

Press release

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Fokker and partners win innovation award for thermoplastic tailplane of the AgustaWestland AW169 new-generation helicopter

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Fokker Aerostructures (NL), AgustaWestland (IT), TenCate Advanced Composites (NL) and Ticona GmbH (GE) have jointly won the prestigious JEC innovation award for the first thermoplastic composite horizontal tailplane of the AgustaWestland AW169 new-generation helicopter. The award will be officially presented to the partners at the opening ceremony of the JEC Composites Show, to be held in Paris, France, on Tuesday March 12.

As the first of its kind in the aircraft industry, this main load-bearing primary structure convinced the renowned international experts of the JEC jury of its true innovative character. The value of this breakthrough innovation lies primarily in a 15% weight reduction compared with other composite solutions, resulting in lower NOx/CO₂ emissions and lower fuel consumption. The award is an excellent achievement, and proves that sustainable innovations creating added value for the aerospace industry result from this close collaboration between the OEM AgustaWestland and the specialist supply chain, consisting of Fokker Aerostructures, TenCate Advanced Composites and Ticona.

The full-scale development of the horizontal tail started in July 2011. By the end of 2012, four AW169 helicopter had been fitted with the new horizontal tail. The AW169 horizontal tailplane has a length of 3 meters and spans tip-to-tip. Weight reduction is achieved by the stiffness of the thermoplastic material. Fokker has designed and developed this integrated solution as a co-consolidated, single-piece torsion box. Production time and costs are reduced by applying simple preforms to create the part. AgustaWestland expects the new AW169 to be highly successful in the commercial market.

The thermoplastic material used is Fortron PPS, a high-performance engineering polymer developed by Ticona, a business of Celanese GmbH. TenCate Advanced Composites produces the carbon/PPS semipreg and plate material used. Composites made from PPS composites remain tough, impact-resistant, stiff and dimensionally stable, even when exposed to elevated temperatures and aggressive fluids.

The increased use of thermoplastic composites in the aerospace industry is a trend that is driven by considerations of weight reduction and sustainable development, as well as material recycling concerns. With its inherent flame-retardant properties, the material also meets the high safety standards specified by the aircraft industry. Until recently a combination of thermoset and traditional aluminum was used for primary structures.

Fokker Aerostructures is a company of Fokker Technologies and internationally recognized as a prime specialist in lightweight aerostructures. Fokker Technologies develops and produces aerostructures, electrical interconnection systems and landing gear for the aerospace and defense industry and supplies integrated services and products to aircraft owners and operators. Fokker's main facilities are located in the Netherlands, Romania, Turkey, USA, China and Mexico. www.fokker.com

AgustaWestland, a Finmeccanica company, is a major force in commercial and military helicopter markets around the world and offers an unrivalled range of helicopters, training and support solutions to satisfy customers' mission requirements. AgustaWestland's main facilities are located in Italy, the UK, Poland and the USA. www.agustawestland.com

TenCate Advanced Composites is a world leader in the development and production of thermoplastic and thermoset prepreg composites for the aviation industry. Its product portfolio is incorporated into among other things commercial aircraft, helicopters, general aviation, aircraft interiors, radomes and unmanned aircraft. TenCate Advanced Composites has production facilities in North America and Europe. www.tencateadvancedcomposites.com

Ticona is a business of Celanese GmbH, a global technology leader in the production of differentiated chemistry solutions and specialty materials used in most major industries and consumer applications. With sales almost equally divided between North America, Europe and Asia, the company uses the full breadth of its global chemistry, technology and business expertise to create value for customers and the corporation. Celanese partners with customers to solve their most critical needs while making a positive impact on its communities and the world. Based in Dallas, Texas, Celanese employs approximately 7,600 employees worldwide and had 2012 net sales of \$6.4 billion. For more information about Celanese Corporation and its product offerings, visit www.celanese.com or our blog at www.celaneseblog.com

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