Installation and maintenance guide

Geolam Qualita 020C
Decking Board

Commercial, public spaces, marinas, residential

www.geolaminc.com
First generation products were heavy, but in 1992 a revolutionary production method developed by Japanese engineers, led to the manufacture of the world’s first hollow cell profiles and their typical honeycomb structure. Hollow cell boards are lighter, more efficient and absorb much less humidity than solid decking products. Their cross sections can be adjusted to permit substantially larger spacing between joists in the substructure, enabling fast installation in all type of construction projects. With a reinforced blade stability, an in between supports axis of 60cm for the structure and the low core humidity absorption, this profile represents the pinnacle of technology in its domain while keeping an economic, fast but high quality installation, compared to first generation co-extruded profiles. The outer skin can be equipped with unique features such as an anti-static surface layer or the thermal shield LowTemp option.

1. HOLLOW CELL TECHNOLOGY
Hollow cell profiles allow implementation at reduced costs due to increase of profiles stability and strength.

2. HIGH-QUALITY EXTRUSION
Polished surfaces are synonymous with high extrusion quality.

3. CO-EXTRUSION
Combining the core and the external layer: the material is homogeneous, which makes it more resistant and more stable.

4. MULTIPLE PURPOSE EXTERIOR LAYER
This WPC layer guarantees an antistatic surface. A thermal shield can be added on demand to lower the surface’s temperature when exposed to the sun.
QUALITA 0200C PROFILE
HIGH PERFORMANCE
A co-extruded board, with anti-static properties and a low co-efficient of expansion designed for public spaces.

### Qualita 020C

<table>
<thead>
<tr>
<th>Property</th>
<th>Value</th>
</tr>
</thead>
<tbody>
<tr>
<td>Thickness</td>
<td>1 1/4”</td>
</tr>
<tr>
<td>Width</td>
<td>5 3/4”</td>
</tr>
<tr>
<td>Length</td>
<td>12 ft</td>
</tr>
<tr>
<td>Weight/board</td>
<td>24 lbs</td>
</tr>
<tr>
<td>Surface</td>
<td>1 side smooth</td>
</tr>
<tr>
<td>Colors</td>
<td>Teak, Rosewood, Ebony, Moleskin</td>
</tr>
<tr>
<td>Maximum distance between supports</td>
<td>24”</td>
</tr>
</tbody>
</table>

**LowTemp Option**: Maintains low surface temperatures of the board even under direct intense sunlight (see diagram).

**LowTemp option available for Qualita 020C**
Complies with surface temperatures as per ASTM4803-97

![Surface Temperature vs. Minutes Graph](image1)

**Expansion due to water absorption**

![Expansion Graph](image2)
Basic guidelines for using Geolam®:

• Allow for boards to expand and contract due to temperature and humidity, mostly along the length. See Expansion table and photo 8. Boards will expand and contract in direct proportion to their length i.e. a 6 ft board will move half as much as a 12 ft board.

• Minimum distance between the bottom of the board and the ground is 5" to ensure adequate ventilation. Ensure that water does not stagnate beneath the deck (See Fig. B). At least 2 sides must be completely open with an air passage of no less than 1". The boards will perform well through natural cycles or wet and dry. However, failure to provide proper drainage and good ventilation may cause chronic wetness on the underside of the boards and compromise their strength.

• All boards must be fastened to joists (See Fig. A) or sleepers and not fixed to a concrete surface.

• The distance between two adjacent boards will be determined by the fasteners – 1/4". This will allow for ventilation and water run-off (See Fig. F).

• Always check local building regulations before installing Geolam®.

• Cover boards with a waterproof tarp prior to installation to avoid greater-than-normal accumulation of dust. If you fail to do this, you may need to wash the boards just prior to installation.

Storing Geolam® boards:
Store boards flat on supports spaced no more than 2 feet apart. Keep indoors or cover with a waterproof tarp. If allowed to get wet during storage the dust laden water will leave spots when it dries. This does not occur when the boards are installed because of the natural cleaning process provided by wind & rain. Avoid any heavy blows to the boards while handling.

Tooling:
Geolam® can easily be worked with standard tools. Using carbon fiber wood saw blades, or even better, fine-toothed blades designed for cutting light metals will maximize the life of the cutting tools used, and improve the appearance of the cut edges.

Cliplam Clips:
There are several methods for installing first and last boards on decks and stairs where clips can not be used. Select the method best suited for your particular project from the following:

• Clips and screws
  Clip Universal

• End Caps

Stainless steel screws:
• These self-drilling screws are in A2 stainless steel, and are coated with a black outer surface layer. This anti-oxidation layer offers additional protection against corrosion, and also lubricates the screw to enable installations without pre-drilling for most wood or aluminium joists. See photos above.

Deck structure:
The decking structure may be in pressure treated wood, cedar, hardwood, or metal. As is the case for all composite woods, Geolam® should never be used to provide structural support. Joists made from composite material should likewise never be used. When using joists and beams in treated wood, we recommend fitting a plastic or bituminous strip over the joists in order to protect the structure, and to prevent creaking.

<table>
<thead>
<tr>
<th>Temperature difference</th>
<th>Full board 12 ft</th>
<th>Half length 6 ft</th>
</tr>
</thead>
<tbody>
<tr>
<td>°C</td>
<td>°F</td>
<td>1/2&quot;</td>
</tr>
<tr>
<td>10</td>
<td>18</td>
<td>1/2&quot;</td>
</tr>
<tr>
<td>20</td>
<td>36</td>
<td>1/2&quot;</td>
</tr>
<tr>
<td>30</td>
<td>54</td>
<td>5/8&quot;</td>
</tr>
<tr>
<td>40</td>
<td>72</td>
<td>5/8&quot;</td>
</tr>
<tr>
<td>50</td>
<td>90</td>
<td>5/8&quot;</td>
</tr>
</tbody>
</table>

Eg. Install a board at 60°F. If maximum temperature is 100°, this will mean a temperature increase of about 40°F, so 1/2" must be left as an end gap between two 12 ft boards. Please note that each single board will expand 1/4" on each end.
Distance between joists should not exceed the maximum of 24". This assumes that deck boards are laid perpendicular to the joists. For diagonal installations i.e. laying boards at 45°, joist spacing needs to be decreased so that the unsupported portion of each board does not exceed the distances in the chart above. For example, a Duo board installed at 45° will need joists to be spaced no more than 12" apart.

Allow approximately 1.2 fasteners per square foot on joists spaced 24" oc.

**Installing the decking boards:**

Center the clip on the joist (Fig. D) and use screws supplied with the clips to ensure the boards are not damaged during installation, but also in the event that the decking needs dismantling at a later date. Pre-screw the clips being sure to keep the drilling axis vertical. A discarded off cut can help support the drill in its vertical position (photo 2), or simply hold the clip between your index finger and second finger as shown in photo 1 so the clip doesn’t move while screwing it in. Do not over tighten.

Once the board is in place, place the next board at an angle in order to slide it in under the clips (see Fig. E and F). If necessary, use a rubber mallet to knock the board into place. Once all boards are fitted, check the expansion spaces (see Fig. C and G) and screw all the clips home taking care, meanwhile, not to pierce the clip itself (put the drill into lowest gear, and proceed at minimum speed). The screwhead must not be screwed right down into the clip, but should remain flush with its sides (see photo 5).

- When positioning boards end-to-end, be sure to position them so the expansion gap between them is at the center of the joist. Clips may be used at joints between boards, but they must be accurately centered. The screwhead must be apparent in the middle of the end gap (see Fig. G and photos 5 and 6). It is vital that clips are doubled up at the joints, and that joists are doubled up every third end-to-end joint.
- When installing, make sure the board presses up against the side-wings, but without compressing them (photo 6).
- A slope of 1% is recommended to enable water to run off the boards freely. Ensuring this slope is maintained, and good ventilation, will prevent water stains from forming.
- Each board end must be supported by a joist, and must be secured with 2 clips. If an overhang cannot be avoided, it should not exceed 2" (Fig. A).
- A minimum of 3 contact points and 6 clips are required per board, whatever the length of the latter. Any board less than 2 ft long should be supported by an additional joist, centered between the two other joists, and held by clips.
- Diagonal installations (boards placed at 45°): avoid damaging the flange running along the lower edge of the groove so the board cannot lift of its own accord. It is vital to provide maximum support at the end of the board by doubling up on both joists and clips.
- Mitre cuts, or layouts where boards are placed at right angles to one another. Remember to allow adequate play between boards to allow for expansion (refer to the expansion table).
- At the mid-point in each board fasten a screw at a 45° angle on the inside of the lower flange into the joist. Do so on both sides of the board. This will prevent the boards from “walking” during their normal expansion and contraction cycles.
Installing the end caps:

Taking care of your Geolam® decking:
Geolam® is a high quality product, and is relatively dense and water repellent. Substances that stain, if removed in time, cannot penetrate the board, and so stains remain on the surface and will fade with the passage of time.

Regular and periodic maintenance of your terrace or swimming pool deck will help preserve it and ensure its long life. A clean deck is one on which no-one will slip or fall. We recommend avoiding concentrated chemical substances when cleaning Geolam®. Always use soap, soft detergent, or a neutral washing-up liquid in preference to other substances. Don’t wait for dirt to get entrenched on the boards, but wash it off with a hose or high pressure cleaner and soapy water.

• Always work in a longitudinal direction on boards.
• When embarking on any maintenance task, try the procedure out on a less visible area of deck, or a discarded board before applying to the main area.
• Lightly sanding the boards with very fine sandpaper can be the best solution for many of the problems described in the following paragraphs.

Black stains caused by dampness, fallen leaves, or decomposing material
Use a conventional cleaning product containing bleach (sodium hypochlorite, to be used with full precautions as stipulated by the manufacturer) or detergent. Always try to remove stains before they become engrained. Use a floor cloth to rub the stain in a backward and forward movement, and along the grain of the board (i.e. longitudinally). For stubborn stains, use a stiff brush. Rinse thoroughly afterwards with plenty of water.

Rust and dirt
Any stain remover containing phosphoric acid can be used to remove traces of rust or dirt. For stubborn stains, try a rust remover. Use this kind of product with care, however. If necessary, use rough grain sandpaper wrapped around a wooden block and sand delicately, without applying pressure, and in a longitudinal direction (photos 10 and 11). Rinse abundantly with water afterwards.

• After sanding, a slight discoloration can appear, but it will fade in time

Oil, coffee or food stains: cleaners containing lemon are effective for oil, coffee and food stains. Apply the cleaner (including acetone or alcohol type cleaners) as quickly as possible before the stain becomes engrained. If the stain persists, use a rough grain sandpaper wrapped around a block of wood to remove it, sanding delicately and without applying pressure, in a longitudinal direction along the boards (see photos 10 and 11). Rinse abundantly with water straight afterwards.

• After sanding, a slight discoloration can appear, but it will fade in time

Bloodstains, or other stains of organic origin: use iced water and wash the stains several times. If necessary, use a lemon based cleaner to clean away any residue.

Red wine stains: use soda water and allow to act for a few minutes. Do not allow the stain to dry out. Rinse thoroughly with water. Repeat this operation several times if necessary.

Water marks: in dry weather, pinkish stains may appear on your deck, especially if the installation instructions have not been adhered to, so that water does not run off, or if the deck is badly ventilated. To remove these stains, use a pressure hose with soapy water and dry the boards immediately afterwards using a rubber-edged ‘squeegee’ type of implement, or a dry rag.

Scratches or burns: use a rough grain sandpaper wrapped around a small block of wood and sand delicately, without applying pressure, and in a longitudinal direction along the boards (photos 10 and 11). Rinse thoroughly with water and a floor cloth.

• Sanding can result in a slight discoloration, but this will fade in time.

Frost and snow: Calcium chloride or salt can be used to melt snow or ice on your decking.

Serious scratches or other damage: After a few years, in the same way as for an internal parquet floor, your Geolam® deck can be given a general overhaul. Thoroughly clean the deck with lots of water. The surface should be free of dirt or any extraneous objects before sanding it with a suitable band sander and a rough grain sandpaper (24) sanding just once and in the longitudinal direction, and without applying pressure.

• Avoid using circular movements, as the area sanded in this way will have a slightly different appearance from the surrounding boards, depending on the type of sanding applied.

You can download these installation and maintenance instructions at www.geolaminc.com.