

Glass-Technology International

THE LEADING MAGAZINE FOR THE INTERNATIONAL FLAT GLASS INDUSTRY

May/June • Year 29 • No. 3/2018

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LAMINATED
GLASS
LINES



MIRROR
SILVERING
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BOVONE
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PRODUCE IG UNITS IN
'STYLE AND COMFORT'



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GLASS PROCESSING
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KEYWORD
INNOVATION
- IN MACHINERY,
SOFTWARE AND SKILLS



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WinIso® is Sommer Informatik's solution to calculate the thermal performance of windows and façades. In this article, the company speaks about the optimization of this software and what it can do for today's construction industry.

Sommer Informatik

THERMAL INSULATION AND BUILDING PHYSICS IN WINDOW CONSTRUCTION

OPTIMIZATION OF PROVEN SOFTWARE

Nowadays the use of software for the calculation of parameters of thermal performance and building physics is indispensable in the building industry. To meet the growing demands of lawmakers to these programmes, Sommer Informatik GmbH has optimized its proven soft-

ware solution - WinIso® - according to the revised standard EN ISO 10077-2:2017.

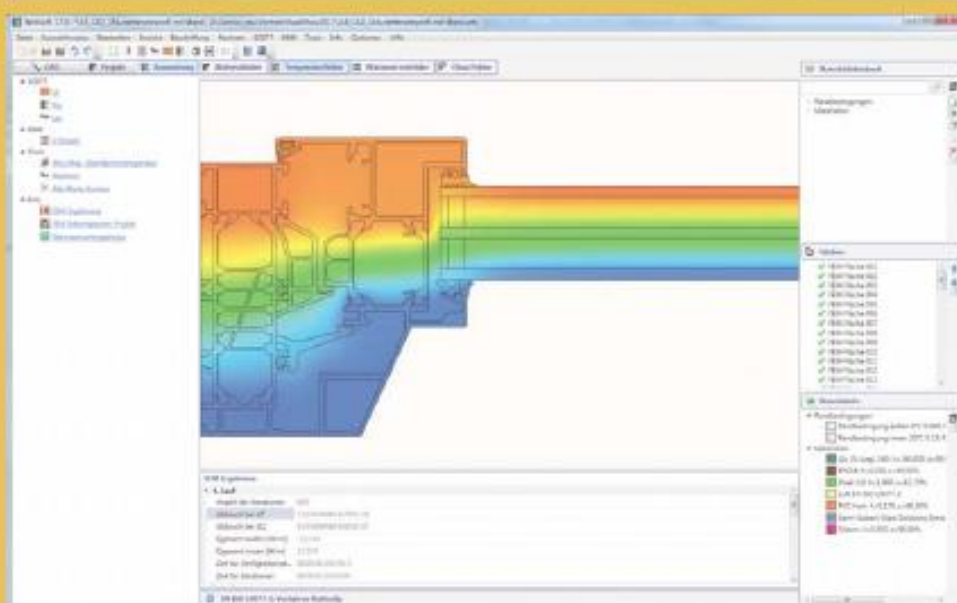
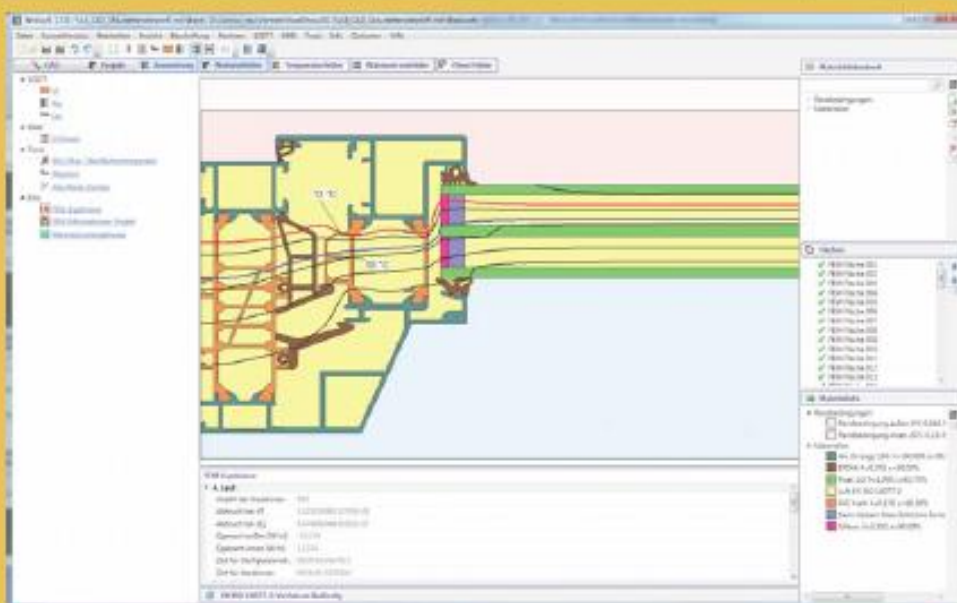
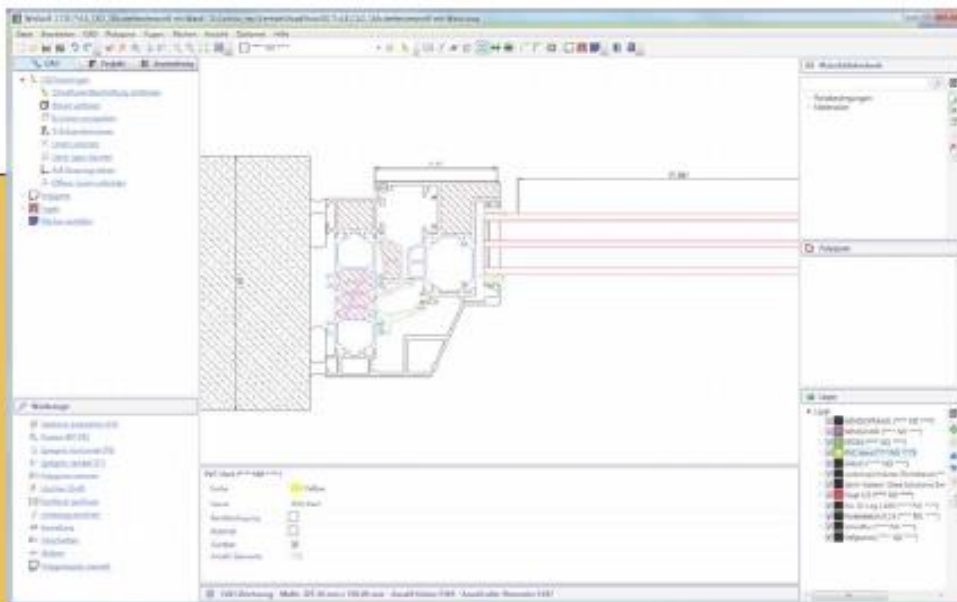
WinIso® is used to calculate two-dimensional heat and moisture vapour flows, isotherms, Uf and Psi values with a CAD interface - this provides important data to define the thermal insulation properties of frame profiles and to integrate them into the building design.

SOFTWARE FOR THERMAL CALCULATION OF WINDOWS AND FACADES IS VALIDATED BY IFT ROSENHEIM

The optimized software was validated at the beginning of November 2017 by the renowned European Notified Body ift-Rosenheim.

Roland Steinert (exter-

nal technical consultant to Sommer Informatik GmbH) explains: "The revision of the ISO 10077-2 standard for the calculation of building physics values changed the methods of calculation of Uf values significantly. In order to meet the requirements of the revised standard, the WinIso® software had to be modified accordingly. The integrated CAD Editor and the FEM calculation,



in compliance with the standard EN ISO 10077-2:2017, enable the user to get a more detailed calculation result - especially in the case of semi-ventilated cavities."

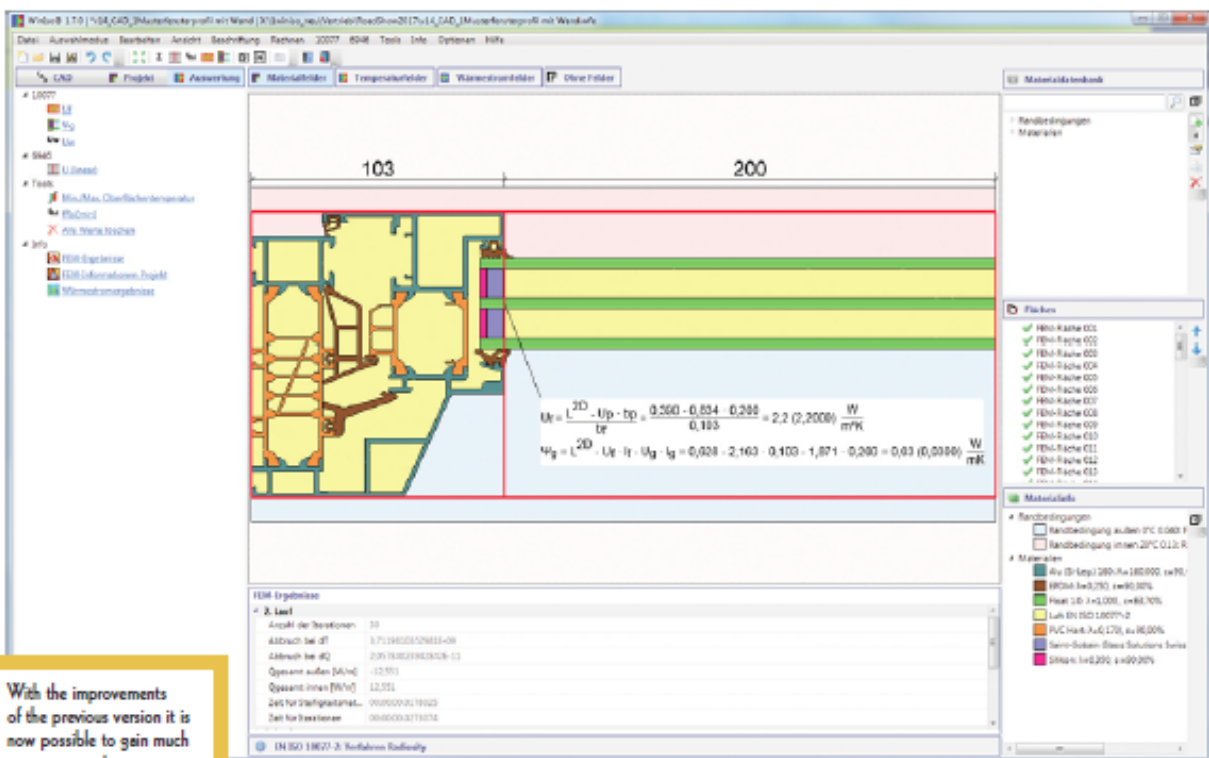
The method of the 2012 edition of the standard, which was used previously, did not correspond to the latest state of the technology, and was also not precise enough in calculating a single equivalent conductance for heat conduction, convection and radiation for each heat flow direction.

IMPROVED AND MORE EFFICIENT METHOD

The improved method allows a separate evaluation of radiative heat transfer and convection, which is much more efficient. For some frame sections the new method can result slightly better Uf values. Additionally, features for fast and intuitive handling have been added and more editing and calculation capabilities are implemented

The integrated CAD editor and the new FEM-solver now make it possible for the user to achieve a very precise calculation result in combination with the new calculation method and the EN ISO 10077-2:2017 standard - especially in semi-ventilated cavities

Source:
Sommer Informatik GmbH



With the improvements of the previous version it is now possible to gain much more exact solutions
 Source: Sommer Informatik GmbH

in the proven software. The method of meshing using rectangular elements, which was used in previous versions, has been replaced by a finite-element triangular mesh, which now enables the user to easily map any geometric details

in the software. The new version of WinIso[®] was certified by the ift Rosenheim after almost a year of development and optimization work. "We have been with this test institute for 20 years. The previous software version was validated there, too" said Mr. Steinert. In Mainland Europe the ift is particularly well-

IFT ROSENHEIM

ift Rosenheim has been active since its foundation in 1966 in the field of approving and certifying building components and other building products. The institute supports the sectors window, facade- and door construction, independent of material, standards, developing approvals certificates and calculation reports. The portfolio also extends to international markets - with the target, to avoid multiple checks and monitoring. The knowledge gained is provided in the form of standard templates, guidelines, certification programs, specialist publications, workshops and seminars. Today the institute has about 200 employees.

SOMMER INFORMATIK

Sommer Informatik was founded in 1996 and is distributing and selling expert software for static loading and building physical calculations of glasses, windows and facades. The company is a world leader in the field of isotherms and Uf calculation its solution for developing and optimizing profiles is used by nearly all of the major window construction companies in Western Europe. Overall more than 3000 customers are working with Sommer Informatik products worldwide.

known, and is regarded as a specialist for assessing the usability of building products. "The certification is done according to extremely strict rules, also controlled by the legal requirements as well as those of ift Rosenheim" Mr. Steinert explains.

Sommer Informatik



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