

Mateenbar™ Bends



Mateenbar™ Straight Bars



mateenbar™



Manufacturing Advantages

- Use of Epoxy vinyl ester resin for superior chemical resistance
- Use of E-CR glass fibres for corrosion resistance
- Excellent process control to ensure maximised mechanical properties and long-term durability
- Precision machine-ribbed profiles for high-performance concrete bonding
- Integrated real-time, in-process quality control systems

Quality Credentials

Certified Quality Assurance: Accurate control of fibre content, cure profile, and surface texture

Traceability: Compliant with AS standards, ASTM, ACI, and CSA

Durability: Demonstrated resistance to alkalis, acids, and moisture

Proven Field Use: Deployed in bridges, tunnels, marine structures, and precast elements worldwide

Environmental Product Declaration (EPD): to prove environmental impact to show sustainability of Mateenbar™

EPD INTERNATIONAL EPD SYSTEM

Conclusion

For critical infrastructure projects, GFRP rebar selection must go beyond initial cost considerations. It must focus on proven long-term performance, material integrity, and compliance.

Mateenbar™ offers a world-class solution backed by technical excellence, advanced manufacturing, and in-house quality assurance – ensuring safety, performance, and peace of mind for decades.

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Mateenbar™ is manufactured by Pultron Composites Limited. Mateenbar™ fibreglass rebar is a proprietary technology developed by Pultron R&D. It is licensed for manufacture in North America by Mateenbar Composite Reinforcements, and in the Middle East by IKK Mateenbar, for their respective markets. In New Zealand, Pultron manufactures and supplies Mateenbar to New Zealand, Australia, and the Pacific Islands. To learn more visit, pultron.com

Over 30 Years
Proven Global Service

Manufactured by Pultron for NZ and Australia

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mateenbar™
Leading the World in Durable Fibreglass Rebar

Engineered Confidence

Backed by four decades of data, people and process.

For over 40 years, Pultron has tested composites every day in our own laboratories; purpose built, instrumented, and staffed by specialists in materials science and engineering.

Mateenbar™ is verified from the incoming raw materials to the finished product through mechanical, thermomechanical, bond, durability testing, environmental exposure, and continuous quality control. We test to international standards and close the loop with product certification and traceability. This gives engineers, contractors and asset owners the confidence in the quality of every piece of Mateenbar™.

Manufacturing and Quality Control

Glass fibre-reinforced polymer (GFRP) rebar provides long-lasting reinforcement in concrete structures where corrosion of traditional steel rebar is a concern. The durability and performance of GFRP rebar depend on correct resin and fibre selection, along with a controlled manufacturing process. Epoxy vinyl ester resin is selected for its high cross-link density which gives excellent chemical resistance, ensuring long-term durability. E-CR glass fibres are essential for enhanced corrosion resistance.

Mateenbar™ straight bars are manufactured using the pultrusion process, curing inside a die, giving superior fibre alignment for a bar with maximum tensile modulus. The product is then surface ground to ensure a good bond to concrete.

Mateenbar™ bends are made through a different manufacturing process, where a helical wrap creates a textured surface for the bond, after which the desired bent shape is created prior to curing of the resin matrix.

To maintain these performance standards, rigorous quality control is essential throughout the manufacturing process. It ensures consistency, and verifies that each piece of Mateenbar™ meets the required mechanical and durability properties for reliable, long-term performance in service.

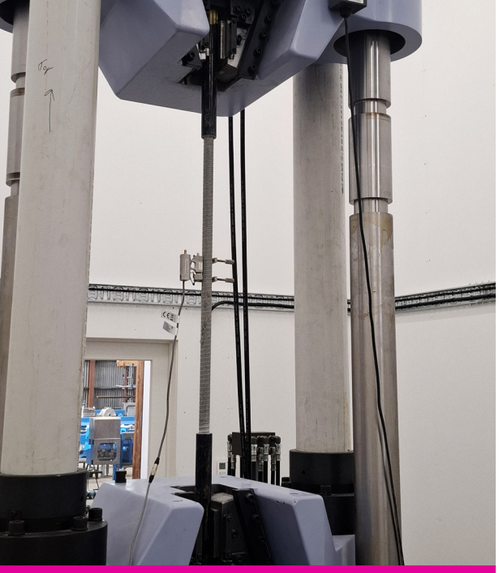


E-CR glass fibres



Epoxy vinyl ester resin during pultrusion process

pultron COMPOSITES
ENGINEERED CONFIDENCE | MATEENBAR™ | OCTOBER 2026



UTM performing tensile testing of Mateenbar™



DMTA testing to ensure full cure of Mateenbar™



Composite Materials Research Laboratory



Shear testing



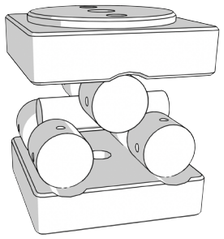
Bond strength test samples

Why In-house GFRP Rebar Testing is Essential

Strict Quality Assurance processes are necessary for all structural materials – Mateenbar™ is no exception. Our manufacturing facility is ISO 9001 accredited, and supported with an in-house composites laboratory., Our team perform real-time testing 24/7.

Key Quality Control Focus Areas

- Verification of raw materials
- Fibre volume fraction and alignment
- Resin saturation
- Full cure of resin matrix
- Consistency of fibre to matrix ratio throughout the cross-section
- Excellent bond between ribs and matrix
- Surface profiling for concrete bond
- Dimensional and mechanical consistency
- Thermal and moisture resistance



Short beam shear testing

In-house Testing Capabilities

Pultron operates four advanced in-house laboratories, staffed by experts in polymer chemistry and composite technology.

1. Large Scale Testing Laboratory

- Two universal testing machines (1000 kN and 200 kN)
- Mechanical testing: tensile, shear, compression, and flexural strength

2. Real-Time Quality Control Laboratory (QCL)

- Two compression testing machines dedicated to testing bond strength (between fibres and resin matrix)
- In-process monitoring of fibre content, curing, bond strength, and structural conformity

3. Composite Materials Research (CMR) Laboratory

- DSC and DMTA for cure and glass transition temperature (Tg) analysis
- Light microscope for fibre distribution
- Laboratory furnace for fibre content analysis

4. Durability Testing Laboratory (DTL)

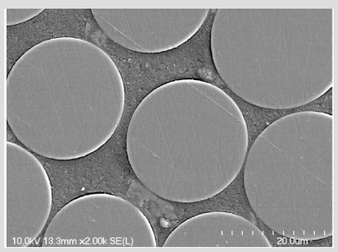
- Temperature controlled water bath for water absorption testing at elevated temperatures
- Oven for accelerated ageing in alkaline, acidic and marine environments

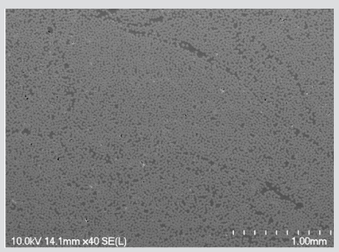
All tests are aligned with AS5204, ASTM D7957/D7957M, ASTM D8505/D8505M, ACI 440.3R, and CSA S807 standards, ensuring product reliability and international compliance.

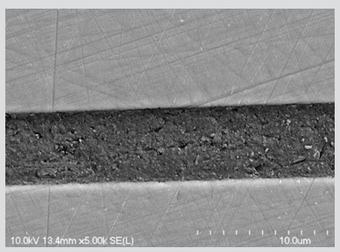
Understanding the Fibre-to-Matrix Ratio

The matrix (resin) binds the fibres together, to transfer load between the fibres for conformity and strength. When you bring together hundreds and thousands of glass fibres and bind them with resin in the pultrusion process, the resin needs to fully bind with the glass to create a strong composite.

The examples below show consistent fibre-to-matrix ratio throughout the cross-section.



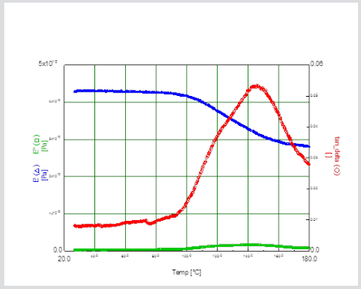


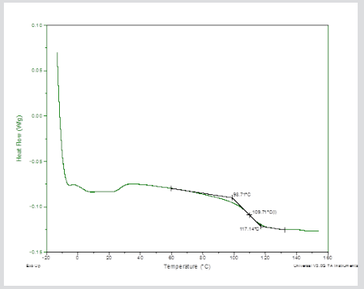


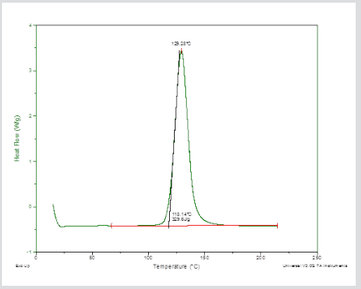
Source: Composite Materials Research Laboratory, Pultron Composites

Graphs from Dynamic Mechanical Thermal Analysis (DMTA) and Differential Scanning Calorimetry (DSC)

Ensures glass transition temperature requirements are met and the resin matrix is fully cured.







Source: Composite Materials Research Laboratory, Pultron Composites