

Stenoinjection, modern injection technique for the restoration of wooden objects

The author works in his bachelor and master thesis at FH Potsdam on improving glue injection technologies with the goal of injecting glue through openings as small as possible. His Technique considerably expands the possibilities of utilizing glue injection in wood conservation.

The "Stenoinjektion" ("steno" Greek "narrow") makes it possible to inject undiluted glue through barely visible holes (up to 300 microns) in wooden constructions. In this way it is possible to stabilize difficult structural joints and loose veneers with minimal intervention, even in the field of vision, which is not possible to achieve with normal injection methods. With this technique, disassembly is unnecessary for the individual parts to re-adhere, which is especially important for objects that cannot be disassembled.

An injection tool was developed, which not only has corresponding injection parameters but also meets the requirements of modern restoration: it has a sensitive power control, a setting of the glue temperature, as well as an articulated, easy-to-clean injection head. A cartridge system allows you to change the glue in a few seconds. The uses of the Machine are not limited to the conservation of small objects in the workshop but is also useful for objects in situ like wooden floors, paneling, and church altars.

There is still need for further examination and optimization, however it is already clear: the Stenoinjection is a sensitive and effective technique, which has the ability to belong to the everyday life of wood restorers.

Biography:

Jiří Bém, born 1985 in the Czech Republic,

2000–2004 Secondary School of applied Arts, wood working, Hradec Králové, CZ

since 2004 freelance Carpenter and restorer

2006-2010 Higher Professional School of Restoration, Conserv. and Restoration of wood, Brno, CZ

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Since 2010, he has been involved in the development of new tools (equipment) for restoration.

Well-known is his Bém-clamps, which are already used in many restoration workshops.

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