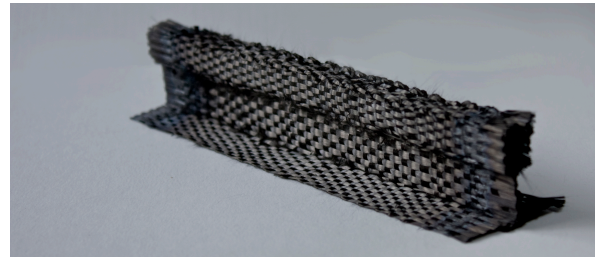
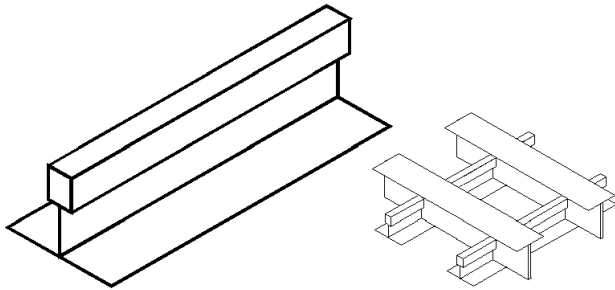


T-Bar and Cross-member Jointing System

Biteam, pioneer of 3D-weaving technology, has developed a new 3D woven T-Bar profile. This preform comprises a fully integrated single-piece T beam with a solid square / rectangle bar at the tip of the T profile's web. The T-Bar has been developed for enabling a jointing system that functions as stiffener and supporter for producing large structures, just as found in woodwork.

As illustrated, the T-Bar is designed to fit with a cross-member having a matching cutout so that the two lock mechanically. Through such a jointing, composite material floors, covers, gates/doors, planar and curved walls/bodies etc. could be constructed for building/construction, aeronautical/aerospace and engineering applications. The T-Bar thus uniquely enables different constructions.



The cross-members can be chosen to be either slats or profiled beams such as T, I, U etc. according to specific application needs. Such cross-members, having cutouts matching with the cross-sectional shape and dimensions of the T-Bar, when slid over the T-Bar beam, create the jointed structure. By arranging a number of T-Bars parallel to each other and sliding cross-members over them, as shown in inset, a grid-like jointed structure is produced which can be either bonded or fastened.

Suitable panels/sheets can be fixed at either one or both sides of the jointed structure to manufacture the required products. T-Bar beams and cross-members are producible in different dimensions according to application needs. The expected advantages of the new T-Bar jointing system are:

- One-piece construction - no 'noodles/fillers', plying and stitching required.
- Flat sides of the T-Bar provide large bonding/fastening surfaces.
- Improved structural rigidity and reliability.
- Flexibility in construction.
- Customized performance.
- Reduced constructional labour, time and cost.

Biteam is a Swedish company specializing in designing, developing and producing fully integrated single-piece high-performance 3D woven profiles for load-bearing structural applications.

The novel 3D woven T-Bar will be displayed at JEC Show 2011, Stand C37. Further information can be had from Fredrik Winberg and Nandan Khokar: info@biteam.com.