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# Appendix to Certificate of Approval

Appendix Number: ENP5000 Issue: 3

### Kingspan Insulation Ltd Pembridge Leominster Herefordshire HR6 9LA

# Characterised and normalised data for:

## **Insulation: Insulation**

Kingspan Kooltherm K7 (0.02 W/m.K) with 50lb duplex foil facer on both sides in a roof with a 13mm min unventilated airspace to one side - 35 kg/m<sup>3</sup>

1 m<sup>2</sup> over 60-year study period

Quality of data for profiled material		
Start date	01/01/2015	
End Date	31/12/2015	
Representativeness	2 sites representing 100% production	
LCA Methodology	BRE Environmental Profiles Methodology 2008	
Allocation	100% to product	
Date of data entry	13/06/2017	
Boundary	Cradle to Grave over 60-year study period	
Applicable buildings	All building types	
Source of data	Company records	
Geography	UK and Ireland	

(Data for other constituent materials are available from BRE Global)

### BRE Ecopoints score: 0.0247 Ecopoints

This certificate appendix is maintained and held in force through annual review and verification.

	Emma Baker Scheme Manager	28 July 2017 Date of Issue	27 July 2020 Expiry Date	
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# Appendix No: ENP500o

## **Kingspan Insulation Ltd**

Pembridge Leominster Herefordshire HR6 9LA

#### **Insulation: Insulation**

Kingspan Kooltherm K7 (0.02 W/m.K) with 50lb duplex foil facer on both sides in a roof with a 13mm min unventilated airspace to one side -  $35 \text{ kg/m}^3$ 

### 1 m<sup>2</sup> over 60-year study period

#### **Characterised Data**

lssue	Value	Unit
Climate Change	5.22	kg CO <sub>2 eq.</sub> (100 yr.)
Water Extraction	0.0694	m <sup>3</sup>
Mineral Resource Extraction	0.000806	tonnes
Stratospheric Ozone Depletion	0.000038	kg CFC11 <sub>eq</sub> .
Human Toxicity	2.26	kg 1,4-DB <sub>eq</sub> .
Ecotoxicity to Freshwater	0.112	kg 1,4-DB <sub>eq</sub> .
Nuclear Waste (higher level)	0.0000000836	m <sup>3</sup> high level waste
Ecotoxicity to Land	0.0187	kg 1,4-DB <sub>eq</sub> .
Waste Disposal	2.38	kg
Fossil Fuel Depletion	125	MJ
Eutrophication	0.00473	kg PO <sub>4 eq.</sub>
Photochemical Ozone Creation	0.015	kg ethene <sub>eq.</sub>
Acidification	0.0325	kg SO <sub>2 eq.</sub>
Normalised data		
Issue	Value	Western European Citizen's Annual Impacts
	0.000405	
Climate Change	0.000425	12300 kg CO <sub>2 eq.</sub> (100 yr.)
Water Extraction	0.000425	12300 kg CO2 eq. (100 yr.)     378 m <sup>3</sup>
Water Extraction Mineral Resource Extraction	0.000184 0.000033	378 m <sup>3</sup> 24.4 tonnes
Water Extraction Mineral Resource Extraction Stratospheric Ozone Depletion	0.000184 0.000033 0.0000175	378 m <sup>3</sup> 24.4 tonnes 0.217 kg CFC11 <sub>eq</sub> .
Water Extraction Mineral Resource Extraction Stratospheric Ozone Depletion Human Toxicity	0.000184 0.000033 0.0000175 0.000114	378 m³   24.4 tonnes   0.217 kg CFC11 eq.   19700 kg 1,4-DB eq.
Water Extraction Mineral Resource Extraction Stratospheric Ozone Depletion Human Toxicity Ecotoxicity to Freshwater	0.000184 0.000033 0.0000175 0.000114 0.0000852	378 m³   24.4 tonnes   0.217 kg CFC11 eq.   19700 kg 1,4-DB eq.   1320 kg 1,4-DB eq.
Water Extraction Mineral Resource Extraction Stratospheric Ozone Depletion Human Toxicity Ecotoxicity to Freshwater Nuclear Waste (higher level)	0.000184 0.000033 0.0000175 0.000114 0.0000852 0.000353	378 m³   24.4 tonnes   0.217 kg CFC11 eq.   19700 kg 1,4-DB eq.   1320 kg 1,4-DB eq.   2.37 x 10 <sup>-5</sup> m³ high level waste
Water Extraction Mineral Resource Extraction Stratospheric Ozone Depletion Human Toxicity Ecotoxicity to Freshwater Nuclear Waste (higher level) Ecotoxicity to Land	0.000184 0.000033 0.0000175 0.000114 0.0000852 0.000353 0.000152	378 m³   24.4 tonnes   0.217 kg CFC11 eq.   19700 kg 1,4-DB eq.   1320 kg 1,4-DB eq.   2.37 x 10 <sup>-5</sup> m³ high level waste   123 kg 1,4-DB eq.
Water Extraction Mineral Resource Extraction Stratospheric Ozone Depletion Human Toxicity Ecotoxicity to Freshwater Nuclear Waste (higher level) Ecotoxicity to Land Waste Disposal	0.000184 0.000033 0.0000175 0.000114 0.0000852 0.000353 0.000152 0.000635	378 m³   24.4 tonnes   0.217 kg CFC11 eq.   19700 kg 1,4-DB eq.   1320 kg 1,4-DB eq.   2.37 x 10 <sup>-5</sup> m³ high level waste   123 kg 1,4-DB eq.   3750 kg
Water ExtractionMineral Resource ExtractionStratospheric Ozone DepletionHuman ToxicityEcotoxicity to FreshwaterNuclear Waste (higher level)Ecotoxicity to LandWaste DisposalFossil Fuel Depletion	0.000184 0.000033 0.0000175 0.000114 0.0000852 0.000353 0.000152 0.000635 0.000457	378 m³   24.4 tonnes   0.217 kg CFC11 eq.   19700 kg 1,4-DB eq.   1320 kg 1,4-DB eq.   2.37 x 10 <sup>-5</sup> m³ high level waste   123 kg 1,4-DB eq.   3750 kg   273 GJ
Water Extraction Mineral Resource Extraction Stratospheric Ozone Depletion Human Toxicity Ecotoxicity to Freshwater Nuclear Waste (higher level) Ecotoxicity to Land Waste Disposal Fossil Fuel Depletion Eutrophication	0.000184 0.000033 0.0000175 0.000114 0.0000852 0.000353 0.000152 0.000635 0.000457 0.000146	378 m³   24.4 tonnes   0.217 kg CFC11 eq.   19700 kg 1,4-DB eq.   1320 kg 1,4-DB eq.   2.37 x 10 <sup>-5</sup> m³ high level waste   123 kg 1,4-DB eq.   3750 kg   273 GJ   32.5 kg PO4 eq.
Water ExtractionMineral Resource ExtractionStratospheric Ozone DepletionHuman ToxicityEcotoxicity to FreshwaterNuclear Waste (higher level)Ecotoxicity to LandWaste DisposalFossil Fuel DepletionEutrophicationPhotochemical Ozone Creation	0.000184 0.000033 0.0000175 0.000114 0.0000852 0.000353 0.000152 0.000635 0.000457 0.000146 0.000698	$\begin{array}{r} 378 \text{ m}^{3} \\ \hline 24.4 \text{ tonnes} \\ 0.217 \text{ kg CFC11}_{eq.} \\ 19700 \text{ kg 1,4-DB}_{eq.} \\ 1320 \text{ kg 1,4-DB}_{eq.} \\ \hline 2.37 \text{ x 10}^{-5} \text{ m}^{3} \text{ high level waste} \\ \hline 123 \text{ kg 1,4-DB}_{eq.} \\ \hline 3750 \text{ kg} \\ \hline 273 \text{ GJ} \\ \hline 32.5 \text{ kg PO}_{4 \text{ eq.}} \\ \hline 21.5 \text{ kg ethene}_{eq.} \end{array}$
Water Extraction Mineral Resource Extraction Stratospheric Ozone Depletion Human Toxicity Ecotoxicity to Freshwater Nuclear Waste (higher level) Ecotoxicity to Land Waste Disposal Fossil Fuel Depletion Eutrophication	0.000184 0.000033 0.0000175 0.000114 0.0000852 0.000353 0.000152 0.000635 0.000457 0.000146 0.000698 0.000457	378 m³   24.4 tonnes   0.217 kg CFC11 eq.   19700 kg 1,4-DB eq.   1320 kg 1,4-DB eq.   2.37 x 10 <sup>-5</sup> m³ high level waste   123 kg 1,4-DB eq.   3750 kg   273 GJ   32.5 kg PO4 eq.

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