



DELIVERING THE FUTURE OF COMPOSITE SOLUTIONS

WIND ENERGY

Over the last 15 years, the material solutions developed by Gurit for manufacturers of wind turbine blades have continuously contributed to the increasing efficiency of wind power installations. This progress is most visible when looking at the increase of a typical blade size from 23 metres to over 80 metres plus. The growing dimensions create enormous challenges for wind turbine blade manufacturers as the longest blades today weigh in excess of 20 tons each. New materials solutions were needed to keep the weight of the blades as light as possible, yet maximising their strength, stiffness and durability. Gurit has helped make wind energy a technical and also a commercial success story by helping to decrease manufacturing costs of wind turbine blades and enhancing the efficiency of wind power installations.

With over 15 years' experience, Gurit has developed a broad range of award-winning products and solutions and is unique in covering both infusion and prepreg blade technology, with the capability to supply all

the relevant materials needed for building a composite blade.

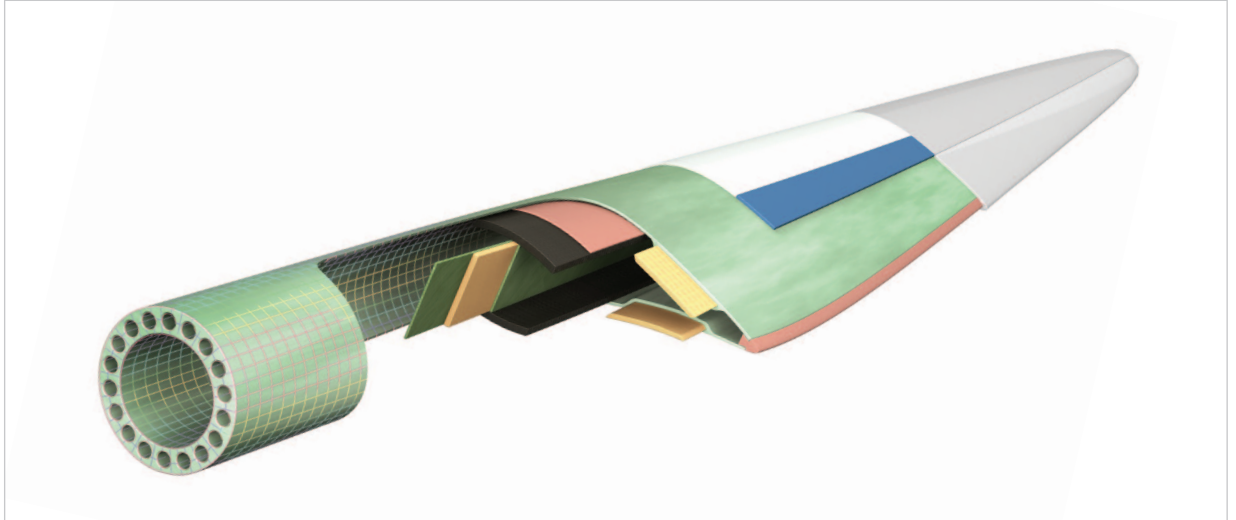
The successful creation of a large composite structure needs specialist knowledge of structural design, materials technology and composite processing. Gurit is in the unique position of possessing all of these disciplines in one integrated technology centre, maximising the potential for innovation and rapid development of technology solutions. Whatever the blade technology, Gurit has the product and development capability to meet the customers' requirements and expectations.

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PRODUCTS, INNOVATION AND SOLUTIONS

Gurit's technical team can provide complete technical solutions drawing on the broad range of expertise in composite materials design, material development and materials application. This extensive knowledge has enabled the development of a leading range of products and services for the wind energy market.



STRUCTURAL CORE

Gurit's unique structural core materials product range for the wind energy market includes PET, PVC, Balsa and SAN core types, all with a distinct range of properties, attributes, and all available in sheet form or as tailored pieces in kit format. Gurit® G-PET™ LITE reduced resin uptake technology is also available.

PREPREGS

Gurit offer a full range of prepreg and SPRINT™ products for blade components where weight and performance are key requirements in the design. Glass and carbon SparPreg™ featuring Airstream™ technology is an advanced prepreg, developed to enable the economic manufacture of high quality low void content UD spar caps for the next generation of blade designs.

INFUSION

Gurit's low viscosity epoxy infusion resin is designed for infusing large parts. Available with a range of hardeners from fast to extra-slow.

COATINGS

Gurit's UV Gelcoat, a thixotropic, low temperature curing system, provides outstanding resistance to yellowing, together with the normal high performance properties of an epoxy. Gurit's Process Coat is an in-mould epoxy surfacing system for epoxy laminates.

STRUCTURAL ADHESIVES

Gurit is a technical leader in the formulation of advanced epoxy resins, and the Spabond epoxy adhesive range is an established high performance blade bonding solution.

FINISHING AND REPAIR

Gurit's Ampreg wet laminating systems are optimised for the manufacture of large composite structures using hand lay-up and vacuum bagging techniques. RENUVO™ offers a fresh and novel approach to the manufacture, maintenance and repair of today's wind turbine blades.

SERVICES

Gurit offers a range of support functions, including: on-site customer support, technology transfer, process optimisation, quality control procedures, defect analysis and resolution and more.

MOULD MANUFACTURING

Gurit is one of the largest mould manufacturers worldwide, producing over 40 wind turbine blade mould sets a year. Gurit offer Master plug design and manufacture, Mould manufacture, Hydraulic mould closing systems, Hydraulic mould clamping systems, Mould heating systems, Jigs and fixtures and Transport systems in cooperation with HAWART Sondermaschinenbau GmbH.

STRUCTURAL ENGINEERING

Gurit's engineering expertise has been hugely influential in introducing advanced composites materials into the wind energy market. A thorough understanding of the engineering requirements of wind turbine blades, allows Gurit to precisely tailor materials to provide practical and cost effective solutions as the size and structural demands on today's blades grows year on year.