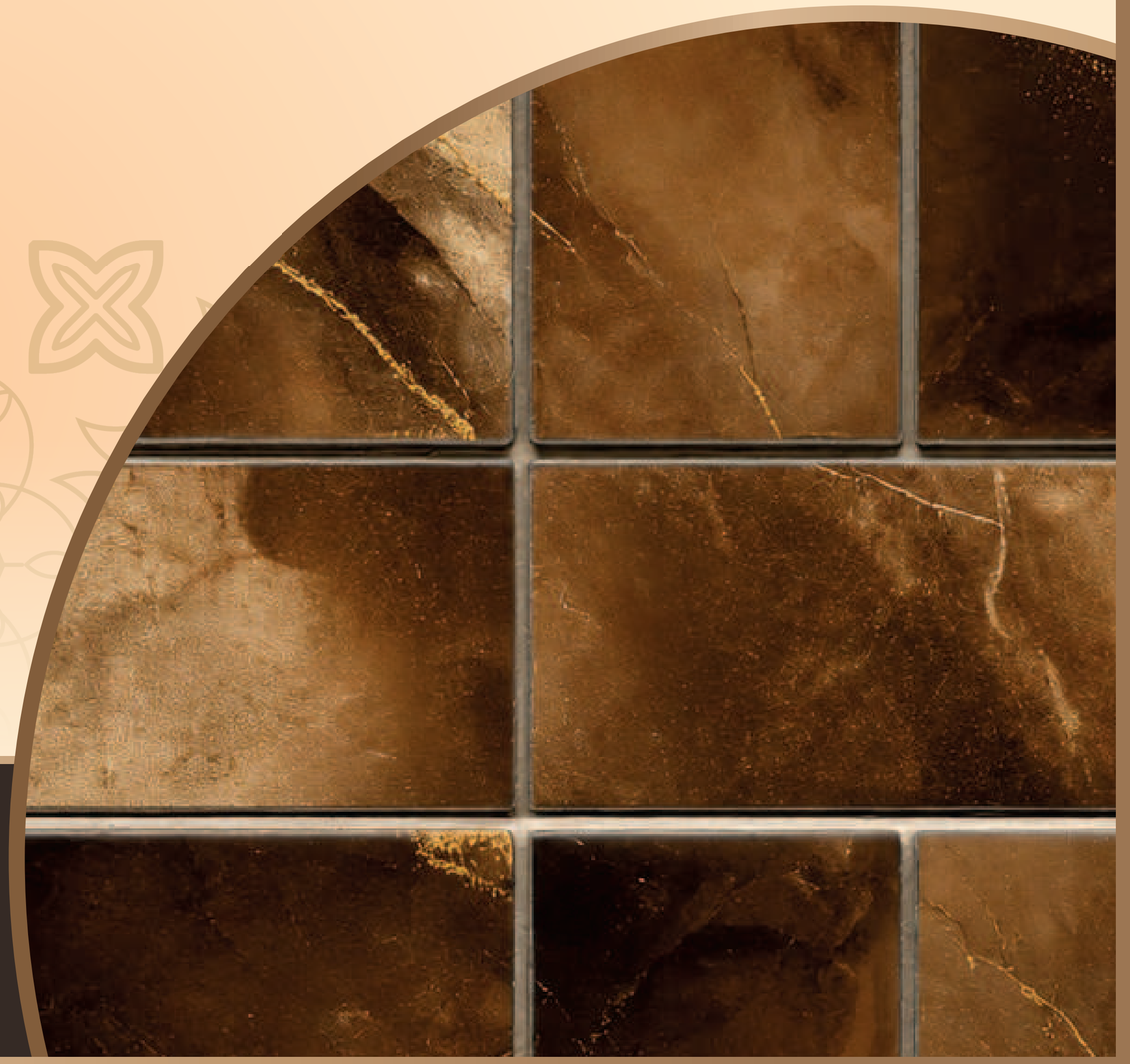
DIATERM – SUSTAINABLE CONSTRUCTION TECHNOLOGY FOR VISION 2030



Diaterm – the technology that saves energy!

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CHALLENGES IN THE FINISHING MATERIALS MARKET IN HOT AND HUMID CLIMATES

№	Problem	Последствия	Profitability
1	Extreme heat (up to 50–54°C)	High thermal conductivity → buildings overheat, increasing the load on air-conditioning systems.	**Air conditioning accounts for 70%** of a building's energy consumption.
2	Humidity + heat = mold and mildew	Conventional ceramic materials and drywall absorb moisture → bacterial growth and poor indoor air quality.	In coastal cities (Dubai, Jeddah, Doha), humidity reaches up to **80%** in summer.
3	High energy costs for cooling	Poor thermal insulation of materials → air conditioners must run continuously.	Cooling costs increase by **12–15% per year.**
4	Rapid deterioration of materials	Heating–cooling cycles and salty air → cracking, erosion, and fading.	Service life of conventional tiles in the Gulf countries: **15–25 years** instead of 30–40 years.
5	No green certification = no construction permit	**Starting in 2026,** a green building standard is mandatory in Saudi Arabia (KSA). **Without certification,** a construction permit **will not be issued.**	Mostadam projects grew by **140%** over three months in 2025, indicating strong demand for eco-friendly materials.
6	High maintenance costs	Cleaning, repairs, and replacement of damaged materials → ongoing expenses.	The cost of maintaining finishes in the Gulf countries is **2–3 times** higher than in Europe due to heat and humidity.
7	Toxic emissions when heated	Plastics, composites, and adhesives release formaldehyde and volatile substances at temperatures of 50°C and above.	Indoor temperatures in buildings reach **60°C** → increased toxicity.
8	High logistics costs and dependence on imports	80% of materials are imported from China and Italy → high costs, delays, and exchange-rate risks.	Customs duties in Saudi Arabia: **5–15%**; logistics adds another **10–20%** to the cost.

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ADDITIONAL PAIN POINTS OF FINISHING MATERIALS IN HOT AND HUMID CLIMATES:

- **Heavy materials** (natural stone, ceramics) → increased load on foundations and higher construction costs.
- **Low moisture absorption →** condensation, odors, and indoor discomfort.
- **Fading in sunlight** (UV radiation in the desert is 2 times higher) → loss of aesthetic appeal within 2–3 years.
- **Lack of local production →** no support under Vision 2030 and no “Saudi Made” tax incentives.
- **Complex installation →** requires skilled workers and increases construction time.



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COMPARATIVE TABLE OF CLADDING MATERIALS

Material	Advantages	Disadvantages	Conclusion
Porcelain Stoneware	High strength (30–50 MPa), low water absorption (<0.5%), UV and chemical resistance	Heavy weight (15–20 kg/m²), more expensive than vinyl, high thermal conductivity	A good balance for facade applications
Marble	Premium appearance, natural texture	High cost, sensitivity to acids and impact, high thermal conductivity	For high-end projects
Vinyl	Lightweight, easy installation, low cost	Low resistance to UV radiation, chemicals, and fire; moderate thermal conductivity	Budget-friendly option
Diaterm*	Eco-friendly, fire-resistant, water absorption of 2–4%, high UV and chemical resistance, lightweight, optimal price-to-quality ratio, low thermal conductivity (0.06–0.17 W/(m·K)), zero-waste production	-	Ideal for energy-efficient and eco-friendly projects

**Diaterm — a granulated foamed glass-ceramic material made from diatomite.*

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Diaterm – the ideal solution for energy efficient and environmentally friendly buildings

Property	Value	Why It Matters
Thermal Conductivity	0.06–0.17 W/(m·K)	Low thermal conductivity reduces heating and cooling costs.
Water Absorption	2-4%	Excellent moisture resistance for outdoor applications.
Density	160.0–560.0 kg/m³	Lightweight material reduces the load on the building structure.
Fire Resistance	High, non-combustible (NG class)	Fire safety – does not burn or release toxins.
Chemical Resistance	High (acids, alkalis, salts)	Long service life in aggressive environments.
UV Resistance	High	Does not fade and retains its color for centuries.
Frost Resistance	F50 before 3,13MPa/after 6.83MPa	It is resistant to temperature changes, frost and moisture, which ensures long-term outdoor operation.
Environmental Friendliness	Natural material	No harmful emissions; safe for human health.

CONCLUSION:

Diaterm is the ideal solution for energy-efficient, eco-friendly, and fire-safe facades.

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GCC MARKET AND GREEN BUILDING TRENDS

Indicator	Value
GCC Green Building Materials Market	$10.6 → $28.8 billion
GCC Ceramic Tile Market	$10.3 → $15.3 billion
UAE Green Building Market	$7.1 → $13.1 billion
Saudi Arabia Green Building Materials Market	$239.4 → $711.01 million

**Data confirmed by reports from IMARC Group and P&S Intelligence.*

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GREEN BUILDING TRENDS IN THE GCC (GULF COOPERATION COUNCIL)

Trend	What's Happening	Why It Matters
Government Initiatives	Saudi Vision 2030, UAE Net Zero 2050, Qatar green certifications	Strict environmental standards and financial incentives for green projects
Green-Certified Projects*[1]	Saudi Arabia's NEOM "The Line" project: a 30% reduction in energy consumption by 2039*[2]	Direct demand for eco-friendly materials (LEED, Estidama, BREEAM)
Climate Resilience	Extreme heat, sand, and salt require durable materials	Diaterm: high resistance to UV radiation, salts, and acids
Investment in Green Construction*[1]	Saudi Arabia: **$27 billion** by 2030	Substantial funding for eco-friendly materials

*[1]Source: Saudi Press Agency (SPA).

*[2]Research by McKinsey & Company.

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MONETIZATION MODEL. B2B SALES: DEVELOPERS AND RETAIL CHANNELS. DUAL REVENUE MODEL.

Sales Channel	Clients	Volume	Profit Margin	Mechanism
B2B – Construction Companies and Developers	Saudi Aramco (infrastructure and industrial facilities), Emaar (residential and commercial developments in the UAE), Aldar (projects in Abu Dhabi), Qatari Diar (Qatar)	**60–70%** of revenue (large contracts covering 10,000–100,000 m^2)*1	**35–45%**	Direct supply contracts for residential complexes, offices, NEOM, and The Line*2
Retail – Dealers, Distributors, and Stores	Ace Hardware, Harvard Building Materials, Bin Majid, Graniti UAE, Tile King, Alpha Tiles — 30-40%	**30–40%** of revenue (batches of 500–5,000 m^2)*3	**25–35%**	Franchise-based distribution network

*1According to UAE market materials.

*2For megaprojects (such as The Line), this often involves participation in consortia and close coordination during the design phase.

*3For a specialized distributor focused on large B^2B contracts.

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