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Release 2024-1: FRILO Expands Portfolio with New Program for Reinforcing Wooden Beams

Stuttgart, November 15, 2023 - FRILO Software GmbH has successfully delivered version 2024-1. With this update, the provider of innovative solutions for structural analysis and structural design is launching a new program on the market that allows the calculation of timber beams reinforced with timber or steel. In addition, two new PLUS programs, SWA+ and QS+, have been developed for steel construction. The integration of the Schöck Tronsole® in B7+ also enables the design of impact sound insulation for stairs in accordance with the approval of the component manufacturer.

The new FRILO program Reinforced beam HTV+ enables structural engineers to calculate single and multi-span timber beams with variably definable reinforcements (timber or steel reinforced). The timber beams can be reinforced on one or both sides with additional timber cross-sections or U or L steel profiles. The lateral reinforcements are connected to the timber core as a coupled system using a selection of fasteners. The reinforcements can be stored and loaded separately from the timber core. Users can use bolts, dowel pins, threaded rods and dowels of a special design as fasteners. In addition to the free choice of support for the different static systems, the loads can be applied freely to all components. The coupled system is calculated using a framework analysis and the loads are distributed across the fasteners. Beams that have been calculated in the DLT+ or HTM+ programs can be transferred directly to the HTV+ and strengthened there. "In order to conserve resources, it is becoming increasingly important to use existing structures. With HTV+, we are therefore providing structural engineers with a program that supports them in preserving existing timber beams wherever possible," says Manuel Walter, Director Product FRILO and DC. The HTV+ program will not be available to FRILO customers until mid-December.

Design of hinged beam angle connections in steel construction

The program portfolio in steel construction has also been expanded. The new PLUS program Steel angle connection SWA+ is suitable for the design of hinged beam angle connections in steel construction. The user can configure the beam connection with or without a notch and arrange the notch on one or both sides. The angle geometry and bolt patterns can be specified or taken from the catalog for connection configurations. The new PLUS program Steel cross-sections general QS+ can be used to model cross-section values of any combination of thin-walled profiles in steel construction. DXF files can be used as an auxiliary foil for graphical cross-section modeling. The program determines the cross-sectional area, moments of inertia and moments of resistance.

Integration of the Schöck Tronsole® in the B7+ staircase program

FRILO is the first static calculation software to enable the design of stair flights made of reinforced concrete with the Schöck Tronsole® impact sound insulation element. The elements integrated in the FRILO program Staircase B7+ are Tronsole® type F for the sound-insulating connection of staircases to landings and floor slabs and type B for the connection to floor slabs. The design is based on the building authority approval from Schöck. Based on the

input parameters previously selected in the FRILO program and the calculated support forces, the appropriate Tronsole is transferred to the B7+ via a web interface provided by Schöck. The B7+ helps the user to comply with the requirements for concrete cover and dimensions in accordance with the approval. "We are delighted to have further intensified our intensive cooperation with component manufacturer Schöck by integrating the Tronsole into the B7+ solution. The positive feedback from our customers confirms to me that structural engineers benefit from the cooperation between the two long-established companies now and in the future," says Markus Gallenberger, CEO of FRILO Software GmbH.

About FRILO

FRILO has been offering powerful and user-friendly software solutions for structural calculations for over 40 years and has developed into a leading provider in the German market in this field. Thanks to the component-oriented approach, the load-bearing capacity of individual components of different design and material variants can be verified separately and precisely. With more than 140 calculation programs, it is ensured that the available solutions meet the requirements of the everyday work of structural engineers accurately and in line with their needs. Headquartered in Stuttgart, FRILO has been integrated into the Nemetschek Group as an independent brand since 1999. In 2022, FRILO acquired DC-Software and expanded its portfolio in foundation engineering. Further information can be found at www.frilo.eu.

About the Nemetschek Group

The Nemetschek Group is a globally leading software provider for digital transformation in the AEC/O and media industries. Its intelligent software solutions cover the entire lifecycle of building and infrastructure projects and enable creatives to optimize their workflows. Customers can design, build, and manage buildings and infrastructures more efficiently and sustainably and develop digital content such as visualizations, films and computer games more creatively. The software provider is driving innovations such as digital twins as well as open standards (OPEN BIM), and sustainability in the AEC/O industry, constantly expanding its portfolio by also investing in deep-tech startups. Currently more than seven million users worldwide are shaping the

world with the customer-focused solutions of our four divisions. Founded by Prof. Georg Nemetschek in 1963, the Nemetschek Group today employs around 3,600 experts globally.

Publicly listed since 1999 and quoted on the MDAX and TecDAX, the company generated revenues amounting to EUR 801.8 million and an EBITDA of EUR 257.0 million in 2022.

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