-solvent products pose less risk to the environment, the public and contractors themselves. Nullifire S708 is such a product.

Industry leader Nullifire has led in water-based products since successfully creating S607 for internal steel, in 1994. Subsequently, S707 offered up to 120 minutes of water-based protection. S708 now joins these widely used products, as the first fully-tested, water-based intumescent coating for external steel. The result of lengthy R&D, it represents the eco-friendly alternative. The comparison is stark: a solvent product contains more than 200 grams of VOC per litre, while S708 has less than 20 grams per litre. Importantly, this is achieved without impacting functional efficiency.

S708 may be specified for steel which is fully exposed during a building's construction. It withstands the elements, maintaining performance, for up to six months without needing a protective top coat. S708 may also be used without a topcoat on permanently 'semi-exposed' steel, meaning steel in areas with uncontrolled temperature and humidity, such as car parks. A topcoat is also unnecessary in buildings classified C1 (schools and airports, for example) or C2 (such as exhibition halls and vehicle depots). As with solvent products, it will not resist total immersion, so precautions are needed to avoid pooling water on flat surfaces.

S708 is available with 30-minute and 60-minute ratings for application on-site or off-site via airless spray, short pile roller or brush. It usually requires only a single coating, meaning faster application, using less product, than many solvent equivalents.

Main contractors increasingly impose tough health and safety restrictions on solvent-based products used on construction sites. These include having dedicated, fire-rated storage facilities and restricting the amount of product at each spraying location. There are also high disposal costs. By contrast, S708 has no special on-site storage or handling requirements, has a low waste cost and offers easier clean-down of application equipment. In addition, it cures to a smooth, hard finish unlike solvent products, which tend to remain soft and vulnerable to damage.

S708 is fully tested and approved to all relevant standards, including EN 13823 (SBI) and IMO smoke/toxicity; BS 467: Parts 6/7, Class O and BS 476:Part 20/21:1987, in line with British Coatings Federation guidelines. It has even successfully completed durability testing in accordance with ETAG018 Part 2 2006, not yet mandatory in the UK, against pending requirements for internal, semi-exposed and external environments. Fully compatible with other Nullifire coatings, S708 is suitable for universal beams and columns and cellular beams. S708, offering the benefits of solvent-based products without their disadvantages, is the first eco-friendly intumescent coating for exposed steel and requires a new and responsible approach from specifiers.