

# TATA STEEL



## Case study

### Four Ashes energy recovery facility, Staffordshire

**Client:** Veolia

**Building User:** Staffordshire County Council

**Architect:** Tata Steel Projects

**Main Contractor:** Clugston Construction

**Structural Engineer:** Ramboll

**Roofing & Cladding Contractor:**  
Northern Cladding Ltd

**Tata Steel Products:** Trimapanel® insulated wall panel system with Colorcoat HPS200 Ultra® and Colorcoat Prisma® pre-finished steel

**Year:** 2013

Planning consent dictated that all the waste handling and processing at the Four Ashes Energy Recovery Facility in South Staffordshire had to be contained within the building envelope - and without causing any nuisance to nearby neighbours through noise pollution.

Trimapanel® was specified because it is a cost-effective and suitably robust secret fix composite wall panel system, with the appropriate acoustic capabilities, whilst the Colorcoat HPS200 Ultra® pre-finished steel on the internal face is able to cope with the facility's highly aggressive internal conditions.





# TRIMAPANEL® SOLUTION MEETS DEMANDING PLANNING REQUIREMENTS

Veolia was awarded the 25 year Private Finance Initiative (PFI) contract by Staffordshire County Council to build and operate the Four Ashes Energy Recovery Facility (ERF) which lies in South Staffordshire just to the north of Wolverhampton. In line with the Council's 'Zero Waste to Landfill' strategy, the ERF will treat 300,000 tonnes of non-recyclable household waste each year, thereby generating up to 26 MW of energy for the National Grid - enough electricity to power 35,000 homes. The building includes a waste storage bunker, a turbine hall, boiler housing, flue gas treatment and office / control rooms and over the life of the PFI contract, the new facility is set to deliver at least £250 million of tax savings for the residents of Staffordshire over the next 25 years.

CNIM Clugston Staffordshire Ltd, a specialist joint venture team, was appointed by Veolia with Clugston Construction as the main

contractor responsible for the building envelope working in conjunction with waste treatment plant experts CNIM, focusing on the waste processing aspects of the project. Tata Steel Projects was subsequently tasked with managing the architectural design and detailed execution of this highly technical construction project.

The project has now been awarded a BREEAM 'Very Good' rating.

## The challenge

One of the key design requirements for the Four Ashes ERF was that all waste handling and processing had to be contained within the building envelope - and without causing any nuisance to nearby neighbours through noise pollution. Planning consent was conditional on meeting these criteria and so the choice of a cost-effective and suitably robust cladding system with the appropriate acoustic capabilities was paramount.

## The solution

Installed by Northern Cladding Ltd, the Trimapanel® secret fix insulated wall panel system with super durable Colorcoat HPS200 Ultra® pre-finished steel on the inside face met the challenging requirements.

Trimapanel® was the only system tested that met the required acoustic performance, and Colorcoat HPS200 Ultra® exceeded the requirements of CPI5, as per EN 10169:2010, which is the highest classified level of corrosion protection for internal environments.



"Trimapanel® is easy to install, provides excellent value for money and the steel used is significantly thicker than that of the other products we assessed which greatly contributed to it being the only system we tested capable of achieving the desired acoustic standards. Colorcoat HPS200 Ultra® pre-finished steel, which was used for the internal face of the Trimapanel® is able to cope with the specific internal conditions (up to C4 levels of corrosivity) that occur in the waste processing areas of the Four Ashes ERF and so this was another compelling reason for our system choice." says Rashpal Singh Nijjar, Clugston Construction's project manager.

Optically smooth Colorcoat Prisma® pre-finished steel in Silver Metallic with a 30 year Confidex® Guarantee was chosen for the weather face of the Trimapanel® system, together with Colorcoat HPS200 Ultra® in Merlin Grey with a 40 year Confidex® Guarantee to provide a robust and aesthetically pleasing external appearance for this impressively designed modern building. This specification gave the project the best of both worlds with exceptional corrosion resistance and protection inside and superior aesthetics on the outside.

Tata Steel has a track record of supplying proven building envelope solutions and supportive design services for Energy from Waste projects. The company's experienced construction professionals were able to help the Four Ashes ERF design team by providing detailed advice on pre-finished steel selection with maximum durability for a harsh internal environment, technical data to enable acoustic performance comparisons to be made and wind load calculations to prove that the chosen panel system was suitable for this 41 metre high building.



To find out more about the durability of Colorcoat® products, please contact:

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For technical design advice regarding such matters as wind loading and acoustic performance for Tata Steel's composite panel systems, please contact:

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Main cover image: courtesy of Veolia.  
Other images: courtesy of Tata Steel Projects.

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Language English 1015