Geolam®: a stunning alternative to hardwood architectural trim

Geolam’s new line of architectural trim is the outcome of years of research. The result is an exclusive process of co-extrusion whereby an aluminum core section is fabricated with an outer covering, or skin, of composite wood. Geolam’s hybrid aluminum/WPC products provide the look of stained wood and provide long term performance with low maintenance.

These profiles exhibit the strength, stability, and versatility of aluminum with the warmth and aesthetic of natural wood. Light and easy to install, this hybrid aluminum/WPC material is used for facades, sunshades, screens and other architectural accents.
CUTTING THE PROFILES

- Use motorized tools and specialized aluminum-cutting chip saws when cutting Geolam hybrid profiles.
- Do not use grinders or chainsaws for cutting.
- Not using a suitable aluminum-cutting chip saw could result in deformation, cracks and/or peeling of the product.

**Aluminium Saw Blade**
Base Metal: Tool Steel
Chips: Carbide
Teeth: Minimum 2 teeth per centimeter

**Cutting Speed**
- Maximum 2 meters per minute

**Cutting Direction**
- To cut, pull the product in the same direction as the saw rotation, as shown in the illustration below.
- Cutting in the opposite direction may cause the product to move, which may produce an untidy cut in addition to being dangerous for the operator.
**DRILLING HOLES IN PROFILES**

- Use drills for use with metal or timber and make the holes with a tabletop drilling machine or a motorized screwdriver.
- Drilling holes through both sides of the material may result in the formation of burrs or chips when the drill exits the rear side.
- Therefore, test the machine on scrap material before starting work.
- If burrs do appear, drill through from both sides independently.
- Depending on how the burrs are formed, the surface layer could be chipped to reveal the aluminum core beneath.
The Geolam 4G trim benefits from the stability and lightness of the aluminum core. The gridless installation options on the substructure complete the advantages of this unique product.

**Blind rivet nut**

A blind rivet nut before and after the establishment. The region without the thread is getting tightened during the installation and forms the counter-holder. This allows a concealed installation and the preparation of the profiles at the factory. This will reduce the time spent on the construction site.

Drill a hole in the desired location of the profile, the size is the dimension of the outer diameter of the screw nut, plus the specified tolerance.

Check the diameter of the aperture, the blind nut should fit snugly.

Screw the blind nut on the tool, enter and implement the tool in order to secure the nut to the profile.

The nut is in place, the profile can be screwed to a support or to another section.

**Rivet**

Equivalent to the previous installation, it is possible replacing an assembly screwed by a riveted joint. In this case the assembly is not removable.

Example of finalized assembly.

Thanks to the aluminium core, the profiles have sufficient allowance so they may also be directly screwed.
INSTALLATION OPTIONS cont/…

Bolt nuts, in-pull nuts and turn nuts

• Fix bolt-nuts, in-pull nuts, and turn-nuts firmly in place (recommended at 3.5Nm).
• Over-tightening may result in deformities, cracks and/or peeling appearing on the surface layer.
• Consult a local building code for joint span and bolt size requirement.
• Fixing the product in place with tapping screws or drill screws is not recommended.
• Nails must also not be used for fixing.
• Check the strength requirement prior to fixing to joint.

BENDING THE PROFILES

• Do not bend the product in environments of 20 degrees Celsius or lower.
• Do not allow the product to reach a temperature exceeding 60 degrees Celsius.
• Do not allow oil, water or other liquids to come into contact with the work.
• Thoroughly wipe away all soiling from the bending machine before starting work.
• Do not use material that has been bent and then re-straightened.
SANDING THE PROFILES

• All profiles are delivered facing the same direction they were sanded in.
• Mount the profiles facing the same direction in order to keep an identical aspect across all profiles.
• Or, mount profiles facing different directions in order to achieve different shades caused by sun beams reflecting from different angles.
• Refer to the marks inside the profiles that indicate the direction of sanding.

POST INSTALLATION MAINTENANCE

• Clear away all cutting dust with an air blower, and make sure the dust does not get caught between products when they are stacked.
• Remove all post-processing burrs with sandpaper.
• Remove all soiling with a neutral detergent such as soap water.
• If a neutral detergent does not successfully remove the soiling, or when differences in luster caused by rubbing exist, use #24 to #40 sandpaper.
• Rub in a single direction (lengthwise) and finish it so that it looks the same as other surfaces.

THE LINEAR THERMAL EXPANSION COEFFICIENT

• The linear thermal expansion coefficient for Geolam profiles is the same as for aluminium: 2.3 x 10^-5 mm (20-100°C).
• Geolam profile expansion (per meter) = expansion coefficient x temperature difference (°C) x product length (mm).
• Thus, for a temperature difference of 40°C a Geolam profile expands by 0.92 mm per meter.

STORAGE

• Do not position the product in an upright position but store it indoors on a flat area.
• Cover the product with a protective sheet if it must be stored outdoors to prevent contact with water.
• However, the product must not be completely sealed-in when covered with a protective sheet.