

Demonstrating compliance with Mat 03 in BREEAM

Scope

This guidance note applies to:

Scheme	Version
BREEAM International New Construction	2013, 2016, V6, V7
BREEAM UK New Construction	2014, 2018, V6, V6.1, V7
BREEAM UK New Construction Residential (formerly Home Quality Mark)	ONE, V6, V6.1
BREEAM Refurbishment and Fit Out	2014, 2015, V7
BREEAM UK Domestic Refurbishment	2014

Introduction

The purpose of this document is to provide additional guidance to assessors and specifiers on demonstrating compliance with the 'Measuring responsible sourcing' criteria in BREEAM (typically in Mat 03). It should be read in conjunction with the Technical Manual for the relevant assessment scheme. It is not applicable to prerequisite criteria for 'Legally harvested and traded timber'.

The following is covered:

- How to deal with constituent products/materials including those with certification that is different from the overall product.
- The precision required in estimating quantities:
 - For the cut-off volume
 - Of products/materials in the building (Route 2 only)
 - Of different material categories in products/materials.
- An example Route 2 calculation.
- 'Broken chain' situations.
- How to treat building services.

Definitions

Broken chain: Where a **product/material** (or **constituent product/material**) is certified but is supplied via one or more downstream organisations that have no relevant certification.

Product/material: A manufacturer specific construction **product/material** (i.e. with a manufacturer reference number) that is specified by the designer (e.g. architect, engineer, interior designer, quantity surveyor, landscape architect etc.) or selected by the constructor (principle or sub-contractor), and installed on the project.

Constituent product/material: A manufacturer specific construction **product/material** (i.e. with a manufacturer reference number) that is not specified by the designer or selected by the constructor but is used in the manufacture of a specified **product/material**.

Cut-off volume: See the relevant scheme's Technical Manual for an explanation of the cut-off approach. The volume considered should be taken as the **product/material's** overall external dimensions, including any internal voids/air spaces.

Route 1 and Route 2

Route 1 does not require the quantities of each **product/material** to be entered into the Mat 03 calculator. This reduces the time taken per **product/material** but, because the varying quantities of each **product/material** in the building cannot be taken into account when the credit score is calculated, the lowest 'location/use' score per material category is used for the overall material category score.

Route 2 provides a more accurate measurement of the risks associated with a product/material by taking account of the range and scale of materials within a location/use. It requires quantities to be entered into the Mat 03 calculator rather than using the lowest 'location/use' score per material category. The improvement in rigour this achieves means that Route 2 has the potential to produce better scores than Route 1.

Process

Figure 1 below provides guidance on the recommended process to follow when establishing the correct certification score to enter into the Mat 03 calculator for each of the products/materials in the building that are above the cut-off volume.

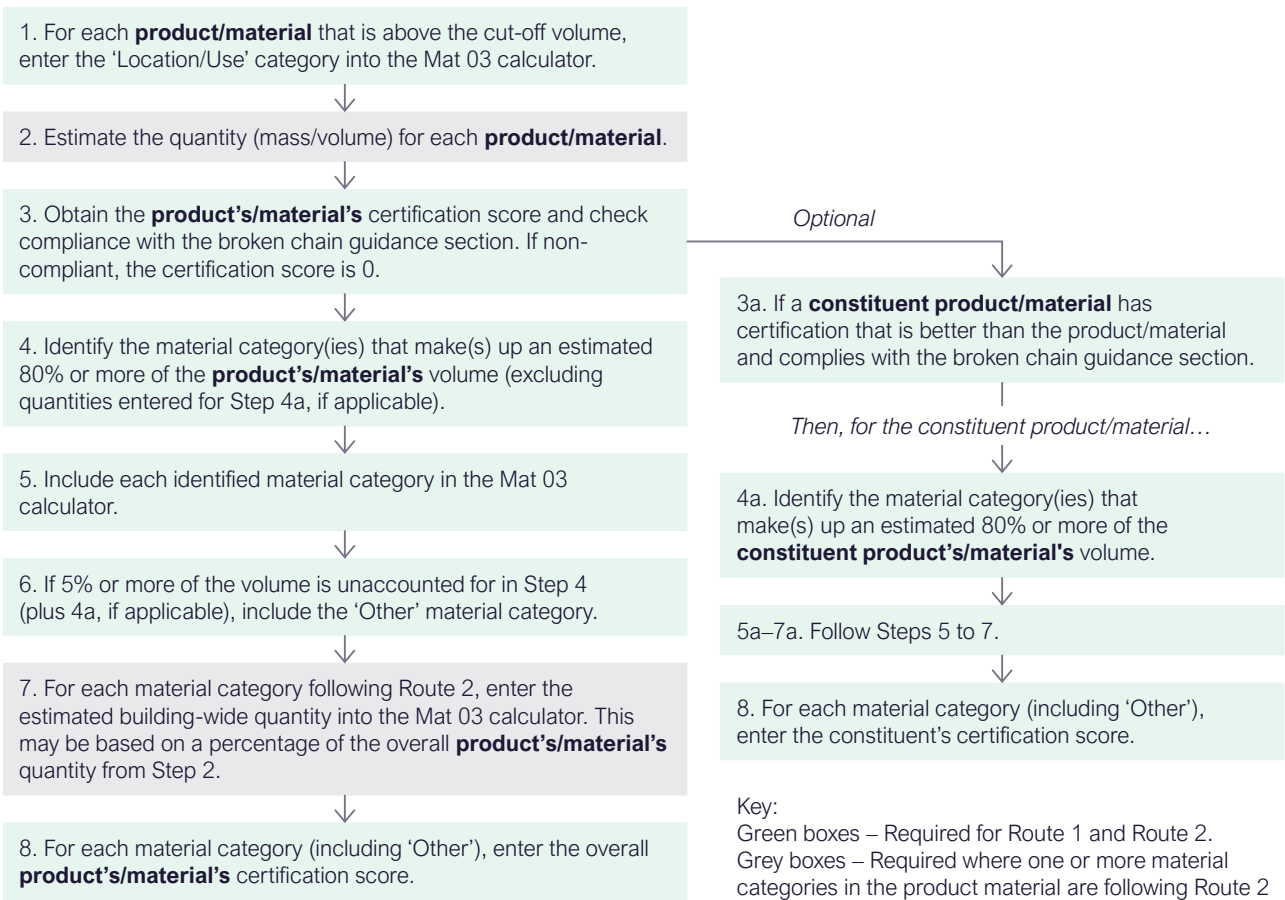


Figure 1: Process for entering data into the Mat 03 calculator

Precision

The degree of tolerance accepted for estimating quantities is $\pm 20\%$ of the final installed quantity. This level of precision is intended to allow estimates to be made relatively quickly and without the need for complex calculations, and therefore save the project team and/or assessor time. It is not necessary for the assessor to submit calculations in order to justify estimates. In particular, the cut-off estimation for many products/materials – that are clearly below the **cut-off volume** – may be determined without the need for any calculations at all.

Products that are below the **cut-off volume** need not be listed in the Mat 03 calculator.

Example calculations for a product/material under Route 2

A building of 2000 m² net internal area (NIA) has 40 doors of a specific type, each with an estimated volume of 0.1 m³ ($\pm 20\%$) and estimated weight of 40 kg ($\pm 20\%$). The **cut-off volume** for this building type is 0.5 m³ per 1000 m².

So, the total estimated volume of these doors in the building is $0.1 \text{ m}^3 \times 40 = 4 \text{ m}^3$

$(4 \text{ m}^3 / 2000 \text{ m}^2) \times 1000 \text{ m}^2 = 2 \text{ m}^3$ per 1000 m² (above the **cut-off volume** threshold)

The total estimated mass of these doors in the building is $40 \text{ kg} \times 40 = 1600 \text{ kg}$.

It is estimated that each of these doors comprises the following material category proportions and, therefore, the overall quantities per material category for entering into the Mat 03 calculator are:

70% ($\pm 20\%$) Timber (material category 1) = $1600 \text{ kg} \times 70\% = 1120 \text{ kg}$

10% ($\pm 20\%$) Plastics (material category 8) = $4 \text{ m}^3 \times 10\% = 0.4 \text{ m}^3$

and

20% ($\pm 20\%$) Other (material category 10) = $4 \text{ m}^3 \times 20\% = 0.8 \text{ m}^3$

Broken chain

There will be situations where a **product/material** (or **constituent product/material**) specified by the design team (or chosen by the constructor) is certified at manufacture but is supplied by one or more organisations that have no relevant certification. This reduces the level of assurance because the chain-of-custody/traceability is broken (**broken chain**). For example, this would apply where a fabricator, without certification, is using material from a certified source or where a certified **product/material** is supplied to site by a non-certified supplier.

To recognise responsible sourcing certification where it does exist in the supply chain, while reducing the risks associated with a **broken chain**, it is permissible to use the upstream certification score in the Mat 03 calculator where the downstream risk to responsible sourcing is considered to be low.

Specifically, it is acceptable for the following types of organisations in the supply chain (that are downstream of the organisation with certification) not to have their own responsible sourcing certification:

1. Organisations that only handle or transport, or
2. Organisations that only fabricate, assemble or install and are using a recognised quality management system to ensure the mixing and substitution of the certified upstream source with uncertified sources has not occurred
and
3. Are operating in a jurisdiction that can demonstrate relatively robust and well enforced environmental, social and economic controls. For example:
 - a. States which are members of the EU
 - b. States that have declared adherence to the OECD Guidelines for Multinational Enterprises.

Examples

Figure 2 below shows examples of acceptable (green) and unacceptable (red) **broken chain** scenarios, based on the guidance above.

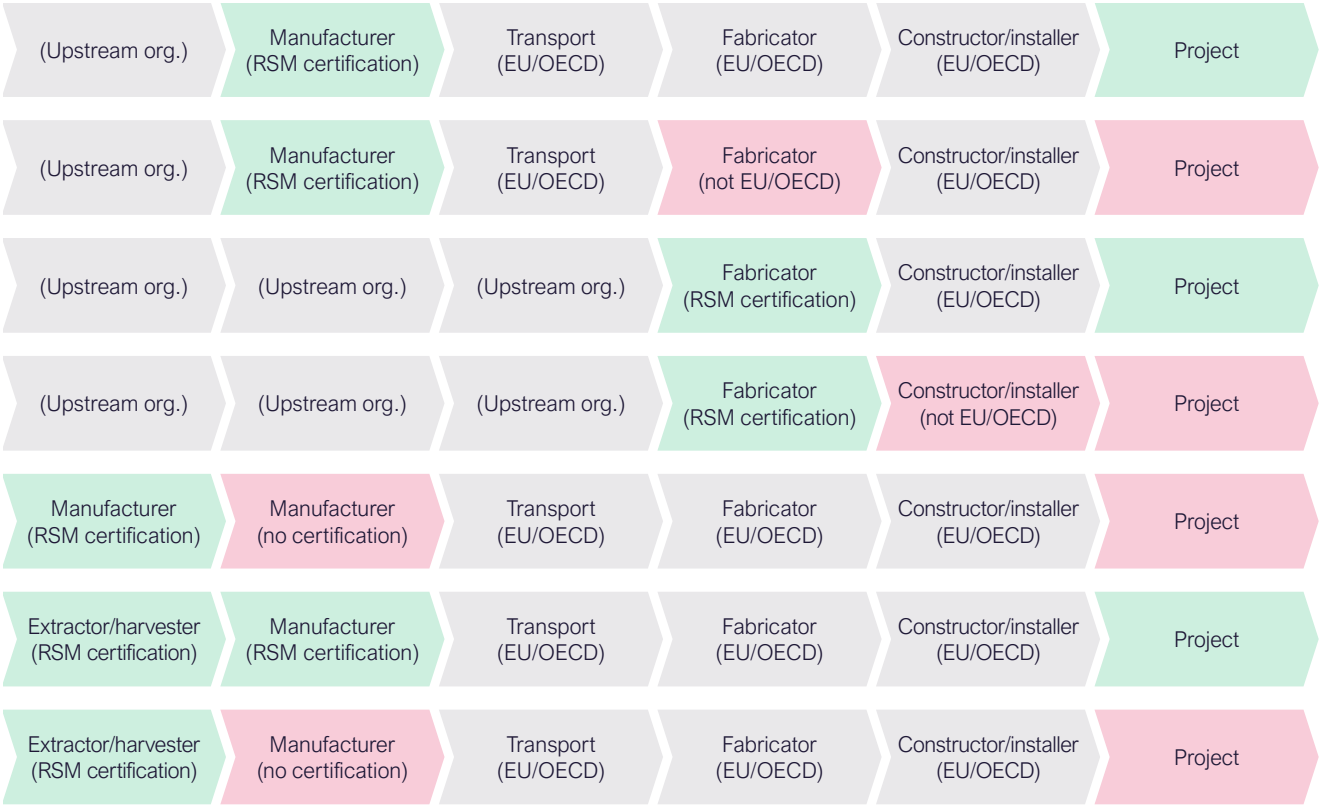


Figure 2: Examples of acceptable (green) and unacceptable (red) broken chain scenarios

Building services – simplified approach

Including building services **products/materials** in Mat 03 has been introduced to stimulate the market for responsible sourcing in this sector. However, it is acknowledged that including building services is challenging due to the high number and the complexity of these **products/materials**. As such, it is acceptable to deal with building services according to the following simplified approach:

Route 1 (may produce a lower score than Route 2)

1. Estimate the total number of building services **products/materials**. This may be based on a typical value (e.g. a well-sourced or recognised value used in cost control).
- ↓
2. Building products/materials that do have certification may still be listed in the normal way. If so, subtract the number of these from the estimated total number of building services **products/materials** to obtain the number of unknown building services **products/materials**.
- ↓
3. For each unknown building services **product/material**, enter new listings into the Mat 03 calculator the Metal; Plastic, Polymer, Resin, chemicals and bituminous; and Other material categories. For each, complete the 'Product name' field as "Unknown buildings services– product 1", "Unknown building services– product 2" etc. Enter "0" into the 'RSCS Points Score' field for each.
- ↓
4. Complete the remainder of the table as normal.

Route 2 (has the potential to produce better scores than Route 1)

1. Estimate the total quantity (mass/volume) of building services products/materials. This may be based on a typical value (e.g. a well-sourced or recognised value used in cost control or a structural loading assumption).
- ↓
2. Building products/materials that do have certification may still be listed in the normal way. If so, subtract the total quantity of these from the estimated total quantity of building services products/materials to obtain the quantity of unknown building services products/materials.
- ↓
3. For all the unknown building services products/materials taken together, estimate the percentage breakdown per material category (e.g. 70% metal, 10% plastics, 20% other). This may be based on typical values. From this, calculate the quantity per material category in the normal way for each identified material category.
- ↓
4. For each identified material category, enter a single listing in the Mat 03 calculator with the 'Product name' field completed as "Unknown building services – route 2". For each, enter "0" into the 'RSCS Points Score' field and the respective quantity calculated in the previous step into the 'Qty' field.
- ↓
5. Complete the remainder of the table as normal.

Note: This approach does not require each product to be individually evaluated. Therefore, the **cut-off volume** rule cannot be used.

Example calculations for the simplified building services approach, Route 2

A building of 2000 m² (NIA) has building services with an estimated mass of 50 kg (± 20%) per m² (NIA). So, the total estimated mass of the building services in the building is:

$$50 \text{ kg per m}^2 \times 2000 \text{ m}^2 = 100,000 \text{ kg}$$

One of the building services products has certification and will be assessed using the procedure shown in Figure 1. There are 100 units of this product installed each with an estimated mass of 5 kg. The total estimated mass of this product in the building is:

$$5 \text{ kg} \times 100 = 500 \text{ kg}$$

So, the total estimated mass of the remaining 'unknown' building services in the building is:

$$100,000 \text{ kg} - 500 \text{ kg} = 99,500 \text{ kg}.$$

It is estimated that the remaining 'unknown' building services (taken together) comprises the following material category proportions and, therefore, the overall quantities per material category for the remaining building services for entering into the Mat 03 calculator are:

$$70\% (\pm 20\%) \text{ Metals (material category 3)} = 99,500 \text{ kg} \times 70\% = \mathbf{69,650 \text{ kg}}$$

$$10\% (\pm 20\%) \text{ Plastics (material category 8)} = 99,500 \text{ kg} \times 10\% = \mathbf{9,950 \text{ kg}}$$

and

$$20\% (\pm 20\%) \text{ Other (material category 10)} = 99,500 \text{ kg} \times 20\% = \mathbf{19,900 \text{ kg}}$$

For this example, it is only necessary to enter three entries into the Mat 03 calculator for all the remaining 'unknown' building services: Metals, Plastics, and Other, each with their respective masses, calculated above.

Schedule of changes

Version	Release date	Description of change
1.0	Nov 2015	First issue
1.1	May 2022	Updated 'Scope' section to include schemes released since 2015. Fixed minor typos.
1.2	Jul 2026	Updated 'Introduction' section to clarify that the guidance applies only to the 'Measuring responsible sourcing' requirements in Mat 03. Updated 'Scope' section to include BREEAM Refurbishment and Fit Out V7 and other applicable schemes released since 2022.

View and download the latest version of this guidance note at:

kb.breeam.com/knowledgebase/gn24