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Hi -Tech Carbon Heavenly Stairway from CNCHolz Using Sika Tooling and Composite Systems



These amazing “floating” stairs were designed and manufactured by CNC Holz of Tiefencastel, CH, with Renato Projer as lead designer and engineer.

The individual steps were produced in a clam shell construction. The tooling for each shell was produced from SikaBlock® 930 with Sika Pasty Wax as release agent. The shells were produced by the infusion process using Sika epoxy resin system Biresin® CR83 as matrix with high strength T300 carbon fibre in a combination of fabric, biaxial and unidirectional fibres as reinforcement to obtain the necessary high stiffness for this very demanding application. Further Sika products were used in the making of the finished step, with SikaPower® 4720, two component epoxy adhesive used to glue the two shells together.

Biresin G48 polyurethane resin system used to fill the clamshell SikaBlock 930 produces a stable mould with a very smooth surface, very suitable for making precision tooling. Biresin CR83 is an epoxy resin system with excellent wetting properties and very low viscosity which is perfect for impregnation of carbon fibre giving an excellent surface finish. It is also Germanischer Lloyd approved. SikaPower 4720 has excellent strength, is well suited to bonding advanced composites and gives an accurate bond thickness of 250µ- Biresin G48 was used to fill the cavity due to its high flowability. Altogether a great package of Sika products to produce a stunning composite flight of stairs.