

Logix Brands manufactures Halo® Exterra®, a high-performance graphite-infused expanded polystyrene (GPS) insulation panel engineered for above-grade exterior wall applications. Exterra features a precision-laminated, perforated film on both faces, facilitating outward moisture movement via vapor diffusion, which promotes wall assembly drying. When Exterra panels are installed with sealed joints—using appropriate tape or caulking—and at a minimum thickness of 9/16 inch (14 mm), it can also function as a water-resistive barrier (WRB).

Logix Brands is pleased to announce that Halo Exterra is now listed in WUFI® ([WUFI \(en\)](#)), enabling architects, engineers, and building science professionals to accurately model above-grade wall assemblies using WUFI's advanced hygrothermal simulation capabilities. This listing allows professionals to evaluate the performance of Exterra-clad assemblies based on climate zone and specific design parameters, ensuring optimal thermal and moisture management durability.

What is WUFI®?

WUFI® (Wärme Und Feuchte Instationär – German for “Transient Heat and Moisture”) is a suite of software tools developed by the Fraunhofer Institute for Building Physics (IBP). It enables the realistic, time-dependent simulation of coupled one- and two-dimensional heat and moisture transport in multilayer building components exposed to real-world climate conditions. WUFI incorporates the latest scientific findings related to vapor diffusion, capillary action, sorption properties, and moisture transport in construction materials. The software has undergone extensive validation through laboratory experiments and field tests at the IBP's outdoor testing facility. Supporting documentation and peer-reviewed studies are available through WUFI's literature database ([Literature | WUFI \(en\)](#)).

Why Hygrothermal Analysis Matters

In addition to understanding the thermal performance of building assemblies, it is critical to assess moisture behavior and the impact of humidity. Prolonged exposure to elevated moisture levels can compromise structural integrity, promote mold growth, and result in significant health hazards. Thermal and moisture dynamics in building enclosures are interdependent. Higher moisture content reduces thermal resistance, while temperature fluctuations influence moisture movement. The study of this interaction—hygrothermics—is essential for designing resilient, energy-efficient enclosures.



From Glaser to WUFI: Advancing Moisture Modeling

Historically, moisture analysis relied on the Glaser method, as outlined in DIN 4108. This approach, while useful, is limited by its assumptions of steady-state conditions and exclusive focus on vapor diffusion. It does not consider capillary moisture transport, moisture storage capacity, or short-term events such as rain and solar radiation, limiting its accuracy in real-world scenarios. WUFI® overcomes these limitations by employing dynamic simulations with real climate data, including solar exposure and wind-driven rain. It provides accurate, site-specific predictions of how building components will perform under actual conditions.

Implications for Designers and Specifiers

With Halo Exterra now available in WUFI's material database, construction professionals can more precisely model Exterra-clad wall assemblies. This supports informed design decisions that enhance durability, moisture management, and thermal efficiency before construction begins. This milestone underscores Logix Brands' commitment to innovation and leadership in advanced insulation technologies. For more information on Halo Exterra or guidance on WUFI modeling, please contact Logix Brands Technical Services at techdept@logixbrands.com.

