

# PRESS RELEASE

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## WUFI Pro® 7.0: A new approach to hygrothermal simulation

**Are existing or planned buildings sufficiently protected against moisture? This can be calculated using the WUFI® Pro software from the Fraunhofer Institute for Building Physics IBP, which has now established itself as the standard for moisture protection assessment. Version 7.0 draws on the experience of 30 years of pioneering work in hygrothermal simulation. It offers numerous innovations based on the latest research, and which are frequently requested in practice, such as moisture assessments for solar suitability in roofing, concrete-corrosion forecasts, and wood-rot assessments. WUFI® Pro 7.0 also features a completely redesigned interface that is even more intuitive than its predecessor.**

How much moisture and heat escape through building shells? Does the structure retain moisture? Can mold develop? The WUFI® Pro software—short for “**W**ärme **U**nd **F**euchte **I**nstationär”—created by the Fraunhofer IBP offers hygrothermal simulation that can be used for all building components, purposes and climates. Put more technically: WUFI® Pro facilitates universal proof of moisture protection in accordance with DIN 4108-3.

### Hygrothermal simulation of swimming pools or cold stores? No problem!

While other methods under DIN 4108 are only applicable to heated residential and office buildings located up to 2300 ft above sea level, WUFI® Pro can also be used for cold stores, swimming pools, or production plants, which behave completely differently. "In living spaces, it is generally a case of: warm inside, cold outside. And most components are designed with this in mind: They protect against moisture from the inside and dry outwards," explains Dr. Daniel Zirkelbach, Group Manager for Moisture Protection and Building in Other Climate Zones at the Fraunhofer IBP. "The temperature gradients in the cold store are exactly the opposite, meaning that moisture penetrates from the outside in—a conventional building structure would therefore let the moisture in, but not out." The standard glazing method, which can be used to determine where condensation occurs in a structure, would produce completely incorrect results for cold stores and the like, and is not suitable for this purpose. WUFI® Pro, on the other hand, can be used not only for all purposes, components, or climatic conditions, but also for locations higher than 2300 ft above sea level.

**WUFI Pro® 7.0: Solar suitability, wood rot, and easier handling**

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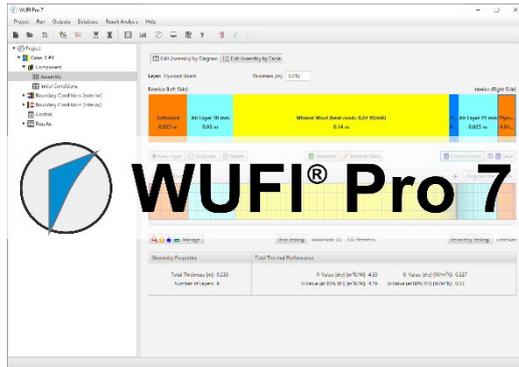
The new WUFI® Pro 7.0 additionally gives designers, architects, and engineers even more options than its predecessor: One increasingly important issue is the shading of roofs, for example by solar installations. Is the roof suitable for solar energy from a hygrothermal point of view, or is there a risk of moisture damage? We now have models to help answer such questions. In addition, version 7.0 contains assessment models for wood decay, concrete corrosion, and mold growth. "Wood-rot example: According to the standard, a moisture content of over 20 percent by mass leads to rot. Realistically, however, the moisture must remain above this value for a certain period of time for wood rot to occur—without the wood drying out again in between. In WUFI 7.0, we now have a time-dependent and much more precise assessment option," says Dr. Christian Bludau, a scientist at the Fraunhofer IBP.

A lot has also been happening in relation to calculating indoor climate: As, on the one hand, building insulation affects indoor climate, and, on the other, ancillary rooms such as underground garages and unheated attics are also being insulated more frequently, researchers have created new models that can be used to suitably ascertain indoor climate based on outdoor climate. Furthermore, changes or new models can be integrated into WUFI® Pro 7.0 with just a few clicks—something that was previously only possible manually and with relevant specialist knowledge.

Building materials are often combined to form systems, such as multi-layer plaster systems. In WUFI® Pro 7.0, these can be incorporated into the design as a cohesive structure from the significantly expanded material database, simplifying handling and preventing incorrect sequencing of such systems. You can now also easily create your own catalog in the design database, where designs can be saved and used for other similar certifications. If updates to the program or material database are available, the user is notified accordingly. "We have also completely reworked the graphic user interface—including intuitive user guidance—, significantly accelerated the calculation process, and further developed the WUFI Graph evaluation tool," Bludau says in summary.

For more information on WUFI® Pro 7.0 and how to purchase it, visit <https://wufi.de/en/products/>.

**FRAUNHOFER INSTITUTE FOR BUILDING PHYSICS IBP**



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Building physics is one of the keys to a successful building project. The **Fraunhofer Institute for Building Physics IBP** focuses its work on research, development, testing, demonstration and consulting in the various fields of building physics. These include noise control and sound insulation in buildings, the optimization of auditoria acoustics and solutions for improving energy efficiency and optimizing lighting technology. Fraunhofer IBP's work also covers issues of climate control and the indoor environment, hygiene and health protection, building material emissions, weatherproofing and protection against heat and moisture, preservation of building structures and the conservation of historic monuments.

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