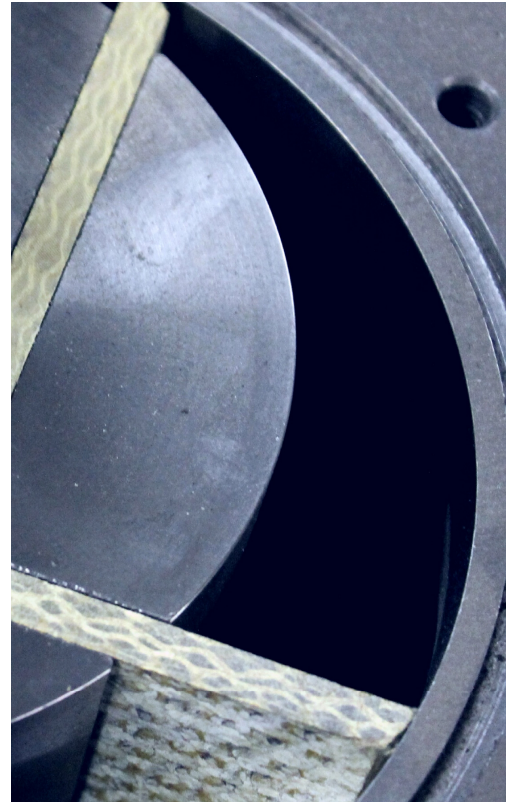
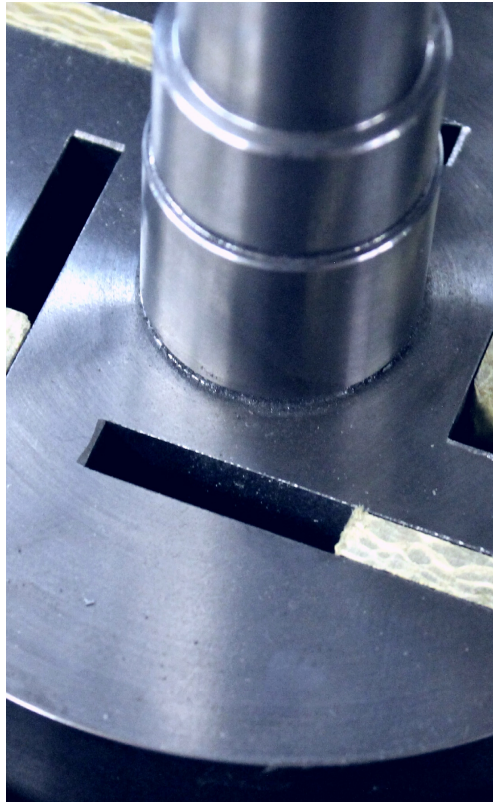
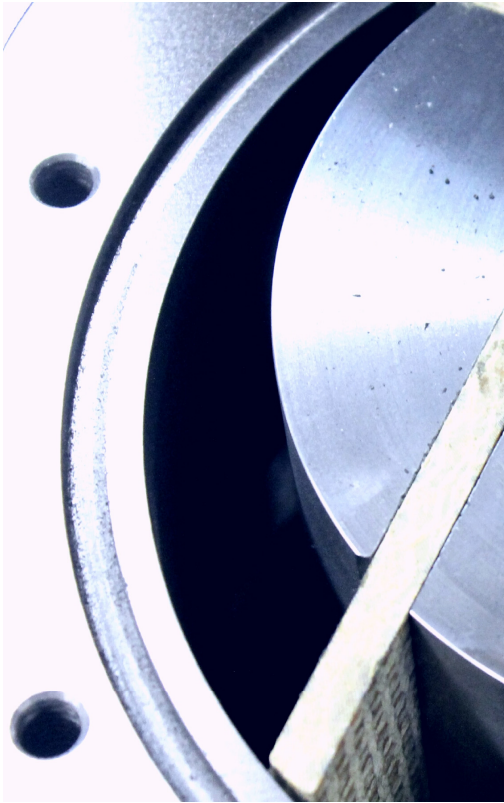




TENMAT

ADVANCED MATERIALS



ROTOR VANES FOR VACUUM PUMPS AND COMPRESSORS



TENMAT

ADVANCED MATERIALS

INNOVATION

TENMAT is a leading manufacturer of advanced composite materials and components with over 100 years of experience.

SAFETY

SERVICE

TENMAT stands for innovation, safety products, commitment to our customers and the latest quality standards worldwide.

QUALITY

Leading Supplier of the Vacuum Pump & Compressor Industries

TENMAT's proprietary self-lubricating composite FEROFORM materials are widely recognized as the industry standards for demanding applications within the vacuum pump and compressor industries and are used by all major vacuum pump manufacturers worldwide.

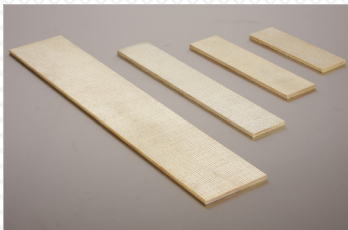
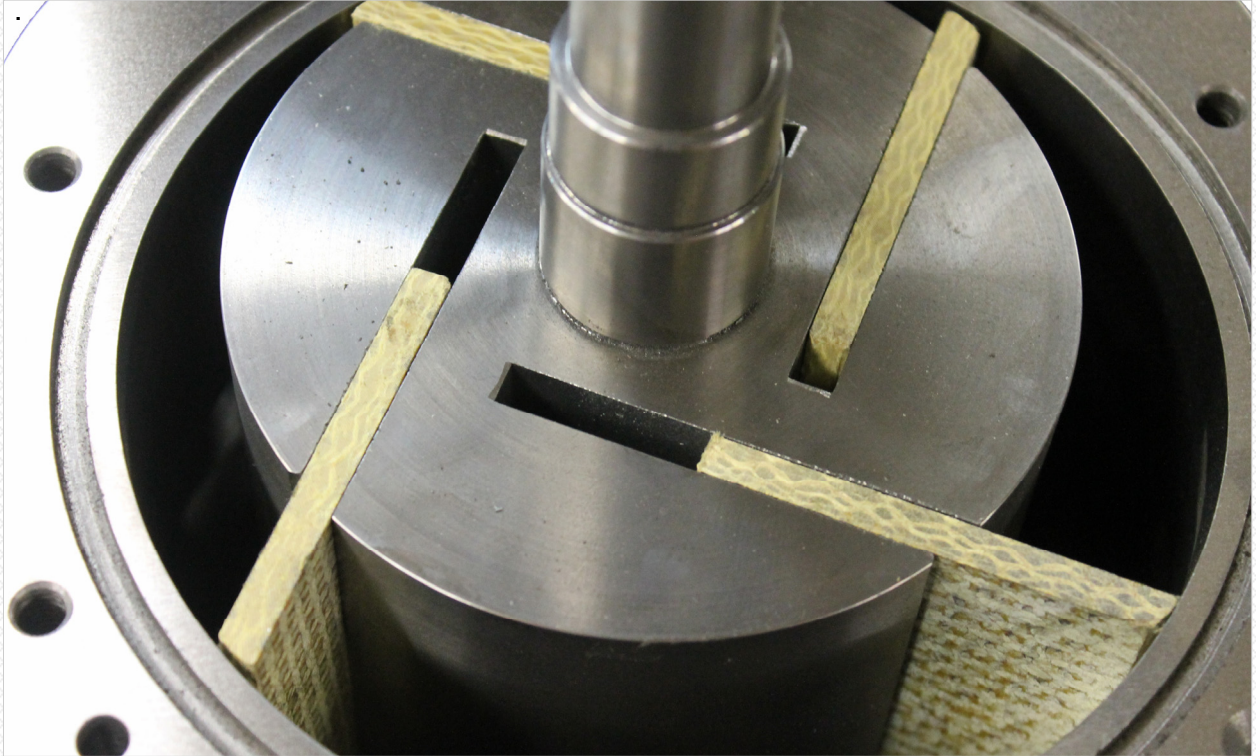
Commitment to Quality

TENMAT operates an ISO 9001:2008 Quality Management System for the design, development and manufacture of specialised high performance engineering materials and components.



HIGH QUALITY ROTOR VANES

TENMAT products rotor vanes are used extensively in vacuum pumps and compressors throughout the world. **TENMAT** high quality rotor vanes are available in different grades and customized sizes according to customer specific applications and environmental conditions.



FEROFORM F57

FEROFORM F57 is the industry standard for drip feed oil-lubricated vacuum pumps.

Applications: Pumper trucks, milking pumps, blowers for cement plants, fracking equipment, compressors, refrigeration & ammonia boosters.

More Information on Page 3

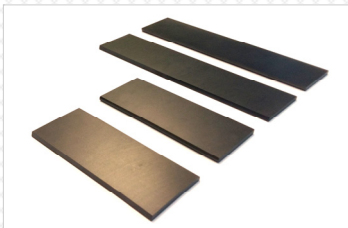


FEROFORM F43

FEROFORM F43 has been specifically designed for fully oil flooded high vacuum and two-stage vacuum systems.

Applications: High vacuum pumps, laboratory and scientific equipment.

More Information on Page 4



FEROFORM F200A

FEROFORM F200A is the market standard material for lubrication free dry running vacuum pump systems.

Applications: Vacuum forming, packaging, laboratory and scientific equipment.

More Information on Page 5



FEROFORM AE2

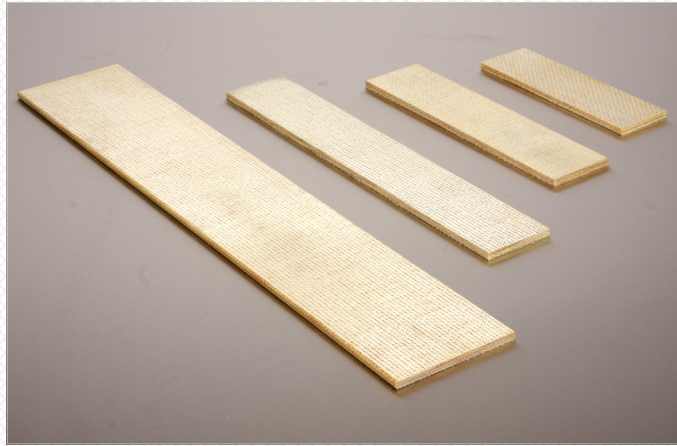
Economical, general purpose rotor vane for fully oil-lubricated pumps.

More Information on Page 6

FEROFORM F57

Key Features:

- Long Life
- High Temperature Resistance
- High Flexural Strength
- Low Water Swell
- Operates in Drip Feed Oil-Lubricated Systems



TENMAT FEROFORM F57 is a Kevlar reinforced high performance material for rotor vanes for compressors and vacuum pumps.

FEROFORM F57 combines outstanding wear resistance with excellent dimensional stability and high temperature resistance. Due to their exceptional chemical resistance, FEROFORM F57 rotor vanes are the ideal solution for ammonia boosters and compressors within the refrigeration industry.

FEROFORM F57 is ideal for the Oil & Gas industry, milking pumps, street cleaning pumps and blowers for cement plants. Additional applications for long lasting FEROFORM F57 rotary vanes are tanker discharge pumps, pneumatic transfer air compressors and fracking equipment. FEROFORM F57 is the preferred choice of all major OEMs and the aftermarket worldwide.

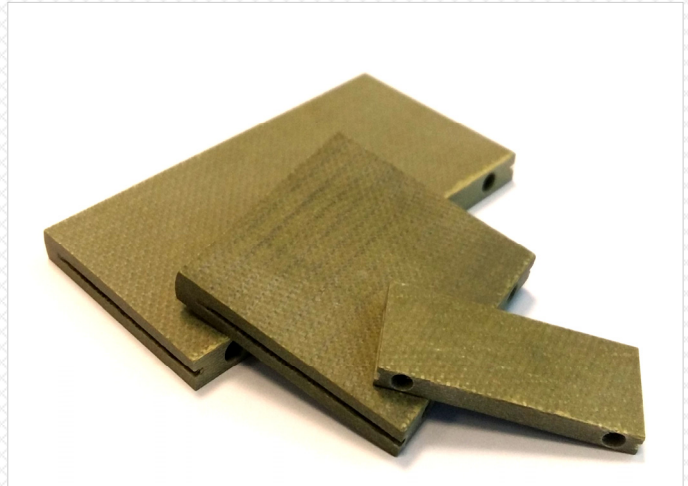
FEROFORM F57 rotor vanes are readily available in standard dimensions and can be manufactured according to customer specifications with lengths up to 1800mm.



FEROFORM F43

Key Features:

- Long Life
- Low Noise
- Excellent Chemical Resistance
- Very Low Water Swell
- Superb Stability Under Vacuum
- High Temperature Resistance
- High Stiffness
- High Mechanical Strength



TENMAT FEROFORM F43 rotor vanes have been specifically developed for pumps with forced oil lubrication. The principal areas of use are in single and two-stage high vacuum pumps where FEROFORM F43 exhibits superb stability under vacuum, insensitivity to moisture, excellent strength retention, and low noise.

Due to its unique microstructure, FEROFORM F43 can be machined to tight tolerances and extremely smooth surface finishes. Typical applications include rotary vane pumps on analytical instruments and mass spectrometry.

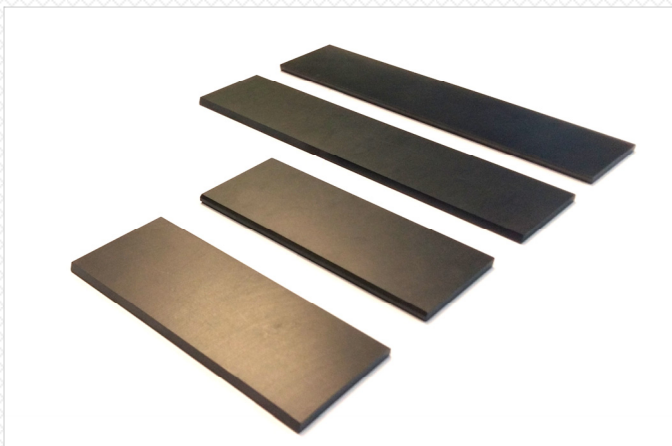
Other applications include general engineering and full flooded high vacuum pumps. FEROFORM F43 is extensively used by OEMs and in the aftermarket for all major pumps makes.



FEROFORM F200A

Key Features:

- Long Life
- Dry Running
- Market Leading Material
- Superb Stability Under Vacuum
- High Temperature Resistance
- Wide Application Range
- High Stiffness

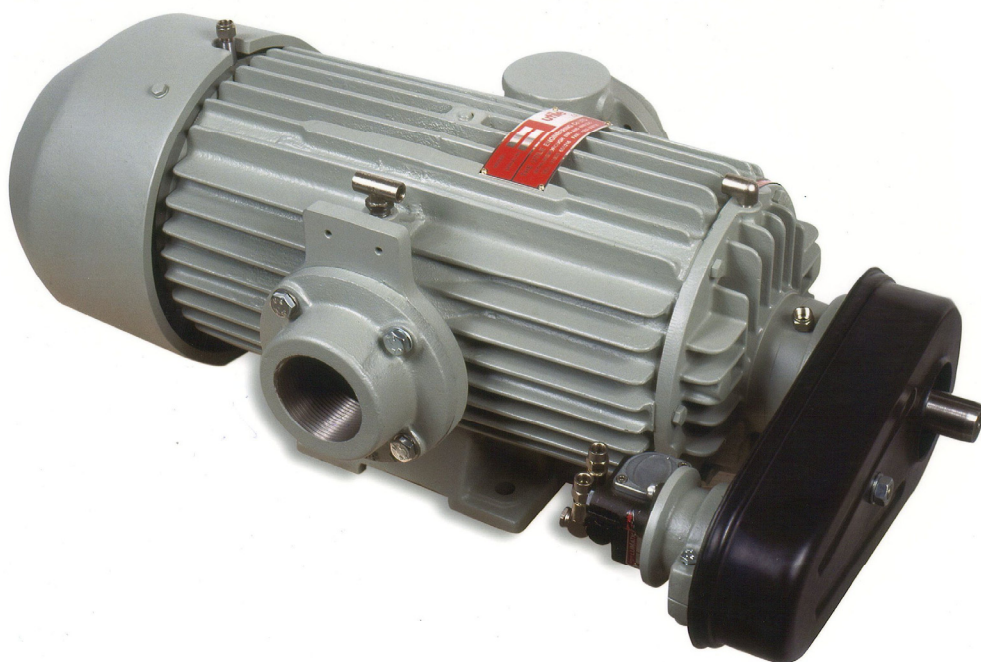


FEROFORM F200A is the market leading resin bonded graphite material. Impregnated with lubricants and with a high stiffness, it is the ideal material for dry running applications.

FEROFORM F200A applications cover all areas where lubrication is not possible: Laboratory, hospital and dental equipment, packaging, vacuum forming, powder discharge compressors, and food processing equipment.

High mechanical strength and shock resistance reduces vane residue in the pump, lowers damage on the pump casing, and gives longer life. A low friction coefficient increases the lifespan of the vane and maximizes pump performance.

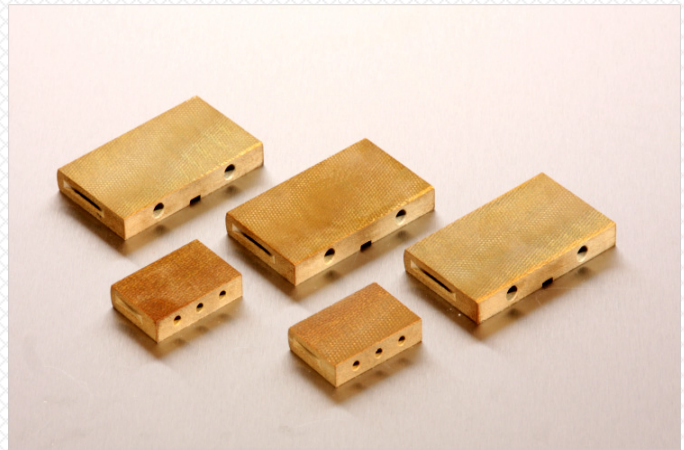
FEROFORM F200A is the industry standard rotor vane material for all major dry running vacuum pump manufacturers worldwide.



FEROFORM AE2

Key Features:

- Long Life
- Low Water Swell
- High Stability Under Vacuum
- High Temperature Resistance
- Wide Application Range
- High Mechanical Strength



FEROFORM AE2 material is an economical, general purpose laminate, used in fully oil-lubricated pumps and compressors.

FEROFORM AE2 can be machined to tight tolerances to produce high quality components for increased pump performance.

Applications for FEROFORM AE2 include fully-flooded oil lubricated pumps.

FEROFORM AE2 can be used in many abrasive applications due to its high dimensional stability, as well as its resistance to a wide range of chemicals.



MATERIAL PROPERTIES

TENMAT		F57	F43	F200A	AE2
Applications		Milk pumps, pumper trucks, blowers for cement plants	Fully flooded pumps, laboratory and scientific equipment	Dry running pumps	General purpose fully flooded pumps
Flexural Strength (MPa)		170	450	75	430
Impact Strength (KJ/m ²)		60	105	5	90
Compressive Strength (MPa)		360	370	120	480
Flexural Modulus GPa @20 °C		6	23	21	20
Thermal Expansion (10 ⁻⁶ /°C)	Normal	42.5	32.7	24.9	52.2
	Parallel	11.3	10.7	9.2	11.7
Maximum Continuous Operating Temperature °C		200	200	175	180
Density (g/cm ³)		1.25	1.75	1.75	1.79

The information contained in this data sheet is presented in good faith. They are typical test results tested generally in accordance with BS 2782 and ASTM test methods and should not be used for specifications. **TENMAT** does not warrant the conformity of its materials to the listed properties or their suitability for any particular purpose. For further information please contact our Technical Sales Department on +44 161 872 2181.

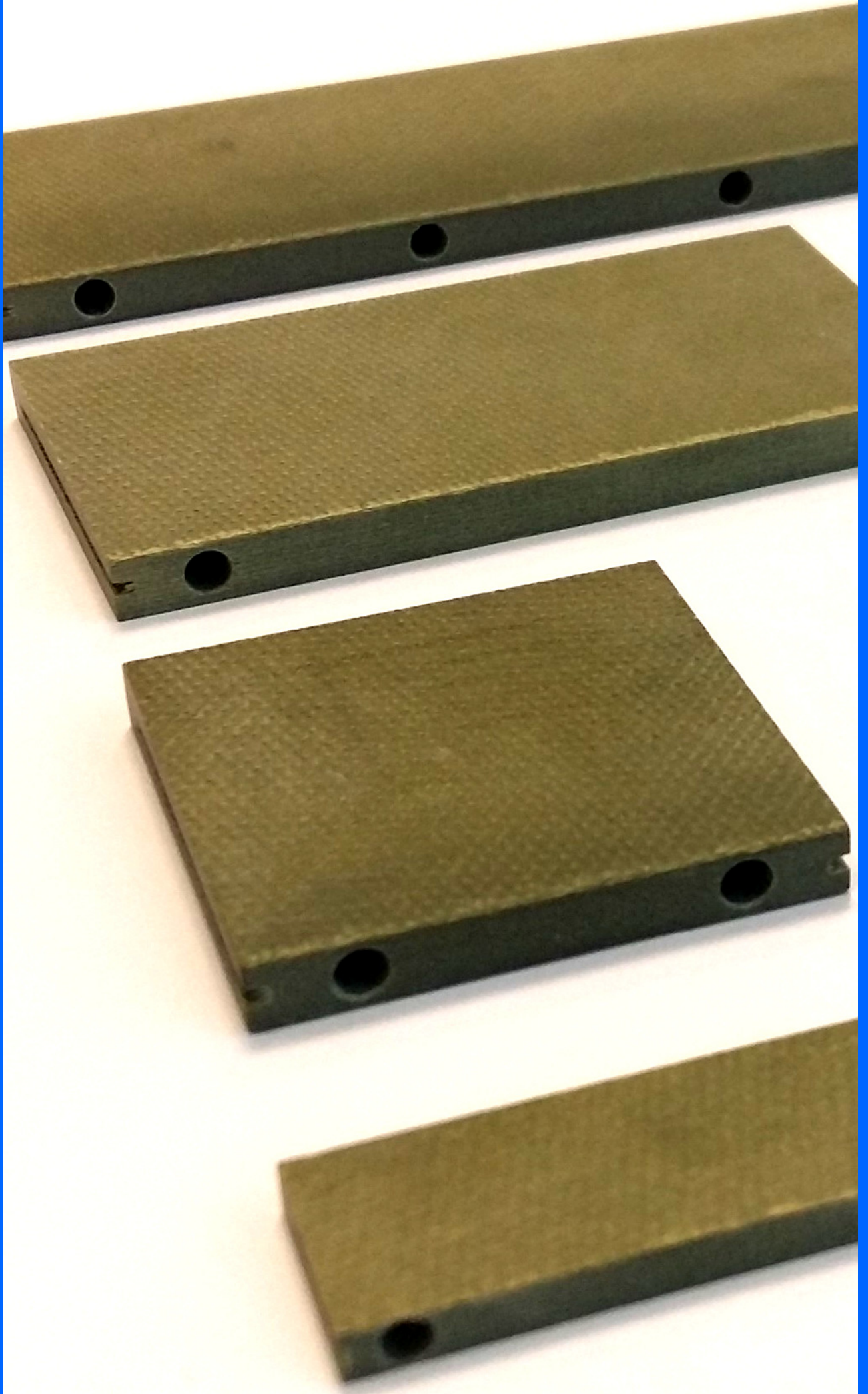
AVAILABILITY

TENMAT high performance rotor vanes are available in a wide range of dimensions to fit every possible application for vacuum pumps and compressors.

Customized blades can be supplied with lengths up to 1800mm (71") and thicknesses up to 25.4mm (1").

TENMAT's state-of-the-art manufacturing and production capabilities allow for a fast turnaround of custom made orders.

Our Technical Services department is available to provide guidance on material selection, part design and technical solutions.





LEADERS IN INNOVATION

TENMAT's ongoing commitment to the development of new products and solutions in the field of composite and engineering materials has been recognised in 2012 and 2013 by receiving the highest official award in Great Britain, the prestigious Queen's Award for Enterprise in the categories Innovation and International Trade.

Custom Component Manufacture

TENMAT materials can be supplied as semi-finished products or, if required by the customer, our ISO9001-2008 certified machine shop can produce fully machined items to specification.

Materials Expertise

With over 100 years of experience in Composite Engineering Materials, **TENMAT** offers customers information on material developments, characteristics, suitability, and applications.

Technical Ingenuity

TENMAT has been proven to consistently produce industry leading advanced composites, developed in our in-house R&D Technical Laboratories.

Problem Solvers

The diverse range of high performance composite materials manufactured by **TENMAT**, offer the engineer a wide array of solutions to improve wear resistance, withstand extreme temperatures, resist high impacts, and survive in harsh, corrosive environments. Our Technical Services department is available to provide guidance on material selection, part design and technical solutions.

Component Design

If design services, drawings and fitting instructions are required, **TENMAT** will work with customers in developing the most suitable solution to their particular problem.





FEROFORM **RAILKO** *FEROGLIDE* *FEROBIDE*

REFRAVER **REFEL** **ARCLEX**

FIREFLY **NITRASIL** **SINDANYO**

TENMAT is committed to the highest standards in customer service and our international staff is looking forward to assist you.

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