EXEL PROFILES
COMPOSITE SOLUTIONS FOR LASTING PERFORMANCE
Exel Composites is a leading technology company that designs, manufactures and markets composite profiles and composite tubes for demanding industrial applications.

COMPOSITES

COMPOSITES mean a complex material of two or more structurally complementary substances. When combined these produce structural or functional properties not present in any individual component. REINFORCEMENTS carry loads and give main mechanical performance, stiffness and strength to the final product. MATRIX bonds and holds the fibres together and transfers loads between fibre layers. Matrix determines the chemical resistance and by adjusting the matrix, special properties such as fire retardancy, colours and antistatic properties can be achieved.

MANUFACTURING TECHNOLOGIES

The core of Exel operations is based on proprietary developed composite technology, where continuous manufacturing technologies; pultrusion, pullwinding, co-winding and continuous lamination are being utilized.

PULTRUSION

Pultrusion is the most efficient and cost-effective continuous manufacturing process for composite profiles. In the pultrusion process the fibres are impregnated with a thermosetting resin and pulled through a heated die where curing takes place. Different laminate lay-ups are possible with reinforcements of rovings, mats, fabrics and multiaxials. The finished profiles are cut to length by a saw at the end of the line.

1. Reinforcements
2. Pultrusion die
3. Pulling unit
4. Sawing unit

Principle drawing of pultrusion process

REINFORCEMENTS
- Carbon fibres
- Glass fibres
- Natural fibres
- Synthetic fibres
- Woven fabrics
- Non-woven mats
- Veils
- Peel-ply tapes etc.

MATRIX SYSTEMS
- Epoxy
- Vinyl ester
- Polyester
- Polyurethane
- Acrylic
- Phenolic

RAW MATERIALS

MANUFACTURING TECHNOLOGIES
- » PULTRUSION
- » PULLWINDING
- » CO-WINDING
- » CONTINUOUS LAMINATION

BUILT-IN PROPERTIES
- high strength-to-weight ratio
- high fatigue resistance
- high impact strength
- rich colours
- thermal insulating properties
- electrical insulating properties
- resistance to chemicals
**FROM PROFILES TO COMPLETE SYSTEMS**

In close co-operation with the customer we design optimized products and shapes, tailored for each specific application, and create true competitive edge for our customers.

**CUSTOM PROFILES**

In close co-operation with the customer we design optimized products and shapes, tailored for each specific application, and create true competitive edge for our customers.

**STANDARD PROFILES**

We have a comprehensive collection of tooling available for various standard shapes. The shapes and dimensions you can find from the profile profiles lists at our website. Please note that standard profiles are not all available from stock but profiles and tubes are manufactured according to customer order.

**ADVANTAGES WITH COMPOSITES**

When using composite materials instead of traditional materials such as steel, for example, there are normally significant reductions in weight due, in weight due to their high strength, high stiffness and low density. The choice of reinforcement, matrix and product design can give optimal load-bearing capacities, while providing a number of advantages in relation to traditional materials.

**FLEXIBILITY IN DESIGN**

Composites offer many superior features that cannot be gained with other materials. The flexibility in design and the unique material properties give designers, engineers and architects totally new kind of possibilities to bring their ideas alive. Various material combinations are the main advantages of composites over any conventional material and structural possibilities are almost unlimited. Orientation of the fibres and fibre contents can be adjusted according to application.
Exel Composites is a leading manufacturer of advanced composite products and solutions, meeting the requirements of environmental legislation, rules and regulations. We use only tested materials that are safe for the environment. Composites as material offer ecologically safe and friendly solutions due to their long life and durability. At Exel we are committed to develop our products and processes in a manner that reduces the environmental impact. The Exel quality and environmental policy complies with Our safety management system complies with OHSAS 18001 and we are working according to ISO 26000 social responsibility.