

ENVIRONMENTAL PRODUCT DECLARATION

PORCELAIN MARKERBOARD W/ TRIM OPTIONS

CLARIDGE PRODUCTS



Shown above: The Concept Dry Erase Markerboard shown above features a narrow 5/16" wide satin anodized aluminum trim profile with an eased edge. The frame's 1/8" thick contour adds depth to the trim perimeter.

Claridge Porcelain Markerboards feature an incredibly smooth LCS3 Porcelain surface that delivers a great writing experience and will stand the test of time. With simple installation and no exposed fasteners, these stylish, low profile whiteboards appear to float on the wall. LCS3 Porcelain steel accepts magnets, won't ghost or stain, and is warrantied for life.



Claridge believes that great design is a way to express passion and elevate environments. Workspaces should not just be places to "park and work" for eight hours until the day is over. Instead, Claridge believes your workspace should elevate the senses, revitalize the soul, and offer the opportunity for collaboration.

As the writing surface experts, Claridge continually strives to develop innovative visual display products and manufacturing processes that protect the environment and benefit the communities where they work. Claridge believes that natural resources are critical by not only providing raw materials, but also helping to sustain livable communities and a high quality of life.

Claridge has chosen to publish EPDs to improve internal transparency of the environmental impacts from the production of their products and to assist the design and construction community to specify their products towards green building certifications and standards.



ENVIRONMENTAL PRODUCT DECLARATION



Porcelain Markerboard with Trim Options
Workspace Product

According to ISO 14025

This declaration is an environmental product declaration (EPD) in accordance with ISO 14025. EPDs rely on Life Cycle Assessment (LCA) to provide information on a number of environmental impacts of products over their life cycle. **Exclusions:** EPDs do not indicate that any environmental or social performance benchmarks are met, and there may be impacts that they do not encompass. LCAs do not typically address the site-specific environmental impacts of raw material extraction, nor are they meant to assess human health toxicity. EPDs can complement but cannot replace tools and certifications that are designed to address these impacts and/or set performance thresholds – e.g. Type 1 certifications, health assessments and declarations, environmental impact assessments, etc. **Accuracy of Results:** EPDs regularly rely on estimations of impacts, and the level of accuracy in estimation of effect differs for any particular product line and reported impact. **Comparability:** The PCR this EPD was based on was written to determine the potential environmental impacts of a furniture workspace product from cradle-to-grave. It was not written to support comparative assertions. EPDs based on different PCRs, or different calculations models, may not be comparable. When attempting to compare EPDs or life cycle impacts of products from different companies, the user should be aware of the uncertainty in the final results, due to and not limited to, the practitioner's assumptions, the source of the data used in the study, and the specifics of the product modeled.



PROGRAM OPERATOR	UL Environment
DECLARATION HOLDER	Claridge Products and Equipment, Inc
DECLARATION NUMBER	4789064483.101.1
DECLARED PRODUCT	Porcelain Markerboard with Trim Options Workspace Product
REFERENCE PCR	NSF International: BIFMA PCR for Office Furniture Workspace Products: UNCPC 3814
DATE OF ISSUE	April 1, 2020
PERIOD OF VALIDITY	5 Years
CONTENTS OF THE DECLARATION	<ul style="list-style-type: none"> Product definition and information about building physics Information about basic material and the material's origin Description of the product's manufacture Indication of product processing Information about the in-use conditions Life cycle assessment results Testing results and verifications
The PCR review was conducted by:	PCR Review Panel
	Jack Geibig, P.E.
	ncss@nsf.org
This declaration was independently verified in accordance with ISO 14025 by Underwriters Laboratories <input type="checkbox"/> INTERNAL <input checked="" type="checkbox"/> EXTERNAL	
	Grant R. Martin, UL Environment
This life cycle assessment was independently verified in accordance with ISO 14044 and the reference PCR by:	
	Thomas P Gloria, Industrial Ecology Consultants

ENVIRONMENTAL PRODUCT DECLARATION



Porcelain Markerboard w/ Trim Options
Workspace Product

According to ISO 14025

Product Description

Product Description

Porcelain Markerboard surfaces allow one or more individuals to write down and capture innovate ideas, solve problems, and work through some of today's greatest challenges. Porcelain Markerboard w/ Trim Options including aluminum trim, wood trim, and frameless options can be used in both commercial and residential settings.

Claridge workspace products can be mounted or free-standing for use in a collaborative workspace. Table 1, below, illustrates the product attributes for the base configuration (aluminum trim) and the two alternative configurations (wood trim and frameless).

Table 1 – Product Attributes

Attribute	Porcelain Markerboard w/ Aluminum Trim	Porcelain Markerboard w/ Wood Trim	Frameless Porcelain Markerboard
Product category	Panels in addition with other office components	Panels in addition with other office components	Panels in addition with other office components
Occupants supported by the reference product	1 or more	1 or more	1 or more
Physical floor space area	0.0127 m ²	0.0127 m ²	0.0127 m ²
Worksurface area	1 m ²	1 m ²	1 m ²
Product mass per 1 m ² of workspace area	12.99 kg	12.92 kg	12.10 kg
Volume of storage	0 m ³	0 m ³	0 m ³
Post-industrial recycled content	59%	60%	67%
Post-consumer recycled content	0%	0%	0%
Additional features of reference product	N/A	N/A	N/A
Product series included in this EPD	SERIES 1, SERIES 2, SERIES 3, SERIES 4, SERIES 5, SERIES 8, SERIES 185, SERIES 800, 1300 SERIES, DELUXE, X2	WLCS, 2500 SERIES, 2900 SERIES, 110 SERIES, 210 SERIES, ELITE, CONTEMPO, MOTIF, LATITUDE	FPM SERIES

Further information on Porcelain Markerboard w/ Trim Options is available at <https://claridgeproducts.com/>

Functional Unit

While Claridge workspace products are estimated to last over 50 years, this workspace product does not have testing completed to show compliance to ANSI/BIFMA X5.5. Therefore, a service life of 5 years was used and the product would need to be replaced once during the 10 year service life specified by the PCR.



ENVIRONMENTAL PRODUCT DECLARATION



Porcelain Markerboard w/ Trim Options
Workspace Product

According to ISO 14025

Cut-off Criteria

The LCA is in compliance with the cut-off criteria since no known processes were neglected or excluded from this analysis with the exception of the following: construction of capital equipment, maintenance of operation and support equipment, and human labor and employee commute.

Material Composition

The material compositions of 1 m² of Porcelain Markerboard w/ Trim Options are provided in Table 2, below.

Table 2 – Product Material Composition

Material	Porcelain Markerboard w/ Aluminum Trim kg/m ²	Porcelain Markerboard w/ Wood Trim kg/m ²	Frameless Porcelain Markerboard kg/m ²	Porcelain Markerboard with Trim Options %
Medium Density Fiberboard	8.18E+00	8.18E+00	8.18E+00	62.97-67.14%
Porcelain Steel Writing Surface	3.05E+00	3.05E+00	3.05E+00	23.49-25.05%
Aluminum Trim	1.23E+00	0.00E+00	0.00E+00	0.00-9.46%
Laminating Adhesive	3.59E-01	3.59E-01	3.59E-01	2.77-2.95%
Cork Strip	5.34E-02	0.00E+00	0.00E+00	0.00-0.41%
Steel Mounting Clip	5.34E-02	7.63E-02	0.00E+00	0.41-0.59%
Polyester Mylar Backing	3.81E-02	3.81E-02	3.81E-02	0.29-0.31%
Polycarbonate Cap	6.10E-03	0.00E+00	0.00E+00	0.00-0.05%
Nylon 66 Hook	5.95E-03	0.00E+00	0.00E+00	0.00-0.05%
Steel Screws	5.60E-03	0.00E+00	0.00E+00	0.00-0.04%
ABS Polymer Cap	5.49E-03	0.00E+00	0.00E+00	0.00-0.04%
Steel Staples	2.86E-03	0.00E+00	0.00E+00	0.00-0.02%
Red Oak Trim	0.00E+00	1.19E+00	0.00E+00	0.00-9.21%
Lacquer	0.00E+00	3.02E-02	0.00E+00	0.00-0.23%
Aluminum Hanger	0.00E+00	0.00E+00	4.58E-01	0.00-3.76%
Paint	0.00E+00	0.00E+00	1.22E-02	0.00-0.10%
Coating	0.00E+00	0.00E+00	7.63E-03	0.00-0.06%
Total	1.30E+01	1.29E+01	1.22E+01	100.00%

Life Cycle Assessment

System Boundary

The system boundary is cradle-to-grave as specified by the PCR. Capital goods, infrastructure, and personal-related activities are excluded from the system, as is typical for LCA studies.



ENVIRONMENTAL PRODUCT DECLARATION



Porcelain Markerboard w/ Trim Options
Workspace Product

According to ISO 14025



Figure 1 – Description of the System Boundary

Raw Material Extraction: The material acquisition, pre-processing, and intermediate processing stage starts when the material is extracted from nature, and ends when the material in component form reaches the gate of the Claridge production facility located in Harrison, AR.

Production: The production stage starts with the product components entering the production site and ends with the final product leaving the Claridge facility.

Distribution: The product distribution stage starts with the product leaving the gate of the Claridge facility and ends when the consumer takes possession of the product.

Use: The use stage begins when the consumer takes possession of the product and ends with the used product entering the end-of-life stage.

End-of-life: The end-of-life stage boundary begins when the used product is ready for disposal, recycling, etc. and ends when the product is landfilled, returned to nature, or transformed to be recycled or reused.

Allocation Rules

Allocation was based on total workspace product production; electricity allocation was based on equipment run time.

Life Cycle Inventory

Life cycle inventory results per 1 m² of workspace product are shown in Table 3, below.

Table 3 – Life Cycle Inventory per 1 m² of Workspace Product

Inventory Metric	Unit	Aluminum Trim Total	Wood Trim Total	Frameless Total
Net fresh water usage	kg	3.84E+02	3.08E+02	3.37E+02
Primary energy demand, total	MJ	6.37E+02	5.55E+02	5.60E+02
<i>Primary energy demand, renewable</i>	MJ	1.61E+02	1.75E+02	1.48E+02
<i>Primary energy demand, non-renewable</i>	MJ	4.76E+02	3.80E+02	4.11E+02

Life Cycle Analysis Results

Results are reported based on characterization factors from the US EPA Tool for the Reduction and Assessment of Chemical and Other Environmental Impacts (TRACI 2.1 impact categories).

LCA results are presented per the declared unit (1 m² of product). The environmental impacts for all trim options are shown below as the results across impacts categories exceed the 10% results variation allowed by the PCR. Note that, at this point, the reported impact categories represent impact potentials, i.e., they are approximations of environmental impacts that could occur if the emissions would (a) follow the underlying impact pathway and (b) meet certain conditions in the receiving environment while doing so. Life Cycle Impact Assessment (LCIA) results are therefore



ENVIRONMENTAL PRODUCT DECLARATION



Porcelain Markerboard w/ Trim Options
Workspace Product

According to ISO 14025

relative expressions only and do not predict actual impacts, the exceeding of thresholds, safety margins, or risks.

Table 4 – Life Cycle Impact Assessment per 1 m² of Porcelain Markerboard with Aluminum Trim

Impact Category	Unit	Raw Materials	Production	Distribution	Installation & Use	End of Life
Global Warming Potential	kg CO2 eq	2.91E+01	1.30E+00	3.37E-01	3.87E+01	6.48E+00
Acidification Potential	kg SO2 eq	1.49E-01	3.09E-03	8.67E-04	1.60E-01	2.71E-03
Photochemical Ozone Creation Potential	kg O3 eq	1.91E+00	2.26E-02	1.26E-02	2.06E+00	4.91E-02
Eutrophication Potential	kg N eq	1.29E-01	8.70E-03	3.56E-04	2.19E-01	7.03E-02
Ozone Depletion Air	kg CFC-11 eq	2.57E-06	7.42E-08	8.46E-08	2.98E-06	6.70E-08
Ecotoxicity	CTUe	6.00E+02	9.54E+01	2.02E+00	2.14E+03	1.32E+03

Table 5 – Life Cycle Impact Assessment per 1 m² of Porcelain Markerboard with Wood Trim

Impact Category	Unit	Raw Materials	Production	Distribution	Installation & Use	End of Life
Global Warming Potential	kg CO2 eq	1.90E+01	1.78E+00	3.35E-01	2.92E+01	6.62E+00
Acidification Potential	kg SO2 eq	9.31E-02	4.43E-03	8.60E-04	1.06E-01	2.77E-03
Photochemical Ozone Creation Potential	kg O3 eq	1.29E+00	3.40E-02	1.25E-02	1.46E+00	5.02E-02
Eutrophication Potential	kg N eq	9.56E-02	1.27E-02	3.53E-04	1.91E-01	7.17E-02
Ozone Depletion Air	kg CFC-11 eq	2.16E-06	1.16E-07	8.39E-08	2.61E-06	6.81E-08
Ecotoxicity	CTUe	3.75E+02	9.92E+01	2.00E+00	1.94E+03	1.34E+03

Table 6 – Life Cycle Impact Assessment per 1 m² of Frameless Porcelain Markerboard

Impact Category	Unit	Raw Materials	Production	Distribution	Installation & Use	End of Life
Global Warming Potential	kg CO2 eq	2.33E+01	1.11E+00	3.14E-01	3.25E+01	6.22E+00
Acidification Potential	kg SO2 eq	1.17E-01	2.54E-03	8.07E-04	1.27E-01	2.60E-03
Photochemical Ozone Creation Potential	kg O3 eq	1.54E+00	1.79E-02	1.17E-02	1.69E+00	4.71E-02
Eutrophication Potential	kg N eq	1.09E-01	7.07E-03	3.31E-04	1.95E-01	6.74E-02
Ozone Depletion Air	kg CFC-11 eq	2.33E-06	5.73E-08	7.87E-08	2.71E-06	6.39E-08
Ecotoxicity	CTUe	5.26E+02	9.38E+01	1.88E+00	2.01E+03	1.26E+03

Additional Environmental Information

The environmental program at Claridge is ongoing and continues to expand. Not only does Claridge practice ecologically responsible manufacturing, their facility eliminates tons of material from the normal landfill waste stream through in-house efforts in shredding waste paper for use in packing materials and full-time recycling programs for glass, aluminum, cardboard, and sawdust. Claridge aims to sustainably source raw materials; for example, Claridge



ENVIRONMENTAL PRODUCT DECLARATION



Porcelain Markerboard w/ Trim Options
Workspace Product

According to ISO 14025

Cork is made from the bark of cork oak trees without damaging the tree itself – making it both rapidly renewable and recyclable. The steel used in making porcelain markerboards contains a minimum of 30% recycled content and various core materials are rapidly renewable and average 85% recycled content. The following Porcelain Markerboard Products included in this EPD has GREENGUARD Certification: SERIES 1, SERIES 2, SERIES 3, SERIES 4, SERIES 5, SERIES 8, SERIES 185, SERIES 800, 1300 SERIES, 2500 SERIES, 2900 SERIES, 110 SERIES, 210 SERIES. From GREENGUARD Certification for markerboards and select tackboards to in-house recycling programs, Claridge strives to help eliminate all indoor contaminants.

References

ISO 14025:2006 Environmental labels and declarations – Type III environmental declarations – Principles and procedures.

ISO 14040:2006 Environmental management – Life Cycle Assessment – Principles and Frameworks.

ISO 14044:2006 Environmental management – Life cycle assessment – Requirements and guidelines.

NSF International. (2015). BIFMA PCR for Office Furniture Workspace Products: UNCPC 3814.

Sustainable Solutions Corporation. (2019). Claridge Workspace Products Life Cycle Assessment.

UL Environment. (2018) Product Category Rules for Building-Related Products and Services Part A: Life Cycle Assessment Calculation Rules and Report requirements 2018.

USEPA. Tool for the Reduction and Assessment of Chemical and Other Environmental Impacts (TRACI).

UL Environment General Program Instructions; Version 2.4, July 2018

Contact Information

Study Commissioner



Claridge Products
601 Highway 62-65 South
PO Box 910
Harrison, AR 72606-0910
(+1) 800 434-4610
info@claridgeproducts.com

LCA Practitioner



SustainableSolutions
CORPORATION

Sustainable Solutions Corporation
155 Railroad Plaza, Suite 203
Royersford, PA 19468 USA
(+1) 610 569-1047
info@sustainablesolutionscorporation.com
www.sustainablesolutionscorporation.com

