Oberkochen, May 2025

**The invisible solution - furniture connector for precise furniture construction**

**A technical report on modern jointing technologies for furniture and interior design**

Furniture connectors are among the central components in contemporary furniture and interior design. They not only perform the basic function of stabilisation, but also enable a wide range of flexible design options. They also make a significant contribution to the high-quality appearance of furniture, as they remain virtually invisible when well finished. Their uses range from kitchen and home furniture to office systems and special applications such as ship interiors. The wide range of applications reflects the great importance of these connection elements. The aim of this technical report is to provide a well-founded overview of the relevant materials, technical possibilities and the many different applications of modern furniture connectors - a topic that is becoming increasingly important.

**Materials, jointing technology and manufacturing processes**

The selection of a suitable furniture connector is closely linked to the type of joint, the panel thickness and the properties of the panel material used. In practice, a variety of materials are used, including chipboard, plywood, MDF (medium density fibreboard), HDF (high density fibreboard), multiplex and solid wood. These materials differ in their density, strength and machinability, which is why the connector must be customised to the specific requirements. This is the only way to ensure that connections are permanently stable, resilient and dimensionally accurate.

A special feature of modern furniture connectors is their minimalistic design. They are integrated into the component in such a way that they are barely visible or not visible at all after installation. This property is in demand in furniture construction, where surface aesthetics, clear lines and a harmonious overall appearance take centre stage. Appearance and technology interlock here and enable high-quality, design-orientated solutions. Furniture connectors are technically impressive due to their easy handling and high load-bearing capacity. Their wide contact surface facilitates precise positioning of the components during assembly, while their narrow geometry allows them to be used in thin sheet materials. Additional stability is provided by precisely milled, form-fitting grooves that minimise play and increase the durability of the connection.

Industrial production benefits in particular from machining with CNC technology. Some of the milling and drilling required for the connector can be carried out in a single clamping operation, which is very important for nesting. This also increases process reliability, reduces susceptibility to errors and significantly reduces machine and time expenditure - especially in applications where several furniture parts are manufactured from one large panel, CNC processing enables a high degree of precision and material efficiency.

Furniture connectors are also used reliably in the craft sector. With the help of modern power tools, connections can be made quickly, precisely and safely. Whether in small workshops or in the series production of larger companies, the use of furniture connectors supports economical and high-quality production. Depending on the requirements, the connections can be detachable or permanent, for example by screwing or gluing - an extra benefit in terms of design freedom.

**Leitz tool systems: Precision for professional furniture making**

As a long-standing technology and innovation leader, Leitz offers a wide range of specially developed tools. The portfolio includes tool systems that can be used to produce customised grooves for connector systems such as Lamello and FixChip. Depending on the machine technology, the tools are adapted for CNC machining centres or hand-held machines. Leitz tools are precisely tailored to the requirements of the furniture industry and stand for maximum performance and durability.

The focus is on high-performance milling cutters such as the Diamaster profile and grooving cutters as well as solid carbide tools with Marathon TDC coating. These tools impress with their long tool life, precise cutting quality and optimum repeat accuracy - properties that are particularly indispensable in high-volume or automated production. At the same time, they help to reduce downtimes and therefore increase efficiency.

Furniture connectors are far more than just technical aids - they form the foundation for modern, functional and aesthetically pleasing furniture designs. Their diversity in terms of materials, connection types and processing methods opens up a wide range of possibilities for designers and fabricators. In combination with high-performance tool solutions such as those offered by Leitz, high-precision, efficient and sustainable production processes can be realised. Furniture connectors thus make a significant contribution to the future of furniture and interior design - functionally, aesthetically and economically at the same time.

**The company**

Founded in 1876 in Oberkochen, Southern Germany, the Leitz Group is the worldwide leading manufacturer of tools for industrial processing of wood, wood derived materials, plastics, compound materials and non-ferrous metals. The product spectrum covers the complete range of precision tools for automated machines. In a complete package of advisory services, approximately 3,000 employees pass on their experience of cutting tools to customers so meeting daily the requirements of a complete problem solver and producing service provider. Leitz products regularly are used in more than 150 countries.. Together with its two legally independent sister companies Boehlerit and Bilz, Leitz forms the globally active Brucklacher Group. With a total of 16 production sites, its own sales and service companies in 38 countries at 137 locations and an exclusive partner network, the Brucklacher Group is a global player represented on all continents. The Brucklacher Group employs over 4,000 people worldwide and generates an annual turnover of around 450 million euros.

**For more press information and high resolution images, contact:**

Lisa Wykydal

Marketing

Phone: +49 7364 950 - 435

Fax: +49 7364 950 - 662

E-Mail: lwykydal@leitz.org

Ein Bild, das Autoteile, Bremsscheibe, Teil enthält.

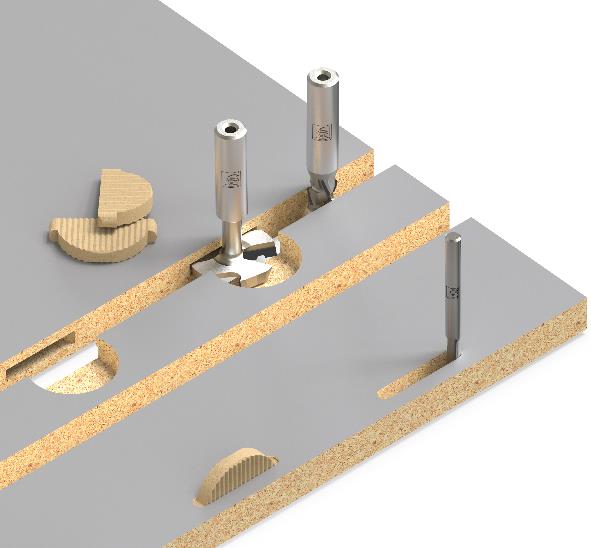
KI-generierte Inhalte können fehlerhaft sein.

ill.1: The Diamaster profile cutter impresses with its long tool life, precise cutting quality and optimum repeat accuracy. (Photo: Leitz)

Ein Bild, das Werkzeug, Zylinder, Büroausstattung, Design enthält.

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ill. 2: The Diamaster tools for the FixChip connector system - perfect solutions for horizontal and vertical grooves.



ill. 3: The Diamaster shank and shaping router for FixChip® connectors with the Diamaster PRO router bit - the ideal solution for demanding nesting applications.