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Ground-breaking technology and a tried-and-tested material:

**VISS3 free-form facade with 3D steel joints**

*Striking facades and customised solutions with high-quality designs have always been a hallmark of Jansen's products. Now, even more new designs have become possible as 3D printing with steel takes the VISS facade into the third dimension: VISS3 creates connections by combining the tried-and-tested VISS systems with 3D steel joints. This results in fascinating free-form facades that require no substructure at all.*

As part of a research cooperation with TU Delft in the Netherlands, the engineering company knippershelbig GmbH in Stuttgart, Germany, and MG Metalltechnik GmbH in Matrei, Austria, Jansen has investigated the options for using 3D printing technologies to manufacture steel joints. This new technology offers architects previously unimaginable design freedom for steel system facades: 3D steel joints combined with VISS profiles form the foundation for constructing concave and convex shapes. The joints can be formed on a bespoke basis with multiple arms and different angles, allowing both acute and obtuse angles to be created within a single joint. The VISS3 facade is self-supporting; load is transferred directly via the profiles and connecting joints without the need for a substructure. In this way, Jansen VISS3 enables the construction of complex free-form facades and roof lights of any shape.

**Maximum transparency in the building shell**

By combining 3D steel joints and slim VISS system profiles, Jansen VISS3 provides the perfect foundation for installing large panes of glass. 50 and 60 mm wide profiles with different profile depths can be used. Large glass elements and low-visibility frame profiles let in as much daylight as possible, helping to reduce energy costs. Furthermore, three-dimensional facades withstand higher wind loads than flat surfaces for the simple reason that the wind load is swirled against many smaller sub-surfaces and pushed away. This results in unique building shells in which ensuring maximum transparency is child's play.

**Design details of free-form facades**

When investigating how to produce the Jansen VISS3 free-form facade, particular attention was paid to the sealing level. The overlying sealing joints are printed to match the connecting joints so that drainage is provided via just one sealing level. At the same time, the concealed connection ensures a uniform appearance. Free-form joints made of steel or stainless steel are produced on a bespoke basis for VISS³; the basic construction utilises standard items from the VISS system facade. This makes installation quick and easy as the joint and profile connect without any special tools, thereby simplifying the process. The high corrosion resistance of stainless steel and coated steel ensures durable and robust free-form facades and roof lights that continue to work reliably for decades. Last but not least, steel is a 100% recyclable material that has long met the criteria for greater sustainability in the construction industry.

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**About Jansen AG**  
Jansen AG was founded in 1923 and is based in Oberriet, Switzerland. The Group develops,

produces and distributes steel profile systems and plastic products for various segments of the building industry. Since 1978, Jansen has been the exclusive Swiss sales partner of the German company Schüco International KG and has distributed its aluminium profile systems within the construction sector. In January 2021, Jansen AG acquired the subsidiary RP Technik GmbH, which is also a provider of steel solution systems for facades, windows and doors, from the Welser Profile Group of Companies. Jansen sold its automotive supply business to Mubea on 1 April 2021. On 1 January 2022, Jansen AG opened an independent representative office in Breda (NL) and has been directly responsible for market development in the Netherlands and Belgium ever since. To this day, the Jansen Group is a wholly owned family company. It employs around 620 people internationally and celebrates its 100 year anniversary.

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