WoodWelding® Technology - An Innovation from Switzerland

WoodWelding® technology, an innovative fixation method, uses ultrasonic energy to form a bond in porous materials. To achieve this, thermoplastic elements, in the form of e.g. a dowel or seal, are used as joining or connection elements.

WoodWelding® technology has a wide range of applications, allowing a cost efficient and strong substitute to traditional fixation methods, such as nails, screws, fitting systems and adhesives.

Concept

Ultrasonic energy is used to liquefy the outer surface of a thermoplastic element, such as a dowel, at freely defined, predetermined points, allowing the element to penetrate into the porous structure of the material under modest pressure. This is normally achieved without pre-drilling or any other preparation, even in solid wood. The joint cools and hardens instantly, resulting in a bond of high strength and stability.

Applications

Applications include assembly, fittings insertion and finishing processes in the window, furniture, flooring and construction industries.

WoodWelding® technology is most suited for both high volume manufacturing since it is readily automated.

WoodWelding® technology was awarded the Swiss Technology Prize 2000 and has gained considerable attention for its uniqueness in Europe and North America.

Example: Assembled window frame

WW WoodWelding GmbH - The Company

WW WoodWelding GmbH is a subsidiary of WoodWelding SA, focusing on the development and commercialization of the WoodWelding® technology.

Advantages

The main advantages of the WoodWelding® technology are:

- Inexpensive, plastic materials are used
- Short preparation time
- No pre-drilling required
- Short process time (a few seconds)
- Immediate cooling/hardening
- Superior connection properties, usually stronger than a screw of the same diameter

WoodWelding® technology has been successfully used on a range of porous materials, including solid wood, chipboard, plywood, various veneered/surface treated wood, hollow core board, cellular concrete, bricks, plaster and paper. Elements tested include dowels, surface strips and seals.

WoodWelding® technology has been developed and tested over the last years. The brand name and technology have been protected in a number of countries.

Customer Services

Although a number of solutions such as the dowel are standard, the WoodWelding® technology can be used in a number of specialist applications.

We work with clients in a wide range of industries, offering fee-based application specific development services in combination with licensing.

Our innovative and solutions oriented team which works directly with client challenges as well as in the general development of the WoodWelding® process, includes wood engineers, mechanical and electronics engineers, as well as marketing and licensing experts.

To learn more about the WoodWelding® technology, please contact:

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