Basalt Composites Are Reshaping the GCC's Construction Future

Valery Hurynovich,
CEO of ABFC.basalt powered

The GCC is in the middle of one of the most intense construction cycles in its history. From giga-projects in Saudi Arabia to coastal megastructures in the UAE and Qatar, every decision around materials now has to answer three questions at once: *How long will it last? How efficiently will it perform? How light is its footprint?* One family of materials is beginning to tick all three boxes: basalt composites.

Often described as a next-generation alternative to steel and glass fibre, basalt-based systems are emerging as a quiet game changer for durable, low-carbon, high-performance structures designed for the Gulf's heat, salinity and aggressive operating conditions.

"Basalt composites are not just an alternative material; they are the foundation of a new industrial era in construction. By building regional expertise and production capacity, the Middle East can move from importing innovation to exporting it," says **Valery Hurynovich, CEO of ABFC.basalt powered.**

Understanding the Basalt Advantage
Basalt composites begin with a simple, abundant raw material: volcanic rock rich in silicate minerals. When melted and drawn into continuous fibre, that rock becomes a material with a rare balance of thermal stability, high tensile strength, chemical resistance and strong compatibility with modern resin systems.

From rock to reinforcement, the production process is tightly controlled. Basalt is crushed, cleaned and melted at more than 1,450°C, then pulled through platinum–rhodium bushings to form filaments. These are coated with specialist sizing agents to bond cleanly with composite matrices.

The result is a reinforcement that offers:
- Strength comparable to steel at a fraction of the weight
- Complete resistance to corrosion
- Very low thermal expansion
- High durability in marine, desert and chemically aggressive environments
- Lower embodied energy than many competing materials

For GCC developers, that translates directly into longer asset life, fewer maintenance interventions and better alignment with national sustainability targets.

"IN A REGION WHERE HEAT, CORROSION AND TIME TEST EVERY STRUCTURE, BASALT COMPOSITES DELIVER STRENGTH WITHOUT COMPROMISE: LIGHTER THAN STEEL, IMMUNE TO RUST AND BUILT FOR GENERATIONS," NOTES VALERY.

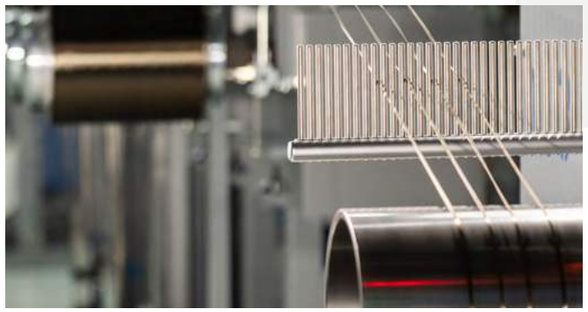
Composite Engineering For High-Performance Projects
Once processed into fibre, basalt becomes a platform rather than a single product. Using pultrusion, filament winding, prepreg technology, vacuum infusion and compression moulding, engineers can create a wide family of structural and non-structural elements.

To meet regional project specifications, basalt composites are tested for:
- Tensile, flexural and shear performance
- Resistance to alkalis and chemicals
- UV and thermal stability
- Fire behaviour
- Long-term creep and fatigue performance

For clients, these properties show up as tangible site benefits: extended service life, reduced risk of corrosion-driven failures and improved behaviour in coastal, industrial and high-salinity environments.

ABFC.basalt powered: Building a Basalt Ecosystem
Many global basalt players focus on a single product or line. ABFC.basalt powered has set its sights wider, with a strategy to create an integrated basalt ecosystem that supports everything from fibre production to design support on live projects.

Its approach rests on three pillars:
Industrial production
High-efficiency basalt fibre and composite manufacturing



facilities sized for the GCC's infrastructure pipeline, not just niche orders.

Product innovation
Material systems engineered specifically for hot climates, marine exposure and high-load conditions typical of Middle Eastern infrastructure.

Engineering collaboration
Partnerships with developers, authorities, consultants and contractors to embed basalt solutions from early design through to construction and operation.

"By investing in basalt innovation, we are turning the region's natural strength into global advantage, creating an export industry that reflects the Middle East's vision, resilience and ingenuity," Valery explains.

This model allows ABFC.basalt powered not only to supply materials, but to guide their effective use across construction, energy and industrial applications.

Valery Hurynovich: Strategy At Scale
As CEO, Valery's role is to set the trajectory not just for the company, but for the broader basalt sector in the region. His focus spans:

- Establishing global technology partnerships
- Steering R&D into new basalt applications
- Leading market expansion across the Middle East, Europe and North America
- Aligning quality systems with international standards
- Engaging policymakers and industry leaders on the long-term value of basalt

His vision is built on three strategic drivers:

1. Regional technological sovereignty
   Building local expertise and production capacity so the GCC is less dependent on imported steel, glass fibre and specialist composites.
2. Sustainable construction at scale
   Leveraging basalt's lower carbon footprint, corrosion resistance and long lifespan to support national decarbonisation agendas while reducing lifecycle costs.
3. The Middle East as exporter, not just consumer
   Positioning the GCC as a leading global producer of basalt composites, harnessing its strategic location, energy advantage and industrial policy momentum.

"Our vision is to make the Middle East not just a consumer of advanced composites, but a global leader in basalt innovation and export," he says.

Where Basalt Composites Deliver The Most Value

- Because basalt is a platform material, its influence reaches across several sectors central to the GCC's growth.
- In **construction and infrastructure**, basalt is emerging as a durable alternative to steel. Its use in reinforcement, façade systems and structural profiles makes it especially valuable for bridges, marine works, tunnels, industrial facilities and water infrastructure where corrosion is a persistent challenge.
- In the **energy and utilities** space, basalt supports high-temperature insulation, composite piping and structural components for solar, hydrogen and wind projects.
- In **mobility, aerospace and advanced manufacturing,** its lightweight, fire resistant and vibration absorbing properties make it ideal for next-generation panels, interiors and specialised components.
- Basalt is also gaining ground in **industrial, chemical and defence applications**, offering corrosion resistance, pressure-ready composites and blast or fire resilient materials.
- Even in **architecture and consumer design**, basalt contributes to modern cladding, acoustic treatments and innovative 3D printed elements.

As Gulf cities diversify their economies, these solutions are becoming more relevant to both public-sector infrastructure and private industrial expansion.

The Road Ahead For The Gulf's Construction Sector
For GCC developers, the move towards high-performance, low-carbon materials is no longer a nice-to-have. Corrosion, climate stress and lifecycle costs sit on every risk register for major projects.

Basalt composites offer a direct response by delivering:

- Reduced maintenance and repair costs
- Longer structural lifespans
- Lower embodied and operational impact
- Improved safety and performance
- High resilience in coastal and desert conditions

In a region investing heavily in long-term infrastructure. From giga-projects and industrial corridors to mass transit and water networks — those advantages add up to strategic value.

With regional demand rising and local production scaling up, the Middle East has a real opportunity to become a global centre for basalt composite innovation, manufacturing and export.

At **ABFC.basalt powered**, the ambition is clear: advance the technology, expand capacity and stand alongside the construction industry as a partner in building structures that can genuinely withstand the next century of climate and performance demands.
Basalt composites are not just another line item on a specification sheet. For the GCC, they represent a new standard where performance, sustainability and industrial opportunity converge. •