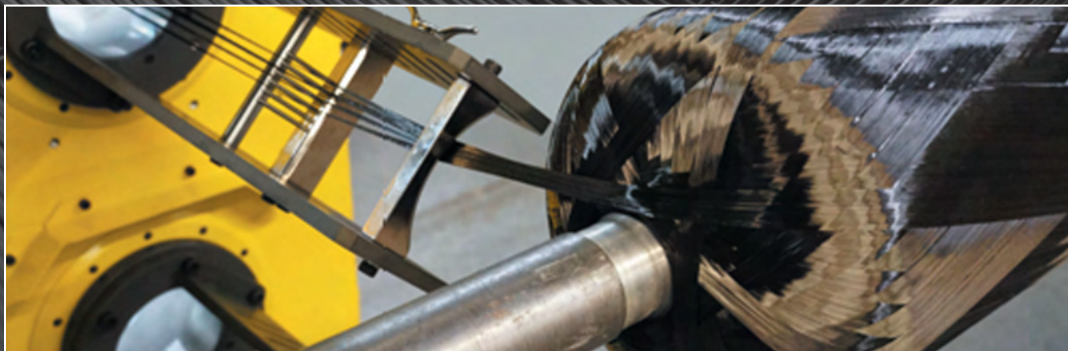




ENGINEERING TECHNOLOGY CORP.

 Toray Group



**GLOBAL
EXPERT IN
FILAMENT
WINDING &
COMPOSITE
SOLUTIONS**



MORE THAN MACHINES

 Toray Group



DESIGNED & MADE IN THE USA

ZOLTEK 
Toray Group



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STANDARD FILAMENT WINDERS

Engineering Technology Corporation's Standard Filament Winders portfolio delivers reliable performance, optimized pricing, and reduced lead times for organizations seeking efficient composite manufacturing solutions.

The portfolio includes proven equipment ranging from compact desktop systems to high-throughput automated winding systems for demanding production environments. This broad range enables manufacturers to select equipment that meets current production needs while providing a scalable foundation for future growth.

Standardized machine platforms simplify implementation, reduce project risk, and improve long-term maintainability through proven designs and readily available components and spare parts. Every system is backed by ETC's industry-recognized service team and decades of filament winding expertise.

Equipped with ETC's latest Windows-based control system and optional FiberGrafIX® winding software, ETC's standard filament winders simplify operation, winding pattern development, and process monitoring while reducing setup time and training requirements.

The portfolio supports wet winding and towpreg processing with optional creels, resin baths, and fiber delivery systems. Standard platforms can also be customized and automated to meet specific application and production requirements.

ETC also provides installation, training, process integration, preventative maintenance, equipment upgrades, spare parts, and aftermarket service — delivering a practical and scalable solution from product development through full-scale production.

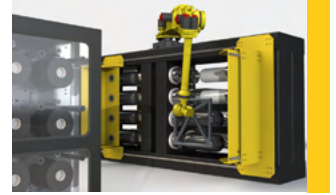
CATALOG OF STANDARD FILAMENT WINDERS

		SC	SC+	SM	SM+	CXG	SL
Number of Axes		2	3-4	2-5	2-5	2-5	2-5
Number of Spindles		1 or 3	1	1	1-5	1-5	1
Maximum Mandrel Weight	lbs	50	50	750	1000	1000	20000
	kg	23	23	340	454	454	9072
Maximum Mandrel Diameter	inches	12	12	24	30	16	80
	mm	305	305	610	762	406	2032
Maximum Mandrel Length	inches	84	88	200	217	193	475
	mm	2032	2235	5080	5512	4902	12065
Maximum Total Fiber Tension	lbs	50	50	80	125	250	250
	kg	23	23	36	57	113	113

FILAMENT WINDING SYSTEMS & EQUIPMENT

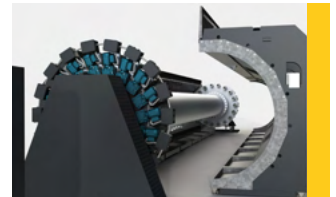
PRODUCTION LINES & CUSTOM MACHINERY

Engineering Technology Corporation designs and manufactures complete composite production systems tailored to specific customer requirements. Solutions may include different fiber delivery systems, creels, resin baths, extractors, material handling systems, automation, robotics, and fully integrated production cells that improve productivity, quality, and manufacturing efficiency. Additional safety, monitoring, and process enhancements are available to meet specific manufacturing requirements.



AUXILIARY EQUIPMENT

Engineering Technology Corporation offers a comprehensive range of auxiliary equipment to support the complete filament winding production cycle. Solutions include mandrel extractors, curing ovens, hydraulic pressure testers, thread grinders, and other specialized process equipment designed to improve production efficiency, reliability, and safety.



STANDARD TAPE WRAPPERS

STANDARD TAPE WRAPPERS

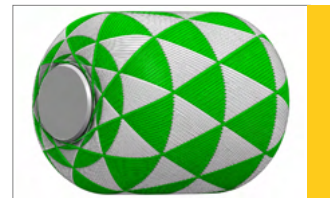
Standard Tape Wrappers provide a unique ETC-developed solution for manufacturing advanced aerospace composite structures using thermoset and thermoplastic tapes. Available in multiple configurations, these systems deliver precise tape placement on cylindrical and non-cylindrical parts, combining repeatable quality, reliable performance, reduced lead times, proven designs, and flexible options to meet demanding composite manufacturing requirements.



SOFTWARE & SERVICE

WINDING SOFTWARE

FiberGrafIX® is ETC's in-house developed filament winding software. Used worldwide, it provides a complete environment for creating, analyzing, optimizing, and managing filament winding projects. With an intuitive interface, advanced 3D visualization tools, FiberGrafIX® simplifies winding pattern development, reduces programming time, and helps accelerate the transition from design and R&D to production.



RETROFIT & SERVICE

Extend the life and capabilities of existing equipment with ETC's retrofit and modernization services. Upgrades include the latest Windows-based control systems, motion systems, automation enhancements, electrical redesigns, spare parts, preventative maintenance, and technical support for both ETC-built equipment and most third-party filament winding systems.



CUSTOMER SUPPORT

GLOBAL LIFECYCLE SUPPORT

ETC supports customers throughout the entire equipment lifecycle with installation, commissioning, operator training, application engineering, process integration, technical assistance, and aftermarket services. Our experienced team helps maximize equipment performance, reliability, and long-term manufacturing success.



1,000+ SYSTEMS INSTALLED

60+ COUNTRIES

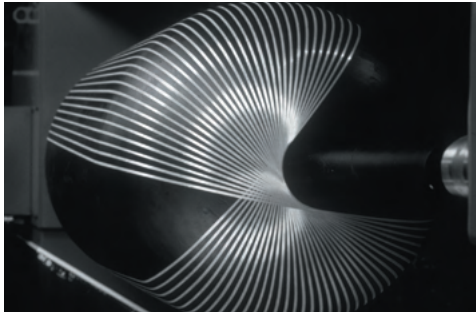
THE MAJORITY ARE
STILL IN OPERATION TODAY.



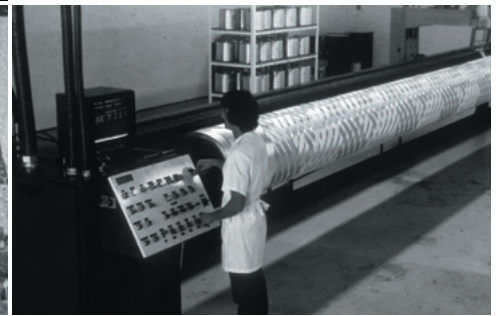
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Toray Group

ABOUT ENGINEERING TECHNOLOGY CORPORATION A Member of Zoltek & Toray Group



**OVER 60 YEARS
OF TRUSTED
SERVICE**



ABOUT ENGINEERING TECHNOLOGY CORPORATION

Engineering Technology Corporation (ETC) is a global expert in filament winding, tape wrapping, and advanced manufacturing solutions for composite part producers serving the aerospace, defense, energy, transportation, industrial, and technology-driven markets.

Founded in 1962 in Salt Lake City, Utah, USA, ETC pioneered many of today's filament winding technologies, including one of the industry's first CNC-controlled filament winding systems and the first filament winding software – FiberGrafix®. To date, ETC has delivered more than 1,000 composite winding systems to customers in over 60 countries, with the majority of these machines still in operation today.

In 1999, ETC was acquired by Zoltek Companies, Inc., strengthening its position in the composites industry. In 2014, following Toray's acquisition of Zoltek, ETC became part of the Toray Group, creating a vertically diversified organization that combines more than 60 years of expertise in designing and manufacturing advanced equipment for composite part manufacturers with the global resources, advanced materials, and innovation of one of the world's leading composites companies.

The pioneering spirit that began in 1962 continues today through continuous innovation, helping customers stay ahead of the evolving needs of the composite industry.

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