

Natural Environmental

Water based  
timber protection

20K0

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- The right environmental choice
- 65 years service life on pure timber products
- 85 years service life on timber/aluminium products





# ENVIRONMENTAL, HEALTH AND WELLBEING

All timber windows and doors need protection so as to withstand weather, bacterial and fungal attacks and general wear and tear during their lifespan.

For years (Pre 2005 in northern Europe) a system of vacuum impregnation of **hazardous chemicals** and **toxins** was applied to timber. This was done with no proper long-term consideration to personal health and wellbeing or to the environmental impact of the chemical's continuous vapour excretion into the atmosphere or the disposal of waste materials generated by such a process.

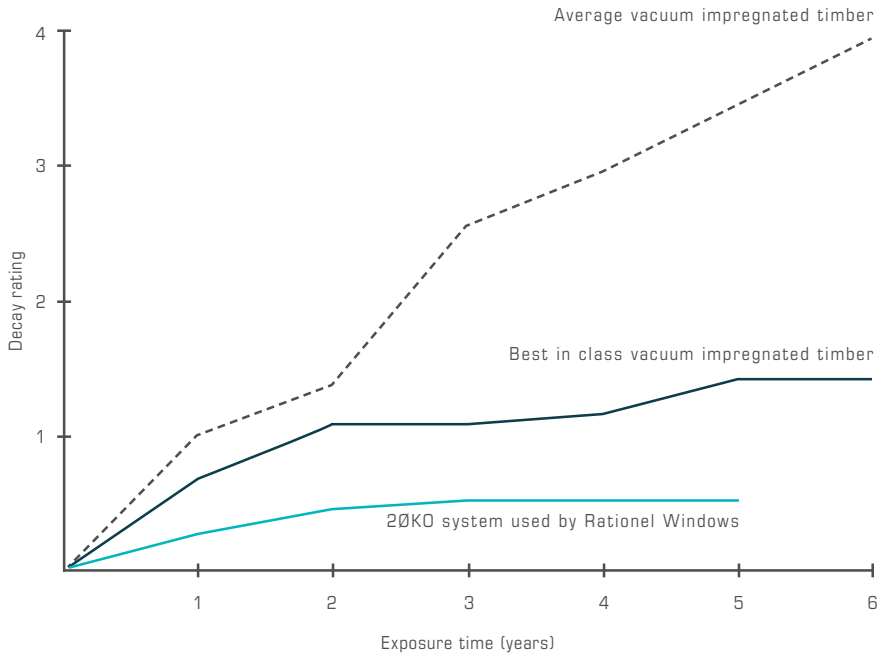
Today as part of an ongoing commitment to health and environmental awareness all responsible window and door manufactures have stopped using this process and moved to natural water-based systems. These systems are independently certified by third party accredited test institutes. They further ensure that the health and wellbeing of all are respected and that the products are safe to use in both factory and home environments.

Vacuum impregnation	2ØKO system - All Rational products
 <p>contain hazards' substances (Tributyltin, Propiconazol/triazol or IPBC - which is dangerous for the human respiration system, and can create eye and skin irritations.</p>	<p>100% water based and contains no solvents or hazardous substances.</p>
 <p>contains a high level of solvents (turpentine) - which can cause dizziness and headaches when the substances evaporate from the window construction in closed environments.</p>	<p>The new 2ØKO system outperforms the old Vacuum impregnation systems in all aspects – both in environmental profile, but also in fungicidal protection and lifespan.</p>

All Rational products are fully certified by DVC (Danish Window Certification) and BM TRADA (UK).



# AN ENVIRONMENTALLY STRONG AND FULLY TESTED WATER BASED SYSTEM



After years of testing in severe conditions in Malaysia (where the decay rate is 5 times that of Northern Europe with rainfall of between 2500mm – 4500mm per year) it is confirmed that the combination of the 2ØKO water based protection in conjunction with modern production technology and the use of higher grade heart woods has enabled Rationel to provide a cutting edge design and performance to meet the requirements of today and with proven results. The increase in the life span of your windows and doors whilst **eradicating the harmful effects of all chemicals and toxins of vacuum impregnation** are the benefits of the water based 2ØKO system.

# SERVICE LIFE

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Together with the Wood Window Alliance and Heriot-Watt University of Scotland, Rationel has conducted a full life cycle analysis of timber and aluclad timber products documenting the performance and lifespan specifically of windows and doors manufactured using the 2ØKO system. Just like the environmental performance it has shown significant improvements in the lifespan. A lifespan of up to 65 years for Timber and 83 years for Aluclad are now attainable in Rationel. For further information please visit the Wood Window Alliance website: [http://www.woodwindowalliance.com/sites/professional/assets/files/publications/WWA%20SL\\_WLC%20research%20July%20202012%20copy.pdf](http://www.woodwindowalliance.com/sites/professional/assets/files/publications/WWA%20SL_WLC%20research%20July%20202012%20copy.pdf)

As per details.

Window type	Typical maintenance period	Mild	Moderate	Severe
Rationel AURA & FORMA	Standard 5-7 years	65 years	59 years	56 years
Rationel AURAPLUS & FORMAPLUS	Standard 20-30 years	83 years	75 years	71 years



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OF A GOOD WINDOW**

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WINDOWS & DOORS

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