

STEEL STORIES

STEEL
for life



ISSUE 2 DESIGN



This [Steel for Life](#) e-newsletter highlights steel-related news and resources for those interested in the design and architecture of steel construction. Steel for Life is a subsidiary of the [British Constructional Steelwork Association \(BCSA\)](#). Our mission is to support design and construction professionals by providing knowledge, support and tools for designing in steel.

The aim of this newsletter is to showcase the very best of our online content and resources in a way that is engaging, relevant and, above all, useful. In this issue we focus on steel and fire protection. We also signpost to some interesting case studies and to some useful steel-related resources.

STEEL AND FIRE PROTECTION

A lot is known about structural steelwork in fire. Rigorous testing, including full-scale building tests, has led to the development of robust modelling and analytical techniques that are subject to constant refinement.

There are a number of issues that designers should be aware of when considering the fire protection of steel-framed buildings specifically; an understanding of the performance of steel in fire, legislation and standards on fire resistance, fire resistance periods and fire protection options for steel-framed buildings. Information on all these issues is available on steelconstruction.info through the link at the end of this article.

Unprotected steelwork is usually deemed to have 15 minutes inherent fire resistance. For higher fire resistance periods, fire protection is

usually required. Passive fire protection materials insulate steel structures from the effects of high temperatures and active measures such as sprinklers suppress the fire limiting temperature development. Passive fire protection materials can be divided into two types: reactive, of which thin-film intumescent coatings are the most common example, and non-reactive, most frequently boards and sprays.

If specifying intumescent coating as fire protection, architects need to be aware that there are two types of intumescent paints - epoxy based and acrylic based paints and that these perform very differently in wet environments. Consequently it's important to specify the correct paint for the environmental conditions.

Further information and guidance on this topic can be found through the link below.

[CLICK HERE TO READ MORE ABOUT FIRE AND STEEL CONSTRUCTION](#)

PROJECT FOCUS

Below and on the following page are a selection of recent case studies from our publication New Steel Construction Magazine.

WIMBLEDON NO.1 COURT RETRACTABLE ROOF

Read the full [case study](#) for Wimbledon No.1 Court's Retractable Roof which will allow uninterrupted play irrespective of the weather.



PRESTON MARKET HALL

Read the full [case study](#) of Preston Market Hall in which the restoration work of a Victorian covered market has embraced both old ironwork and new steelwork.



PROJECT MINT, THE O2, LONDON

Read the full [case study](#) for Project Mint, where a retail village is being constructed around part of The O2 Arena and steel is helping to complete the ring of outlets surrounding the well-known venue.



USEFUL LINKS

Steel for Life provides free access to a wealth of online resources related to steel construction, through our online encyclopedia www.SteelConstruction.info. Click on the links below to access more content.

BUILDING DESIGN USING STEEL

This article outlines the design issues for steel relevant to key stages of the design process, how the steel construction procurement process works and where advice can be sought from the steel construction industry.

50 YEARS OF THE SSSA'S

Steel continues to be the most popular frame material and this article on SteelConstruction.info looks back at all of the winners of the Structural Steel Design Awards over the last 49 years.

THERMAL MASS

A common misconception is that heavyweight concrete structures are more energy efficient because of greater massing. This article shows the optimum thickness of concrete floor slab for providing thermal mass is available in almost all steel-framed buildings.

VISUALLY EXPRESSED STRUCTURAL FORMS

This article focusses on the options for visually expressed structural forms with a steel frame including; exposed steelwork, curved beams and roofs, arch structures and tension structures.

YOUR STEEL RESOURCES

SteelConstruction.info

A free online encyclopedia containing useful resources and content on UK steel construction including; sector articles, case studies by sector, software, tools, CPD and training.



New Steel Construction Magazine

Published ten times a year, New Steel Construction provides a lively and up-to-date window into the steelwork construction industry. Visit for projects and features, steel construction news, BCSA member listings and to register for your free subscription.



SteelConstruction.org

The website for the British Constructional Steelwork Association. Including searchable BCSA Member directories and structural steel technical publications.



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www.steelconstruction.info

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