

LONG-SPANNING glulam beams are surely one of the most impressive sights you can see in a building. They work on so many levels – aesthetically, structurally and environmentally – and are being used at an increasing rate in the UK.

German glulam producer and engineering firm Hess Timber (formerly Hess Wohnwerk), whose projects include the Renzo Piano-designed roof cupola of the Cologne department store Peek & Cloppenburg, is looking to expand its international operations with the help of several new innovations.

It claims its “Limitless” innovation could revolutionise modern timber construction, making long-span glulam structures easier and cheaper to deliver.

The Limitless system, which received General Technical Approval in 2010, sees the beams made in several short sections.

No Limits

German glulam specialist Hess Timber has developed the Limitless concept to ease the delivery of large glulam structures

David Adjaye’s temporary “Sclera” pavilion outside the Royal Festival Hall in London, in 2008. Projects also exist in Luxembourg (a leisure centre) and Tenerife (a swimming pool).

Limitless beams and structures feature strength values of GL 35c and GL 38c (defined in the general technical approval [Z-9.1-775] as higher than the current requirements for standard glue-laminated timber).



The end of each section has finger-joints which are connected on site, with a glulam wedge glued underneath the intersection for support and to deal with beam tension. Special chain clamps are used to pull the different elements together. The glue technology was developed and patented by Hess.

Hess says its solution means the most demanding timber construction projects can now be implemented at any location around the globe using conventional transport methods such as trucks and overseas containers. Sections of up to 13.5m can be transported in this way, resulting in considerable cost advantages.

Target applications include roofs and industrial buildings with very long span widths, particularly in the commercial area, including trade fair buildings, production and warehouse buildings and public sector projects (sports buildings, stadiums and swimming pools, for example).

Another important application area includes special design structures with unique beam and support geometries.

Construction projects using Limitless include architect

“Because of the enormous opportunities for modern and demanding timber construction resulting from the Limitless innovation, Hess will continue to expand its international activities,” said a Hess spokesperson.

“In addition to current projects, mainly in western and southern Europe, the company is also working on developing projects and co-operation opportunities all over Europe and in other regions such as Turkey, the Gulf region and north Africa.”

The company also believes the ability for cost-effective shipping to the US could open a large new market.

Another product currently being launched by Hess is the Hess Hybrid – glulam beams clad with other types of wood, in particularly aesthetically attractive hardwoods and exotic woods or especially durable wood species, allowing for durable applications both externally or internally.

In addition to standard timber construction services, such as roofs and industrial building structures, Hess is promoting itself as a full turnkey operation providing planning, engineering, glulam production, CNC beam production and its own carpentry services. ■

The Limitless jointing system is barely visible on glulam beams