Section 1: Summary

Basic Method / Product Threshold

CONTENT INVENTORY

<table>
<thead>
<tr>
<th>Inventory Reporting Format</th>
<th>Threshold level</th>
<th>Residuals/Impurities</th>
<th>Contents highest concern GreenScreen Benchmark or List translator Score</th>
</tr>
</thead>
<tbody>
<tr>
<td>Nested Materials Method</td>
<td>100 ppm</td>
<td>Considered</td>
<td>LT-1</td>
</tr>
<tr>
<td>Basic Method</td>
<td>1,000 ppm</td>
<td>Partially Considered</td>
<td></td>
</tr>
<tr>
<td></td>
<td>Per GHS SDS</td>
<td>Not Considered</td>
<td></td>
</tr>
<tr>
<td></td>
<td>Other</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

Residuals/Impurities provided for Residuals/Impurities? (c) Yes / (c) No

All Substances Above the Threshold Indicated Are:

- Characterized (c) Yes / (c) No
  - % weight and role provided for all substances.
- Screened (c) Yes / (c) No
  - All substances screened using Priority Hazard Lists with results disclosed.
- Identified (c) Yes / (c) No
  - One or more substances not disclosed by Name (Specific or Generic) and Identifier and/ or one or more Special Condition did not follow guidance.

CONTENT IN DESCENDING ORDER OF QUANTITY

Summary of product contents and results from screening individual chemical substances against HPD Priority Hazard Lists and the GreenScreen for Safer Chemicals®. The HPD does not assess whether using or handling this product will expose individuals to its chemical substances or any health risk. Refer to Section 2 for further details.

<table>
<thead>
<tr>
<th>MATERIAL</th>
<th>SUBSTANCE</th>
<th>RESIDUAL OR IMPURITY</th>
<th>GREENSCREEN SCORE</th>
<th>HAZARD TYPE</th>
</tr>
</thead>
<tbody>
<tr>
<td>OPTIMA HEALTHZONE WALLS</td>
<td>FIBERGLASS LT-UNK STARCH NoGS</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td>CALCIUM CARBONATE LT-UNK ALUMINUM HYDROXIDE BM-2</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td>VEGETABLE OIL NoGS TITANIUM DIOXIDE LT-1</td>
<td></td>
<td>END GLASS</td>
<td></td>
</tr>
<tr>
<td></td>
<td>OXIDE LT-UNK POLYVINYL ACETATE LT-UNK PLASTICIZER LT-P1</td>
<td></td>
<td>MUL POLYVINYL ALCOHOL LT-UNK ZINC BORATE LT-P1</td>
<td>REP PARAFFIN</td>
</tr>
<tr>
<td></td>
<td>WAX LT-UNK POLYETHYLENE WAX LT-UNK WATER REPELLENT NoGS</td>
<td></td>
<td>ALUMINUM OXIDE BM-2</td>
<td>RES SURFACTANT NoGS</td>
</tr>
</tbody>
</table>

VOLATILE ORGANIC COMPOUND (VOC) CONTENT

VOC Content data is not applicable for this product category.

CERTIFICATIONS AND COMPLIANCE

See Section 3 for additional listings.

VOC emissions: UL/GreenGuard Gold Certified
LCA: Environmental Product Declaration (EPD) by UL - Industry Generic
Other: ILFI Declare - Red List Free

CONSISTENCY WITH OTHER PROGRAMS

Pre-checked for LEED v4 Material Ingredients Option 1

<table>
<thead>
<tr>
<th></th>
<th></th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td>Yes</td>
<td>VERIFIER:</td>
<td>PUBLISHED DATE: 2020-10-19</td>
</tr>
<tr>
<td>No</td>
<td>VERIFICATION #:</td>
<td>EXPIRY DATE: 2023-10-19</td>
</tr>
</tbody>
</table>
### Section 2: Content in Descending Order of Quantity

This section lists contents in a product based on specific threshold(s) and reports detailed health information including hazards. This HPD uses the inventory method indicated above, which is one of three possible methods:

- Basic Inventory method with Product-level threshold.
- Nested Material Inventory method with Product-level threshold
- Nested Material Inventory method with individual Material-level thresholds

Definitions and requirements for the three inventory methods and requirements for each data field can be found in the HPD Open Standard version 2.2, available on the HPDC website at: [www.hpd-collaborative.org/hpd-2-2-standard](http://www.hpd-collaborative.org/hpd-2-2-standard)

#### OPTIMA HEALTHZONE WALLS

**PRODUCT THRESHOLD:** 1000 ppm  
**RESIDUALS AND IMPURITIES CONSIDERED:** Yes  
**RESIDUALS AND IMPURITIES NOTES:** Residuals / impurities in select raw materials are quantitatively measured and are displayed in the HPD when greater than 1000 ppm.  
**OTHER PRODUCT NOTES:** For more information on Optima HealthZone Walls, visit armstrongceilings.com.

#### FIBERGLASS

**HAZARD SCREENING METHOD:** Pharos Chemical and Materials Library  
**HAZARD SCREENING DATE:** 2020-10-19  
**%:** 75.5300 - 75.5300  
**GS:** LT-UNK  
**RC:** None  
**NANO:** Unknown  
**SUBSTANCE ROLE:** Structure component  
**WARNINGS:** None found  
**SUBSTANCE NOTES:** Structure component

#### STARCH

**HAZARD SCREENING METHOD:** Pharos Chemical and Materials Library  
**HAZARD SCREENING DATE:** 2020-10-19  
**%:** 7.1100 - 7.1100  
**GS:** NoGS  
**RC:** None  
**NANO:** Unknown  
**SUBSTANCE ROLE:** Binder  
**WARNINGS:** None found  
**SUBSTANCE NOTES:** Binder

#### CALCIUM CARBONATE

**HAZARD SCREENING METHOD:** Pharos Chemical and Materials Library  
**HAZARD SCREENING DATE:** 2020-10-19  
**%:** 3.2200 - 3.2400  
**GS:** LT-UNK  
**RC:** None  
**NANO:** No  
**SUBSTANCE ROLE:** Filler  
**WARNINGS:** None found  
**SUBSTANCE NOTES:** In this product it is not regulated as a hazardous substance. In this product, it is not a registered pesticide under FIFRA. It is not registered persistent material.

#### ALUMINUM HYDROXIDE

**HAZARD SCREENING METHOD:** Pharos Chemical and Materials Library  
**HAZARD SCREENING DATE:** 2020-10-19  
**%:** 3.1800 - 4.0000  
**GS:** BM-2  
**RC:** None  
**NANO:** No  
**SUBSTANCE ROLE:** Flame retardant  
**WARNINGS:** None found  
**SUBSTANCE NOTES:**
<table>
<thead>
<tr>
<th>Substance</th>
<th>ID</th>
<th>HAZARD SCREENING METHOD</th>
<th>HAZARD SCREENING DATE</th>
<th>%:</th>
<th>GS</th>
<th>RC</th>
<th>NANO</th>
<th>SUBSTANCE ROLE</th>
</tr>
</thead>
<tbody>
<tr>
<td>VEGETABLE OIL</td>
<td>68918-91-2</td>
<td>Pharos Chemical and Materials Library</td>
<td>2020-10-19</td>
<td>2.3800 - 2.3800</td>
<td>NoGS</td>
<td>None</td>
<td>Unknown</td>
<td>Surface modifier</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>TITANIUM DIOXIDE</td>
<td>13463-67-7</td>
<td>Pharos Chemical and Materials Library</td>
<td>2020-10-19</td>
<td>2.2400 - 2.2400</td>
<td>LT-1</td>
<td>None</td>
<td>No</td>
<td>Pigment</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>GLASS OXIDE</td>
<td>65997-17-3</td>
<td>Pharos Chemical and Materials Library</td>
<td>2020-10-19</td>
<td>2.2000 - 2.7500</td>
<td>LT-UNK</td>
<td>None</td>
<td>No</td>
<td>Structure component</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>POLYVINYL ACETATE</td>
<td>9003-20-7</td>
<td>Pharos Chemical and Materials Library</td>
<td>2020-10-19</td>
<td>1.8200 - 1.8200</td>
<td>LT-UNK</td>
<td>None</td>
<td>No</td>
<td>Adhesive</td>
</tr>
</tbody>
</table>

SUBSTANCE NOTES:
- VEGETABLE OIL: Flame retardant
- TITANIUM DIOXIDE: Structure component
- GLASS OXIDE: It is bound by the adhesives within the coating. It is not in a respirable form in the final product. Accordingly, it is excluded from regulatory hazards list.

WARNINGS
- None found

NO WARNING FOUND ON HPD Priority Hazard Lists
<table>
<thead>
<tr>
<th>Substance</th>
<th>ID</th>
<th>HAZARD SCREENING METHOD</th>
<th>HAZARD SCREENING DATE</th>
<th>%</th>
<th>GS</th>
<th>RC</th>
<th>NANO</th>
<th>SUBSTANCE ROLE</th>
</tr>
</thead>
<tbody>
<tr>
<td>PLASTICIZER</td>
<td>27138-31-4</td>
<td>Pharos Chemical and Materials Library</td>
<td>2020-10-19</td>
<td>0.3700</td>
<td>LT-P1</td>
<td>None</td>
<td>No</td>
<td>Adhesive</td>
</tr>
<tr>
<td>POLYVINYL ALCOHOL</td>
<td>9002-89-5</td>
<td>Pharos Chemical and Materials Library</td>
<td>2020-10-19</td>
<td>0.2200</td>
<td>LT-UNK</td>
<td>None</td>
<td>No</td>
<td>Binder</td>
</tr>
<tr>
<td>ZINC BORATE</td>
<td>138265-88-0</td>
<td>Pharos Chemical and Materials Library</td>
<td>2020-10-19</td>
<td>0.2100</td>
<td>LT-P1</td>
<td>None</td>
<td>Unknown</td>
<td>Flame retardant</td>
</tr>
<tr>
<td>PARAFFIN WAX</td>
<td>64742-51-4</td>
<td>Pharos Chemical and Materials Library</td>
<td>2020-10-19</td>
<td>0.1700</td>
<td>LT-UNK</td>
<td>None</td>
<td>Unknown</td>
<td>Water resistance</td>
</tr>
<tr>
<td>POLYETHYLENE WAX</td>
<td>68441-17-8</td>
<td>Pharos Chemical and Materials Library</td>
<td>2020-10-19</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>
HAZARD SCREENING METHOD: Pharos Chemical and Materials Library  
HAZARD SCREENING DATE: 2020-10-19

%: 0.1700 - 0.1700  
GS: LT-UNK  
RC: None  
NANO: Unknown  
SUBSTANCE ROLE: Water resistance

None found  
WARNINGS

SUBSTANCE NOTES: Water resistance

---

WATER REPELLENT

ID: 63148-57-2

HAZARD SCREENING METHOD: Pharos Chemical and Materials Library  
HAZARD SCREENING DATE: 2020-10-19

%: 0.1300 - 0.1300  
GS: NoGS  
RC: None  
NANO: Unknown  
SUBSTANCE ROLE: Surface modifier

None found  
WARNINGS

SUBSTANCE NOTES: Surface modifier

---

ALUMINUM OXIDE

ID: 1344-28-1

HAZARD SCREENING METHOD: Pharos Chemical and Materials Library  
HAZARD SCREENING DATE: 2020-10-19

%: 0.0700 - 0.0700  
GS: BM-2  
RC: None  
NANO: No  
SUBSTANCE ROLE: Pigment

RESPIRATORY  
AOEC - Asthmagens  
Asthmagen (Rs) - sensitizer-induced

SUBSTANCE NOTES: Pigment

---

SURFACTANT

ID: Not Registered

HAZARD SCREENING METHOD: Toxnot Chemical Hazard Screening Library  
HAZARD SCREENING DATE: 2020-10-19

%: 0.0000 - 0.5500  
GS: NoGS  
RC: None  
NANO: No  
SUBSTANCE ROLE: Binder

None found  
WARNINGS

SUBSTANCE NOTES: Binder
Section 3: Certifications and Compliance

This section lists applicable certification and standards compliance information for VOC emissions and VOC content. Other types of health or environmental performance testing or certifications completed for the product may be provided.

VOC EMISSIONS

| CERTIFYING PARTY: | Third Party |
| APPLICABLE FACILITIES: | all |
| CERTIFICATE URL: | https://www.armstrongceilings.com/content/dam/armstrongceilings/commercial/north-america/certificates/optima-pb-greenguard-certificate.pdf |
| ISSUE DATE: | 2018-04-16 |
| EXPIRY DATE: | 2021-04-16 |
| CERTIFIER OR LAB: | UL Environment |

CERTIFICATION AND COMPLIANCE NOTES: UL GG Gold

LCA

| CERTIFYING PARTY: | Third Party |
| APPLICABLE FACILITIES: | all |
| CERTIFICATE URL: | https://www.armstrongceilings.com/content/dam/armstrongceilings/commercial/north-america/epds/optima-epd.pdf |
| ISSUE DATE: | 2016-03-31 |
| EXPIRY DATE: | 2021-03-31 |
| CERTIFIER OR LAB: | UL Environment |

CERTIFICATION AND COMPLIANCE NOTES: Product Specific

OTHER

| CERTIFYING PARTY: | Second Party |
| APPLICABLE FACILITIES: | all |
| ISSUE DATE: | 2020-11-01 |
| EXPIRY DATE: | 2021-11-01 |
| CERTIFIER OR LAB: | ILFI |

CERTIFICATION AND COMPLIANCE NOTES: Red List Free

Section 4: Accessories

This section lists related products or materials that the manufacturer requires or recommends for installation (such as adhesives or fasteners), maintenance, cleaning, or operations. For information relating to the contents of these related products, refer to their applicable Health Product Declarations, if available.

No accessories are required for this product.

Section 5: General Notes

This HPD is provided solely for the intended recipient in connection with its assessment of products and for no other purpose. In providing information, AWI expresses no opinion and makes no representations as to the applicability, suitability, accuracy or completeness of the declaration form, or the standards, rules, classifications, warnings or criteria utilized or referenced therein. Information provided herein is qualified in the entirety by reference to the applicable product Safety Data Sheet (SDS) which can be located at www.armstrongceilings.com, as well as by the additional ingredient information provided for specified substances. Please refer to the Armstrong Commercial Ceilings website for more information on this product.
MANUFACTURER INFORMATION

MANUFACTURER: Armstrong World Industries
ADDRESS: 2500 Columbia Avenue
Lancaster PA 17603, USA
WEBSITE: www.armstrongceilings.com

CONTACT NAME: Anita Snader
TITLE: Sustainability Manager
PHONE: 1-877-276-7876
EMAIL: techline@armstrongceilings.com

The listed contact is responsible for the validity of this HPD and attests that it is accurate and complete to the best of his or her knowledge.

KEY

Hazard Types

- AQU Aquatic toxicity
- CAN Cancer
- DEV Developmental toxicity
- END Endocrine activity
- EYE Eye irritation/corrosivity
- GEN Gene mutation
- GLO Global warming
- LAN Land toxicity
- MAM Mammalian/systemic/organ toxicity
- MUL Multiple
- NEU Neurotoxicity
- NF Not found on Priority Hazard Lists
- OZO Ozone depletion
- PBT Persistent, bioaccumulative, and toxic
- PHY Physical hazard (flammable or reactive)
- REP Reproductive
- RES Respiratory sensitization
- SKI Skin sensitization/irritation/corrosivity
- UNK Unknown

GreenScreen (GS)

- BM-4 Benchmark 4 (prefer-safer chemical)
- BM-3 Benchmark 3 (use but still opportunity for improvement)
- BM-2 Benchmark 2 (use but search for safer substitutes)
- BM-1 Benchmark 1 (avoid - chemical of high concern)
- BM-U Benchmark Unspecified (due to insufficient data)
- LT-P1 List Translator Possible 1 (Possible Benchmark-1)
- LT-1 List Translator 1 (Likely Benchmark-1)
- LT-UNK List Translator Benchmark Unknown (the chemical is present on at least one GreenScreen Specified List, but the information contained within the list did not result in a clear mapping to a LT-1 or LTP1 score.)
- NoGS No GreenScreen.

Recycled Types

- PreC Pre-consumer recycled content
- PostC Post-consumer recycled content
- UNK Inclusion of recycled content is unknown
- None Does not include recycled content

Other Terms:

- GHS SDS Globally Harmonized System of Classification and Labeling of Chemicals Safety Data Sheet

Inventory Methods:

- Nested Method / Material Threshold Substances listed within each material per threshold indicated per material
- Nested Method / Product Threshold Substances listed within each material per threshold indicated per product
- Basic Method / Product Threshold Substances listed individually per threshold indicated per product

Nano Composed of nano scale particles or nanotechnology

Third Party Verified Verification by independent certifier approved by HPDC
Preparer Third party preparer, if not self-prepared by manufacturer
Applicable facilities Manufacturing sites to which testing applies

The Health Product Declaration (HPD) Open Standard provides for the disclosure of product contents and potential associated human and environmental health hazards. Hazard associations are based on the HPD Priority Hazard Lists, the GreenScreen List Translator™, and when available, full GreenScreen® assessments. The HPD Open Standard v2.1 is not:

- a method for the assessment of exposure or risk associated with product handling or use,
- a method for assessing potential health impacts of: (i) substances used or created during the manufacturing process or (ii) substances created after the product is delivered for end use.

Information about life cycle, exposure and/or risk assessments performed on the product may be reported by the manufacturer in appropriate Notes sections, and/or, where applicable, in the Certifications section.

The HPD Open Standard was created and is supported by the Health Product Declaration Collaborative (the HPD Collaborative), a customer-led organization composed of stakeholders throughout the building industry that is committed to the continuous improvement of building products through transparency, openness, and innovation throughout the product supply chain.

The product manufacturer and any applicable independent verifier are solely responsible for the accuracy of statements and claims made in this HPD and for compliance with the HPD standard noted.