

Development of TATA Steel Photovoltaic Steel Barrier



- Research and source polymeric materials
- Develop supply chain with cost information
- Create a new product in 8 months

“CPI’s team carries a wealth of individual knowledge and expertise and your people also recognise when to seek further assistance and draw upon the considerable network of contacts you have. It deserves comment that your organisation has been more than willing to share all of this with us as a client. The individual professionals you have brought to bear have been most knowledgeable as well as practical and have undertaken their work in a flexible manner and with a can do attitude, together with a customer orientation often much talked about but not commonly found in today’s world of commerce and industry.”

- Kevin Bygate
Business Development Director,
TATA Steel

TATA Steel worked with CPI to create an innovative coating that will enable its photovoltaic-steel roofing to convert sunlight into electricity. TATA Steel needed to identify a suitable polymer coating to protect the photovoltaic dye and electrode system from the UV frequencies in sunlight and, more importantly, to

protect the photovoltaic cells from water damage over prolonged lifetimes of 10-20 years. Specifically, CPI’s task was to help develop the thin film polymer top coat that forms the protective barrier layer of the product. CPI began by researching the global provision of suitable polymers. It also considered the manufacturers, assessing each one’s production capacity for meeting TATA Steel’s long term needs. Then, exploiting its know-how in plasma enhanced deposition and wet coating technologies CPI delivered a barrier material which outperformed existing commercial materials. Concurrently, TATA Steel worked on the remainder of the photovoltaic cell design. CPI also helped build some of the necessary testing and manufacturing equipment from scratch, using its core skills and outsourcing to other local firms where appropriate. As a result, CPI was able to present TATA Steel with a solution within eight months. CPI markedly reduced time-to-market opening up a range of supply options. TATA Steel was able to focus on research within its own areas of expertise, while CPI worked in parallel, bringing to bear its extensive knowledge of the processes, materials and suppliers involved. The project represents a significant commercial opportunity for the steelmaker’s UK operation in Wales, targeting a market valued at £1-2BN by 2020. More than 20 people continue to be employed in Shotton to develop the project.

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