

The image features a dark blue background on the left side, which transitions into a white background on the right. A complex, abstract graphic of thin, yellow, curved lines flows from the top left towards the bottom right, crossing the boundary between the blue and white areas. The lines are dense and overlapping, creating a sense of movement and depth. The 'bre' logo is positioned in the lower-left quadrant of the blue area.

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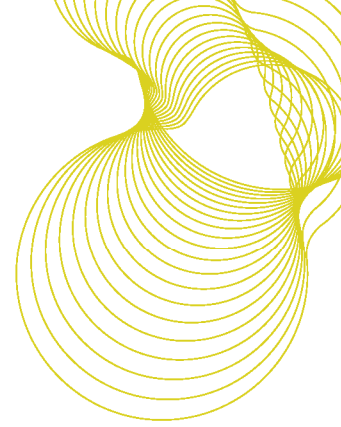
**Client Report:**

**Accompanying Report  
for the BRE Global  
Environmental Profiles  
of: Kingspan TEK<sup>®</sup>  
Building System**

Prepared for: Andreas Otto  
Kingspan TEK GmbH

Date: February 2009

Client report number: 249849



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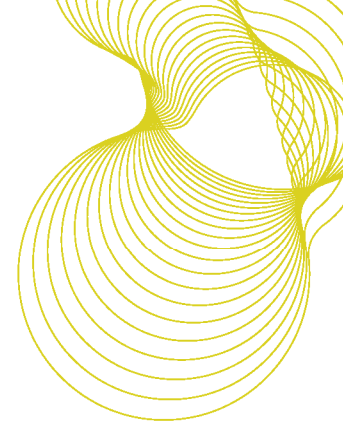
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## Executive Summary

This report forms the output of the Environmental Profiling work done for Kingspan TEK<sup>®</sup> Building System (structural insulated panel), hereafter described as Kingspan TEK Building System. The report provides a description of the update of the Environmental Profiling methodology (2008), the Environmental Profiles for Kingspan TEK Building System and analysis of the environmental performance of the product. All analysis within this report is according to the 2008 BRE Global Environmental Profiles Methodology.

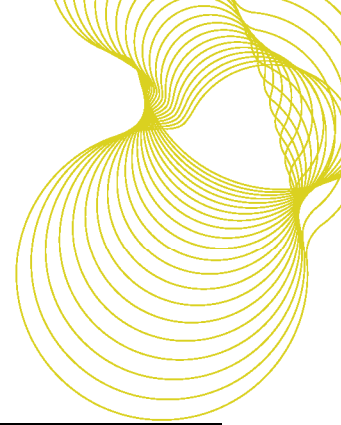
Tables 1a. and 1b. below shows the summary Ecopoint scores for Kingspan TEK Building System on a per tonne basis and within eleven building element specifications over a sixty year study period.

**Table 1a. Product Specification Ecopoint scores for Kingspan TEK Building System**

Product Specification	2008 Methodology Ecopoints Per Tonne
Kingspan TEK Building System (Cradle to Gate)	2.66
Transport to Site per tonne	1.61
Insulation Core; Disposal of waste from construction/refurbishment/demolition	2.92
OSB; Disposal of waste from; Construction	3.1
Refurbishment/Demolition	3.3

**Table 1b. Building Element Ecopoints and Green Guide Ratings for Kingspan TEK Building System (Cradle to Grave)**

Specification (As Installed over 60 year study period)	Element Number	Ecopoint score	2008 Green Guide Summary Rating
<b>Domestic External Wall Elements</b>			
Brickwork, cement mortar, breather membrane, Kingspan TEK Structural insulated panel system, plasterboard on battens, paint	806190057	0.42	<b>A+</b>

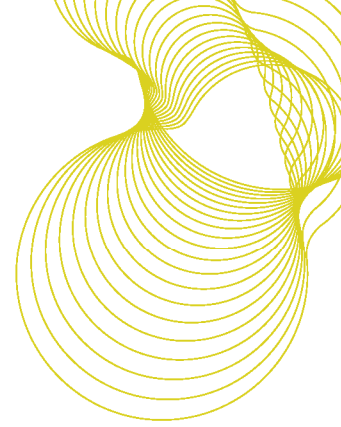


Canadian cedar cladding, breather membrane, Kingspan TEK Structural insulated panel system, plasterboard on battens, paint	806210064	0.25	<b>A+</b>
Pre-treated softwood weatherboarding on timber battens, breather membrane, Kingspan TEK Structural insulated panel system, plasterboard on battens, paint	806210063	0.25	<b>A+</b>
Polymeric render on cement bonded particleboard on timber battens, breather membrane, Kingspan TEK Structural insulated panel system, plasterboard on battens, paint	806210062	0.41	<b>A+</b>
Concrete tiles on timber battens, breather membrane, Kingspan TEK Structural insulated panel system, plasterboard on battens, paint	806210066	0.41	<b>A+</b>
Clay tiles on timber battens, breather membrane, Kingspan TEK Structural insulated panel system, plasterboard on battens, paint	806210065	0.54	<b>A</b>
<b>Domestic Pitched Roof Elements</b>			
Kingspan TEK Structural insulated panel system, breather membrane, counterbattens, battens and concrete interlocking tiles	812411073	0.44	<b>A+</b>
Kingspan TEK Structural insulated panel system, breather membrane, counterbattens, battens and UK produced fibre cement slates	812411074	0.58	<b>A</b>
Kingspan TEK Structural insulated panel system, breather membrane, counterbattens, battens and UK produced clay plain tiles	812411077	0.58	<b>A</b>
Kingspan TEK Structural insulated panel system, breather membrane, counterbattens, battens and UK produced slates	812411076	0.67	<b>A</b>
Kingspan TEK Structural insulated panel system, breather membrane, counterbattens, battens and resin bonded slates	812411075	0.76	<b>A</b>

### Summary of impacts

The findings from this report have shown that the MDI and polyols are responsible for a significant proportion of the environmental impact resulting from the production of the Kingspan TEK Building System. The largest impacts on the environment are from climate change and water extraction, again from the MDI and polyols.

In terms of the building elements, it is noted that the main elemental component of each specification carries more impact than the Kingspan TEK Building System. Within the pitched roofing specifications, a greater proportion of the environmental impact is attributed to the type of roof covering, for example resin-bonded slates have a significant impact. Within the external walls specifications, a greater proportion of



the environmental impact is attributed to the type of cladding, with timber, for example, having less impact than concrete tiles.

The Ecopoint scores for the external wall specifications incorporating the Kingspan TEK Building System means that they achieve a Green Guide Rating of A+, when included in the studied specifications and compared to other commonly specified products in *The Green Guide to Specification 2008*. The roofing elements have either A+ or A, as set out in table 1b.