GERCONA
Werkstoffe mit Zukunft

Resysta Multipurpose Profiles and Solid Profile Strips



Gercona
Your Resysta Specialist

General Processing and Installation Guidelines

1. SAFETY AND DISPOSAL INSTRUCTIONS



- Resysta® profiles must never be burned. In the event of a fire, harmful chlorine-containing gases and other decomposition products may be released.
- Offcuts and sanding dust must be disposed of separately in accordance with the requirements of the relevant waste disposal authority or contractor.
- When sawing, routing, drilling or sanding, appropriate occupational health and safety precautions must be taken, including suitable dust extraction or dust control measures.






Safety Notice:
Due to its material composition, Resysta is not suitable for laser engraving or laser cutting, as these processes may generate gases or dust that are harmful to health.



2. LEGAL NOTICES, SCOPE OF APPLICATION, AND GENERAL PRINCIPLES

- These guidelines provide general information on the material properties, processing and installation of Resysta Multipurpose Profiles (hollow-core profiles) and Solid Profile Strips. They do not replace project-specific structural calculations or building physics assessments. Due to the wide range of potential applications, not all construction details can be covered. The appropriate design and installation method must be determined for each individual project by the responsible designer, structural engineer or specialist contractor, taking into account the applicable standards and regulations.
- Resysta profiles do not have general building regulatory approval for load-bearing applications and must not be used as load-bearing structural elements without appropriate verification and approval. All relevant standards, regulations, contractual construction requirements and local building regulations must be observed.
- Due to their thermoplastic properties, Resysta profiles require different processing and installation methods from those used for other materials, such as timber. Particular attention must be paid to temperature-related linear expansion.
- Solid Profile Strips may require different support and fixing spacings from Multipurpose Profiles due to their greater weight and different cross-sectional dimensions. Standard support spacings must therefore not be applied indiscriminately.



3. STORAGE, PREPARATION AND CUTTING

- Resysta products should be stored flat, in dry conditions, on a level surface. The distance between support points should not exceed 400 mm.
- Do not cover profiles with plastic sheeting or other non-ventilated coverings. Condensation or standing water may cause staining.
- Before processing, store the material in the shade for at least 24 hours to minimise temperature differences between profiles within the same delivery. Direct sunlight can cause the material to heat up considerably, resulting in increased thermal expansion. If material temperatures vary significantly, cutting lengths must be adjusted accordingly.
- Inspect all profiles for visible defects before installation. Profiles showing visible defects when unpacked must not be installed.
- Profiles are supplied with additional length to allow for accurate final cutting on site. Cutting should be carried out under consistent material temperature conditions.
- Where variations in colour or surface finish occur, we recommend sorting the profiles or mixing profiles from different packs before installation to achieve a balanced overall appearance.

4. MATERIAL-SPECIFIC PROPERTIES

- Changes in the dimensions of Resysta profiles are caused by thermal expansion and occur in the longitudinal direction. Moisture and water do not cause dimensional changes in the length, width or thickness of the profiles. The profiles expand when heated and contract again when cooled. These changes in length must be taken into account during installation.

Profile temperature	Allowance for linear expansion
0°- 10°	2.5 mm per linear metre
11°- 20°	2.0 mm per linear metre
21°- 30°	1.5 mm per linear metre
31°- 40°	1.0 mm per linear metre

Example: At a material temperature of 15 °C and a profile length of 3,000 mm, an expansion gap of 6 mm per profile must be provided during installation.

- The final colour of a profile is influenced by the natural raw materials used, the sanding pattern and, where applicable, the amount of coating applied. Variations in colour and appearance between individual profiles are therefore inherent to the material and do not, in themselves, constitute grounds for a complaint.

5. GENERAL PROCESSING AND INSTALLATION GUIDELINES

Processing

Process	Guidelines
Sawing	Longitudinal and cross cuts can be made using standard fine-toothed, carbide-tipped saw blades suitable for woodworking or aluminium cutting.
Milling	Standard woodworking machinery and carbide-tipped cutting tools may be used.
Drilling	Standard drill bits suitable for wood or metal may be used.
Sanding	Always sand along the length of the profile. Use grit sizes 24–60 for general sanding. Finer grits should only be used to remove surface dirt.
Edge finishing	Slightly round off sharp edges and cut edges, particularly before applying a coating.
Laser	Laser cutting and laser engraving are not suitable for Resysta, as these processes may generate gases or dust that are harmful to health.

Fixing and Screwing

- When fixing profiles with visible screws through the front face, pre-drilled holes should be approximately 1.6 mm larger than the screw diameter to accommodate thermal expansion.
- When screwing directly into the material, the screw embedment depth should be approximately three times the screw diameter.
- Pre-drill Resysta profiles using a drill diameter of approximately 0.7–0.8 times the screw diameter.
- For profile widths exceeding 80 mm, provide two screws or fixing points across the width.
- The distance from the end of the profile to the fixing point must not exceed 25 mm.
- The distance from a screw to the edge of the profile must be at least 15 mm.
- Use stainless steel screws suitable for outdoor applications. The required corrosion resistance must be selected according to the intended application and environmental conditions.

Allowance for movement: Fixings and connections must allow the profiles to expand and contract freely in response to temperature changes.

Substructure and Support Spacing

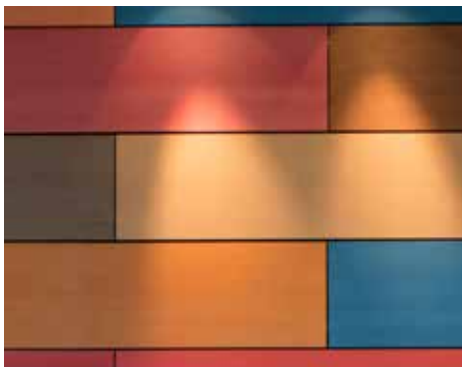
- Depending on the profile cross-section and installation arrangement, profiles may be installed flat or on edge. The required spacing between supports or substructure elements must be determined according to the profile cross-section, installation orientation, self-weight, fixing method and anticipated loads. Support spacing should not exceed 300 mm.
- Support spacings commonly used for solid timber must not be applied directly to Resysta Multipurpose Profiles or Solid Profile Strips.
- For applications involving higher loads or extreme temperature conditions, the required support spacing must be assessed individually for each project.

- Due to the thermoplastic properties of Resysta, profiles may be subject to greater deformation under load, particularly at elevated temperatures. Adequate and evenly distributed support must therefore be provided.
- For façade and terrace applications, the relevant application-specific installation guidelines must be followed regarding fixing methods and substructure spacing.
- Profile joints must be designed to ensure that both profile ends are securely supported or fixed.

Joints, Connections, and Overhangs

- End-to-end joints between profiles must incorporate an adequate expansion gap. The required gap depends on the profile length and material temperature and must be determined using the table in Section 4, »Material-Specific Properties«.
- The same table must be used to determine the required expansion gaps between profile ends and adjacent fixed structures.
- A gap of 5 mm is sufficient between the longitudinal edges of adjacent profiles or between the longitudinal edges and fixed structures.
- The profile overhang beyond the last support must not exceed 25 mm.
- Cover strips, corner trims and connecting components must be designed to allow unrestricted thermal expansion of the profiles.





Surface Treatment, Cut Edges and Finishing

- Where possible, surface coatings should be applied before installation.
- Slightly chamfer or round off cut edges. This is particularly recommended before applying a coating.
- For coated profiles, any cut edges or drilled holes created during or after installation should be treated with the appropriate coating system.
- Due to the material properties of Resysta, sealing the profile ends against water ingress is generally not necessary, as the material does not exhibit capillary water absorption at the cut ends. A coating may evertheless be applied to the cut ends for aesthetic reasons.

Water, Drainage, and Ventilation

- Resysta itself is water-resistant. However, the overall construction must allow water to drain away effectively and prevent moisture accumulation in critical areas, as this may result in staining or discolouration.
- For decking constructions, a slope of 1–2% is recommended to ensure adequate water drainage.
- Substructures must be adequately protected against moisture ingress in accordance with the requirements of the specific construction.
- When Resysta profiles are used for façades or other cladding applications, adequate rear ventilation must be provided due to the high water vapour diffusion resistance of the material.





Cleaning and Maintenance

- For best results, clean the surface using a pressure washer with a wide spray pattern and moderate pressure, maintaining a distance of 30–50 cm from the surface. Do not direct the water jet continuously at one spot, as this may damage the material surface or coating.
- A soft brush is recommended for removing particularly stubborn dirt. Stains that cannot be removed by normal cleaning may be sanded off using 100–120 grit abrasive paper. If the surface has been coated, the coating must be reapplied to the affected area after sanding.
- Do not use aggressive cleaning agents containing chlorine, acids or ammonia, as these may damage the material surface.

In addition to these general guidelines, separate application-specific installation instructions are available for decking and façade systems.

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