



Case study

Western Power Distribution Depot, Spilsby, Lincolnshire

Client: Western Power Distribution

Architect: B3 Architects

Main Contractor: Speller Metcalfe

Roofing & Cladding Contractor: BC (Roofing Contractors) Ltd

Tata Steel Products: Trisomet® insulated panel system with Colorcoat HPS200 Ultra® external face and Colorcoat® High Reflect pre-finished steel internally

Year: 2014

Western Power Distribution (WPD) depot in Spilsby, Lincolnshire has achieved a BREEAM Outstanding rating of 101.9%, post completion, making it the world's highest rated BREEAM project at the time.

Contributing to the rating was the long-lasting, air-tight envelope constructed from Trisomet® insulated panels with energy efficient liner.

B3 Architects also ensured that every element of the design, construction and performance of WPD Spilsby, was carefully thought through to ensure that the building is as environmentally friendly as possible - this included the specification of responsibly sourced products.



World's highest BREEAM rating for WPD Spilsby

Western Power Distribution (WPD) comprises a network of UK electricity distribution operators serving some 8 million customers across the South West, Midlands and South Wales. As part of their business development programme, WPD is building a number of new depots across these regions - and this one in Spilsby, Lincolnshire has achieved a BREEAM Outstanding rating of 100.5 % at design stage and an even higher post-completion score of 101.9 %, making it the world's highest rated BREEAM project at the time.

Designed by B3 Architects and built by WPD approved contactor, Speller Metcalfe, this new 650 m² two-story, steel-framed depot in Spilsby has also achieved a top environmental award with an Energy Performance Rating of -2,

which means it's more efficient than a fully carbon neutral building. The depot includes storage facilities and office space for around 25 staff, enabling them to provide a rapid response service to satisfy the ever-increasing demands of WPD's customers in the area.

Through a 'fabric first' approach, excellent U value and air-tightness has been attained, making WPD Spilsby a fine exemplar of how zero carbon energy performance buildings can be constructed at a sensible cost and within budget. Every element of the design, construction and performance of WPD Spilsby, including the use of responsibly sourced products, has been carefully thought through to ensure that the building is as environmentally friendly as possible.

"WPD wanted a long-lasting, air-tight envelope to help reduce the operating costs of the building and so we specified Trisomet® composite panels for the roof and walls. As well as being robust, quick to fit and cost-effective, the panels have a PIR core which provides the desired high level of insulation which greatly contributes to the BREEAM Outstanding rating." says B3 Architects' Michael Cooper.



Another major plus for the project was that both of the Colorcoat® products used and the Trisomet® composite panels are certified 'Very Good' to BES 6001. This provides, at no extra cost, a route to obtaining the maximum number of credits available in the Responsible Sourcing of Materials sections of BREEAM for materials that are not being re-used which has helped WPD Spilsby to achieve its high recognition.

Installed by BC Roofing Contractors, a significant feature of the Trisomet® composite panel system is the Colorcoat® High Reflect (Bright White) pre-finished steel liner which is designed to provide at least 85 % reflectance.

This unique finish provides the optimum reflectivity for an internal liner which maximises the daylighting effect, thereby reducing the requirement for artificial lighting - giving annual energy savings of up to 12 % and reducing CO₂ emissions by 2-3 % per year.

The Trisomet® panel with Colorcoat HPS200 Ultra® satisfies the client's need for a long-lasting building envelope as the pre-finished steel is reassuringly backed by Tata Steel's comprehensive Confidex® Guarantee for 40 years.

Using standardised specification methods developed as a result of working on nearly 40 depots for WPD has enabled B3 Architects to create a library of specific BIM component families and design processes. The Spilsby depot is also the tenth in a series of mainly fast-track BREEAM projects won by Speller Metcalfe under competitive tender. By working closely together, this highly competent project team was able to review previous experience in order to continually fine tune their design and build approach to good effect.

Delivered within 21 weeks, WPD Spilsby has also been assessed by the Considerate Constructors Scheme which ranked it in the top 5 % of construction sites assessed in the UK.





Tata Steel products:

Trisomet® 120 mm composite roof panels (540 m²) and Trisomet® 80 mm composite wall panels (370 m²). The enhanced U value specification of these panels reduces the heat energy conduction losses through the building envelope by 7.5 % compared with the notional building specification. Both systems feature a Colorcoat HPS200 Ultra® pre-finished steel (Goosewing Grey) external weather face and Colorcoat® High Reflect (Bright White) internal liner. The Colorcoat® High Reflect provides light energy savings of up to 12 % due to its enhanced reflectivity when compared with a standard liner.

The Colorcoat HPS200 Ultra® used on this project is covered by a comprehensive 40 year Confidex® Guarantee for both the roof and walls and offers full remedial action by Tata Steel in the unlikely event of coating failure.

All products are certified 'Very Good' to BES 6001, the BRE's Framework Standard for Responsible Sourcing of Construction Products.

"We are delighted that the depot has achieved an outstanding rating which recognises our drive for sustainability and for providing colleagues with a first class working environment." said WPD's Estates Manager, David Withers.

To find out more about how Tata Steel products can help you to maximise the energy efficiency of your projects, please contact:

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