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Tenon Wood Used in Ground-breaking Bridges

Tenon supplied 2400m³ of FSC®-certified lumber to Titanwood BV over the period December 2006 to April 2007 and October to December 2009, for the construction of two major motorway overbridges.

Securing of these orders followed initial trial work, whereby Tenon selected logs, from the normal run of bush supply, for inherent stiffness, using sonic velocity tools. Trial lumber sawn from these logs was evaluated in Holland for strength and performance properties.

The lumber that Tenon subsequently supplied was sawn from logs selected in this way.



The lumber was subsequently acetylated (chemically modified) by Titanwood in Arnhem, Netherlands, to make it stable and durable for use in the bridge project. This acetylated lumber goes by the tradename - Accoya®. It was then laminated in Germany and formed into the various bridge components.

The bridges at Sneek, Netherlands are 3 lane over-bridges across the A7 motorway spanning 40m. The main beams are each 42m long, 1.8m deep and 1.2m high, some 60m³ volume each. The bridge superstructure is designed to resemble traditional construction methods, and some of these laminated members curve in 2 directions! They are some of the largest wooden structures manufactured for many years, and if successful could lead to increasing wood use in other such infrastructural projects.

Accoya was chosen for the bridges because of its lower overall cost (initial and maintenance) compared to alternative materials, with the additional benefits of low environmental impact in its manufacture, and the sustainability of the raw materials.

The bridges were assembled 1km offsite and transported as fully assembled spans and placed on the supporting abutments. For the first bridge, this took place on a Saturday night with the move starting at 9:00pm, and being fully completed and installed by 1:00am.

