

Joint press release



EDGE SOLUTIONS AND INEOS STYROLUTION COLLABORATE TO DEVELOP INNOVATIVE PROTECTION FOR OPERATIONAL WIND FARMS

- Ultra-tough and aerodynamically optimal ‘erosion shield’
- Improved aerodynamics leads to increased annual energy production
- Solution is based on INEOS Styrolution’s Luran® SC material

Dundee/ UK and Frankfurt/ Germany, September 24, 2021

INEOS Styrolution, the global leader in styrenics, and Edge Solutions, a Dundee-based innovator dedicated to the optimisation of wind energy generation, announce today the development of armourEDGE protection for wind turbine blades based on a customised version of INEOS Styrolution’s Luran® SC material.

‘Leading edge erosion’ is a serious issue with large commercial wind turbine blades. It is caused by environmental impacts including rain, hail, ice, salt and UV. Such damage of the blade surface leads to increased drag and ultimately to reduced energy production. It also drives operating cost up due to increased maintenance, regular blade replacement and downtime of the generator.

While the issue already exists for onshore installations, it becomes even more significant for offshore windfarms, operating under extreme conditions.

Based on specifications defined by Edge Solutions, INEOS Styrolution developed a specific material solution using its Luran® SC product. This material became the basis for the armourEDGE shield – a leading edge protection solution that significantly reduces the impact of environmental factors on the leading edge of wind turbine blades. The armourEDGE shield leads to significantly less downtime and maintenance cost. It also results in an increase in annual energy production.

Their armourEDGE system is currently being installed on an operational offshore wind farm in northern Europe.

David Urch, Managing Director, Edge Solutions comments:

“Leading edge erosion is a significant issue for wind turbines, offshore and onshore.”

“With tip speeds approaching 330 km/h, continual impacts by rain, hail, ice and other airborne particulates damage the blade surface, leading to increased drag and reduced energy production. This drives up operating cost due to increased maintenance downtime and ultimately blade replacement.”

“Over the last four years we have worked closely with the team at INEOS Styrolution to develop our armourEDGE product which maintains the blades’ aerodynamic properties and is extremely durable. With rapid installation, this results in less downtime and improved profitability for wind farm owners.”

Ken MacIntosh, Key Account Manager at INEOS Styrolution, adds, “It’s been very motivating to work with an entrepreneurial company like Edge Solutions. Together, we came up with the optimised material performance for the given challenge.”

The Luran® SC product line is comprised of blended ASA¹ with PC². The material provides very high heat resistance, stiffness and excellent impact strength. It is very stable towards oxidation. Because of its inherent robustness, Luran® SC is the material of choice for a wide range of challenging outdoor applications.

¹ Acrylonitrile styrene acrylate

² Polycarbonate

About INEOS Styrolution

INEOS Styrolution is the leading global styrenics supplier, with a focus on styrene monomer, polystyrene, ABS Standard and styrenic specialties. With world-class production facilities and more than 90 years of experience, INEOS Styrolution helps its customers succeed by offering solutions, designed to give them a competitive edge in their markets. At the same time, these innovative and sustainable best-in-class solutions help make the circular economy for styrenics a reality. The company provides styrenic applications for many everyday products across a broad range of industries, including automotive, electronics, household, construction, healthcare, packaging and toys/sports/leisure. In 2020, sales were at 4 billion euros. INEOS Styrolution employs approximately 3,600 people and operates 20 production sites in ten countries.

More information: www.ineos-styrolution.com.

Follow us on Twitter (@styrolution).

About Edge Solutions

Scottish company Edge Solutions has developed its armourEDGE shield which is a game-changing approach to the costly problem of leading-edge erosion on wind turbine blades. Its precision engineered shields securely bond to the leading edge of blades to provide an aerodynamically optimal, full-life protection that minimises maintenance costs and maximises energy production and return on investment.

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