

## RATIONEL – WINDOWS WITH VISION

Throughout the process of design, development and production of our windows and doors we take our responsibility seriously. Rationel has one word in mind "Vision" as we look towards the future.

Customers across Northern Europe are benefiting from our high quality windows and doors. Rationel only use the best coniferous timber available from sustainable forests.

Our products are developed to give you light, comfortable indoor climate and superb functionality. Continuous improvements give you the peace of mind that Rationel windows and doors provide design and performance to meet demands from the market now and long into the future.

It is important that you feel confident when you choose Rationel, which is why we always aim to live up to our values. Our products are customer focused and well thought through. We are committed to your project, trustworthy and will aim to meet what we promise. All together we call it - windows with vision.

If you have a project, no matter how big or small, contact us. We can help you with our expertise and the many opportunities that our product range offers. For further information you can also visit our web-site [www.rationel.co.uk](http://www.rationel.co.uk)

We look forward to welcome you to Rationel.

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# THINK GREEN

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WINDOWS WITH VISION

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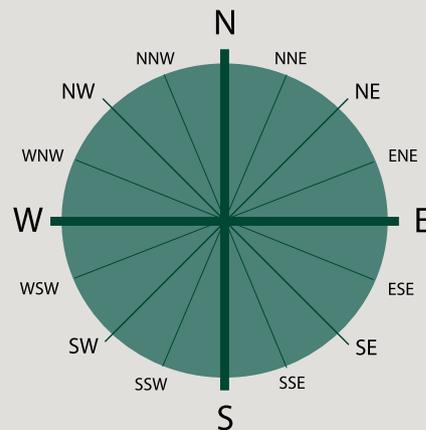
## THINK GREEN AND THINK DIFFERENT

Whether building or renovating an energy efficient home several factors must be considered, but one important element is the windows. Windows bring daylight and fresh air into your home and the modern high quality windows developed by Rational are able to bring more solar heat into the home than escapes.

There is a lot more to keep in mind than just losing heat through the windows (U-value). The best solution can be achieved by choosing different types of windows for your home depending on the elevation. This will give you both the most energy efficient home and the most comfortable home.

### TO GIVE YOU THE BEST GREEN SOLUTION

The orientation of your house plays an important role. The choice of glass in the window depends on the amount of sun light available. Traditionally the larger glazed windows were orientated towards the south. Today the performance of Rational energy windows is so high that it is possible to place large windows on the north side of your home. When placing large windows towards the south there is a risk of over heating. However, this can be avoided by using mechanical solar shielding during the summer period.



Due to the performance of Rational energy windows you can now use larger screens/ windows on the north facade avoiding the risk of over heating.

### SAVE MONEY ON THE HEATING BILL

It is possible to save money on your heating bill by choosing different types of windows for your home whilst not compromising the comfort and the well-being. Going green needs to be affordable and with the many options available there is no doubt we have an energy solution for you. If you change the windows in a typical 150 m<sup>2</sup> house from old double glazed windows to Rational triple glazed super low-energy windows your savings will be as follows:



YEARLY SAVING	OTHER ADVANTAGES
<ul style="list-style-type: none"> <li>■ Approx. 2.000 kg CO<sub>2</sub></li> <li>■ Approx. 630 litre oil</li> <li>■ 20% on your heating bill per year</li> <li>■ As oil prices accelerate, savings are increased.</li> </ul> <p>Calculation based on: A 150m<sup>2</sup> standard house changing from double glazed windows to Rational triple glazed super low-energy windows. Heating is based on oil-fired burner.</p>	<ul style="list-style-type: none"> <li>■ Better indoor climate                             <ul style="list-style-type: none"> <li>- Less cold fallout</li> <li>- Less draught</li> <li>- Better opportunity for ventilation</li> </ul> </li> <li>■ Savings on the heating bill</li> <li>■ Reduce CO<sub>2</sub> emission</li> <li>■ Windows that fit the architectural style of your home</li> </ul>

So.... THINK GREEN at an affordable price and let Rational find the right solutions for you.

Let us inspire you with some standard recommendations where the economics are taken into considerations.

FACADE	HEATING	WINDOWS RECOMMENDED
North 	<p>On the north side the natural solar heat contribution is low. The most important thing here is to avoid the heat getting out.</p> <p>It is profitable to place large windows on the north side to optimize your indoor climate as well as the sun light getting into your home.</p>	<p>The windows U-value is especially important on the north side whereas the g-value is less important. Triple glazed window solutions have the lowest U-value and is therefore most ideal on the north side.</p>
East/west 	<p>Here the sun is contributing to your indoor heating.</p> <p>The number of windows must be balanced with the need for heat in your home.</p>	<p>To make use of this free solar heat gain the correct choice would be windows with a high g-value.</p> <p>Rational standard high performance double glazed windows have a high g-value and give excellent energy performance on the east and west side</p>
South 	<p>Here an enormous amount of natural solar heat is available.</p> <p>The number of windows must be balanced with the need for heat in your home. Be careful with over heating.</p>	<p>To make use of this free solar heat gain, the correct choice would be windows with a high g-value.</p> <p>Rational standard high performance double glazed windows have high g-value and give excellent energy performance on the south side.</p>

**RATIONEL WINDOWS WITH U-VALUES AS LOW AS 0.77**

U-value: Is the windows ability to keep the heat in the house. The lower U-value the better the insulating ability.

g-value: Is the windows ability to let the solar heat come through the window. The higher g-value the better the solar heat is utilised.