

Press Release

6th March 2018, Porcher Industries, Paris.

Porcher Industries and STELIA Aerospace to present latest thermoplastic innovations for the Arches Box TP Project at JEC World 2018.

The Arches Box TP research project developed by STELIA Aerospace and Porcher Industries will be a key focus at JEC World 2018 with both companies presenting their technical innovations and displaying components at the show.

Porcher Industries will present thermoplastic strengthening frame components that were developed for the Arches demonstrator on the Porcher booth (Stand M28, Hall 6.), whilst STELIA Aerospace will also display the full-scale thermoplastic fuselage demonstrator within the Planets section at the show.

Having been nominated together as a JEC Innovation Award Finalist (along with partners SINTEX NP, Compose Tool, CETIM, Aviacom and Institut de Soudure); Porcher Industries and STELIA Aerospace will co-present a paper titled 'Design to Cost Concept for Thermoplastic Laminates' on Wednesday 7th March at JEC World 2018.

Presented by Pierre-Yves Gandon, Aerospace Technical Support, Porcher Industries and Loic Le Lay, Composite Manufacturing, STELIA Aerospace, the paper will highlight two key innovations that were used for the strengthening frames of the Arches Box aircraft fuselage.

The presentation will detail how two new thermoplastic semi-finished products were successfully developed: a woven 3k carbon/PEKK laminate and woven 12k carbon/PEKK laminate. Through extensive R&D by both companies, several parameters including fibers, weaving patterns, surface modifications and processes, were explored to optimize the impregnation, consolidation and processability of these organosheets.

Porcher Industries is proud to have developed a new surface modification for the carbon fiber itself as well as a specific low crimp weaving technology for the heavier 12k tow. The combination of these two innovative processing methods resulted in the more cost effective 12K carbon/PEKK laminates exhibiting the same mechanical performance level as the standard 3K carbon/PEKK laminates.

The influence of these innovations and parameters on the mechanical, thermal and ageing properties of laminates will also be presented, with particular focus on these thermoplastic semi-finished products' excellent performance/weight ratio and performance/cost ratio for structural parts – both key factors within Aerospace manufacturing.

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About Porcher Industries.

As a major actor in high performance technical textiles and composites, Porcher Industries is active in five key markets: Aeronautics and Defence, Automotive, Construction, Industry and Electronics, Sport and Leisure. Present in Europe, China, the United States, Brazil and Russia, the group employs 1,950 staff and has a turnover of 305 M€.

