

PPG Architectural Coatings

BREEAM New Construction 2018 Compliance Statement

Revision: October 2021

BREEAM (Building Research Establishment Environmental Assessment Methodology), first published by the Building Research Establishment (BRE) in 1990, is the world's longest established method of assessing, rating, and certifying the sustainability of buildings.

This document developed by PPG Architectural Coatings is designed to support building designers source and specify internal coatings which support sustainable design in compliance with BREEAM New Construction UK 2018¹ (NCUK).

To assist with optimising project sustainability performance, paint can contribute to a number of BREEAM categories including:

Health & Wellbeing	Hea 02	Indoor Air Quality VOC content & emissions
Materials	Mat 02 Mat 03	Environmental Impacts from Construction Products Environmental Product Declaration Responsible Sourcing of Construction Products
Waste	Wst 01	Construction Waste Management

This short summary outlines where PPG products fit into BREEAM® UK NC 2018 categories, with supporting evidence & certifications.

HEA 02 INDOOR AIR QUALITY | VOC Content & Emissions

Total section credits available = 5

Paints can contribute to 3 of those 5 credits so long as they comply with the specified criteria

Hea 02 aims to encourage and support healthy internal environments with good indoor air quality, through reducing pollution sources, support physical health and supporting building occupant comfort and productivity.

Using paints that comply with the specified criteria can contribute to 3 of the 5 credits available in the Hea 02 assessment.

The following criteria must be met for Interior paints & coatings

- a) VOC content must be below the limits for the relevant product category as specified in the standard

¹ [BREEAM UK New Construction 2018](#)

- b) VOC emission limits as specified in the standard must be met and evidenced
- c) Paints used in wet areas (e.g. bathrooms/kitchens) must also demonstrate protection against mould growth

The criteria drive selection of Interior paints & Coatings which have low VOC Content & Low VOC emissions – which effectively excludes use of solvent-based products.

VOC Content

VOC content can be determined either by testing in accordance with ISO11890-2 or ISO17895 or by Calculation based on the raw materials present in the formulation. For the majority of Interior Paints & Coatings PPG uses the EU/UK industry approved calculation method in accordance with ISO 11890-2.

Where relevant products are also tested by independent laboratories in accordance with ISO standards to confirm the calculation methodology.

VOC Content Information.

All PPG products comply with and are labelled in accordance with the EU Paint Products Directive² which requires declaration of the Maximum VOC content of the paint & the EU limit for the Product Category.

In addition, within the UK PPG has adopted the BCF VOC Globe Scheme³ to provide additional information to facilitate selection of products with the lowest VOC content.

Table 2 details PPG products BREEAM compliant products based on VOC Content.

VOC Emissions

In addition to setting limits on the VOC content of interior paints and coatings the BREEAM standard sets limits on the rate of emissions following product application of Formaldehyde, Total Volatile Organic Compounds (TVOC), Total Semi-Volatile Organic Compounds (TSVOC) and Carcinogens.

Emissions can only be determined by testing in accordance with EN16402 or ISO16000-9 or EN 16516. PPG have opted to use the Eurofins Indoor Air Comfort Gold test methodology (which is based on ISO 16000 / EN16402) to demonstrate compliance with the BREEAM emissions criteria (BREEAM® UK: New Construction 2018 & BREEAM® International: New Construction 2016).

- PPG offers a range of products which comply with the requirements of BREEAM at both pass and exemplary level – see *Table 2*.
- BREEAM® Attestations available on request

² EU Paints Product Directive 2004/42/CE

³ BCF E017 Decorative Coatings Industry Environmental Policy

Formaldehyde Reduction

TVOC testing includes the measurement of formaldehyde emissions. Formaldehyde (CH₂O) is one of the most damaging VOC's. BREEAM requires formaldehyde concentration level to be measured post construction and it must be less than or equal to 100µg/m³ averaged over 30 minutes.

There are several ways to reduce formaldehyde levels, such as opting for low-VOC materials, providing ventilation systems and specifying products that actively remove formaldehyde.

- Johnstone's Trade Air Pure is designed to absorb formaldehyde into the paint film and actively break down the chemical composition.
- Accredited by Eurofins Scientific, Johnstone's Air Pure is proven to reduce formaldehyde levels from indoor air by up to 70% from application.
- To view more information visit [Air Pure | NBS Source \(thenbs.com\)](https://thenbs.com/Air-Pure)

Mould Protection

Interior Coatings and paints used in wet areas must evidence protection against mould growth.

The following PPG products contain a biocide to protect paint surface from mould degradation, and are therefore appropriate and compliant products for interior use in areas which are wet/humid or prone to condensation.

Johnstone's Trade Acrylic Durable Matt	Acrylic Durable Matt NBS Source (thenbs.com)
Johnstone's Trade Acrylic Durable Eggshell	Acrylic Eggshell NBS Source (thenbs.com)

These products have been independently tested in accordance with a Modified ASTM D5590 methodology to demonstrate efficacy

MAT 02 ENVIRONMENTAL IMPACTS FROM CONSTRUCTION PRODUCTS | Environment Product Declarations

Total section credits available = 1 (1 credit for 20 EPD points in the Mat 01/02 Results Submission Tool). Interiors Coatings and Paints can contribute up to 4 EPD points.

Mat 02 aims to drive selection of products with the lowest environmental impact.

Environmental Product Declarations' (EPDs) provide transparent and comparable information about a product's life cycle environmental impact from raw materials to application and disposal, making it possible to compare the impacts of different materials and products in order to select the most sustainable option. EPD's should be used for product selection at design stage to support Life Cycle (LCA) of the building.

- PPG's EPD's are third party certified, in line with the European standard EN 15804
- Each PPG product with an EPD would score 1.5 EPD points.
- Product specific Type III EPD's have a higher points weighting (1.5) compared to an EPD for a range of products (0.75).

The following PPG products have EPDs which meet the requirements of BREEAM Mat 02:

Table 1 PPG Environmental Product Declarations

Product	Category	EPD link
Interior Paints – Walls & Ceilings		
Air Pure	Interior paint - Walls & Ceiling	https://www.greenbooklive.com/filelibrary/EN_15804/EPD/BREGENEPD000234.pdf
Perfect Matt	Interior paint - Walls & Ceiling	https://www.greenbooklive.com/filelibrary/EN_15804/EPD/BREGENEPD000307.pdf
Acrylic Satin	Interior paint - Walls & Ceiling	https://www.greenbooklive.com/filelibrary/EN_15804/EPD/BREGENEPD000006.pdf
Acrylic Durable Matt	Interior paint - Walls & Ceiling	https://www.greenbooklive.com/filelibrary/EN_15804/EPD/BREGENEPD000043.pdf
Covaplus Vinyl Matt	Interior paint - Walls & Ceiling	https://www.greenbooklive.com/filelibrary/EN_15804/EPD/BREGENEPD000044.pdf
Vinyl Soft Sheen	Interior paint - Walls & Ceiling	https://www.greenbooklive.com/filelibrary/EN_15804/EPD/BREGENEPD000048.pdf
Endura Super Durable Matt	Interior paint - Walls & Ceiling	https://www.greenbooklive.com/filelibrary/EN_15804/EPD/BREGENEPD000047.pdf
Acrylic Durable Eggshell	Interior paint - Walls & Ceiling	https://www.greenbooklive.com/filelibrary/EN_15804/EPD/BREGENEPD000046.pdf
Flame Retardant Acrylic Eggshell	Interior paint - Walls & Ceiling	https://www.greenbooklive.com/filelibrary/EN_15804/EPD/BREGENEPD000353.pdf
Cleanable Matt	Interior paint - Walls & Ceiling	https://www.greenbooklive.com/filelibrary/EN_15804/EPD/BREGENEPD000350.pdf
Stainaway	Interior paint - Walls & Ceiling	https://www.greenbooklive.com/filelibrary/EN_15804/EPD/BREGENEPD000351.pdf
Flame Retardant Durable Matt	Interior paint - Walls & Ceiling	https://www.greenbooklive.com/filelibrary/EN_15804/EPD/BREGENEPD000352.pdf
Trim		
Aqua Guard	Trim	https://www.greenbooklive.com/filelibrary/EN_15804/EPD/BREGENEPD000308.pdf
Aqua Water Based Gloss	Trim	https://www.greenbooklive.com/filelibrary/EN_15804/EPD/BREGENEPD000017.pdf
Protective Coatings		
PPG STEELGUARD 651	Protective Coatings - PFP	https://www.greenbooklive.com/filelibrary/EN_15804/EPD/BREGENEPD000354.pdf

MAT 03 RESPONSIBLE SOURCING OF CONSTRUCTION PRODUCTS

Total section credits available = 3

Mat03 aims to drive selection of paints and coatings that have been responsibly sourced.

- All Products manufactured by PPG Architectural Coatings UK & Ireland are manufactured under ISO 14001:2015 environmental management standards approved by the BSI.

View PPG Architectural Coatings' ISO 14001 certificate here: [PPG Architectural Coatings - ISO Certificate of Approval - ISO 14001:2015 | NBS Source \(thenbs.com\)](#)

WST 01 WASTE MANAGEMENT

Total section credits available = 4

Wst01 aims to drive the reduction of waste from all construction projects through encouraging the principles of reduce, reuse, recycle where possible.

- Recycle empty cans using the Johnstone's Can Recycling Service
- Add empty paint cans to resource management plan to minimize decorating waste produced on site and increase % diversion from landfill.

If you require any further assistance on this matter or additional technical information, feel free to contact our Technical Advisory support team on 01924 354354.

Signed on behalf of PPG

Tony Walker - Technical Specification Controller

PPG Architectural Coatings UK

PPG Architectural Coatings UK Core Products: VOC Content & Emissions Test Results

Table 2 PPG core product BREEAM table – VOC content & Emissions

Product	BREEAM VOC Content Category / Limit (g/l) Free TVOC content of ready-to-use product (g/l)	In-Can VOC Content (g/l)	In-Can VOC – EU Limit Values	VOC content Pass/Fail	VOC Emissions – Comparison with BREEAM limit values ^{**} vs	EPD ^{***}
Interior paint - Walls & Ceiling						
Acrylic Durable Matt	Interior Matt Walls & Ceilings (Gloss<25@60°) / 10	15	LOW (0.3 – 7.99%)	Pass	To be Tested	YES
Acrylic Durable Eggshell	Interior Matt Walls & Ceilings (Gloss<25@60°) / 10	3	MINIMAL (0 – 0.29%)	Pass	To be Tested	YES
Air Pure	Interior Matt Walls & Ceilings (Gloss<25@60°) / 10	1	MINIMAL (0 – 0.29%)	Pass	EXEMPLARY	YES
Covaplus Vinyl Matt	Interior Matt Walls & Ceilings (Gloss<25@60°) / 10	3 [^]	LOW (0.3 – 7.99%)	Pass	EXEMPLARY	YES
Cleanable Matt	Interior Matt Walls & Ceilings (Gloss<25@60°) / 10	10	LOW (0.3 – 7.99%)	Pass	To be Tested	YES
Endura Super Durable Matt	Interior Matt Walls & Ceilings (Gloss<25@60°) / 10	5	LOW (0.3 – 7.99%)	Pass	To be Tested	YES
Microbarr Anti-bacterial Eggshell	Interior Matt Walls & Ceilings (Gloss<25@60°) / 10	10	LOW (0.3 – 7.99%)	Pass	To be Tested	In progress
Microbarr Anti-bacterial Matt	Interior Matt Walls & Ceilings (Gloss<25@60°) / 10	10	LOW (0.3 – 7.99%)	Pass	To be Tested	In progress
Flame Retardant Durable Matt	One Pack Performance Coatings / 100	10	LOW (0.3 – 7.99%)	Pass	To be Tested	YES
Flame Retardant Acrylic Eggshell	One Pack Performance Coatings / 100	3	LOW (0.3 – 7.99%)	Pass	To be Tested	YES
Perfect Matt	Interior Matt Walls & Ceilings (Gloss<25@60°) / 10	10	MINIMAL (0 – 0.29%)	Pass	PASS	YES
StainAway	Interior Matt Walls & Ceilings (Gloss<25@60°) / 10	2	MINIMAL (0 – 0.29%)	Pass	To be Tested	YES
Vinyl Silk	Interior Matt Walls & Ceilings (Gloss<25@60°) / 10	3	LOW (0.3 – 7.99%)	Pass	To be Tested	In progress
Vinyl Soft Sheen	Interior Matt Walls & Ceilings (Gloss<25@60°) / 10	10	LOW (0.3 – 7.99%)	Pass	To be Tested	YES
Trim						
Aqua Guard Satin	Interior Trim and Cladding Paints for Wood and Metal / 90	100	LOW (0.3 – 7.99%)	Borderline	PASS	YES
Acrylic Satin	Interior Trim and Cladding Paints for Wood and Metal / 90	50	LOW (0.3 – 7.99%)	Pass	To be Tested	YES
Aqua Water Based Gloss	Interior Trim and Cladding Paints for Wood and Metal / 90	50 [^]	LOW (0.3 – 7.99%)	Pass	EXEMPLARY	YES
Aqua Water Based Satin	Interior Trim and Cladding Paints for Wood and Metal / 90	50 [^]	LOW (0.3 – 7.99%)	Pass	EXEMPLARY	In progress
Aqua Water Based Undercoat	Interior Trim and Cladding Paints for Wood and Metal / 90	10 [^]	LOW (0.3 – 7.99%)	Pass	EXEMPLARY	In progress
Protective Coatings – PFP						
PPG STEELGUARD 651	Interior Trim and Cladding Paints for Wood and Metal / 90	3	LOW (0.3 – 7.99%)	Pass	To be Tested	YES

*VOC Content as declared using PPG calculation method

[^] VOC Content measured in accordance with ISO 11890-2

**Emissions measured in accordance with testing standards specified in Eurofins Indoor Air Comfort Gold version 6.0: EN 16516, ISO 16000-3, ISO 16000-6, ISO 16000-9, ISO 16000-11 and ISO 11890-2. Evaluation of emission and content test results according to the criteria of BREEAM® Int. and BREEAM® UK

Emissions test measures Formaldehyde, TVOC (EN16516), TSVOC and Total Carcinogens.

BREEAM® UK: New Construction 2018, Technical Manual: Hea 02 Indoor Air Quality

BREEAM® International: BREEAM International New Construction 2016, Technical Manual Hea 02 Indoor Air Quality

*** PPG's EPD's are third party certified, in line with the European standard EN 15804 – In line with requirements of BREEAM® UK: New Construction 2018 Mat 02 Responsible Sourcing of Materials

For full product support contact the PPG Technical team on specifiers.acuk@ppg.com or visit NBS Source.

