

Press Release



New Technology Weaves 3D Profiles with $+\Theta^\circ/-\Theta^\circ$ and $0^\circ/90^\circ$ Fibre Orientations

Biteam, the pioneer of 3D-weaving technologies, has recently demonstrated the first ever weaving technology that is capable of directly manufacturing beam-like 3D profiled materials wherein the orientation of fibres constituting the web and flange are $+\Theta^\circ/-\Theta^\circ$ and $0^\circ/90^\circ$.

Further, such beams have their webs-flanges fully intersecting in mutually through-thickness directions to render the junctions delamination resistant. Also, the fibres constituting the web and flange are integrated to impart structural stability for enabling handling and impregnating. These features jointly render the novel woven profiled products uniquely capable of bearing shear and tensile loads.

This technological development has been made in response to the interest for such materials from the aerospace, aeronautical, motor sports, automobile, engineering and building-construction industries.

Mr. Fredrik Winberg, Chairman and CEO, expressing his satisfaction stated "... this latest technology is a whole new capability in engineering the most advanced pre-forms for high-performance composites application." While presenting the first-produced sample, a demonstrative I-beam, he indicated that this new development uniquely complements Biteam's 3D-weaving technologies whereby customers can expect novel solutions from one source. He also added that this development makes Biteam a highly specialized manufacturer and it further expands application areas of composites.

Dr. Nandan Khokar, inventor of this novel weaving technology, enthusiastically mentioned "... this development has been particularly directed at weaving fully integrated objects, for example the wing of an aircraft, complete with skin and stiffeners/ribs, in one step to quicken manufacture of reliable and consistent composite materials." He pointed out that the ability of this process to directly tailor final woven products with fibres incorporated in $+\Theta^\circ/-\Theta^\circ$ and $0^\circ/90^\circ$ orientations makes it highly relevant.

The newly produced I-beam will be displayed at the forthcoming JEC Show in Paris at Biteam's stand.