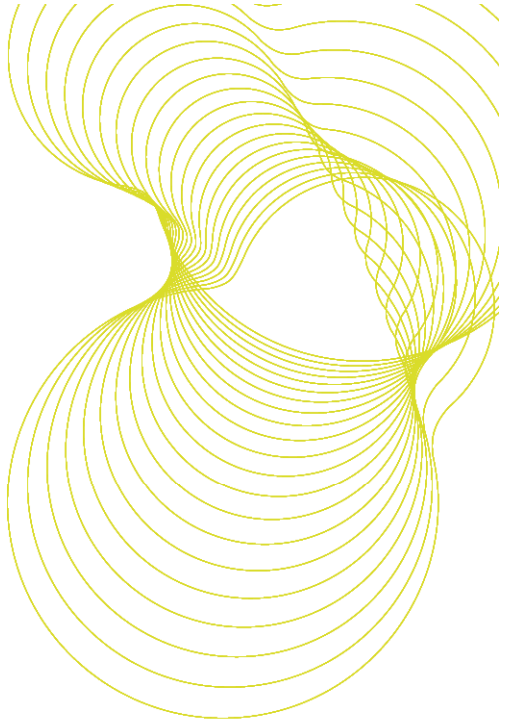
breglobal



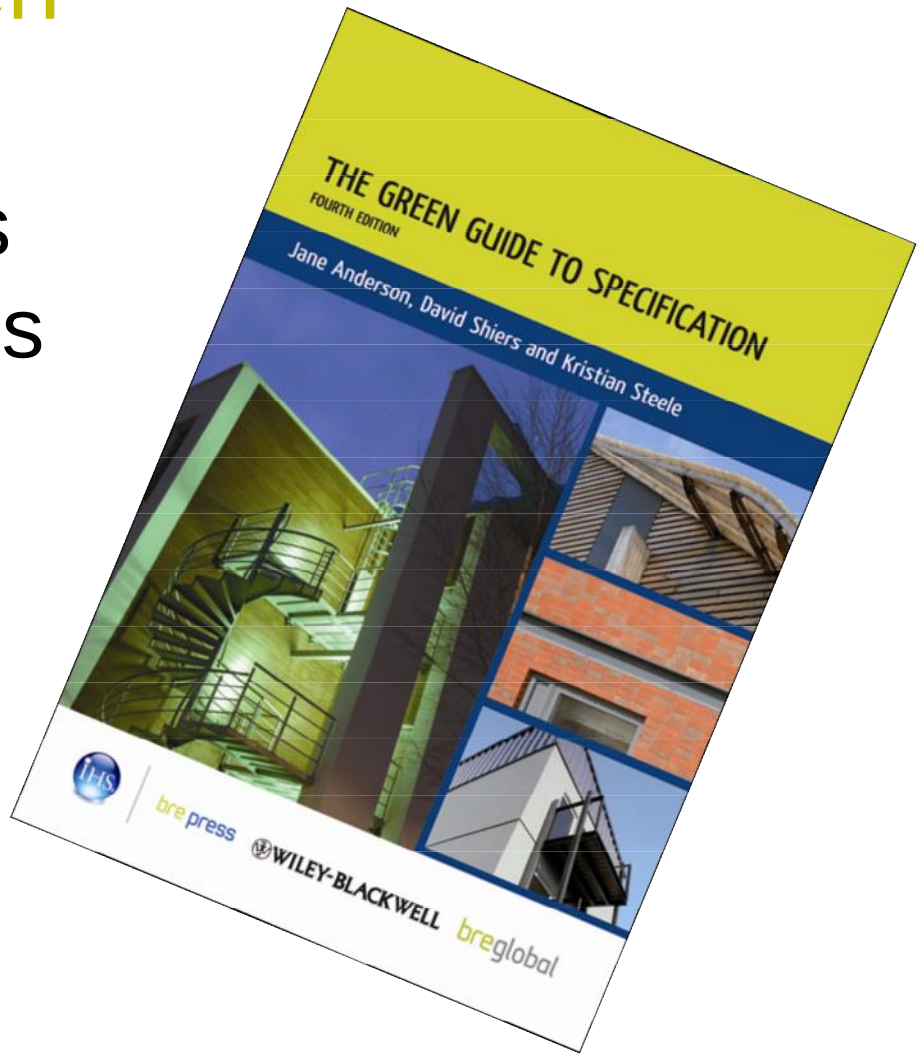
How Green is Green

Richard Hardy

BRE Global Sustainability Director

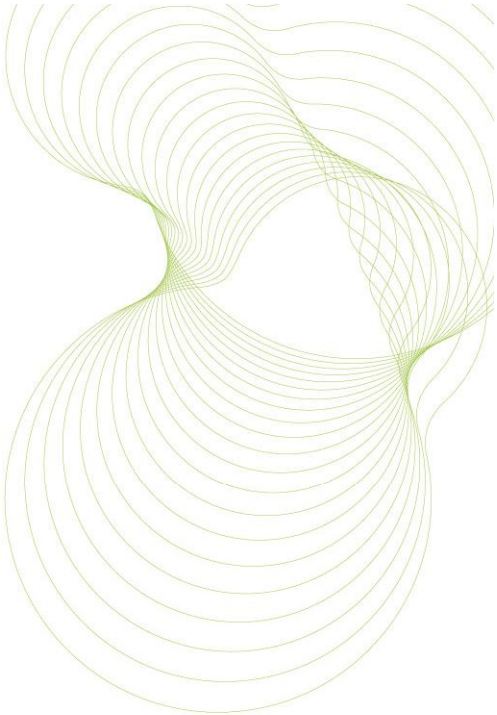
How Green is Green

Many ‘green’ claims for building materials are made, but how can you be sure of their accuracy?



Agenda

- 16.10 Environmental Profiling explained
  ***Victoria Blake**, Associate Director, BRE Global*
  ***Jane Anderson**, Principal Consultant, BRE* Global
- 17.00 Manufacturer Benefits
  ***Alan Joss**, Sales & Marketing Director, Gradus Ltd*
- 17.15 Specifier Needs
  ***Isabel Carmona**, Code Assessor, Green Architect, and Chairman of the RIBA South Green Group*
- 17.30 Questions & Answers
- 18.00 Close



Environmental Profiling Explained

Jane Anderson
BREEAM Materials, BRE Global

26th October 2009

Overview

- What is an Environmental Profile?
- What is Life Cycle Assessment (LCA)?
- What is behind an Environmental Profile?
- What information do you need to provide?
- How do we calculate an Environmental Profile?
- How do Environmental Profiles link to Green Guide ratings?
- Summary

Environmental Labels and Declarations

- ISO14020 – Environmental labels and declarations

- Type I – Ecolabel - voluntary
  - widely recognised environmental labels e.g. Nordic Swan (ISO 14024)
- Type II – self declared environmental claim
- Type III – LCA approach
  - ‘nutritional label’
  - quantified environmental data - linkage to ISO14040 series & LCA
  - BRE Global Environmental Profiles Certification Scheme

Type 1 Environmental Labelling

- Nordic Swan, EU Eco-label, Terrachoice etc
- ISO 14024: 2000
- Sets environmental criteria for a particular product group to identify products which can use the ecolabel
- Criteria based on life cycle assessment
- Third party verification
- Stakeholder involvement
- Voluntary

Type 2 Environmental Labelling

- Self declared Environmental Claims, eg

- Recycled content
- Recyclable
- Renewable,
- Low energy…

- ISO 14021: 2001: where term is covered, standard provides usage, qualifications and evaluation methodology
- Claims should be capable of being verified
- Single issue

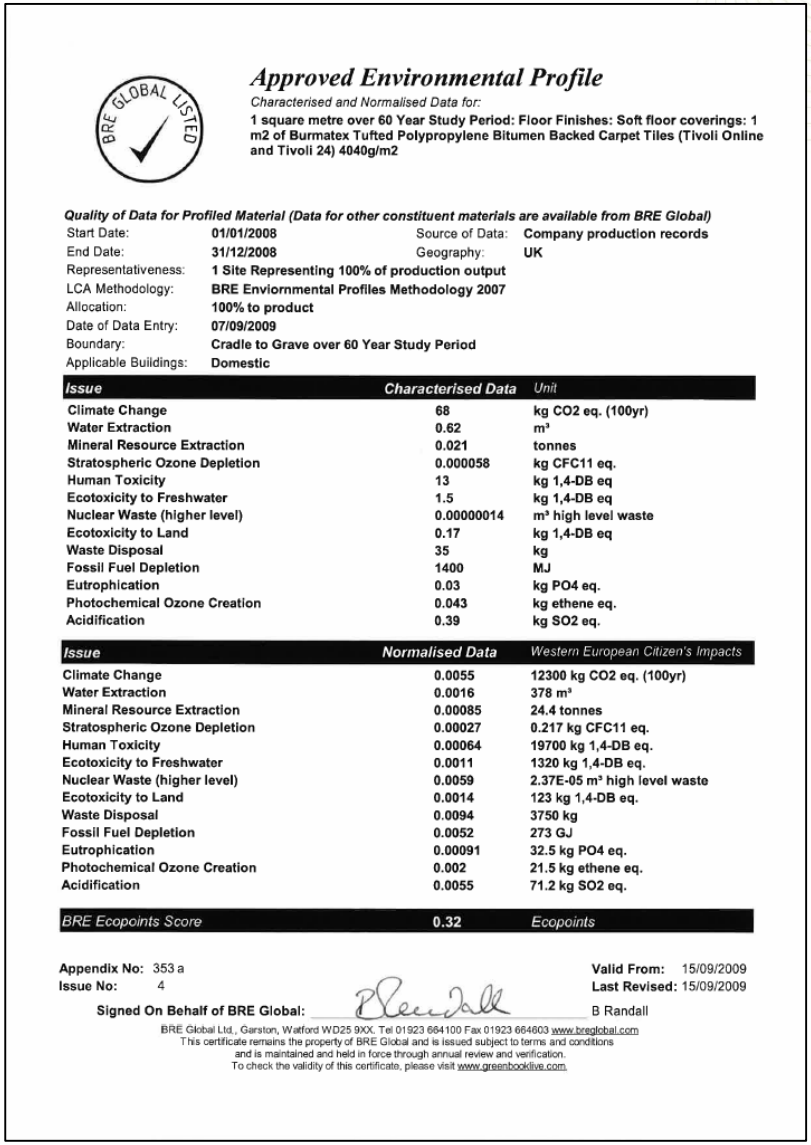
Carbon Footprint

- Cradle to Grave
- No Standards yet
- Greenhouse gas emissions…
- No resource use, pollution, toxicity…

- LCA based?
- Common data and method?
- Verification?

Type 3 Environmental Labels

- Environmental Product Declarations (EPDs)
- Based on Life Cycle Assessment
- ISO Standards
- Program Operator
- Product Category Rules
- Third party verified
- Environmental Profiles (UK), MRPI (Netherlands), IBU (Germany), INIES (France)…



Approved Environmental Profile

Characterised and Normalised Data for:

1 square metre over 60 Year Study Period: Floor Finishes: Soft floor coverings: 1 m2 of Burmatex Tufted Polypropylene Bitumen Backed Carpet Tiles (Tivoli Online and Tivoli 24) 4040g/m2

Quality of Data for Profiled Material (Data for other constituent materials are available from BRE Global)

Start Date:	01/01/2008	Source of Data:	Company production records
End Date:	31/12/2008	Geography:	UK
Representativeness:	1 Site Representing 100% of production output		
LCA Methodology:	BRE Enviornmental Profiles Methodology 2007		
Allocation:	100% to product		
Date of Data Entry:	07/09/2009		
Boundary:	Cradle to Grave over 60 Year Study Period		
Applicable Buildings:	Domestic		

Issue	*Characterised Data*	*Unit*
Climate Change	68	kg CO2 eq. (100yr)
Water Extraction	0.62	m^3
Mineral Resource Extraction	0.021	tonnes
Stratospheric Ozone Depletion	0.000058	kg CFC11 eq.
Human Toxicity	13	kg 1,4-DB eq
Ecotoxicity to Freshwater	1.5	kg 1,4-DB eq
Nuclear Waste (higher level)	0.00000014	m^3 high level waste
Ecotoxicity to Land	0.17	kg 1,4-DB eq
Waste Disposal	35	kg
Fossil Fuel Depletion	1400	MJ
Eutrophication	0.03	kg PO4 eq.
Photochemical Ozone Creation	0.043	kg ethene eq.
Acidification	0.39	kg SO2 eq.

Issue	*Normalised Data*	*Western European Citizen's Impacts*
Climate Change	0.0055	12300 kg CO2 eq. (100yr)
Water Extraction	0.0016	378 m^3
Mineral Resource Extraction	0.00085	24.4 tonnes
Stratospheric Ozone Depletion	0.00027	0.217 kg CFC11 eq.
Human Toxicity	0.00064	19700 kg 1,4-DB eq.
Ecotoxicity to Freshwater	0.0011	1320 kg 1,4-DB eq.
Nuclear Waste (higher level)	0.0059	2.37E-05 m^3 high level waste
Ecotoxicity to Land	0.0014	123 kg 1,4-DB eq.
Waste Disposal	0.0094	3750 kg
Fossil Fuel Depletion	0.0052	273 GJ
Eutrophication	0.00091	32.5 kg PO4 eq.
Photochemical Ozone Creation	0.002	21.5 kg ethene eq.
Acidification	0.0055	71.2 kg SO2 eq.

BRE Ecopoints Score	**0.32**	*Ecopoints*

Appendix No: 353 a
Issue No: 4

Valid From: 15/09/2009
Last Revised: 15/09/2009

Signed On Behalf of BRE Global: B Randall

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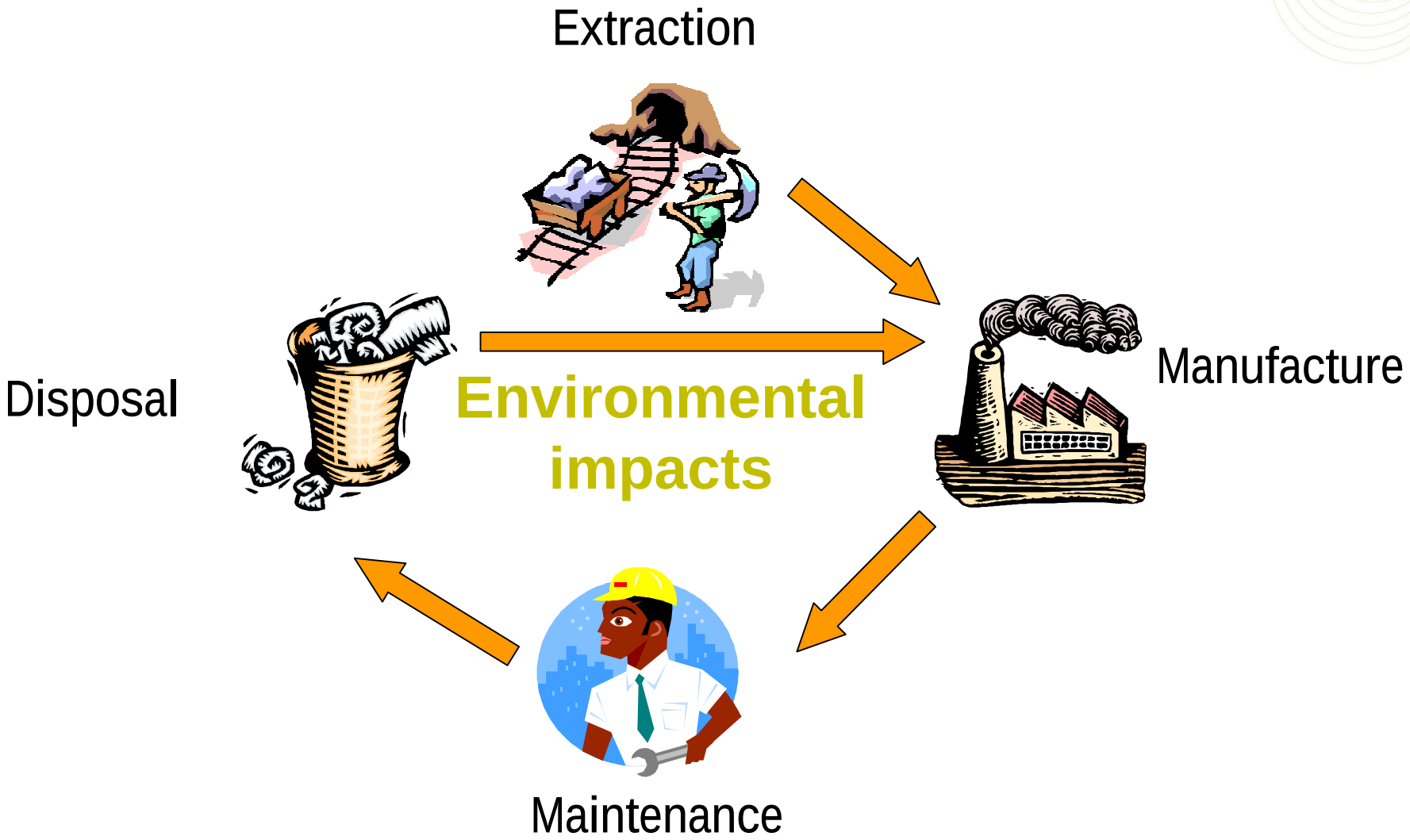
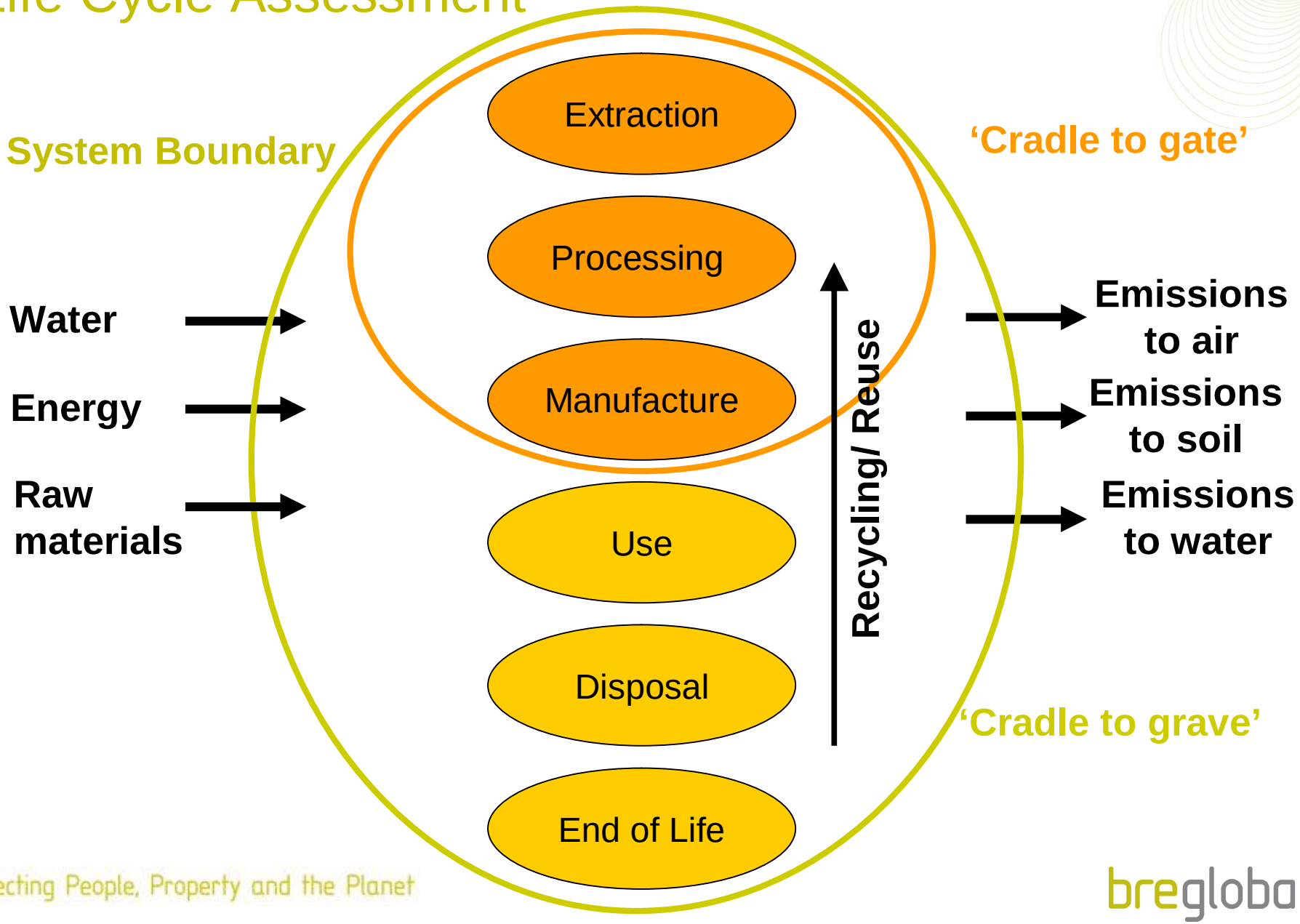
What is Life Cycle Assessment (LCA)



Life Cycle Assessment

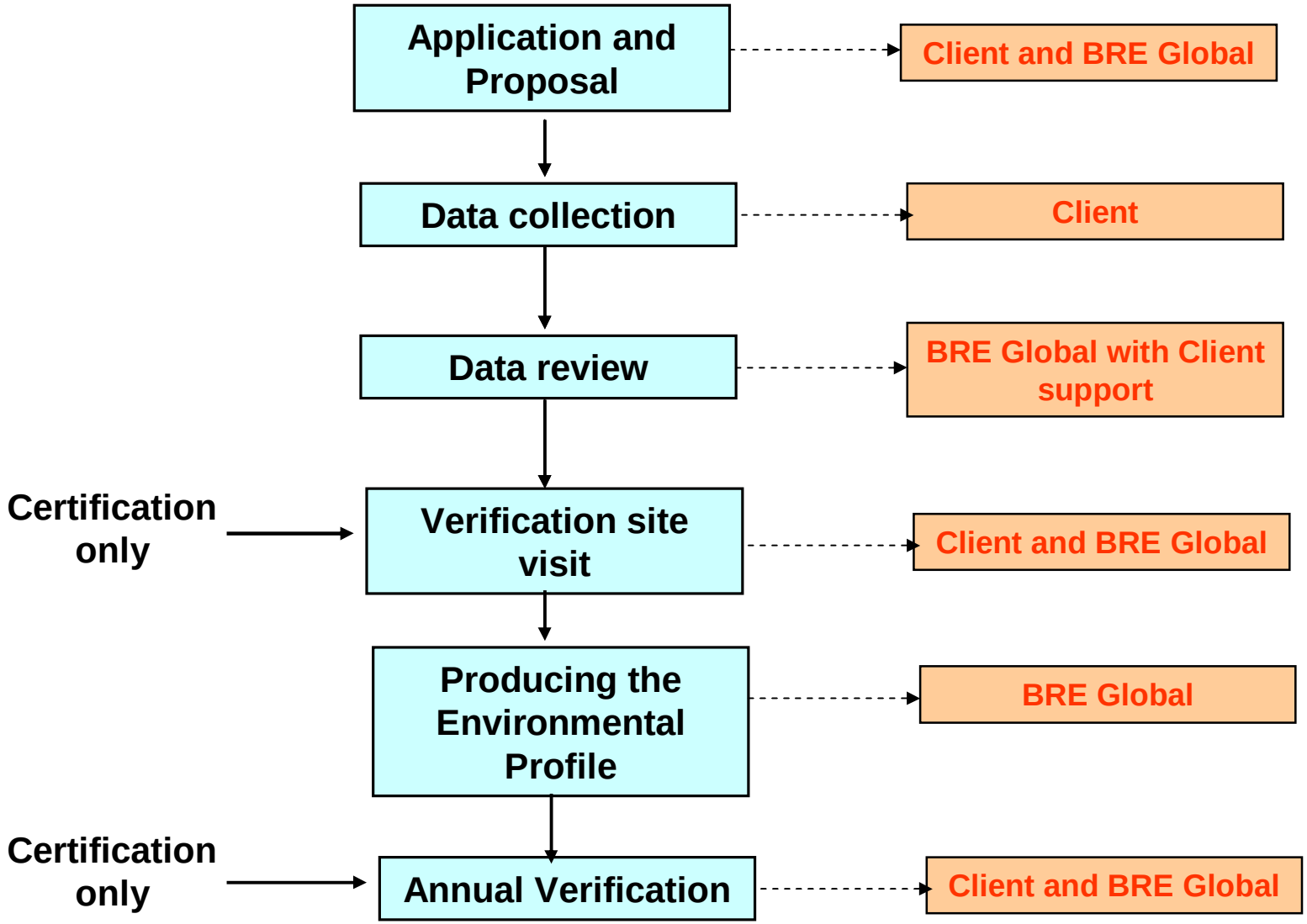


How do we calculate an Environmental Profile?

- ISO 14040:2006 and ISO 14044: 2006 Life Cycle Assessment
- ISO 14025: 2006 Type 3 Environmental Labels
- ISO 21930: 2007 Environmental Product Declarations for Construction Products
- CEN TC 350 Sustainability of Construction Works

- Environmental Profiles Methodology
- Peer reviewed Product Category Rules
- ISO Compliant
- Widespread Industry Consultation – 1997-9 and 2004-2007
- Level playing field approach

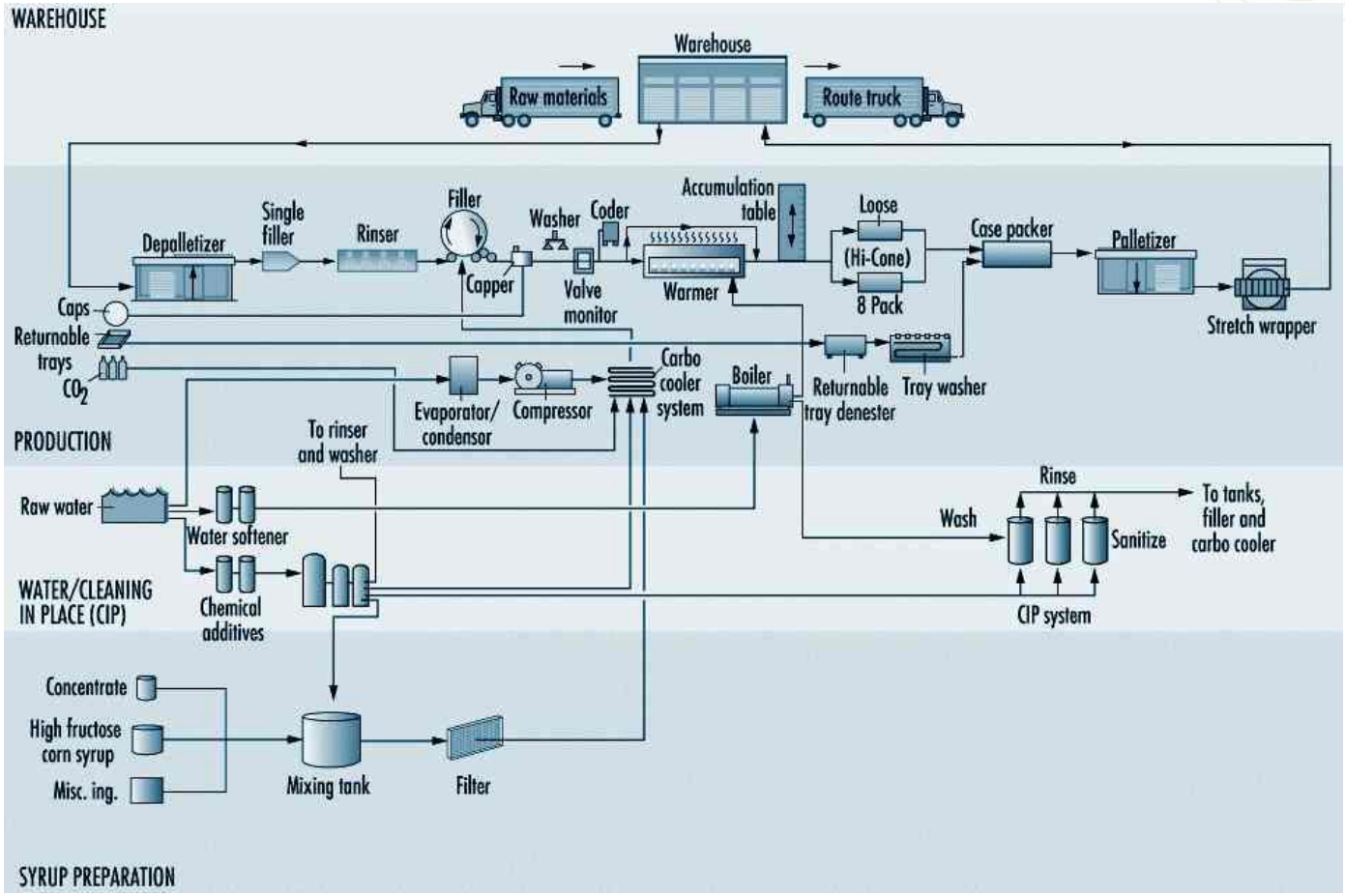
The Environmental Profiles Process



What's behind an Environmental Profile?

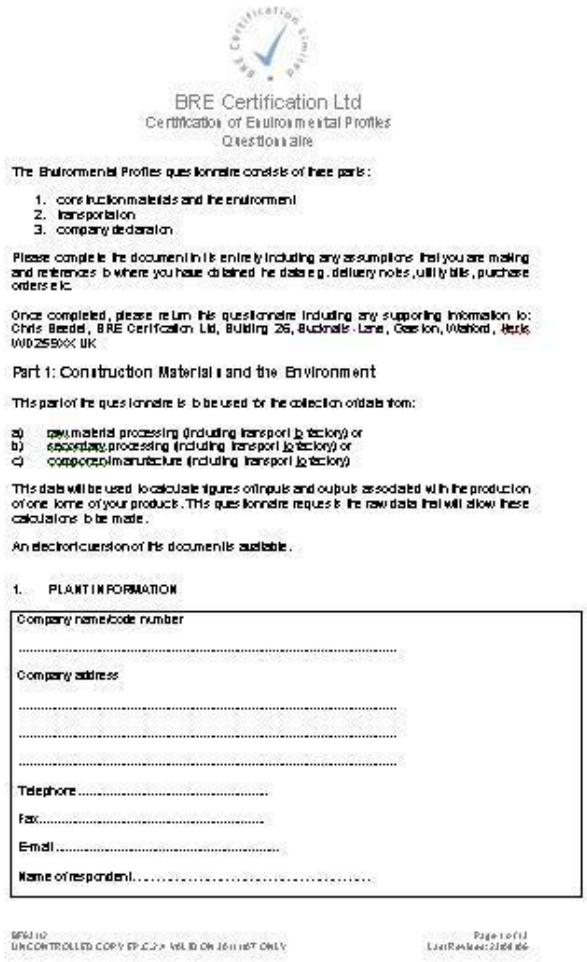
Factory Data

- Outputs
- Inputs
- Energy
- Transport
- Emissions
- Waste



Data collection

- Questionnaire
- Filled in by Manufacturer – Technical Data
- Important document
  - Accuracy
  - BRE Global can request to see evidence of data
- Company declaration – signature required
- Raw data
- Allocation to products



BRE Certification Ltd
Certification of Environmental Profiles
Questionnaire

The Environmental Profiles questionnaire consists of three parts:

1. construction materials and the environment
2. transportation
3. company declaration

Please complete the document in its entirety including any assumptions that you are making and references to where you have obtained the data e.g. delivery notes, utility bills, purchase orders etc.

Once completed, please return this questionnaire including any supporting information to: Chris Beedel, BRE Certification Ltd, Building 26, Bucknalls Lane, Garston, Watford, Herts WD25 9XX UK

Part 1: Construction Materials and the Environment

This part of the questionnaire is to be used for the collection of data from:

a) raw material processing (including transport to factory) or
b) secondary processing (including transport to factory) or
c) component manufacture (including transport to factory)

This data will be used to calculate figures of inputs and outputs associated with the production of one tonne of your product. This questionnaire requests the raw data that will allow these calculations to be made.

An electronic version of this document is available.

1. PLANT INFORMATION

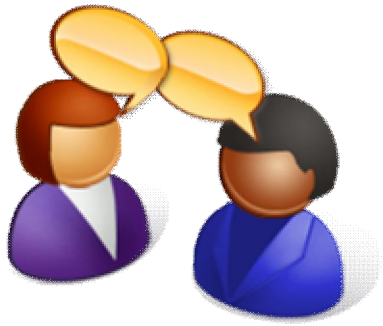
Company name/code number
.....
Company address
.....
.....
.....
Telephone.....
Fax.....
E-mail.....
Name of respondent.....

What are common trip-ups?

- Manufacturing Period
  - Minimum of 3 months production data
- Production output
  - Additional products
  - Measured units
- Input materials
  - All inputs, including packaging
  - MSDS sheets, Concentrations, Units etc
- Transport section
  - Type – sea, rail, road – distance, return journeys, track to manufacturer
- Other sections:
  - Energy – Units, transport if delivered
  - Emissions – which fuels, how calculated?

How to assist Certification

- Always state calculations, conversions, assumptions and allocations
- Always state UNITS
- State total site or product specific data
- Use primary data whenever possible and practical
- Keep records of all documents used
  - evidence for verification
  - photocopies
  - Reference your documents and keep them in order
- Think about how you record the data and how you can demonstrate this to BRE Global
- Have one point of contact to co-ordinate



What's behind an Environmental Profile?

Construction Data

- Where and how is the material used?
- How much is needed per square metre?
- How much is wasted?
- What other materials are used?
- How is it maintained?
- How long does it last?
- What happens to it at the end of its life?

Preparing for the Certification visit

- BRE Global selects a sample of data from data collection form
  - Representative of each section (Part 1 only)
- Certification checklist
  - Lists sample data from data collection form to be verified
- Certification visit letter
  - Explanation of purpose of visit, data to be sampled, evidence required
- Agenda – (meeting, site tour, data verification)

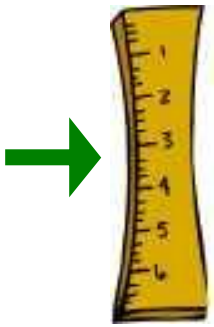
- Sent to client at least 2 weeks before visit

At the Certification visit

- All evidence provided must be for specified time period
- Site tour – need to see all relevant areas of site covered by certification
- BRE Global will ask for:
  - Evidence for time period
  - Bills, delivery notes, production records, meters
  - Verified figure to correspond with figure supplied in questionnaire
- BRE Global will also ask for photocopies or print-outs of all evidence

- Ideally, those who supplied data are present for visit

How we calculate an Environmental Profile?



E C O P O I N T S

Issues Measurement Normalisation Weighting

Impacts assessed

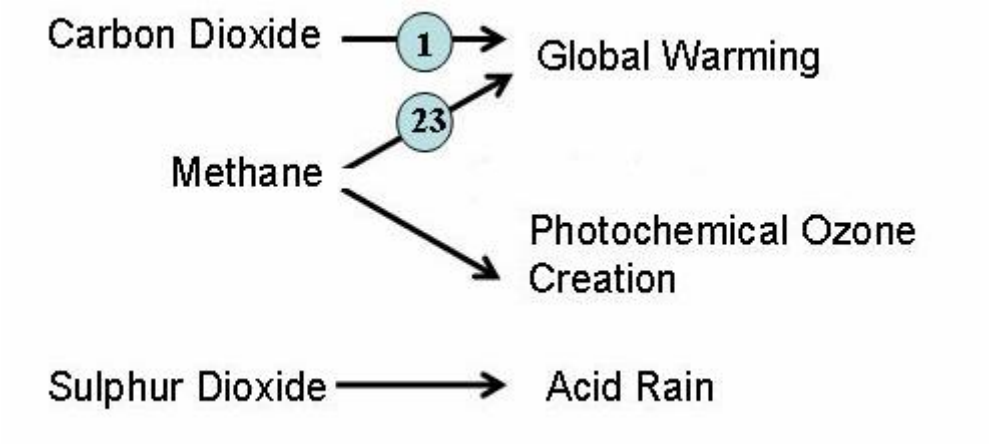
- Not just embodied energy or embodied carbon
- 13 impacts assessed
- 5 impacts core to all EPDs (marked *)

- Extensive consultation on impacts and measurement systems

Environmental Issue
Climate Change*
Water extraction
Mineral extraction
Stratospheric ozone depletion*
Human toxicity
Ecotoxicity to freshwater
Higher level nuclear waste
Ecotoxicity to land
Waste disposal
Fossil fuel depletion
Eutrophication*
Photochemical ozone creation*
Acidification*

Measurement

- Cradle to grave
- Impacts cover all relevant emissions or resource use, eg
  - Climate change covers all greenhouse gases, eg carbon dioxide, methane, nitrous oxide, HFCs etc
- Characterisation measures relative impact



Normalisation

- The impact of one European citizen per year
- Allows direct comparison of impacts

Environmental Issue	Impact
Climate Change	12.3 t CO_2 eq. (100 yr)
Water extraction	377m^3
Mineral extraction	24.4 tonnes
Stratospheric ozone depletion	0.217 kg CFC-11 eq.
Human toxicity	19.7 t 1,4-DB eq.
Ecotoxicity to freshwater	13.2 t 1,4-DB eq.
Higher level nuclear waste	23700 mm^3
Ecotoxicity to land	123 kg 1,4-DB eq.
Waste disposal	3.75 tonnes
Fossil fuel depletion	6.51 toe
Eutrophication	32.5 kg PO_4 eq.
Photochemical ozone creation	21.5 kg C_2H_4 eq.
Acidification	71.2 kg SO_2 eq.

Weightings

- Required to achieve *relative* importance
- And for a single score
- Created by a panel of 10 European experts.
- Peer reviewed
- Geographically specific to Europe

- Basis of BRE Ecopoints

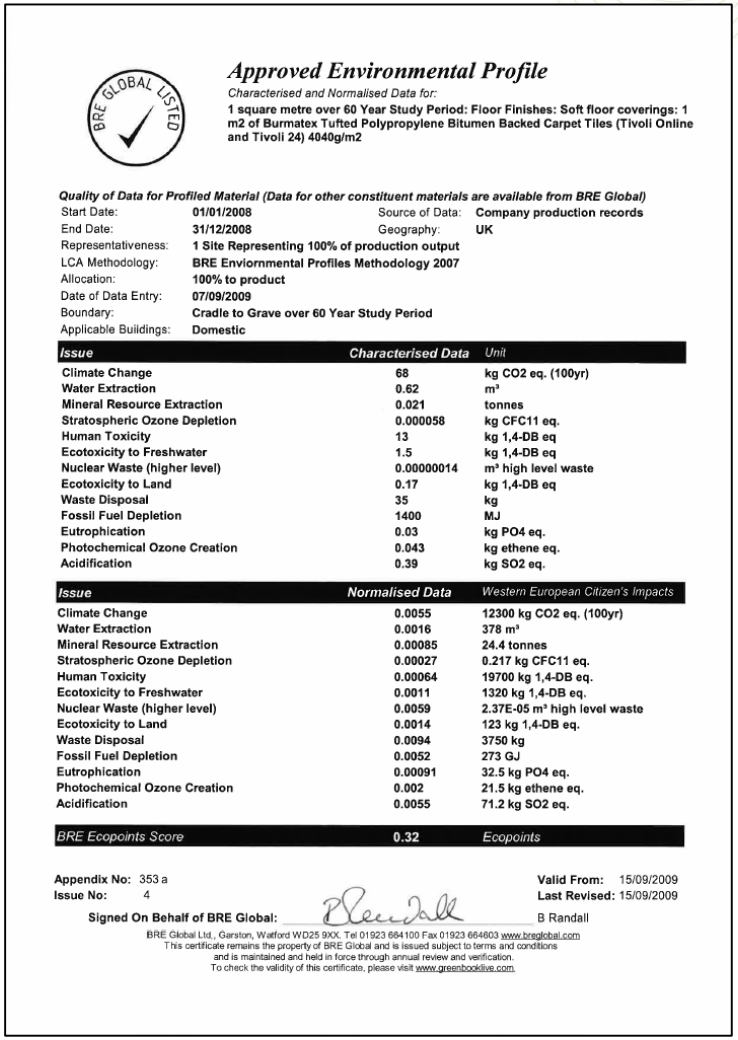
Environmental Issue	**Weighting (%)**
Climate Change	21.6
Water extraction	11.7
Mineral extraction	9.8
Stratospheric ozone depletion	9.1
Human toxicity	8.6
Ecotoxicity to freshwater	8.6
Higher level nuclear waste	8.2
Ecotoxicity to land	8.0
Waste disposal	7.7
Fossil fuel depletion	3.3
Eutrophication	3.0
Photochemical ozone creation	0.20
Acidification	0.05

Generic product impacts

- Gather data from several manufacturers of the same product, often via trade associations
- Verify against each other, existing datasets, or request evidence
- Measure the impact of each
- Create a generic average impact for that product
- Apply normalisations, weightings to calculate Ecopoints in the normal way

Certified (product specific) declarations

- Gather data from a single manufacturer for a single product
- Verify data
- Measure the impact
- Apply normalisations, weightings to calculate Ecopoints



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BRE Ecopoints Score	**0.32**	*Ecopoints*

Appendix No: 353 a
Issue No: 4

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Signed On Behalf of BRE Global: B Randall

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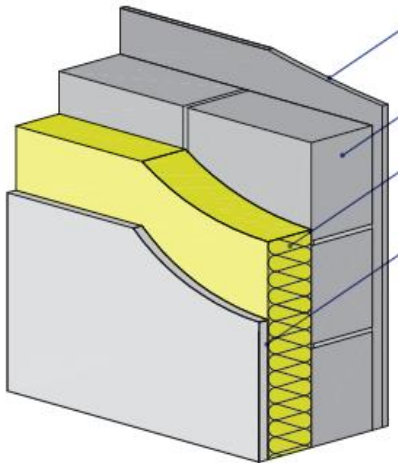
Building Level Environmental Profiles

Bricks vs bricks

Wall specifications

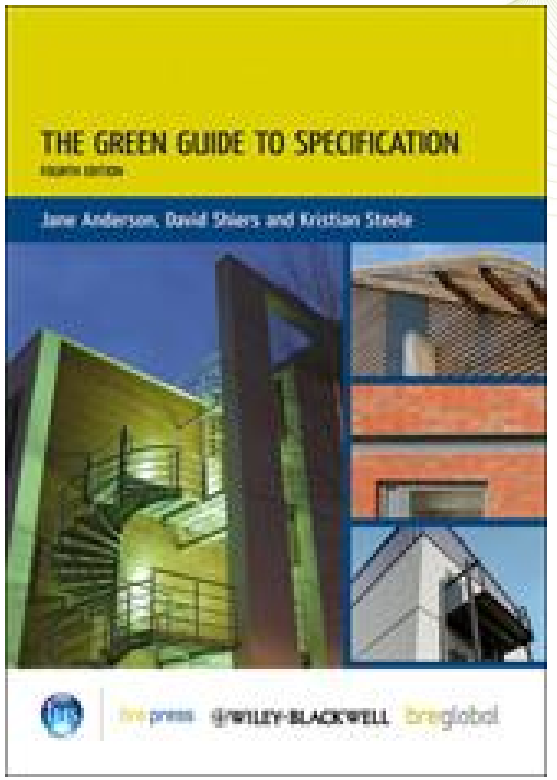
vs

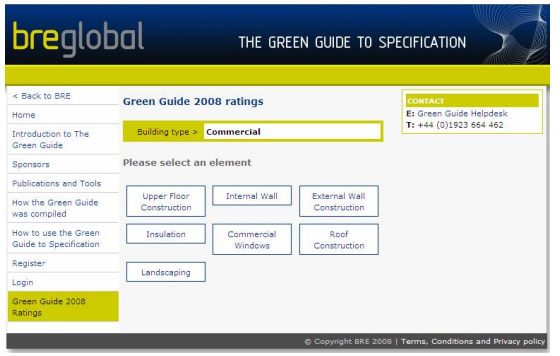
Blocks vs blocks



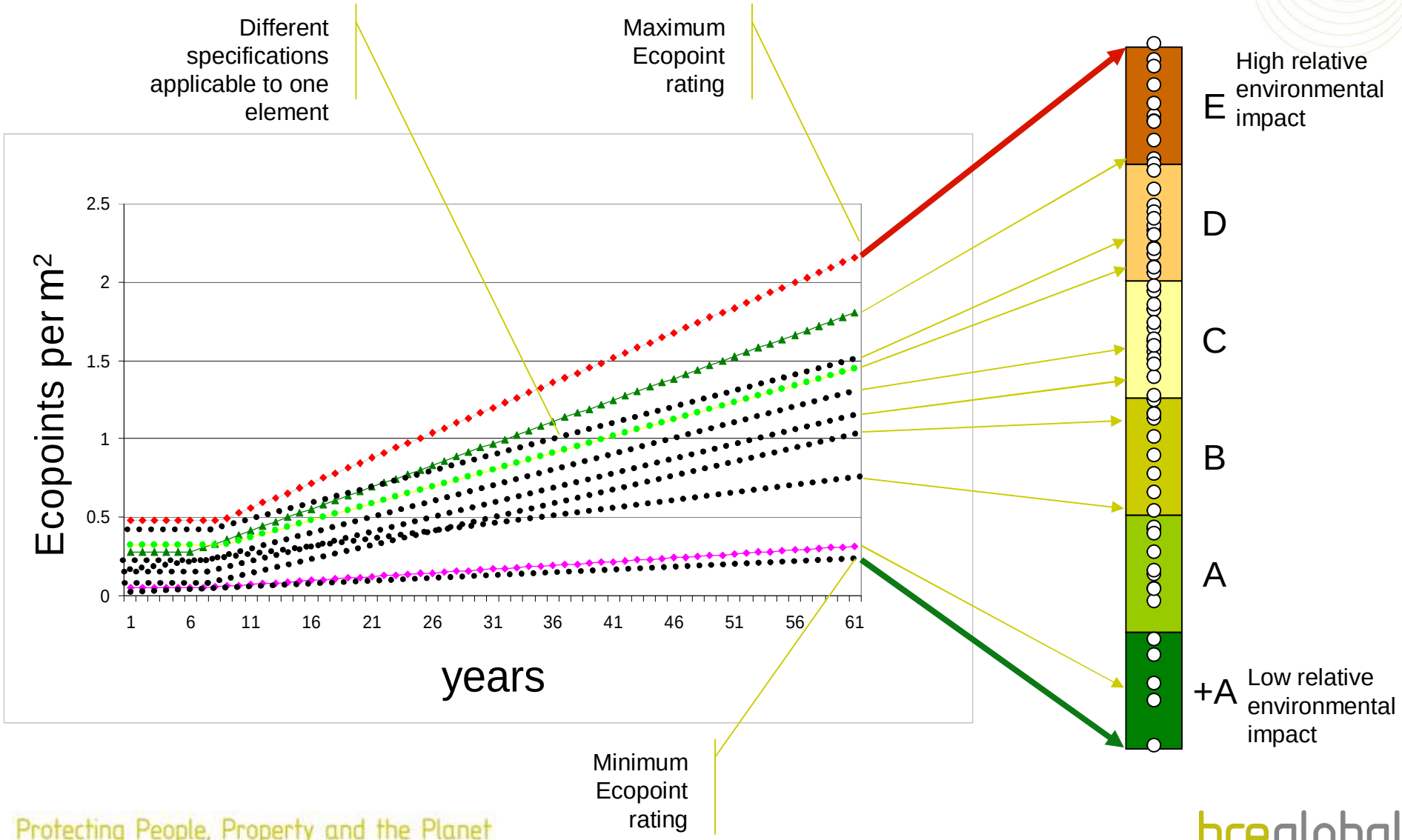
The Green Guide to Specification

- Building elements and functional units established via consultation
- Range of ‘specifications’ for each building element established via consultation
- Ecopoints for products/materials within each specification calculated and added together
- Generic specifications compared to apply A+ to E ratings
- Used in BREEAM and Code for Sustainable Homes



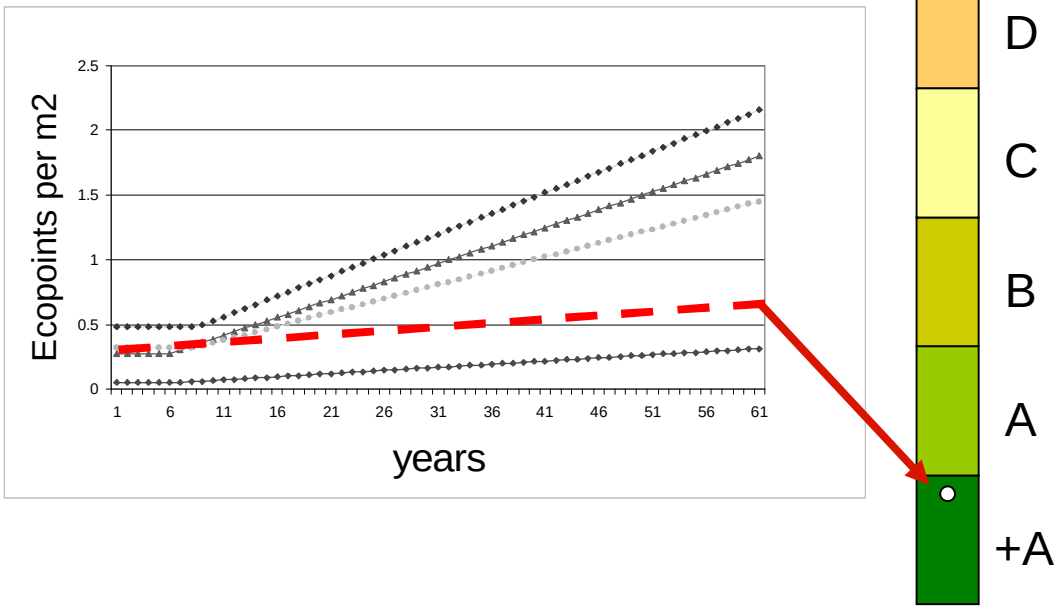


The Ecopoint and A+ to E ratings



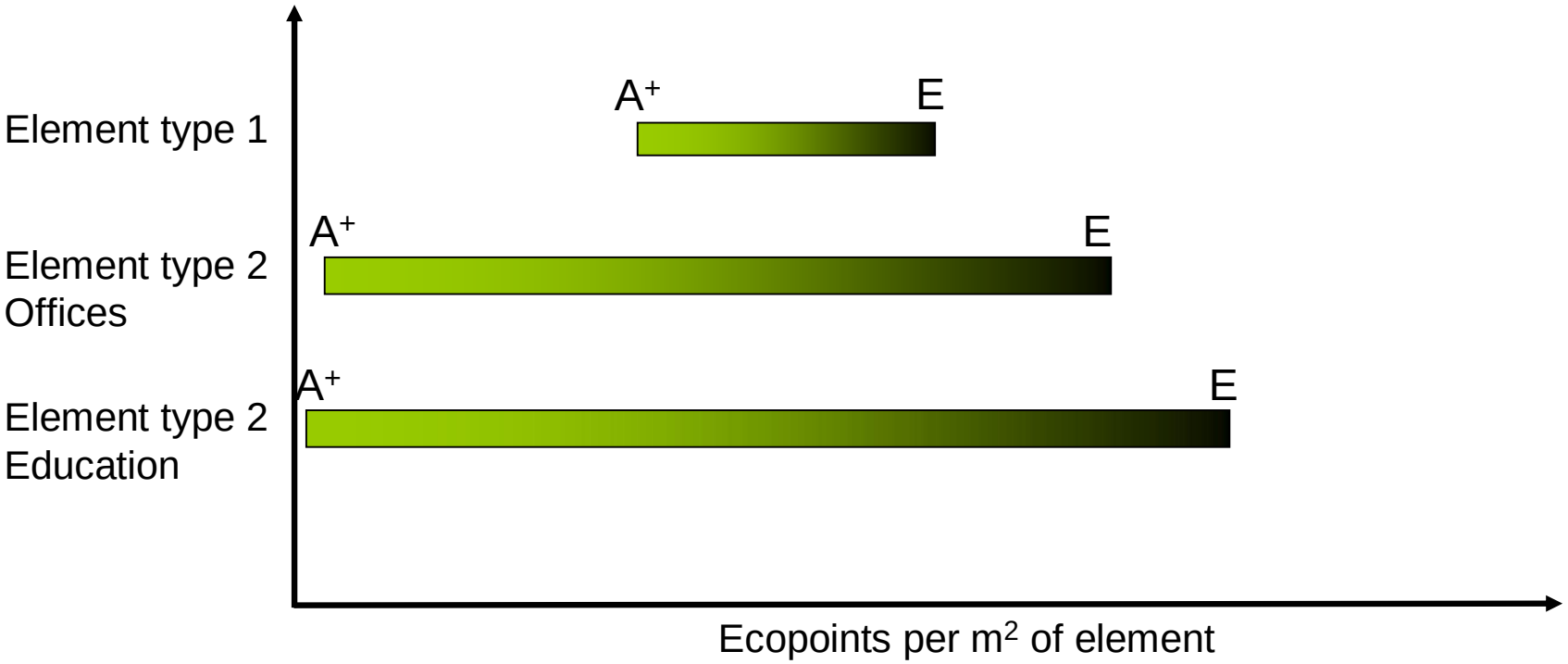
Green Guide ratings for Certified products

- After certified profiling
- Certified product is included within an element specification and Ecopoints are calculated
- Green Guide rating is calculated by comparison to the existing generic range for the same element

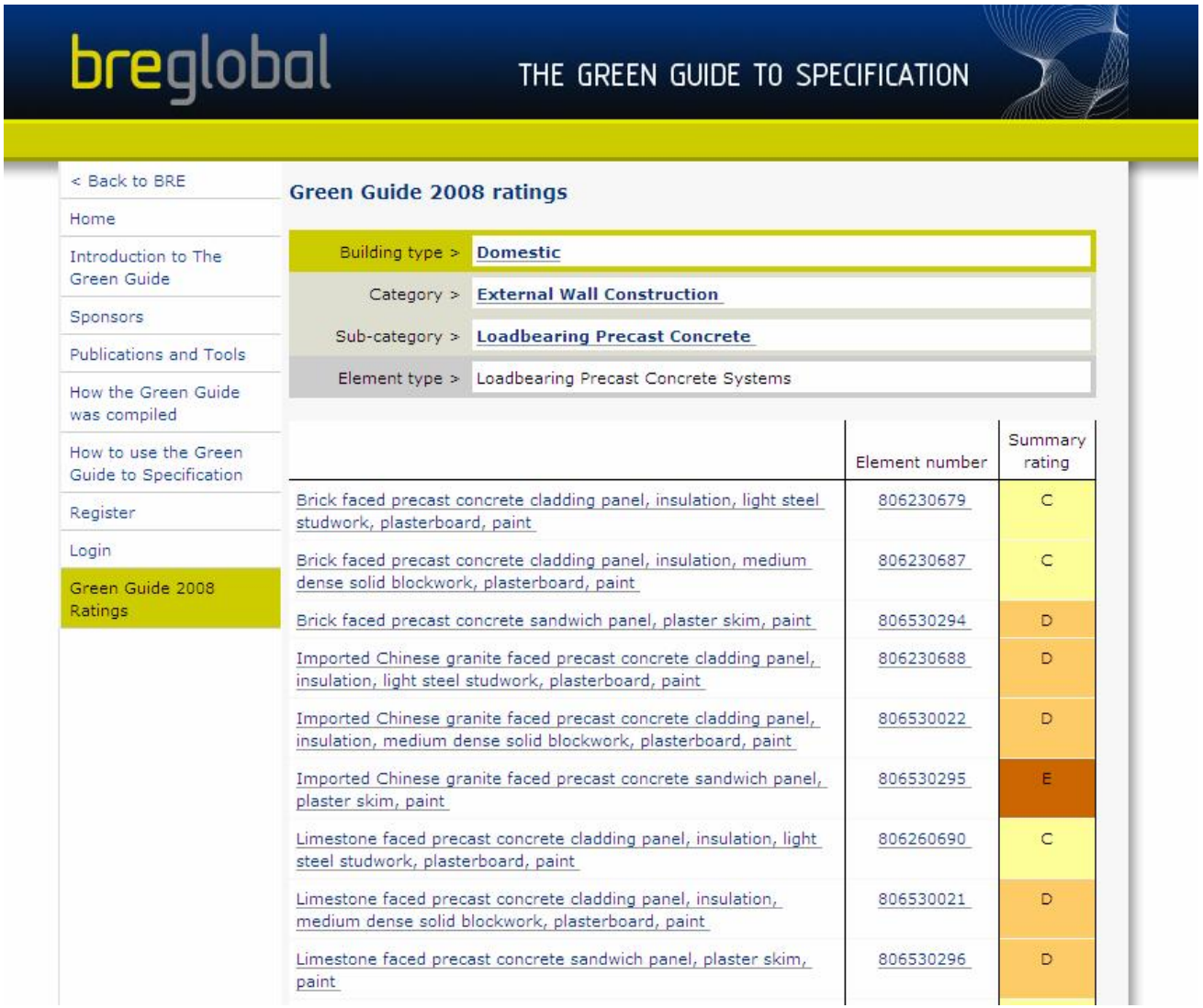


Ecopoint scale

- Different scale of ecopoints for each building element, and sometimes different scales for each building type
- Based on generic profiles



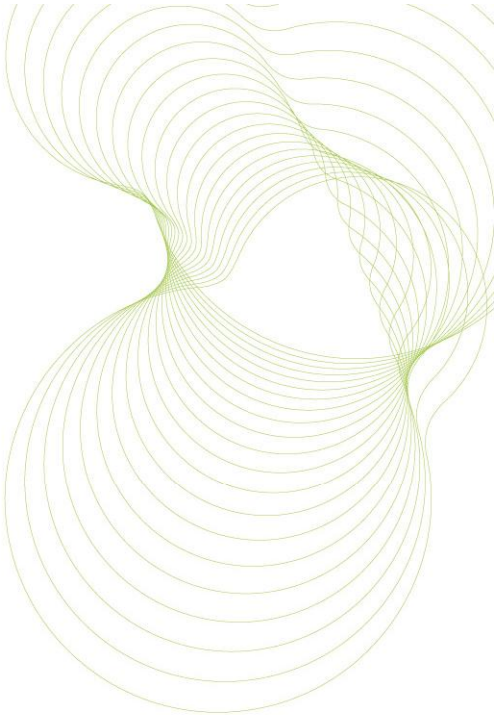
Specification ratings



	Element number	Summary rating
Brick faced precast concrete cladding panel, insulation, light steel studwork, plasterboard, paint	806230679	C
Brick faced precast concrete cladding panel, insulation, medium dense solid blockwork, plasterboard, paint	806230687	C
Brick faced precast concrete sandwich panel, plaster skim, paint	806530294	D
Imported Chinese granite faced precast concrete cladding panel, insulation, light steel studwork, plasterboard, paint	806230688	D
Imported Chinese granite faced precast concrete cladding panel, insulation, medium dense solid blockwork, plasterboard, paint	806530022	D
Imported Chinese granite faced precast concrete sandwich panel, plaster skim, paint	806530295	E
Limestone faced precast concrete cladding panel, insulation, light steel studwork, plasterboard, paint	806260690	C
Limestone faced precast concrete cladding panel, insulation, medium dense solid blockwork, plasterboard, paint	806530021	D
Limestone faced precast concrete sandwich panel, plaster skim, paint	806530296	D

Summary

- Environmental Profiles are a Type 3 Environmental Product Declaration
- Based on Life Cycle Assessment
- Methodology developed in consultation with industry
- Robust, ISO compliant and peer reviewed
- Industry data underpins the work
- Certification is Third party verified
- Environmental Profiles and Green Guide allow Building Level comparison of products and constructions



Environmental Profiling Explained

Victoria Blake
BREEAM Materials, BRE Global

26th October 2009

Overview

- What does an Environmental Profile tell you?
- What an Environmental Profile doesn't tell you
- How can you use an Environmental Profile?
- Summary

What does an Environmental Profile tell you?

Certificate of Approval

Environmental Profiles

J B Bricks

Kiln Way

Has complied with the requirements identified in the

Scheme Document SD028

And is authorised to use the BRE Global Mark on publications related to the Environmental Profiles of the following products;

Clay Bricks

See appendices a – b to BRE Global 2008 Environmental Profiles Methodology for further details

for and on behalf of BRE Global

Bridget Randall

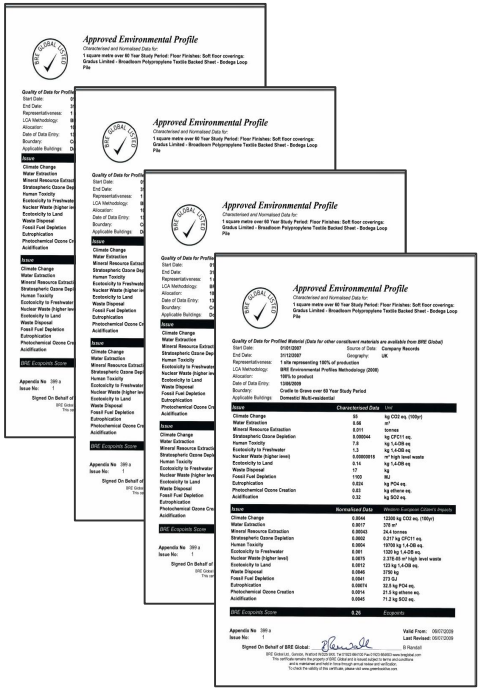
Certificate No : ENP 666

Issue Number : 1

Date of Issue: October 2009

breglobal

Certificate



Approved Environmental Profile

Environmental Product Declaration

bre

Client Report:

Accompanying Report for the BRE Global Environmental Profiles of: Clay Bricks

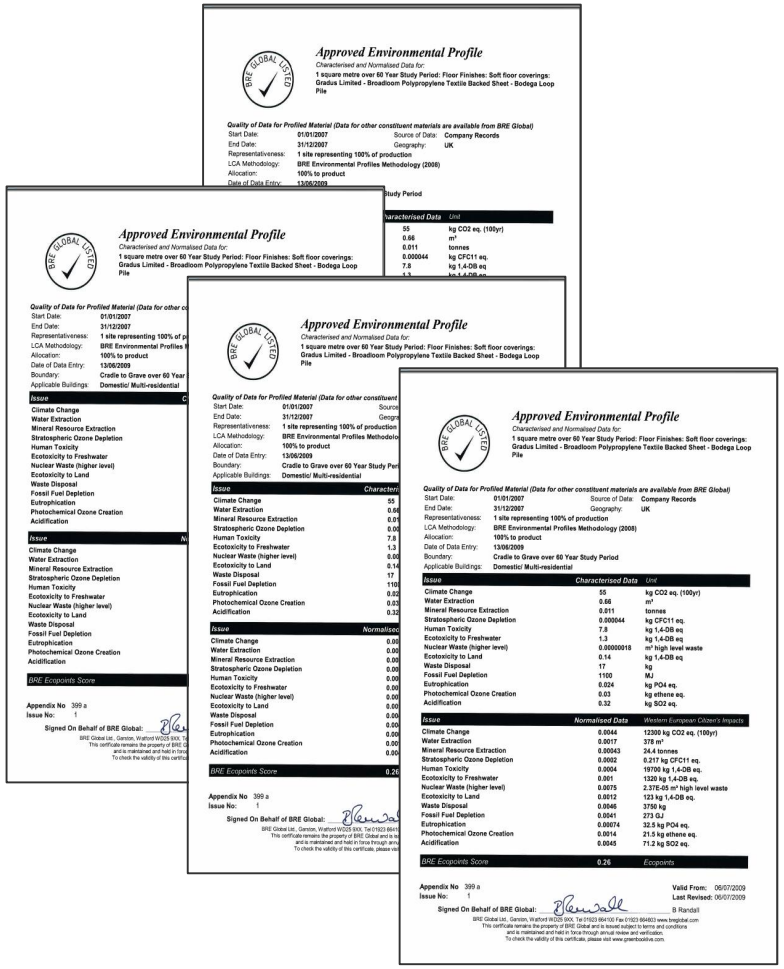
Prepared for: J B Bricks

Date: October 2009

Client report number: 123456

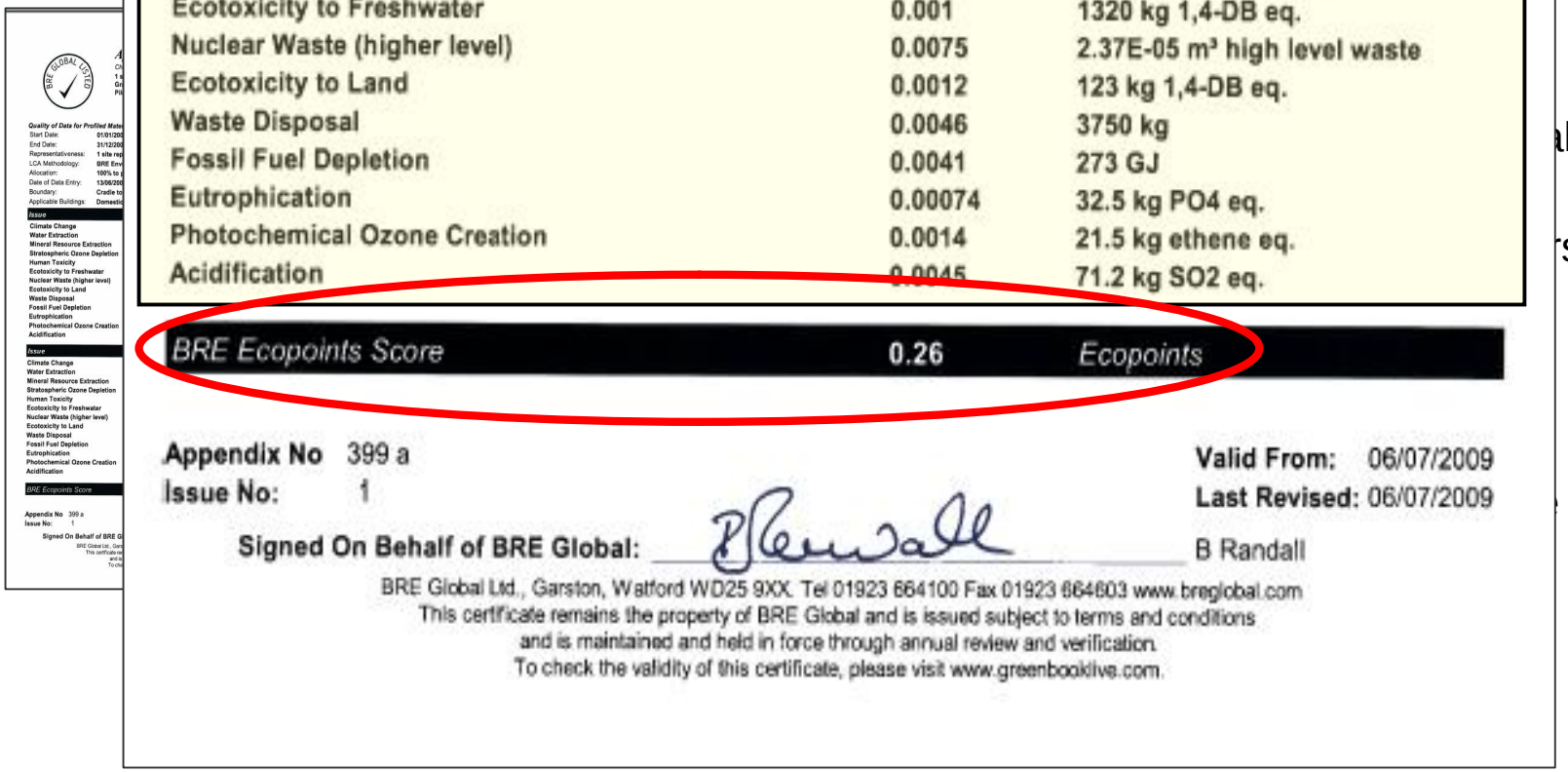
Environmental Profiles Report

Environmental Product Declaration



- Product Declaration
  - Cradle to Factory Gate
  - Not Green Guide Rated
- In Use Product Declaration
  - Includes impact of ALL materials used in 1m^2 of specification
  - Cradle to Grave over 60 year study period
  - Used to create Green Guide Rating
  - Certified
- Common to Both
  - Impacts listed by impact type
  - Ecopoint score

Environmental Product Declaration



Issue	Normalised Data	Western European Citizen's Impacts
Climate Change	0.0044	12300 kg CO2 eq. (100yr)
Water Extraction	0.0017	378 m³
Mineral Resource Extraction	0.00043	24.4 tonnes
Stratospheric Ozone Depletion	0.0002	0.217 kg CFC11 eq.
Human Toxicity	0.0004	19700 kg 1,4-DB eq.
Ecotoxicity to Freshwater	0.001	1320 kg 1,4-DB eq.
Nuclear Waste (higher level)	0.0075	2.37E-05 m³ high level waste
Ecotoxicity to Land	0.0012	123 kg 1,4-DB eq.
Waste Disposal	0.0046	3750 kg
Fossil Fuel Depletion	0.0041	273 GJ
Eutrophication	0.00074	32.5 kg PO4 eq.
Photochemical Ozone Creation	0.0014	21.5 kg ethene eq.
Acidification	0.0045	71.2 kg SO2 eq.

BRE Ecopoints Score	0.26	Ecopoints

Appendix No 399 a
Issue No: 1

Valid From: 06/07/2009
Last Revised: 06/07/2009

Signed On Behalf of BRE Global: B Randall

BRE Global Ltd., Garston, Watford WD25 9XX. Tel 01923 664100 Fax 01923 664603 www.breglobal.com
This certificate remains the property of BRE Global and is issued subject to terms and conditions
and is maintained and held in force through annual review and verification.
To check the validity of this certificate, please visit www.greenbooklive.com.

Environmental Profiles Report
What it tells you

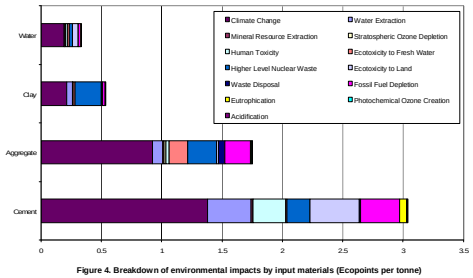


Figure 4. Breakdown of environmental impacts by input materials (Ecopoints per tonne)

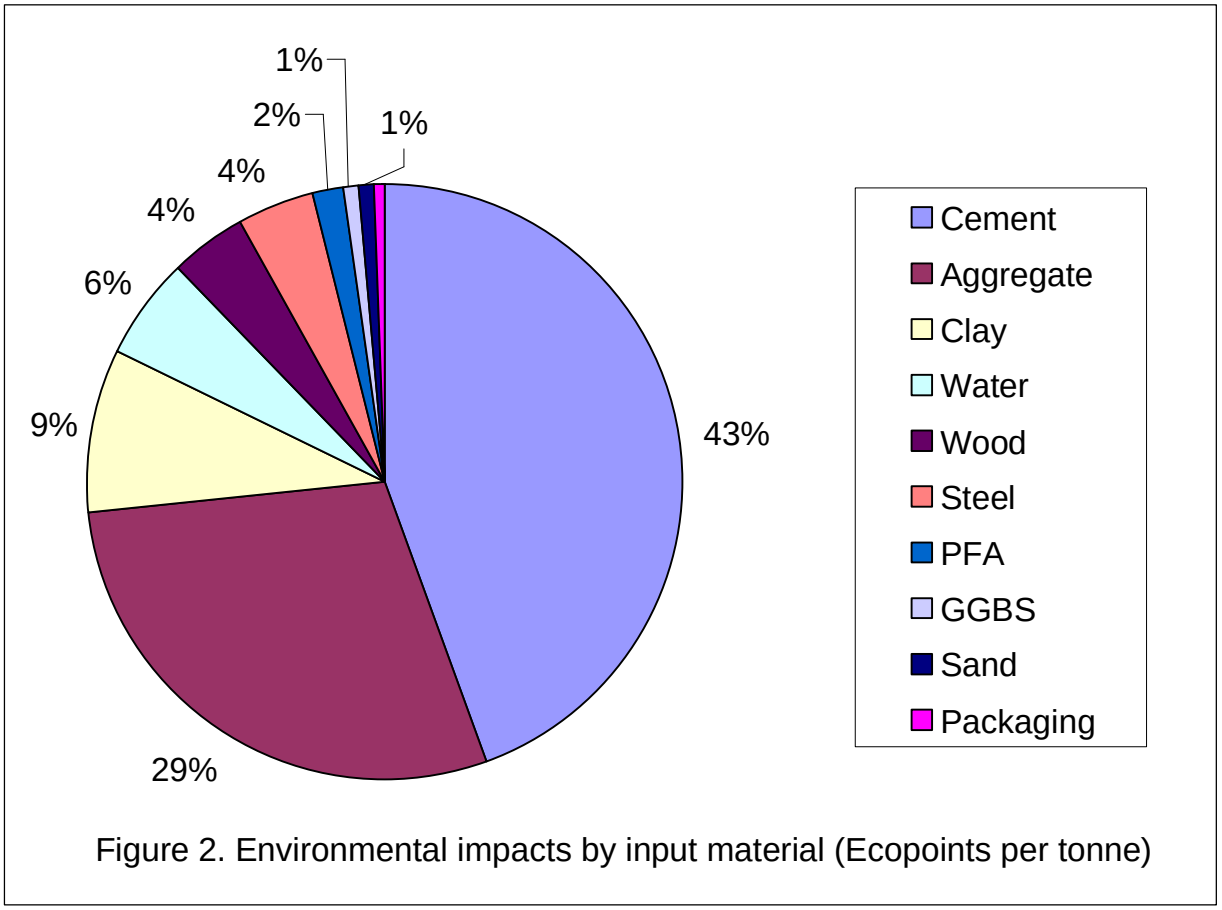
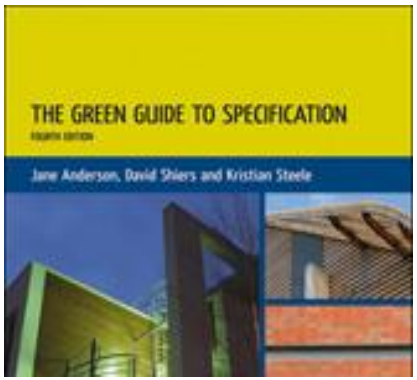


Figure 2. Environmental impacts by input material (Ecopoints per tonne)

What an environmental profile doesn't tell you

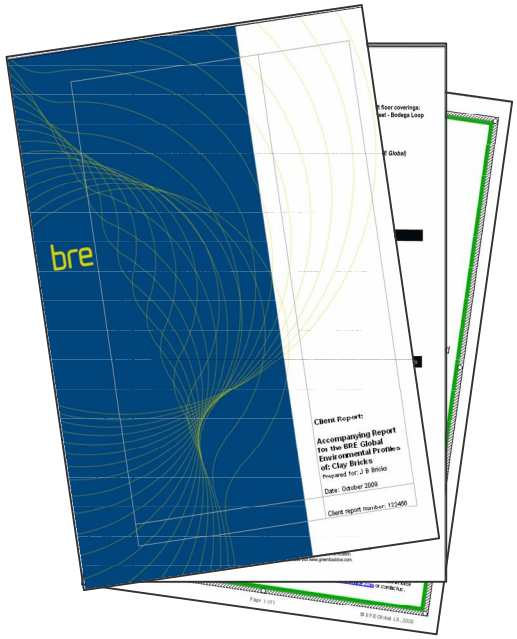
- Responsible Sourcing of Materials
  - Qualitative Impacts
    - Responsible sourcing
    - Social impacts
- BREEAM
  - Economic Impacts
- Code for Sustainable Homes
  - Physical Properties
- Centre for Whole Life Costing
  - Thermal properties
  - Acoustic properties
  - Emissions Insitu
    - VOC's

How can you use an Environmental Profile?



- Green Guide to Specification Rating
- Comparisons
  - Materials with similar functions
  - Specifications with similar functions
  - Building designs over their expected lifetimes
- BREEAM and CfSH
- Product differentiation
- Competitive advantage
- Open new markets

How can you use an Environmental Profile?



- Independent third party certification to prove environmental performance
- Fulfils ISO14001 / EMAS continual improvement requirements'
- Responsible Sourcing of Materials
- Product stewardship
- Focuses you on your significant sources of environmental impact
  - Allows you to allocate your resources for greatest benefit

Summary

- Environmental Profiles gives you…..
  - **Independent 3rd party certified**
  - **Certificate giving you credibility**
  - **Environmental Product Declaration which contains more information which your clients may need to know**
  - **An Ecopoint score**
  - **Green Guide rating**
  - **An Environmental Profiles Report which gives focus for the future**
  - **Product differentiation and competitive advantage**
  - **A means to cut through green claims and counter claims regarding products**

Thank-you

Victoria Blake
blakev@bre.co.uk

GRADUS

contract interior solutions

Alan Joss

Sales & Marketing Manager

Gradus Ltd

BRE Awareness
26 October, 2009

GRADUS

contract interior solutions

A G E N D A

- Introduction
- BRE – Accreditation
- Sales and Marketing Strategy
- Case Study
- Conclusion

GRADUS

contract interior solutions

INTRODUCTION

- Established 1966
- U.K. manufacturer of Stair Profiles, Matting, Wall Protection, Carpets and Fabrics
- Located in Macclesfield, Cheshire
- 300 employees
- Turnover £41 million

GRADUS
contract interior solutions

BRE - ACCREDITATION

- Gradus achieved this in July, 2009
- Achieved A+ for majority of product applications
- Unique position for Gradus, as not just carpet tile format -
  - broadloom
  - impervious
  - secondary matting

GRADUS

contract interior solutions

SALES AND MARKETING STRATEGY

"BREEAM is now required for all Government buildings representing over a third of construction in the U.K."

BRE Awareness
26 October, 2009

GRADUS

contract interior solutions

SALES AND MARKETING STRATEGY

- Training - Sales Teams
  - Customer Support Team
- Identify target markets / customers
  - ABI lead generation
  - Existing key client contacts
- Add BRE detail to sampling, literature, website

genus

product range information

product information:

Genus is a cut pile carpet that offers exceptional service across a variety of commercial installations. Combining durability and ease of maintenance with high levels of styling and is supported by a comprehensive warranty package. Genus has been designed to coordinate with the Volnay range of cut pile carpet.

Marquésa SD

warranties:

10 year wear warranty
10 year anti-static warranty
5 year stain & fade warranty
Full warranty details available on request

BRE Certification (BREEAM):

This carpet has been awarded the highest green guide 'A+' rating under the BRE's certified environmental profile scheme. For full information on ratings visit www.greenbooklive.com

specification:

Product Form	Broadloom	Impervious	Tile
Product Dimensions	4m	2m	500mm x 500mm
Product Construction	Tufted Graphics	Tufted Graphics	Tufted Graphics
Surface Yarn	100% Marquésa SD	100% Marquésa SD	100% Marquésa SD
Total Carpet Weight	2365g/m²	4605g/m²	5250g/m²
Tufted Pile Weight	1085g/m²	1085g/m²	1085g/m²
Gauge	39.0 per dm	39.0 per dm	39.0 per dm
Stitches	43.0 per dm	43.0 per dm	43.0 per dm
Tuft Density	1675dm²	1675dm²	1675dm²
Primary Backing	100% PP	Non-woven	Non-woven
Secondary Backing	Action Bac®	PVC	Bitumen
Total Carpet Thickness	8mm	8mm	9mm

Performance Specification

Classification	Gradus recommend heavy contract
N.H.S. Specification	Impervious carpet meets all requirements to N.H.S. Specification
Impact Sound Reduction ISO 140-8	30dB

Colour Fastness

Light BS1006	6
Rubbing BS1006	4 – 5
Water BS1006	5
Shampoo BS1006	5

Flammability

Hot Metal Nut Test BS4790	Pass, low radius of effects of ignition

For further information and recommended adhesives please contact Technical Services on 01625 428922. Gradus recommends the use of Gradus XT stair edgings (www.gradusxt.com) to provide durability, definition and safety for stairs (in line with The Building Regulations 2000 - Approved Document M and BS8300:2009) and Gradus Barrier Matting to maintain the appearance of the carpet and reduce maintenance costs.

ISO 14001 BMS 5851
ISO 9001 FM 12182

Light Reflectance Values (LRVs)

These values have been determined with reference to the CIE Tristimulus Y_{10}, illuminant D65 and the 10° colorimetric observer, in accordance with BS8493 : 2008. The Y co-ordinate represents lightness and extends from 0 (black) to 100 (white) and has been used as a measure of light reflectance values (LRVs).

All Gradus products have an LRV rating, including stair edgings, skirtings, matting & wall protection, to aid with creating an inclusive environment in line with the Disability Discrimination Act (DDA). Individual colour sheets are available from Gradus customer support. For additional information or advice on LRVs, how they relate to Gradus products or a copy of a test report contact Gradus customer support on 01625 428922.

GRADUS
contract interior solutions

Gradus Carpets Park Green Macclesfield Cheshire SK11 7LZ England UK Tel: 01625 859000 Fax: 01625 850352

www.gradusworld.com

For enquiries outside the UK and Eire contact Gradus International on +44 (0)1625 613780

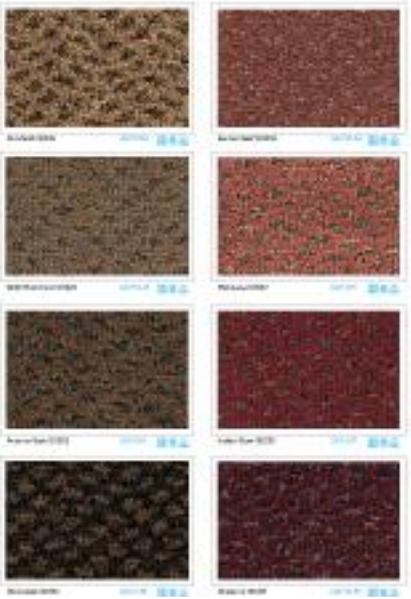
genus

product range information

GRADUS

genus

GRADUS



GRADUS

GRADUS

contract interior solutions

SALES AND MARKETING STRATEGY

- Inform our key Agreement partners
  - Laing O'Rourke – BSF School projects
  - Morgan Ashurst - BSF School projects
- PR – via Edson Evers, our PR Agency

Features :

CFJ - Contract Flooring Journal – December ABC&D - Architects Journal – December

Many press releases will result from above features

GRADUS

contract interior solutions

CASE STUDIES

Project : Ministry of Defence project for offices and single living accommodation

Architect : insisted on selecting products that had A+ BREEAM accreditation

Construction

Company : Laing O'Rourke – supply chain partner with Gradus

Specification : Predator loop pile carpet tiles

Adventurer loop pile carpet tiles

35,000 m² - April-December, 2010

GRADUS

contract interior solutions

CONCLUSION

Ø As a business Gradus could not afford to ignore this essential process

Ø BREEAM extending to Private Sector, not just Government projects

Ø Improved the environmental credentials of Gradus as a manufacturer who is serious about lowering it's impact on the environment

GRADUS

contract interior solutions

CONCLUSION

Ø Unique position for Gradus as accreditation achieved in all formats of carpeting and also secondary matting

Ø 60% of sales visits are to specifiers

AIM TO SPREAD THE MESSAGE ON BREEAM

ca Sustainable Architecture

How green is green
Environmental Profiling explained
Being confident about environmental claims
26th October 2009

Isabel Carmona

Specifier's needs

Issues covered

Design considerations for materials

What we want to know?

GG ratings and C for SH

Unexpected GG ratings

Why rating differences?

GG ratings for innovative constructions

What we would like to know

Design Considerations for materials

Performance (thermal mass, insulation)
Construction thicknesses
Compliance with regulations (part E),
Code for Sustainable Homes - BREEAM
Embodied energy
Sustainable sourcing
Traditions
Innovation

What we want to know?

U-value of Construction

Construction Green Guide Rating:

not only the brick or block but the actual build up!

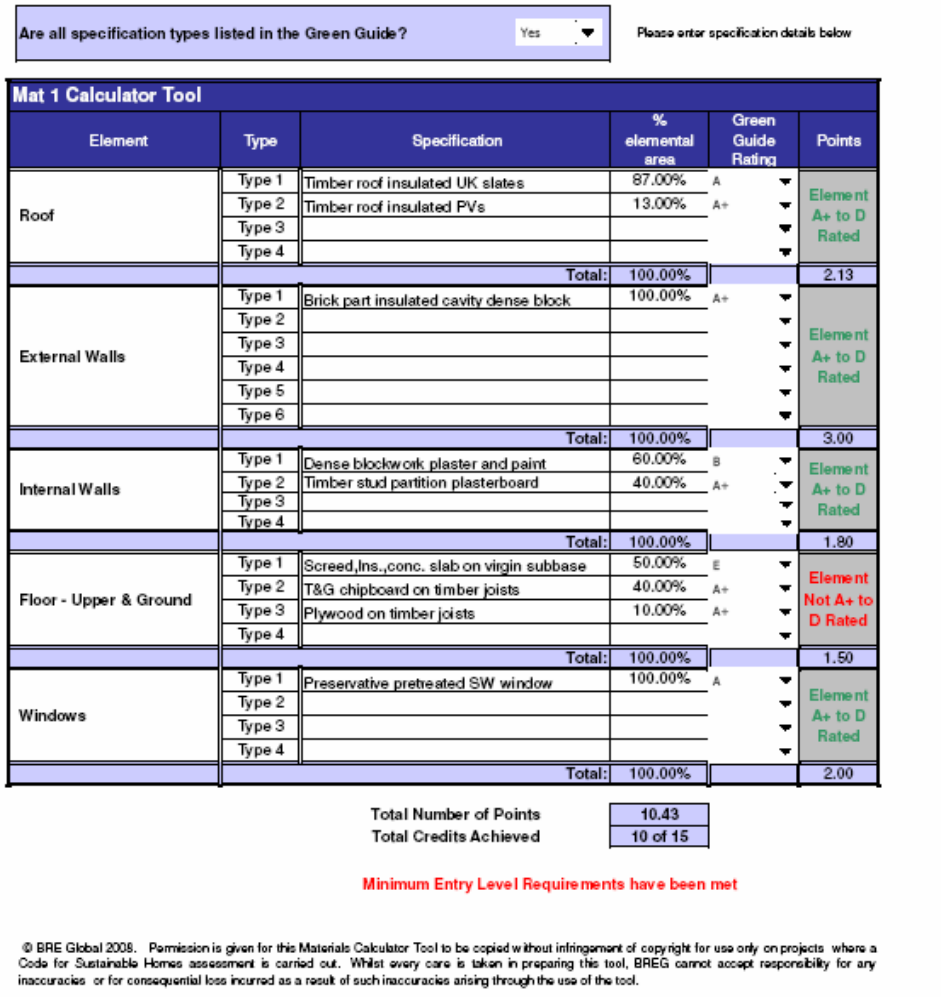
Sustainable sourcing (FSC or PEFC if timber) or

Environmental management system (ISO 14001)

of main components

GG ratings and C for SH

minimum requirement easy?



Are all specification types listed in the Green Guide? Yes — Please enter specification details below

Mat 1 Calculator Tool

Element	Type	Specification	% elemental area	Green Guide Rating	Points
Roof	Type 1	Timber roof insulated UK slates	87.00%	A	Element A+ to D Rated
	Type 2	Timber roof insulated PVs	13.00%	A+	
	Type 3				
	Type 4				
		Total:	100.00%		2.13
External Walls	Type 1	Brick part insulated cavity dense block	100.00%	A+	Element A+ to D Rated
	Type 2				
	Type 3				
	Type 4				
	Type 5				
	Type 6				
		Total:	100.00%		3.00
Internal Walls	Type 1	Dense blockwork plaster and paint	60.00%	B	Element A+ to D Rated
	Type 2	Timber stud partition plasterboard	40.00%	A+	
	Type 3				
	Type 4				
		Total:	100.00%		1.80
Floor - Upper & Ground	Type 1	Screed,lns.,conc. slab on virgin subbase	50.00%	E	Element Not A+ to D Rated
	Type 2	T&G chipboard on timber joists	40.00%	A+	
	Type 3	Plywood on timber joists	10.00%	A+	
	Type 4				
		Total:	100.00%		1.50
Windows	Type 1	Preservative pretreated SW window	100.00%	A	Element A+ to D Rated
	Type 2				
	Type 3				
	Type 4				
		Total:	100.00%		2.00

Total Number of Points: 10.43
Total Credits Achieved: 10 of 15

Minimum Entry Level Requirements have been met

10 Mat1 credits = 3% of CSH overall rating [of a possible 4.5%]

Unexpected GG results?

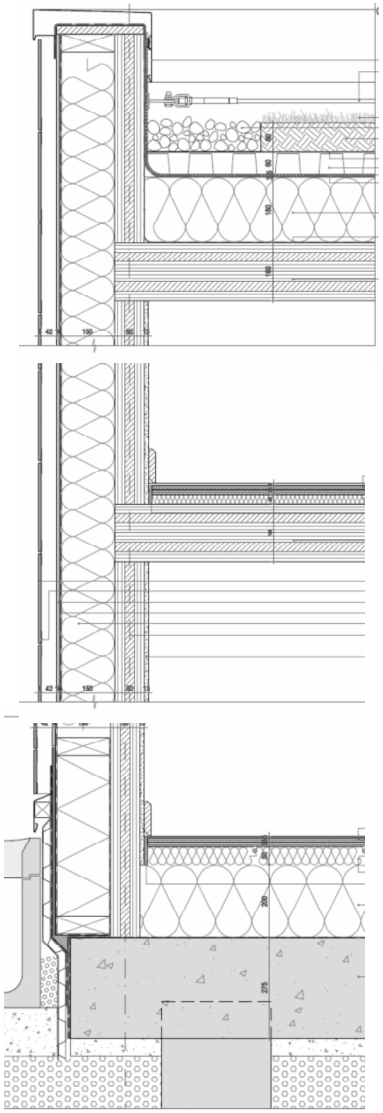
Are all specification types listed in the Green Guide? No

Please enter specification details below and Bespoke Reference Number for all specifications not listed in the Green Guide

		Specification	% elemental area	Green Guide Rating	Bespoke Ref. No.	Points
Roof	Type 1	Zinco sedum roof and waterproofing on insulation on Eurban 6 layer cros laminated timber panel, pb	100.00%	B	6994032	Element A+ to D Rated
	Type 2					
	Type 3					
	Type 4					
		Total:	100.00%			1.00
External Walls	Type 1	Eternit rainscreen on plywood, insulation and Eurban 3 layer cross laminated timber panel	100.00%	A	6994030	Element A+ to D Rated
	Type 2					
	Type 3					
	Type 4					
		Total:	100.00%			2.00
Internal Walls	Type 1	Eurban - Party wall	100.00%	B	6994033	Element A+ to D Rated
	Type 2					
	Type 3					
	Type 4					
		Total:	100.00%			1.00
Floor - Upper & Ground	Type 1	GF - Linoleum on Fermacell board on sound insulation, on Fermacell dry screed, thermal insulation, on 200mm cocrete lab	50.00%	D	6994034	Element A+ to D Rated
	Type 2	Linoleum on Fermacell board on Eurban 6 layer cross laminated timber panel, pb	50.00%	B	6994031	
	Type 3					
	Type 4					
		Total:	100.00%			0.63
Windows	Type 1	Preservative pretreated Timber SWframe windows DG painted water based stain (non TWAS)	100.00%	A		Element A+ to D Rated
	Type 2					
	Type 3					
	Type 4					
		Total:	100.00%			2.00

Total Number of Points	6.63
Total Credits Achieved	6 of 15

Minimum Entry Level Requirements have been met

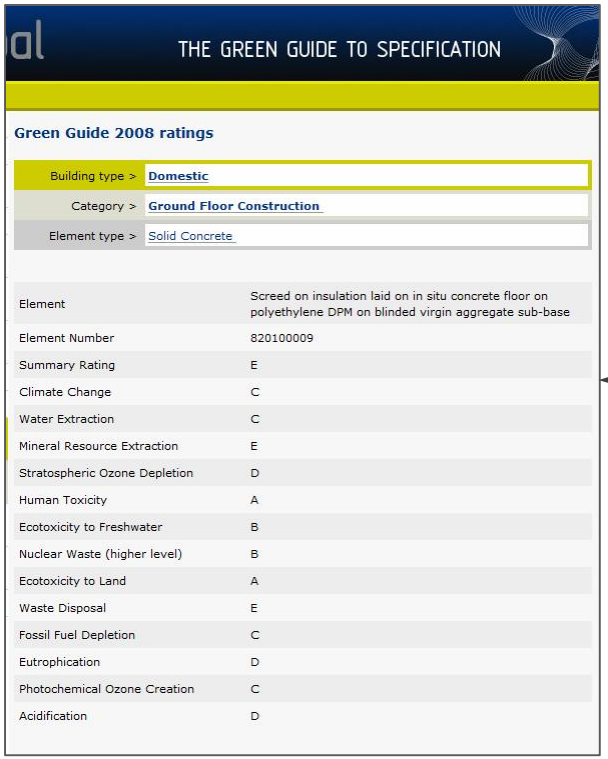


6 Mat1 credits = 1.8% of CSH overall rating [of a possible 4.5%]

Need to understand why rating differences

GF specifications

Functional unit for solid and suspended GF:
1m² GF based on a dwelling with a GF area of 40m² and exposed perimeter of 18m to satisfy E & W B. Regs. U value of 0.22 W/m²K.

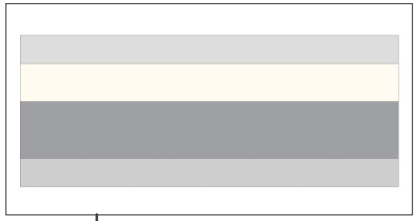


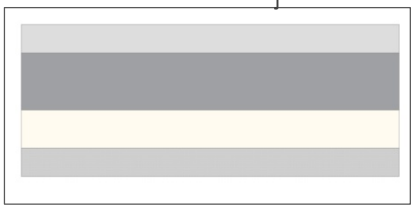
THE GREEN GUIDE TO SPECIFICATION

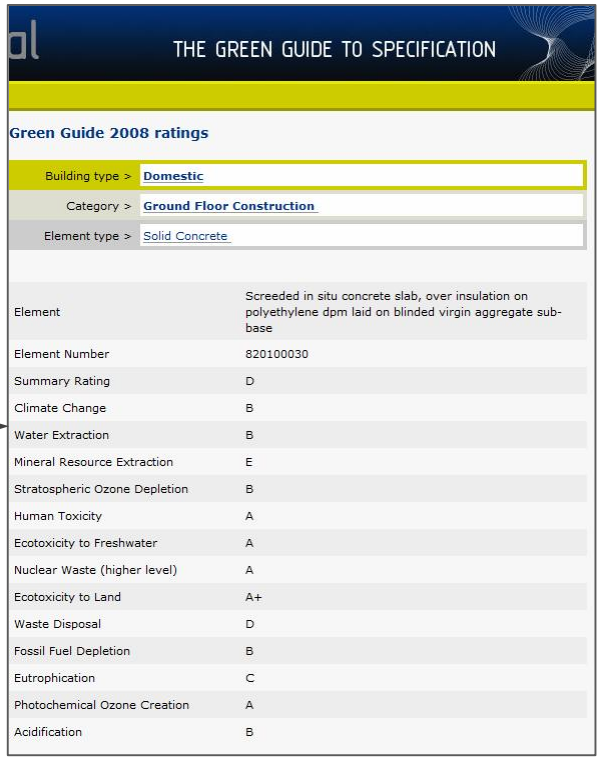
Green Guide 2008 ratings

Building type >	Domestic
Category >	Ground Floor Construction
Element type >	Solid Concrete

Element	Screed on insulation laid on in situ concrete floor on polyethylene DPM on blinded virgin aggregate sub-base
Element Number	820100009
Summary Rating	E
Climate Change	C
Water Extraction	C
Mineral Resource Extraction	E
Stratospheric Ozone Depletion	D
Human Toxicity	A
Ecotoxicity to Freshwater	B
Nuclear Waste (higher level)	B
Ecotoxicity to Land	A
Waste Disposal	E
Fossil Fuel Depletion	C
Eutrophication	D
Photochemical Ozone Creation	C
Acidification	D







THE GREEN GUIDE TO SPECIFICATION

Green Guide 2008 ratings

Building type >	Domestic
Category >	Ground Floor Construction
Element type >	Solid Concrete

Element	Screeded in situ concrete slab, over insulation on polyethylene dpm laid on blinded virgin aggregate sub-base
Element Number	820100030
Summary Rating	D
Climate Change	B
Water Extraction	B
Mineral Resource Extraction	E
Stratospheric Ozone Depletion	B
Human Toxicity	A
Ecotoxicity to Freshwater	A
Nuclear Waste (higher level)	A
Ecotoxicity to Land	A+
Waste Disposal	D
Fossil Fuel Depletion	B
Eutrophication	C
Photochemical Ozone Creation	A
Acidification	B

Need to understand why rating differences

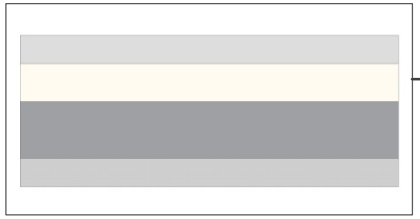
GF specifications - improving the rating

THE GREEN GUIDE TO SPECIFICATION

Green Guide 2008 ratings

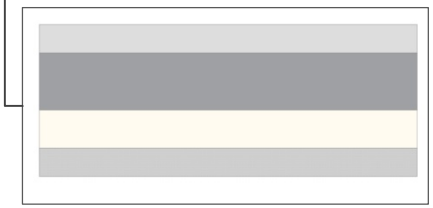
Building type >	Domestic
Category >	Ground Floor Construction
Element type >	Solid Concrete

Element	Screed on insulation laid on in situ concrete floor on polyethylene DPM on blinded virgin aggregate sub-base
Element Number	820100009
Summary Rating	E
Climate Change	C
Water Extraction	C
Mineral Resource Extraction	E
Stratospheric Ozone Depletion	D
Human Toxicity	A
Ecotoxicity to Freshwater	B
Nuclear Waste (higher level)	B
Ecotoxicity to Land	A
Waste Disposal	E
Fossil Fuel Depletion	C
Eutrophication	D
Photochemical Ozone Creation	C
Acidification	D



Recycled Aggregate sub base - D

Recycled Aggregate sub base – C
No screed and power floated slab - B



THE GREEN GUIDE TO SPECIFICATION

Green Guide 2008 ratings

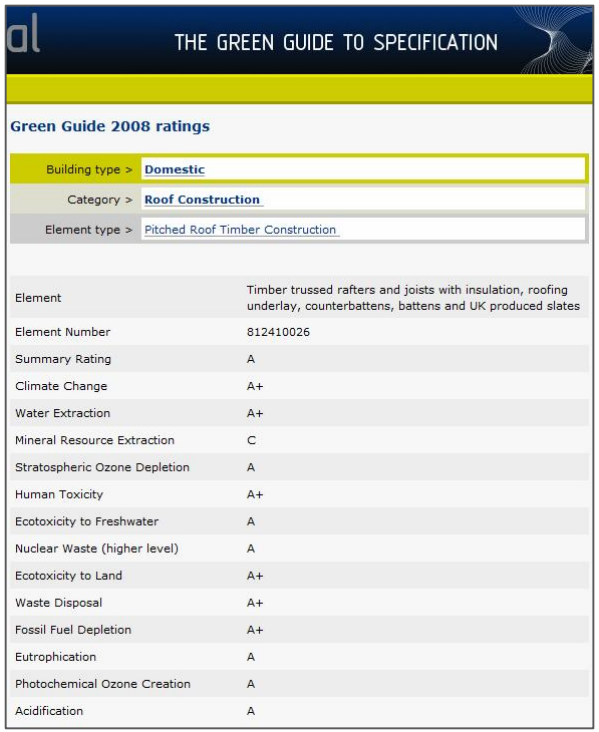
Building type >	Domestic
Category >	Ground Floor Construction
Element type >	Solid Concrete

Element	Screeded in situ concrete slab, over insulation on polyethylene dpm laid on blinded virgin aggregate sub-base
Element Number	820100030
Summary Rating	D
Climate Change	B
Water Extraction	B
Mineral Resource Extraction	E
Stratospheric Ozone Depletion	B
Human Toxicity	A
Ecotoxicity to Freshwater	A
Nuclear Waste (higher level)	A
Ecotoxicity to Land	A+
Waste Disposal	D
Fossil Fuel Depletion	B
Eutrophication	C
Photochemical Ozone Creation	A
Acidification	B

Introducing B&B flooring and take out the screed, introduce timber floor components – ratings B to A+ - But less thermal mass!

Need to understand why rating differences

Roof specifications



THE GREEN GUIDE TO SPECIFICATION

Green Guide 2008 ratings

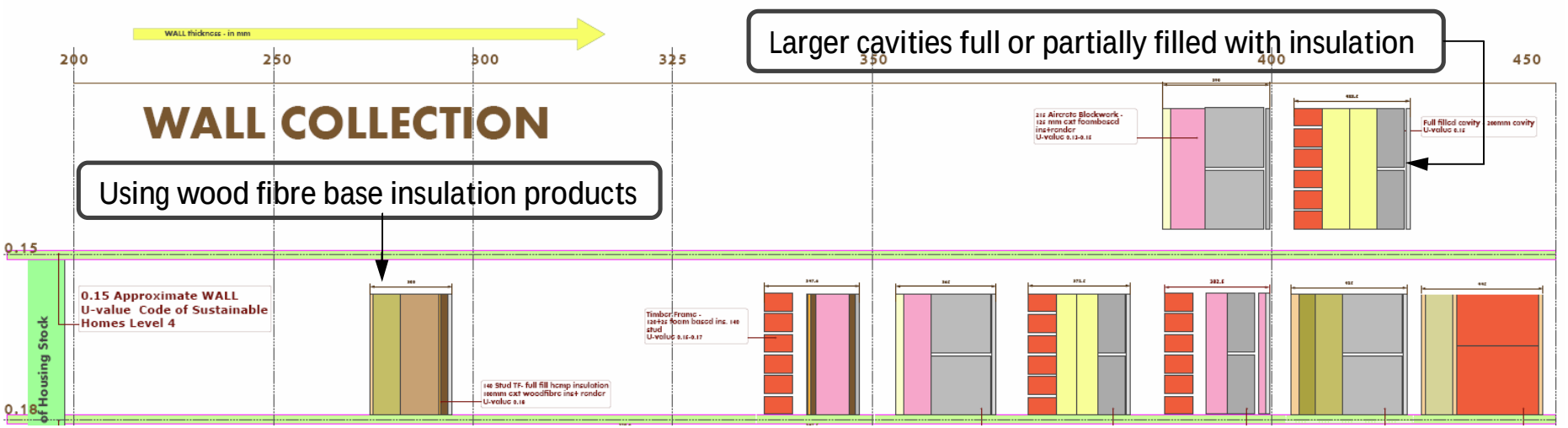
Building type >	Domestic
Category >	Roof Construction
Element type >	Pitched Roof Timber Construction

Element	Timber trussed rafters and joists with insulation, roofing underlay, counterbattens, battens and UK produced slates
Element Number	812410026
Summary Rating	A
Climate Change	A+
Water Extraction	A+
Mineral Resource Extraction	C
Stratospheric Ozone Depletion	A
Human Toxicity	A+
Ecotoxicity to Freshwater	A
Nuclear Waste (higher level)	A
Ecotoxicity to Land	A+
Waste Disposal	A+
Fossil Fuel Depletion	A+
Eutrophication	A
Photochemical Ozone Creation	A
Acidification	A

Functional unit for Domestic Roofs:
1m² of roof area (measured horizontally), to satisfy England & Wales Building Regulations, particularly a U value of 0.16 W/m²K (pitched) or 0.25 W/m²K (flat). Span of 8m.

What if?:
Reclaimed – A+
European - assume worse ?
Asian - assume worse ?
Canadian - assume worse ?

Need to know GG ratings for innovative constructions



Floors with thick insulation and thermal mass

Green Roofs with thick insulation

Insulated thermaplan bricks

What would we like to know of a product?
3 examples

Block

Wall construction – GG rating - cavity, solid block
Floor construction (B&B) rating -with &without screed
ISO 14001? - manufacture & extraction or only manufacture?
U-value for various thickness of insulation
Thermal mass properties

Slate

Roof construction – GG rating – specially if not UK!
ISO 14001?

Window

TIMBER - GG rating –for the specific window, aim for A+ rating
FSC or PEFC for timber?
ISO 14001 for glass?
U-value for whole window
Light transmission factor for glass
uPVC – GG rating – for specific window - explain recycling content.
ISO 14001 for uPVC and for glass?

Isabel Carmona

ca Sustainable architecture

isabel@ca-sa.co.uk

www.ca-sa.co.uk

Thank you for attending this event

A full delegate pack will be e-mailed to you shortly