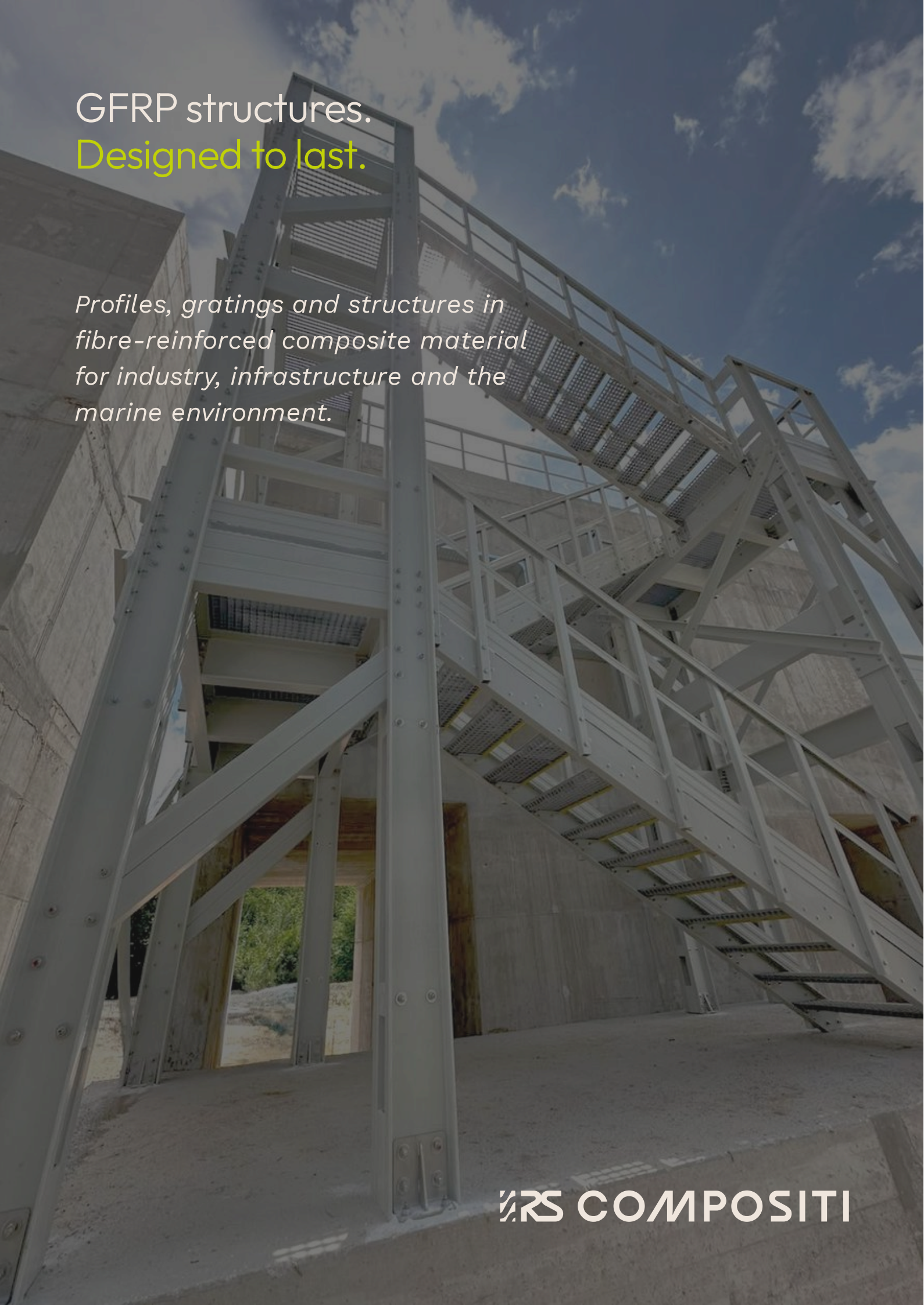




GFRP structures. Designed to last.

*Profiles, gratings and structures in
fibre-reinforced composite material
for industry, infrastructure and the
marine environment.*

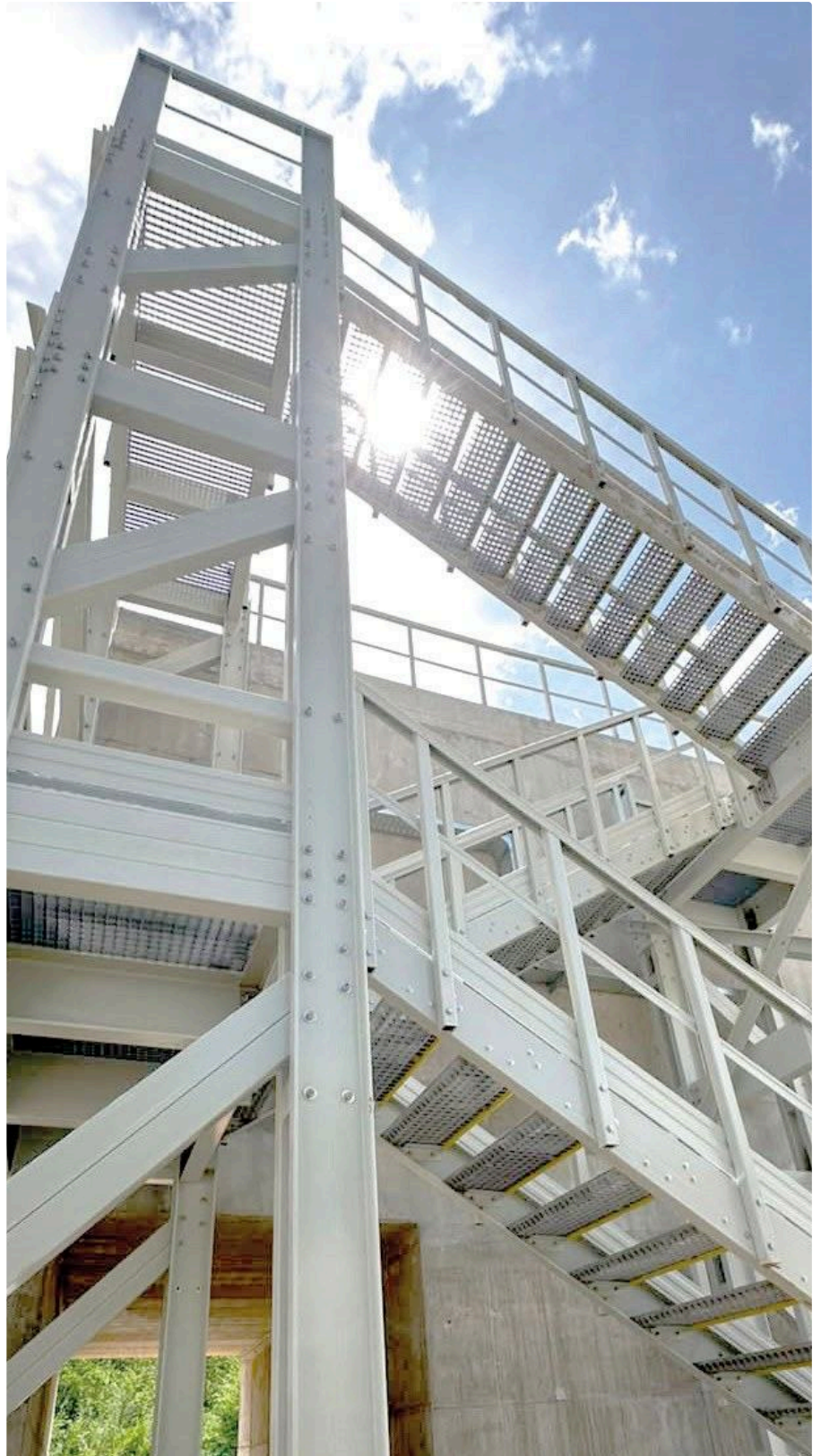
FRS COMPOSITI

RS Compositi designs and builds GFRP structures.

Pultruded profiles, gratings, stairs, walkways and complete structural systems for **industrial**, **infrastructure** and **marine** applications. Every system is assembled from **certified** semi-finished products made of **fibre-reinforced composite** (GFRP), machined and integrated with direct engineering expertise on the finished work.

The value is not in the single component. It lies in the ability to turn it into a complete system, sized for its context, documented in its **performance**, free of **ordinary maintenance** for its entire service life.

RS Compositi does not distribute material. It **engineers** and delivers **finished structures**.



50 years

Nominal design life

Zero

Scheduled ordinary maintenance

CNR-DT 205/2007

Structural reference standard

UNI EN 13706

GFRP product standard

AISI 316

Stainless steel mechanical connections

Six sectors. One material.

Every sector poses the same problem in a different form: corrosion, humidity, chemical agents, continuous exposure. GFRP answers with the same construction logic, sized each time for the context.



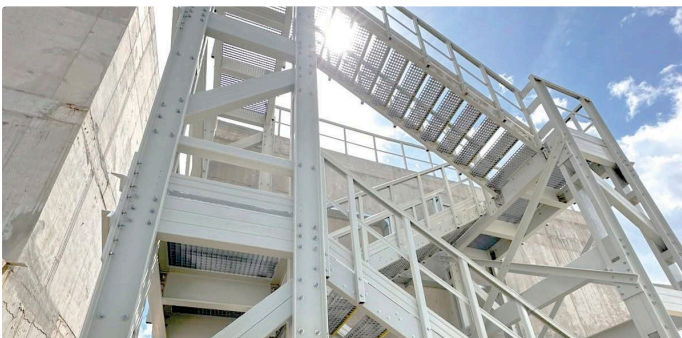
01 PORTS AND MARINAS

Single-beam jetties, floating platforms, access walkways



02 INFRASTRUCTURE AND MOBILITY

Walkways, crossings, cycle paths, access stairs



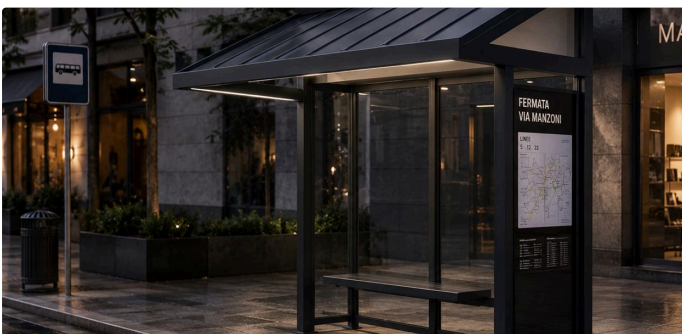
03 INDUSTRY AND PLANTS

Industrial walkways, work platforms, service stairs



04 WATER AND WASTEWATER

Walkways over tanks, water facilities, process covers



05 PUBLIC SPACE

Shelters, bus stops, canopies, pedestrian paths



06 BUILDING AND OUTDOOR

Entrance canopies, roofs, pergolas, solar carports

GFRP. A material designed for harsh environments.

Fibre-reinforced composite material (GFRP) is produced by pultrusion: **unidirectional** and **biaxial** glass fibres, **thermosetting** resin and a **UV-resistant** surface veil are consolidated into a single homogeneous profile in a controlled continuous process.

The result is a **structural** semi-finished product with constant mechanical properties along the whole section, **without joints**, without discontinuities, without localised weak points.

NO CORROSION

Resistant to aggressive **chemical agents**, **permanent humidity**, the **marine environment** and **industrial washing** products, with no additional surface treatments.

MECHANICAL STRENGTH

Strength-to-weight ratio comparable to steel. Suitable for significant **structural loads** over medium and large spans.

LIGHTNESS

The **low density** simplifies **transport**, handling and installation, reducing the loads on supporting structures.

ELECTRICAL INSULATION

Intrinsically **non-conductive** material. Suitable for installations near **electrical systems** or in environments with a **risk of leakage currents**.

CHEMICAL AND THERMAL STABILITY

Maintains its **physical** and **mechanical** properties as **temperature**, **humidity** and the concentration of **chemical agents** vary within the operating range.

NO ORDINARY MAINTENANCE

Requires no painting, anti-corrosion treatments or scheduled periodic inspections. **Performance** remains **constant** throughout the **documented service life**.

NON-MAGNETIC AND RADIO-TRANSPARENT

Does not interfere with **electromagnetic fields** or radio signals. Suitable for sensitive infrastructure and environments with **measuring instrumentation**.

Four layers. A precise function for each.

The profile is not homogeneous. It is a composite structure with functionally distinct layers, each contributing to a specific performance.

Pultrusion ensures that this structure is replicated precisely on every linear metre produced.



SECTION OF THE PULTRUDED PROFILE — FUNCTIONAL LAYERING

01

CORE **UNIDIRECTIONAL** **REINFORCEMENT**

Longitudinal strength optimised for axial and bending loads.

02

SHELL **BIAXIAL** **REINFORCEMENT**

Transverse strength for managing dynamic loads and wave motion.

03

VEIL **UV RESISTANT**

Anti-ageing surface barrier for continuous exposure to weathering.

04

MATRIX **THERMOSETTING** **RESIN**

Native corrosion resistance. Zero surface treatments required over the entire service life.

Pultruded profiles in GFRP.

The range includes over **200 cross-sections**: C, I and T profiles, rectangular and square tubes, angles and special profiles. Available in different resin formulations and surface finishes to suit the specific **operating conditions**.

The profiles combine **high mechanical strength** and low mass. They can be machined with standard tools, drilled on site, cut to size and assembled with stainless steel or fibre connectors. They require no surface protection over time.

OPERATING CHARACTERISTICS

- Over 200 section geometries available
- Different formulations for chemical, marine and food environments
- Dimensional customisation on request
- No maintenance over time
- Installation without heavy equipment





PULTRUDED SECTIONS — A SELECTION FROM THE
RANGE OF OVER 200 GEOMETRIES

FIELDS OF APPLICATION

- Lightweight load-bearing structures
- Industrial frames
- Plant supports
- Substructures for walkways and platforms
- Architectural structures

Gratings in GFRP.

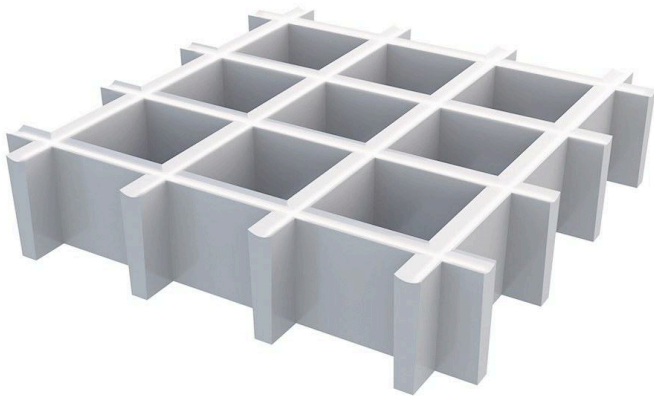
Monolithic moulded panels, available in **open or closed mesh** configuration, in different formats, thicknesses and mesh sizes. The grid structure distributes loads evenly and ensures water drainage in applications on exposed surfaces.

Available finishes include **smooth, sanded** and **certified anti-slip** versions — the latter recommended for wet environments, process plants and areas with a risk of falling.

OPERATING CHARACTERISTICS

- Open or closed mesh according to the application
- Anti-slip finishes in different classes
- Cut to size on site
- Quick installation with standard connectors
- High chemical resistance





OPEN MESH GRATING



GRATING COVERED ON ONE SIDE, ANTI-SLIP FINISH



GRATING COVERED ON TWO SIDES

FIELDS OF APPLICATION

- Industrial walking surfaces
- Maintenance platforms
- Covers for tanks and channels
- Flooring in chemical and food environments
- Structures over water

Stairs in GFRP.

Vertical access systems designed for environments with high **chemical aggressiveness** or **permanent humidity**, where traditional metal solutions require periodic protection and present risks of localised degradation.

RS stairs are **made to measure** according to access heights, installation geometry and design loads. They can be installed on load-bearing structures in concrete, steel, timber and composite material, and integrated with handrails, side guards and intermediate landings in the same material.

OPERATING CHARACTERISTICS

- Made to measure
- No surface protection over time
- Reduced load on the supporting structure
- Suitable for permanent and temporary applications
- Quick installation





FIELDS OF APPLICATION

- Chemical and petrochemical plants
- Water treatment
- Food & beverage plants
- Marine environments and waterfronts
- Civil infrastructure

Service structures in GFRP.

Self-supporting systems for access to and maintenance of machinery, plants and infrastructure. Made up of structural frames, landings, inclined stairs and perimeter connections, designed to meet service loads defined by standards and adapted to the geometry of the plant.

Each structure is sized according to its intended use, design load and specific **environmental conditions**. The **modular configuration** allows complex access routes — also on several levels — without changing the basic construction logic.

They can be installed on existing supports in concrete, steel or timber. The low weight allows installation with light equipment and reduces the loads on foundations or anchoring structures.

OPERATING CHARACTERISTICS

- Dedicated design for each plant
- Service loads according to NTC 2018
- Multi-level configuration
- Installation without heavy cranes
- No ordinary maintenance





FIELDS OF APPLICATION

- Chemical industry
- Wastewater treatment plants
- Power plants
- Railway infrastructure
- Environments at risk of structural corrosion

Railings and fences in GFRP.

Perimeter protection and boundary systems for environments with high **chemical aggressiveness**, **permanent humidity** or continuous exposure to **weathering**, where traditional metal solutions require periodic surface treatments and present risks of localised degradation at the joints.

RS railings integrate with existing load-bearing structures in concrete, steel or timber and are **configurable in height, pitch and geometry** according to **regulatory requirements** and installation conditions. The same construction logic applies to perimeter fences, tank guards and the boundaries of operating areas.

The lightness of the material simplifies **installation at height** and reduces the loads transmitted to anchoring structures.

OPERATING CHARACTERISTICS

- Configurable widths and spans
- Anti-slip grating walking surface
- Handrail integrated in the same system
- Installation on existing substructures
- Suitable for high-humidity and chemically aggressive environments





FIELDS OF APPLICATION

- Treatment and purification tanks
- Chemical and petrochemical plants
- Railway and transport infrastructure
- Environments with marine exposure
- Waterfronts and floating platforms
- Livestock and intensive farming structures

Structures for food production plants.

In food production plants, every metal structure close to the process lines represents a potential risk: localised oxidation, moisture build-up, degradation of surface treatments under repeated washing with concentrated detergents.

GFRP **eliminates these risks** at the root. The surface is non-porous, **chemically inert** to standard sanitising agents and **does not oxidise** in the presence of steam, process humidity or condensation. It **requires no painting**, has no surface discontinuities where biological agents can accumulate, and is not subject to differential degradation between joints and profiles.

OPERATING CHARACTERISTICS

- Perimeter structures for access to machinery and production lines
- Raised walkways for inspection and maintenance
- Stairs and landings
- Gratings for walking surfaces in wet areas
- Racks and plant supports





SECTOR REQUIREMENTS

- Resistance to alkaline and acid detergents within operating concentration ranges
- Non-porous, non-oxidising, unpainted surface
- No contamination from oxide or surface scale
- Compatible with HACCP protocols and food safety management systems
- No scheduled ordinary maintenance
- Documented service life longer than that of traditional metal solutions

Public space and outdoor in GFRP.

Seating, shelters, bus stops, pergolas, storage boxes and fences: elements for urban and residential space that remain exposed to **weathering** for their entire service life, without painting or periodic treatments.

The same construction logic as industrial structures, applied to street furniture and outdoor elements: **pultruded profiles**, **AISI 316** stainless steel connections, components prefabricated in the factory and installed with light equipment.

Geometries are defined by the project: section, pitch and surface finish adapt to the context without changing the material.

OPERATING CHARACTERISTICS

- UV-resistant surface veil
- No ordinary maintenance
- Low weight: installation without heavy equipment
- Prefabricated elements, assembled on site
- Non-magnetic and non-conductive



BUS STOP IN AN URBAN CONTEXT



STRUCTURAL BENCH FOR AN URBAN PARK



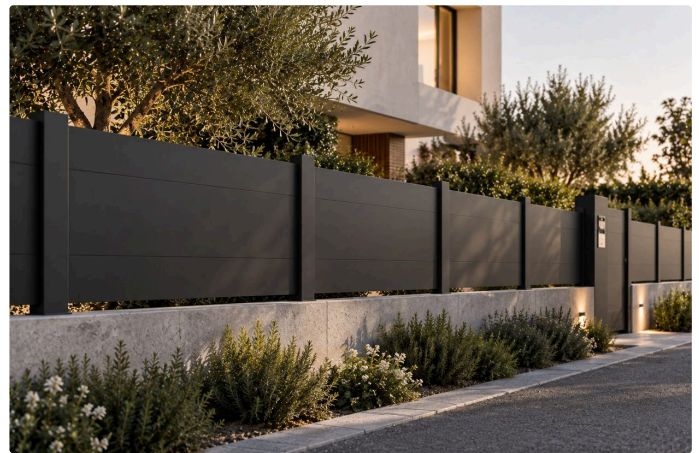
RESIDENTIAL CANOPY



PHOTOVOLTAIC SHADING PERGOLA



BICYCLE BOX



RESIDENTIAL FENCE

Design renderings

FIELDS OF APPLICATION

- Bus stops and shelters for public transport
- Seating and furniture for parks and squares
- Pergolas and shading structures, including photovoltaic
- Bicycle and motorcycle boxes, tool sheds
- Residential fences
- Carports and entrance canopies

From requirement to support. A single point of contact.

RS Compositi does not supply components: it engineers the system and follows the work from the survey of the requirement to post-installation support.

Each phase produces a verifiable result: a documented constraint, a calculation, a finished module, an installed structure.

01

REQUIREMENT

The starting point is the constraint: environment, loads, permits.

02

ANALYSIS

Site survey and analysis of the operating context.

03

DESIGN

System architecture on the morphology of the site.

04

CALCULATION

Structural verification according to CNR-DT 205/2007.

05

PREFABRICATION

Modules finished in the factory, not semi-finished on site.

06

INSTALLATION

Installation with light equipment, no on-site welding.

07

SUPPORT

Scheduled inspections. No ordinary maintenance.

Reference standards.

IDENTIFICATION AND QUALIFICATION

- UNI EN 13706 — Pultruded profiles in fibre-reinforced polymer (FRP): technical specifications and product requirements
- Regulation (EU) No. 305/2011 — Construction Products Regulation (CPR) — CE marking

STRUCTURAL DESIGN

- CNR-DT 205/2007 — Guide for the design, construction and control of structures made of FRP pultruded profiles
- D.M. 17 January 2018 — Italian Technical Standards for Construction (NTC 2018)
- Circular 21 January 2019, No. 7 C.S.LL.PP. — Instructions for the application of NTC 2018
- UNI EN 1990:2006 — Eurocode 0 — Basis of structural design
- UNI CEN/TS 19101 — Design of fibre-polymer composite (FRP) structures



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