CertainTeed

Acoustical Ceiling Products

Technical Information

CertainTeed

Quality made certain. Satisfaction guaranteed.
Definition of Terms

Product Categories

Protectone®
The CertainTeed brand applied to ceiling products which have a reported Flame Spread Index of 25 or less and are Classified by Underwriters Laboratories Inc. for use in specific time-rated floor-ceiling or roof-ceiling assemblies (ANSI/UL 263; ASTM E 119, UBC 7-1, NFPA 251, CAN/ULC-S101M).

Safetone® Class A Products
Applies to all ceiling products which have a reported Flame Spread Index of 25 or less and a Smoke Developed Rating of 50 or less, as determined by ASTM E 84 (UL 723, UBC 8-1, NFPA255, CAN/ULC-S102M).

Product Terms

NRC (Noise Reduction Coefficient)
A measure of sound absorbed by a material. The single number designation represents the average of the sound absorption coefficients of a material at 250 Hz, 500 Hz, 1000 Hz, and 2000 Hz rounded to the nearest 0.05 when tested in accordance with ASTM C 423. Acoustical performance is classified by Underwriters Laboratories Inc.

STC (Sound Transmission Class)
A single number rating of the transmission loss properties of a barrier panel (walls, partitions, doors and windows). Measured transmission loss data is plotted versus frequency and compared with standard contours according to rules outlined in ASTM E90 and ASTM E413. Composite partitions composed of elements such as doors and windows as well as walls will tend to have an STC close to the value of the lowest STC of any component.

AC (Articulation Class)
A measure of the sound reflective characteristics of an acoustical material when used in conjunction with partial-height space dividers determined in accordance with ASTM E 413 and calculated in accordance with ASTM E 1110 for each nominal interzone distance.

LR (Light Reflectance)
The number designation indicating the percentage of light reflected from a ceiling product's surface, in accordance with ASTM E 1477.

PlastiGard® (PG)
An optional acrylic finish providing a scrubable/washable surface. Available for use on specific products. Consult your CertainTeed sales representative for details.

BioShield®
Antimicrobial mold and mildew guard. An optional treatment that resists the surface growth of mold and mildew. Available for use on specific products. Consult your CertainTeed sales representative for details.

LR (Light Reflectance)
A measure of the sound reflective characteristics of an acoustical material when used in conjunction with partial-height space dividers determined in accordance with ASTM E 413 and calculated in accordance with ASTM E 1110 for each nominal interzone distance.

Product Icon Key

For ease of use, icons are used as a visual reference throughout this guide. These icons indicate standard features and availability of certain options for the products throughout this catalog. The following is a key to the definitions of the icons used.

- **Color Availability**: Available in a wide variety of Colortones.
- **High Light Reflectance**: Light reflectance values of 0.75 and greater (LR-1).
- **Finishes**: Available in a wide variety of finishes.
- **BioShield®**: Mold and mildew guard is standard on Cashmere®, Sand, Sand Perforated, Sand Micro® and School Board® ceiling panels. Available as an option on select products.
- **Noise Reduction**: Exceptional sound absorption and/or attenuation.
- **Protectone®/UL Fire Resistance**: CertainTeed Protectone® ceilings have been tested and listed in specific UL design assemblies.
- **Resists Sagging**: Warranty against visible sag.
- **$$$$ Relative Installed Cost**: Intended as installed cost guideline showing relative values, which will vary according to geographic regions. One $ being lowest and four $ being the highest.
- **High Durability**: Superior surface resistance to damage from impact, scratching or scuffing.
- **Washable/Scrubbable**: Acrylic finish providing a scrubable/washable surface as an option on select products.
- **Highly Decorative**: Available in a wide variety of Colortones.
- **10 year 104/90 Limited Warranty against visible sag**: Warranty against visible sag.
- **10 year 104/95 Limited Warranty against visible sag**: Warranty against visible sag.
- **10 year 104/100 Limited Warranty against visible sag**: Warranty against visible sag.
- **Symphony®g (Perimeter)**: Symphony®g will increase room-to-room attenuation (CAC) and Symphony®f absorbs it within the room.

Example:
Conference Room
## Fire Resistance Time-Rated Designs

**Protectone® Acoustical Products**
(Fire ratings specified in this section pertain to UL Classifications which are based on standard test methods ANSI/UL 263, ASTM E 119, UBC 7-1, NFPA 251, CAN/ULC – S101M)

### Floor/Ceiling Assemblies

<table>
<thead>
<tr>
<th>Type of Construction</th>
<th>Maximum Time Rating (Hrs)</th>
<th>UL Design Number</th>
<th>Concrete Thickness</th>
<th>Panel or Tile Size</th>
<th>Panel or Tile Type</th>
<th>Edge Detail Allowed</th>
<th>Panel or Tile Thickness</th>
<th>Minimum Fixture Area or No. (ft²/100 ft²)</th>
<th>Maximum Duct Area or No. (in²/100 ft²)</th>
<th>Maximum Grid System</th>
</tr>
</thead>
<tbody>
<tr>
<td>Concrete on steel floor and form units</td>
<td>2</td>
<td>D203</td>
<td>2 1/2&quot;</td>
<td>24&quot; x 24&quot;, 36&quot; or 48&quot;</td>
<td>Wet-Felted/Nodular D, G2</td>
<td>T, R</td>
<td>5/8&quot;, 3/4&quot;</td>
<td>24</td>
<td>576</td>
<td>Exposed 9/16&quot; Tee</td>
</tr>
<tr>
<td>Concrete on steel floor and form units</td>
<td>2</td>
<td>D205</td>
<td>2 1/2&quot;</td>
<td>24&quot; x 48&quot;</td>
<td>Wet-Felted/Nodular D, G2</td>
<td>T</td>
<td>5/8&quot;, 3/4&quot;</td>
<td>24</td>
<td>–</td>
<td>Exposed 9/16&quot; Tee</td>
</tr>
<tr>
<td>Concrete on metal lath or corrugated steel deck, steel joists</td>
<td>2</td>
<td>G208</td>
<td>2 1/2&quot;</td>
<td>24&quot; x 24&quot;, 36&quot;, 48&quot; or 60&quot; and 20&quot; x 60&quot;</td>
<td>Wet-Felted/Nodular D, G2</td>
<td>T, R, G</td>
<td>5/8&quot;, 3/4&quot;</td>
<td>25</td>
<td>576</td>
<td>Exposed 9/16&quot; Tee</td>
</tr>
<tr>
<td>Concrete on metal lath, steel joists</td>
<td>2</td>
<td>G218</td>
<td>2 1/2&quot;</td>
<td>24&quot; x 24&quot;, 36&quot; or 48&quot;</td>
<td>Wet-Felted/Nodular D, G2</td>
<td>T, R, G</td>
<td>5/8&quot;, 3/4&quot;</td>
<td>25</td>
<td>576</td>
<td>Exposed 9/16&quot; Tee</td>
</tr>
<tr>
<td>Concrete on metal lath, steel joists</td>
<td>2</td>
<td>G248</td>
<td>2 1/2&quot;</td>
<td>24&quot; x 24&quot;, 36&quot; or 48&quot;</td>
<td>Wet-Felted/Nodular D, G2</td>
<td>T, R, G</td>
<td>5/8&quot;, 3/4&quot;</td>
<td>–</td>
<td>–</td>
<td>Exposed 9/16&quot; Tee</td>
</tr>
<tr>
<td>Concrete on metal lath or corrugated steel deck, steel joists</td>
<td>2</td>
<td>G255</td>
<td>2 1/2&quot;</td>
<td>24&quot; x 48&quot; or 20&quot; x 60&quot;</td>
<td>Wet-Felted/Nodular D, G2</td>
<td>T, R, G</td>
<td>5/8&quot;, 3/4&quot;</td>
<td>24</td>
<td>576</td>
<td>Exposed 9/16&quot; Tee</td>
</tr>
<tr>
<td>Concrete on metal lath or steel floor and form units, Hambro joints</td>
<td>2</td>
<td>G222</td>
<td>2 1/2&quot;</td>
<td>24&quot; x 24&quot;</td>
<td>Gypsum FRPC, C</td>
<td>T</td>
<td>1/2&quot;</td>
<td>12</td>
<td>57</td>
<td>Exposed 9/16&quot; Tee</td>
</tr>
<tr>
<td>Concrete on metal lath, steel joists</td>
<td>11/2</td>
<td>G259</td>
<td>2 1/2&quot;</td>
<td>24&quot; x 48&quot;</td>
<td>Gypsum FRPC, C</td>
<td>T</td>
<td>1/2&quot;</td>
<td>16</td>
<td>57</td>
<td>Exposed 9/16&quot; Tee</td>
</tr>
<tr>
<td>Wood Deck</td>
<td>1</td>
<td>L201</td>
<td>–</td>
<td>24&quot; x 24&quot;, 36&quot; or 48&quot;</td>
<td>Wet-Felted/Nodular D, G2</td>
<td>T, R</td>
<td>5/8&quot;, 3/4&quot;</td>
<td>8</td>
<td>25</td>
<td>Exposed 9/16&quot; Tee</td>
</tr>
<tr>
<td>Wood Deck</td>
<td>1</td>
<td>L201</td>
<td>–</td>
<td>24&quot; x 24&quot;</td>
<td>Wet-Felted/Nodular D, G2</td>
<td>T, NR</td>
<td>3/4&quot;</td>
<td>8</td>
<td>25</td>
<td>Exposed 9/16&quot; Tee</td>
</tr>
</tbody>
</table>

**Panel and Tile Types:**
1. Wet-Felted/Nodular Type D, G2: Wet–Felted Protectone® (L’Anse, MI & Meridian, MS plants) – Cashmere®, Fissured, ND Perforated, Stippled, Baroque®, Fine Fissured, Vantage® 10™, Textured Baroque®, Baroque® Customline®, School Board®
2. Gypsum Types ProRoc® Type C: Envirogard and Vinylrock X™
3. Edge Detail Types: BK = Bevel Edge Kerfed; BKG = Bevel Edge, Kerfed, Center Face Groove; SK = Square Edge (Butt), Kerfed; T = Trim (Square) Edge; R = Reveal Edge; G = Reveal Edge, Grooved Face (Customline); NR = Narrow Reveal (9/16"). Note: Both Reveal Edge (R) and Narrow Reveal Edge (NR) Wet-Felted/Nodular D panels may be fabricated with the Radius or Tier-Step edge detail. Metric-Sized panels also available
4. Class A, B or C roof coverings may be applied directly to the concrete or wood surface of floor/ceiling designs being used as roof/ceiling designs without a reduction of the fire resistance rating.
5. Utilizes air boots incorporated into light fixtures
6. Refer to UL Fire Resistance Directory for details

The information contained in this table is intended only to be used as a guide. For detailed time-rated assembly information, refer to the latest Underwriters Laboratories Inc. Fire Resistance Directory (www.ul.com).
Fire Resistance Time-Rated Designs (cont.)

Protectone® Acoustical Products
(Fire ratings specified in this section pertain to UL Classifications which are based on standard test method ANSI/UL 263, ASTM E 119, UBC 7-1, NFPA 251, CAN/ULC – S101M)

ROOF/CEILING ASSEMBLIES

<table>
<thead>
<tr>
<th>Maximum Time Rating (Hrs)</th>
<th>UL Design Number</th>
<th>Concrete or Tile Size</th>
<th>Panel or Tile Type</th>
<th>Edge Detail Allowed</th>
<th>Minimum Fixture Area or No. (ft²/100 ft²)</th>
<th>Maximum Duct Area or No. (in²/100 ft²)</th>
<th>Maximum Grid System</th>
</tr>
</thead>
<tbody>
<tr>
<td>BUR, modified or single-ply over steel deck, steel jists</td>
<td>1 P204</td>
<td>— 24” x 24”, 36” or 48”</td>
<td>Wet-Felted/Nodular D, G2</td>
<td>T, R</td>
<td>5/8”, 3/4”</td>
<td>16</td>
<td>57</td>
</tr>
<tr>
<td>BUR, modified or single-ply over steel deck, steel jists</td>
<td>1 P204</td>
<td>— 24” x 24”</td>
<td>Wet-Felted/Nodular D, G2</td>
<td>T, R</td>
<td>5/8”, 3/4”</td>
<td>16</td>
<td>57</td>
</tr>
<tr>
<td>BUR, modified, single-ply or metal over steel deck, steel jists</td>
<td>1 P259</td>
<td>— 24” x 24”, 36”, 48”</td>
<td>Wet-Felted/Nodular D, G2 or 60” and 20” x 60”</td>
<td>T, R</td>
<td>5/8”, 3/4”</td>
<td>24</td>
<td>576</td>
</tr>
<tr>
<td>BUR, modified, single-ply or metal over steel deck, steel jists</td>
<td>1 P259</td>
<td>— 24” x 24”</td>
<td>Wet-Felted/Nodular D, G2</td>
<td>T, R</td>
<td>5/8”, 3/4”</td>
<td>24</td>
<td>576</td>
</tr>
<tr>
<td>BUR, modified, single-ply or metal over steel deck, steel jists</td>
<td>1 P259</td>
<td>— 24” x 24”</td>
<td>Wet-Felted/Nodular D, G2</td>
<td>T, R</td>
<td>5/8”, 3/4”</td>
<td>24</td>
<td>576</td>
</tr>
<tr>
<td>BUR, modified, single-ply or metal over steel deck, steel jists</td>
<td>1 P260</td>
<td>1½ 24” x 48”</td>
<td>Wet-Felted/Nodular D, G2</td>
<td>T</td>
<td>5/8”, 3/4”</td>
<td>16</td>
<td>288</td>
</tr>
<tr>
<td>BUR, modified, single-ply or metal over steel deck, steel jists</td>
<td>1 P260</td>
<td>1½ 24” x 24”</td>
<td>Wet-Felted/Nodular D, G2</td>
<td>T</td>
<td>5/8”, 3/4”</td>
<td>16</td>
<td>288</td>
</tr>
<tr>
<td>BUR, modified or single-ply over gypsum concrete, steel jists</td>
<td>1 P260</td>
<td>1½ 24” x 24”</td>
<td>Wet-Felted/Nodular D, G2</td>
<td>T</td>
<td>5/8”, 3/4”</td>
<td>16</td>
<td>288</td>
</tr>
<tr>
<td>BUR, modified or single-ply over gypsum concrete, steel jists</td>
<td>1 P260</td>
<td>1½ 24” x 24”</td>
<td>Wet-Felted/Nodular D, G2</td>
<td>T</td>
<td>5/8”, 3/4”</td>
<td>16</td>
<td>288</td>
</tr>
<tr>
<td>BUR, modified or single-ply over lightweight concrete, steel deck, steel jists</td>
<td>1 P261</td>
<td>Note 8 24” x 24”, 36”, 48” or 60” and 20” x 60”</td>
<td>Wet-Felted/Nodular D, G2</td>
<td>T, R</td>
<td>5/8”, 3/4”</td>
<td>25</td>
<td>113</td>
</tr>
<tr>
<td>BUR, modified or single-ply over lightweight concrete, steel deck, steel jists</td>
<td>1 P261</td>
<td>Note 8 24” x 24”</td>
<td>Wet-Felted/Nodular D, G2</td>
<td>T, R</td>
<td>5/8”, 3/4”</td>
<td>25</td>
<td>113</td>
</tr>
<tr>
<td>BUR, modified or single-ply over structural cement/fiber units, steel jists</td>
<td>1 P262</td>
<td>Note 8 24” x 24”, 36”, 48” or 60” and 20” x 60”</td>
<td>Wet-Felted/Nodular D, G2</td>
<td>T, R</td>
<td>5/8”, 3/4”</td>
<td>25</td>
<td>576</td>
</tr>
<tr>
<td>BUR, modified or single-ply over structural cement/fiber units, steel jists</td>
<td>1 P262</td>
<td>Note 8 24” x 24”</td>
<td>Wet-Felted/Nodular D, G2</td>
<td>T, R</td>
<td>5/8”, 3/4”</td>
<td>25</td>
<td>576</td>
</tr>
<tr>
<td>BUR, modified or single-ply over insulating concrete, steel deck, steel jists</td>
<td>1 P264</td>
<td>Note 8 24” x 48”</td>
<td>Wet-Felted/Nodular D, G2</td>
<td>T</td>
<td>5/8”, 3/4”</td>
<td>24</td>
<td>255</td>
</tr>
</tbody>
</table>

Panel and tile types:
1. Wet-Felted/Nodular Type D, G2: Wet-Felted Protectone® (Cashmere®, Fissured, ND Perforated, Stippled, Baroque®, Fine Fissured, Fine Fissured Customline®, Vantage 10®, Textured Baroque®, Baroque® Customline®, School Board®)
2. Gypsum ProRoc® Type C: Envirogard® and Vinylrock X®.
3. Edge Detail Types: BK = Bevel Edge Kerfed; BKG = Bevel Edge, Kerfed, Center Face Groove; SK = Square Edge (Butt), Kerfed; T = Trim (Square) Edge; R = Reveal Edge; G = Reveal Edge, Grooved Face (Customline); NR = Narrow Reveal (9/16”). Note: Both Reveal Edge (R) and Narrow Reveal Edge (NR) Wet-Felted/Nodular D panels may be fabricated with the Radius or Ten-Step edge detail. Metric-sized panels also available
4. Class A, B or C roof coverings may be applied directly to the concrete or wood surface of floor/ceiling designs being used as roof/ceiling designs without a reduction of the fire resistance rating.
5. Utilizes air boots incorporated into light fixtures
6. Refer to UL Fire Resistance Directory for details

The information contained in this table is intended only to be used as a guide. For detailed time-rated assembly information, refer to the latest Underwriters Laboratories Inc. Fire Resistance Directory (www.ul.com).

UL Flame Spread Ratings for Class A and Protectone® Products

Underwriters Laboratories Inc.
Classified Acoustical Material Surface Burning Characteristics

<table>
<thead>
<tr>
<th>Product (All Sizes)</th>
<th>Flame Spread</th>
<th>Smoke Developed</th>
</tr>
</thead>
<tbody>
<tr>
<td>Wet-Felted and Nodular Protectone®</td>
<td>25</td>
<td>10</td>
</tr>
<tr>
<td>Wet-Felted</td>
<td>25</td>
<td>0</td>
</tr>
<tr>
<td>Nodular (Cashmere®)</td>
<td>25</td>
<td>10</td>
</tr>
<tr>
<td>Versatone®/Open Plan® Vinyl Faced</td>
<td>25</td>
<td>40</td>
</tr>
<tr>
<td>VinylShield® A, C</td>
<td>25</td>
<td>45</td>
</tr>
<tr>
<td>Symphony® m</td>
<td>25</td>
<td>30</td>
</tr>
</tbody>
</table>

These numerical ratings are not intended to reflect hazards presented by these or any other material under actual fire conditions.
# Ceiling Suspension Systems UL Fire Rated Designs

<table>
<thead>
<tr>
<th>Floor-Ceiling</th>
<th>Type PCH/PCS Exposed</th>
<th>Type PAC Exposed</th>
<th>Type PE Exposed</th>
<th>Type PSL Exposed</th>
<th>Type PDWH/PDWS Furring</th>
</tr>
</thead>
<tbody>
<tr>
<td>Concrete and Cellular Steel Floor Units</td>
<td>A202, A210, A211 A212</td>
<td>A202, A210</td>
<td>A202</td>
<td>-</td>
<td>-</td>
</tr>
<tr>
<td>Concrete</td>
<td>J201</td>
<td>J201</td>
<td>-</td>
<td>-</td>
<td>J502**</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Roof-Ceiling</th>
<th>Type PCH/PCS Exposed</th>
<th>Type PAC Exposed</th>
<th>Type PE Exposed</th>
<th>Type PSL Exposed</th>
<th>Type PDWH/PDWS Furring</th>
</tr>
</thead>
</table>

*Protectone® acoustical ceiling products listed in the design.

**ProRoc® Brand Type X or ProRoc® Brand Type C gypsum board products listed in the design.

Fire designs specified in this table refer to UL Classifications based on standard test method ANSI/UL 263 (ASTM E 119, URC 7-1), NFPA 251, CAN/ULC-S101M under UL File R10753. The information contained in this table is intended only to be used as a guide. For detailed time-rated assembly information, refer to the latest Underwriters Laboratories Inc. Fire Resistance Directory, Vol. 1 at www.ul.com.
Warranties

Acoustical Ceilings 1 Year Limited Warranty
CertainTeed Ceilings warrants its Standard™ Acoustical Ceiling Panels against visible sag, warping, shrinking, buckling and delamination as a direct result of manufacturing defects for one (1) year from the date of installation of the ceiling panels subject to the conditions set forth below.

Terms and conditions
1. The panels shall be installed in accordance with all applicable CertainTeed recommendations in effect at the time of installation, using approved installation procedures described in the Ceiling Systems Handbook published by the Ceilings & Interior Systems Construction Association.
2. The panels shall be installed only in areas free from excessive humidity and the temperature and humidity conditions must not exceed 60-85 degrees Fahrenheit (16-29 degrees C) and 70% relative humidity following installation with the environmental conditions being controlled within those limits. Any deviation from those limits in the building or portions of the building shall void the warranty.

Acoustical Ceilings 10 Year 104/100 Limited Warranty
CertainTeed warranties Aquarock™ Gypsum Ceiling Panels against visible sag, warping, shrinking, buckling and delamination as a direct result of manufacturing defects for ten (10) years from the date of installation of the ceiling panels subject to the conditions set forth below:

Terms and conditions
1. The panels shall be installed in accordance with all applicable CertainTeed recommendations in effect at the time of installation, using approved installation procedures described in the Ceiling Systems Handbook published by the Ceilings & Interior Systems Construction Association.
2. The panels shall be installed only in areas free from excessive humidity and the temperature and humidity conditions must not exceed 60-85 degrees Fahrenheit (16-29 degrees C) and 70% relative humidity following installation with the environmental conditions being controlled within those limits. Any deviation from those limits in the building or portions of the building shall void the warranty.
3. No water or water vapor from sources including but not limited to condensation, leaking pipes and/or ducts or steam shall come in contact with the panels or grid system.
4. The panels must not be used to support any other material such as light fixtures or mechanical equipment except fiberglass insulation installed in accordance with CertainTeed recommendations.
5. Prior to installation, the acoustical panels must be stored in a dry and clean area, protected from possible damage caused by rain, snow, and excessive moisture. The acoustical panels must also be protected against possible impacts and abrasions while on the construction site.
6. The plenum space above the ceiling panels must not be used as a duct to supply conditioned air to the building. Also, the plenum shall not be vented to the outside air in such a way as to allow humidity above warranty conditions to exist within the plenum.

Exclusions
Damage caused by improper maintenance, abuse, fire, exposure to smoke, fumes, chemical vapors, vibrations and normal wear and tear are not covered by this warranty.

This warranty excludes consequential damages that may result from moisture in direct contact with the ceiling materials. Causes could include, but are not limited to, building leaks, condensation, and HVAC system performance failure.

Should CertainTeed’s acoustical panels visibly sag, warp, shrink, buckle or delaminate during the warranty period, written notice must be given within 30 days after first observing this condition to the following address: CertainTeed Corporation, Technical Services Department, P.O. Box 860, Valley Forge, PA 19482 USA. If upon investigation, CertainTeed finds that the visible sagging, warping, shrinking, buckling or delamination is caused by manufacturing defects and is covered under this warranty, owner’s sole remedy and CertainTeed’s liability shall be limited to CertainTeed furnishing new material of the same or similar type and grade in an amount equal to that which is determined to be defective. CertainTeed does not warrant that the replacement panels will match the exact color of remaining in-place panels. CertainTeed shall not be responsible for any installation or replacement costs.

The furnishing of such panels shall constitute the total liability of CertainTeed and the exclusive remedy of customer. There are no other warranties, express or implied, including any warranty of merchantability or fitness for a particular purpose. Liability is limited to the above and CertainTeed shall in no event be liable for labor charges, including but not limited to labor charges in connection with removal or replacement of sagging or damaged panels, nor for incidental or consequential damages.

No representative of CertainTeed has the authority to make any representation or promise with respect to this limited warranty except as stated herein.
Ceiling Suspension Systems
10 Year Limited Warranty
 CertainTeed Ceilings warrants its Standard Fiberglass Acoustical Ceiling Panels described below against visible sag, warping, shrinking, buckling and delamination as a direct result of manufacturing defects for ten (10) years from the date of installation of the ceiling panels subject to the conditions set forth below:

Terms and conditions
1. The panels shall be installed in accordance with all applicable CertainTeed recommendations in effect at the time of installation, using approved installation procedures described in the Ceiling Systems Handbook published by the Ceilings & Interior Systems Construction Association.
2. The panels shall be installed only in areas free from excessive humidity and the temperature and humidity conditions must not exceed 104 degrees Fahrenheit (40 degrees C) and 95% relative humidity following installation with the environmental conditions being controlled within those limits. Any deviation from those limits in the building or portions of the building shall void the warranty.
3. No water or water vapor from sources including but not limited to condensation, leaking pipes and/or ducts or steam shall come in contact with the panels or grid system.
4. The acoustical panels must not be used to support any other material such as light fixtures or mechanical equipment except fiberglass insulation installed in accordance with CertainTeed recommendations.
5. Prior to installation, the acoustical panels must be stored in a dry and clean area, protected from possible damage caused by rain, snow, and excessive moisture. The acoustical panels must also be protected against possible impacts and abrasions while on the construction site.
6. The plenum space above the ceiling panels must not be used as a duct to supply conditioned air to the building. Also, the plenum shall not be vented to the outside air in such a way as to allow humidity above warranty conditions to exist within the plenum.

Exclusions
Damage caused by improper maintenance, abuse, fire, exposure to smoke, fumes, chemical vapors, exterior elements, freezing temperatures, vibrations and normal wear and tear are not covered by this warranty.

This warranty excludes consequential damages that may result from the presence of standing water, or where moisture is in direct contact with the ceiling materials. Causes could include, but are not limited to, building leaks, condensation, and HVAC system performance failure.

* * * *
This warranty covers the following standard fiberglass products: Versatone™, Open Plan™, Prima™, and Symphony®.

Should CertainTeed’s acoustical panels visibly sag, warp, shrink, buckle or delaminate during the warranty period, written notice must be given within 30 days after first observing this condition to the following address: CertainTeed Corporation, Technical Services Department, P.O. Box 860, Valley Forge, PA 19482 USA. If upon investigation, CertainTeed finds that the visible sagging, warping, shrinking, buckling or delamination is caused by manufacturing defects and is covered under this warranty, owner's sole remedy and CertainTeed's liability shall be limited to CertainTeed furnishing new material of the same or similar type and grade in an amount equal to that which is determined to be defective.

CertainTeed does not warrant that the replacement panels will match the exact color of remaining in-place panels. CertainTeed shall not be responsible for any installation or replacement costs.

THE FURNISHING OF SUCH PANELS SHALL CONSTITUTE THE TOTAL LIABILITY OF CERTAINTEED AND THE EXCLUSIVE REMEDY OF CUSTOMER. THERE ARE NO OTHER WARRANTIES, EXPRESS OR IMPLIED, INCLUDING ANY WARRANTY OF MERCHANTABILITY OR FITNESS FOR A PARTICULAR PURPOSE. LIABILITY IS LIMITED TO THE ABOVE AND CERTAINTEED SHALL IN NO EVENT BE LIABLE FOR LABOR CHARGES, INCLUDING BUT NOT LIMITED TO LABOR CHARGES IN CONNECTION WITH REMOVAL OR REPLACEMENT OF SAGGING OR DAMAGED PANELS, NOR FOR INCIDENTAL OR CONSEQUENTIAL DAMAGES.

No representative of CertainTeed has the authority to make any representation or promise with respect to this limited warranty except as stated herein.
Warranties (cont.)

Ceiling Suspension Systems
15 Year Limited Warranty

CertainTeed Ceilings warrants for 15 years from the date of installation that certain Standard Mineral, Fiberglass, Gypsum and Composite Acoustical Ceiling Panels described below when installed together with certain CertainTeed Ceiling Suspension Systems in accordance with the manufacturer's recommendations, against visible sag, warping, shrinking, buckling and delamination as a direct result of manufacturing defect and that the suspension system shall not incur 50% red rust as defined by ASTM B 117 test procedures during the 15 years of this limited warranty. This limited warranty is subject to further conditions outlined below:

Terms and Conditions

1. The panels and suspension systems shall be installed in accordance with all applicable CertainTeed recommendations in effect at the time of installation, using approved installation procedures described in the Ceilings Systems Handbook published by the Ceilings & Interior Systems Construction Association.

2. The panels and suspension systems shall be installed only in areas free from excessive humidity and the temperature and humidity conditions must not exceed 104 degrees Fahrenheit (40 degrees C) and 90%, or 95% (fiberglass ceiling products and Protectone® Fire-Rated Aluminum Capped System) or 100% (Aquarock™ and Environmental Aluminum System) relative humidity following installation with the environmental conditions being controlled within those limits. Any deviation from those limits in the building or portions of the building shall void the warranty.

3. These systems cannot be used in exterior applications where standing water is present or where moisture will come in direct contact with the ceiling.

4. No water or water vapor from sources including but not limited to condensation, leaking pipes and/or ducts or steam shall come in contact with the panels or suspension system.

5. The panels must not be used to support any other material such as light fixtures or mechanical equipment except fiberglass insulation installed in accordance with CertainTeed recommendations.

6. Prior to installation, the panels and suspension systems must be stored in a dry and clean area, protected from possible damage caused by rain, snow, and excessive moisture. The panels and suspension systems must also be protected against possible impacts and abrasions while on the construction site.

7. The plenum space above the ceiling panels must not be used as a duct to supply conditioned air to the building. Also, the plenum shall not be vented to the outside air in such a way as to allow humidity above warranty conditions to exist within the plenum.

DEVATIONS FROM THESE TERMS AND CONDITIONS SHALL VOID THE WARRANTY.

Exclusions

Damage caused by improper maintenance, fire, exposure to smoke, fumes, chemical vapors, exterior elements (excluding Aquarock™), freezing temperatures (excluding Aquarock™), vibrations, abuse and normal wear and tear are not covered by this warranty.

This warranty excludes consequential damages that may result from the presence of standing water (excluding Aquarock™), or where moisture is in direct contact with the ceiling materials. Causes could include, but are not limited to, building leaks, condensation, and HVAC system performance failure.

This warranty covers the following certain CertainTeed standard products including Proteccone® versions: Aquarock™, Avalon Dimensions™, Baroque™ Customline™ (BQCL/BQCLN-224, -448, -812); Cashmere™ (CM, CMR, CMTS, CMF, CMO, CMB); Cashmere™ High NRC (CM NRPCP); Capcore™; Desert Sand™; Envirogard™, Fine Fissured (FFR, FFT, FFCL); Fine Fissured High NRC (HHF); Gyptone® (BASE 31™, LINE 4™), POINT 11™, QUATTRO 20™); Open Plan, Prima™, Sand (SH); Sand Micro™ (SHM); Sand Micro™ Customline™ (SMCP); School Board (SB); Serene™ (BET-357); Sky™; Symphony™ f, Symphony™ g, Symphony™ m; Theatre Black (NDP-Black); Tufcore™; Vantage 10™ (VAN); Versatone™; Vinylock® X, and VinyShield™ when installed with any of the following CertainTeed Suspension Systems: Classic Hook, Proteccone® Classic Fire-Rated Hook, Classic Stab, Proteccone® Classic Fire-Rated Stab, Elite Narrow Stab, Proteccone® Elite Narrow Fire-Rated Stab, Proteccone® Fire-Rated Aluminum Capped, Smoothline Bolt Slot, Proteccone® Smoothline Fire-Rated Bolt Slot, and Environmental Aluminum System.

*All standard Cashmere™ products excluding 2’x 4’ (600 x 1200mm) face-scored products, Integrated Accents, Imagination™ Series, Frameworks and Fixture Options.

Should CertainTeed's acoustical panels visibly sag, warp, shrink, buckle, or delaminate or the CertainTeed suspension system incur 50% red rust during the warranty period, written notice must be given within 30 days after first observing this condition to the following address: CertainTeed Corporation, Technical Services Department, P.O. Box 860, Valley Forge, PA 19482 USA. If upon investigation, CertainTeed finds that the visible sagging, warping, shrinking, buckling or delamination or 50% red rust is caused by manufacturing defects and is covered under this warranty, owner's sole remedy and CertainTeed's liability shall be limited to CertainTeed furnishing new material of the same or similar type and grade in an amount equal to that which is determined to be defective.

CertainTeed does not warrant that the replacement panels will match the exact color of remaining in-place panels. CertainTeed shall not be responsible for any installation or replacement costs.

THE FURNISHING OF SUCH PANELS AND/OR SUSPENSIONS SYSTEMS SHALL CONSTITUTE THE TOTAL LIABILITY OF CERTAINTEED AND SHALL CONSTITUTE THE EXCLUSIVE REMEDY OF CUSTOMER. THERE ARE NO OTHER WARRANTIES, EXPRESS OR IMPLIED, INCLUDING ANY WARRANTY OF MERCHANTABILITY OR FITNESS FOR A PARTICULAR PURPOSE. LIABILITY IS LIMITED TO THE ABOVE AND CERTAINTEED SHALL IN NO EVENT BE LIABLE FOR LABOR CHARGES, INCLUDING BUT NOT LIMITED TO LABOR CHARGES IN CONNECTION WITH REMOVAL OR REPLACEMENT OF SAGGING OR DAMAGED PANELS AND/OR 50% RED RUSTED SUSPENSION SYSTEMS, NOR FOR INCIDENTAL OR CONSEQUENTIAL DAMAGES.

No representative of CertainTeed has the authority to make any representation or promise with respect to this limited warranty except as stated herein.
Special Notes

Explanation of Test Methods
The following are brief descriptions of the test methods used to determine data published herein. For complete details of ASTM test methods write: American Society for Testing and Materials, 100 Barr Harbor Drive, West Conshohocken, PA 19428-2959 www.astm.org

ASTM E 1264 Classification for Acoustical Ceiling Products
This standard applies to ceiling products that provide acoustical performance and interior finish in buildings and assists in the selection of acoustical ceiling products. This standard classifies acoustical ceilings by type, pattern, and certain ratings for acoustical performance, light reflectance, and fire safety.

ASTM C 423 Reverberant Room – Sound Absorption
This test measures the ratio of sound energy absorbed by a surface to the energy striking the surface from all angles. This numerical measure of the ability to absorb sound is known as an absorption coefficient. Coefficients can take on any numerical value from 0 to 1.0 Coefficients are generally presented for six standardized test frequencies over the range of 125-4000 Hz. The single figure rating for a material is the average of four coefficients from 250-2000 Hz inclusive. This is the Noise Reduction Coefficient (NRC). The NRC is expressed to the nearest multiple of 0.05. It should be noted that a difference in NRC of less than 0.10 is seldom detectable in a completed installation.

ASTM E 1414 Ceiling Sound Attenuation
This test provides a measure of the ability of an acoustical ceiling material to attenuate (weaken) the intensity of sound energy passing from one room to another via the pathway formed by a plenum space shared by two adjacent rooms. Sound energy covering the frequency range of 125-4000 Hz is generated in one of the test rooms and the resulting difference in sound pressure levels between the two rooms at 16 standardized center frequencies is measured. The resulting values are known as normalized ceiling attenuation factors. These data are used to calculate the Ceiling Attenuation Class (CAC) in accordance with ASTM E 413. It should be noted that a difference in CAC of 3 or less is not detectable in a completed installation.

ASTM E 1111 Articulation Class
This test measures the acoustical ceiling material sound reflective characteristics when used in conjunction with partial-height space dividers calculated in accordance with ASTM E 1110 for each nominal interzone distance.

ASTM E 119 (ANSI/UL 263, UBC 7-1, NFPA 251, CAN/ULC-S101M) – Fire Resistance
This testing method measures the ability of a construction to prevent the spread of fire from one building compartment to another while retaining the structural strength properties of the assembly. Fire resistance classifications are given in terms of the length of test time elapsing before one or more limiting criteria are reached. It is important to remember that classifications are established for entire system designs and not for individual components within the design.

ASTM E 84 (UL 723, UBC 8-1, NFPA 255, CAN/ULC-S102M) – Surface Burning Characteristics
This test procedure is often referred to as the tunnel test method. The purpose of this test is to determine, under controlled laboratory conditions, the comparative surface burning characteristics of the material under test. The flame spread and smoke developed values which are determined by this test method are expressed as single number designations comparing the test sample performance with that of red oak which is 100 and inorganic reinforced cement board which is taken as 0. Observations of flame spread distance and time are recorded. The smoke density at the outlet end of the tunnel is recorded during the test period and is used to calculate the smoke developed values. Fire data provided are determined under controlled laboratory conditions using the ASTM E 84 standard and may not be predictive of the materials performance in actual use.

ASTM E 1477 Light Reflectance
This test method describes the evaluation of light reflectance of acoustical material where the application is primarily for designing the level of room illumination.

Industry Standards
CertainTeed recommends “Acoustical Ceilings – Use and Practice” and “Ceiling System Handbook” as references for all specifiers, designers, builders, and others involved in construction where acoustical ceilings are to be used.

This booklet, which is published by the Ceilings & Interior Systems Construction Association (GSCIA), is a helpful guide to the selection and installation of acoustical ceilings.

NOTE
Characteristics, properties or performance of materials or systems manufactured by CertainTeed herein described are derived from data obtained under controlled test conditions. CertainTeed makes no warranties, express or implied, as to their characteristics, properties or performance under any variations from such conditions in actual construction. CertainTeed assumes no responsibility for natural movement. Any deviation from these instructions voids all warranties, including implied warranties of merchantability and fitness for a particular purpose.

Colors
Product illustrations have been reproduced with all the color fidelity possible with commercial printing processes. For accuracy in color matching, actual product samples should be examined.

CertainTeed reserves the right to discontinue or change colors without notice and without incurring obligations. For Colortone products, do not mix lot numbers within the same room or ceiling area.

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Special Notes (cont.)

Ceiling Suspension Systems Standards and Requirements

Standards

Ceiling suspension components are roll formed to meet or exceed ASTM C 635, and to conform to direct hung structural classifications of Light (5.0-11.9 lbs.), Intermediate (12.0-15.9 lbs.) or Heavy Duty (16.0 or more lbs.). Metal thicknesses comply with the United States Standard Revised Manufacturers Gage Table, but metal thickness is subject to mill tolerances.

General Installation Requirements

Suspended ceiling systems are designed and tested for specifications and use in interior applications only. The manufacturer should be consulted for recommendations regarding exterior applications.

Installation should be done only when the interior conditions that will exist when the building is occupied. The heating and cooling systems should be operating to maintain these conditions prior to, during and after installation. Special attention should be given to proper ventilation of the plenum, especially in high moisture areas. Prior to the start of installation, all exterior widows and doors are to be in place, glazed and weather-stripped, the roof is to be watertight and all wet trades work is to be completed and thoroughly dry. Mechanical, electrical or other utility service work above the ceiling plane are also to be completed. No materials should rest against or wrap around the ceiling suspension components or the wires that suspend or brace them.

All direct hung components are to be properly leveled, suspended and tightly tied with at least three full turns by not less than 12 gage (2.05mm) galvanized steel wire. Load test recommendations are not to be exceeded, nor should the components be deflected more than 1/360th of their span.

ICBO Evaluation Report

See ICBO Evaluation Service, Inc., Evaluation Report No. ER-1905 for allowable values and/or condition of uses concerning material presented in this document. It is subject to re-examination, revision and possible cancellation.

Testing and Product Performance Values

CertainTeed has its products tested at the CertainTeed Technical Development Center which has full scale testing capabilities for many of the ASTM tests outlined in this book and is accredited under the National Voluntary Laboratory Accreditation Program (NVLAP) for ASTM C 423 and E 1414. The Center is also qualified to participate in the UL Client Test Data Program. Test data published for the various products, listed in this book, were obtained from the Center or from established commercial test laboratories. The Center facilities are calibrated to National Institute of Standards and Technology standard samples. And periodically, the Center test results are compared, on same samples, with other accredited laboratories.

Design and Installation Recommendations

Temperature – Humidity

Particular emphasis must be given to the status of all interior wet work at job sites. Acoustical ceiling products are designed to be interior finish materials suitable for installation within a normal occupancy temperature range of 60°F to 85°F (16-29°C) with relative humidity no higher than 70% (certain products can withstand higher temperature and humidity conditions of 104°F (40°C) and 90%, 95% or 100% relative humidity). Prior to installation, all plastering, concrete, or other wet work must be completed and dry. All windows and doors must be properly installed. Furthermore, heating, ventilating, and air conditioning systems should be installed and in operation as necessary to assure proper temperature and humidity conditions before, during, and after installation of the acoustical material. If using the ceiling plenum as a return air duct, caution should be exercised such that any introduction of outside air does not cause the plenum to exceed the recommended humidity levels.

These ceiling materials should be stored at temperature and humidity conditions not exceeding maximums shown in previous section, and must not come in direct contact with water or moisture. Materials exposed to direct water or moisture must not be installed. Conditioning of material near actual design environment is the ideal situation. Ceiling product cartons must never be used as a substitute for scaffolding or ladders.

Lighting

In considering job conditions and standards which affect the appearance of the completed ceiling installation, it is recommended that the lighting selected be the type that will enhance the ceiling rather than create an adverse or unsatisfactory appearance. Factors influencing ceiling appearance are: intensity of light, height of ceiling, direction of light including outside light through windows, and mounting of fixtures.

The most critical of these is the direction of the light source in relation to the ceiling plane. Low angle light, whether from a fixture or from the building exterior, accentuates normal ceiling plane irregularities adversely affecting the final appearance of the installation. An unfavorable appearance condition can result early in a ceiling installation before occupancy lighting is in place and in use. Temporary construction lighting seldom provides a satisfactory evaluation of the ultimate finished ceiling appearance. Architects should specify that occupancy lighting is in use before any critical inspection of the ceiling is made. If the normal occupancy use is under artificial light approval/acceptance inspections should be made only under these conditions.

Size Tolerances

Gus/Molded, Nodular (Cashmere®) and Wet-Felted tiles are manufactured to size tolerances consistent with the fibrous nature of the product. When installing the tile, the tolerances can become cumulative. Concealed Suspension System selection should include provisions for positioning the suspension members to accommodate the inherent gain or loss that may occur in continuous runs of tile. (Consult CertainTeed for further information.)
Concealed Tile for Glue-Up Installation
CertainTeed's tiles are recommended for adhesive application. BET-462, HHP-462 and CM-412 apply to dry concrete, dry concrete block, gypsum board, dry plastered areas, or well-bonded panels. Do NOT use over wood or metal ceilings, uninsulated roof decks, wallpaper or loose peeling paint. Use adhesive that meets ASTM D1779, Specification for Adhesive for Acoustical Materials.

Thermal Insulation Above Suspended Ceilings
The practice of installing insulation on the back of suspended ceilings (backloading) is not advised. The proper location for insulation materials is in the roof structure, because this places the dew point outside of the plenum thereby avoiding condensation damage to the grid, tile, light fixtures, etc. If other job considerations require insulation to be installed on the back of the ceiling, the following points must be carefully considered.

Hold-Down Clips In Time-Rated Assemblies (Protectone® Panels)
For many years, Underwriters Laboratories Inc. has required the use of hold-down clips in all rated lay-in panel assemblies. Based on evaluations of data regarding gas pressures developed in fires, UL revised their requirements as follows: “Hold-down clips are not required for assemblies incorporating ceiling panels weighing not less than one pound per square foot.”

5. Insulation must be applied perpendicular to the suspension cross tees so that the grid carries main load of insulation.
6. Insulation must not be placed on back of Protec tone® fire resistance rated ceilings, unless specifically allowed by the specific time-rated design being considered.
7. A professional engineer must be consulted for design of plenum venting system to preclude condensation in the plenum.

CertainTeed will not be responsible for damage or failure of the acoustical material, grid, light fixture, structure, etc. due to condensation, or excessive loading on back of ceiling.

Installation of Speakers and Spotlights
CertainTeed's ceiling panels shall not be used to support the weight of speakers, grills, spotlights and the like, either wholly or in part. Components such as these must be supported independently of the ceiling panels themselves.

Technical Information
Temperature-Humidity
Gyptone® Brand tiles are suitable for use under normal occupancy conditions. Buildings in which Gyptone® tiles are used should be dry, glazed and enclosed with environmental conditions of no greater than 90% relative humidity and 104°F (40°C).

Limitations
Gyptone® Brand tiles are unsuitable for use in areas subject to continuously damp or humid conditions or subjected to temperatures consistently above 120°F (49°C).

Handling And Storage
These ceiling materials should be stored at temperatures and humidity conditions not exceeding maximums shown in previous sections, and should not come in direct contact with water or moisture. Materials exposed to direct moisture or water must not be installed. Conditioning of material near actual design environment is the ideal situation. Ceiling product cartons must never be used as a substitute for scaffolding or ladders.

Fire Performance
The exposed surface of Gyptone® tiles achieves a Class A rating as a result of the performance when tested in accordance with ASTM E 84.

Gyptone® ceilings provide good fire performance owing to the unique behavior of the non-combustible gypsum core when subjected to high temperatures.

Acoustic Performance Sound Absorption
Gyptone® LINE 4®, POINT 11®, and QUATTRO 20® provide sound absorption when used in conjunction with an air space behind the ceiling.

Increased levels of sound absorption can be achieved by including 4 inches (100mm) glass fiber insulation over the back of the ceiling.

Sound Attenuation
Gyptone® Brand LINE 4®, POINT 11®, and QUATTRO 20® are perforated tiles with an integral acoustic tissue designed to provide sound absorption within the area they are installed. Where room to room sound insulation is required, the Ceiling Attenuation Class (CAC) can be increased to 35dB with the inclusion of 4 inches (100mm) glass fiber insulation over the back of the ceiling. Alternatively, other design considerations can be adopted such as extending adjoining partitions into the ceiling plenum or installing a plenum barrier.

Gyptone® Brand BASE 31® is an unperforated product and has been tested to ASTM E 1414 for room to room sound attenuation.

Site Work Installation
Gyptone® Brand ceiling tiles are installed in exposed tee grid systems.

Light Fixtures
Recessed light fixtures must be located in Gyptone® Brand BASE 31®. Light fixtures, speakers, sprinkler heads and HVAC components must be supported independently of the ceiling panel.

Maintenance
Apply a soft, dry cloth or vacuum with a soft bristle brush when cleaning Gyptone® tiles. Do not saturate surface with water.

Gyptone® tiles can be re-decorated, if required, using a roller and a suitable acrylic, vinyl latex or alkyl paint. The perforated tiles should not be spray painted so as not to impair the sound absorption performance.

Metric Conversion Chart
Most CertainTeed ceiling products are available in “hard conversion” metric sizes. To order material in any of the metric sizes listed below, add the suffix “M” after the standard CertainTeed symbol designation. For example, item #BET-197 in a “hard conversion” metric size would be specified #BET-197M.

<table>
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<th>Metric Size Module</th>
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<tbody>
<tr>
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<thead>
<tr>
<th>Imperial Size Module</th>
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<td>20 x 60 x 5/8&quot;</td>
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</table>

*Metric sized panels are smaller than comparable Imperial sized panels. 1" = 25.4mm