

EXELENCE  
FOR THE WIN

# 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

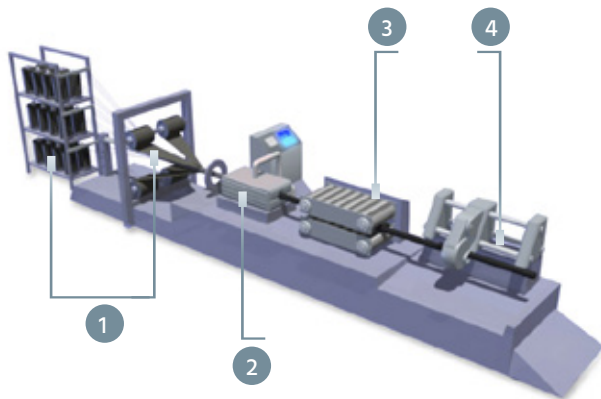
strength to the final product. **MATRIX** bonds and holds the fibres together and transfers loads

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.



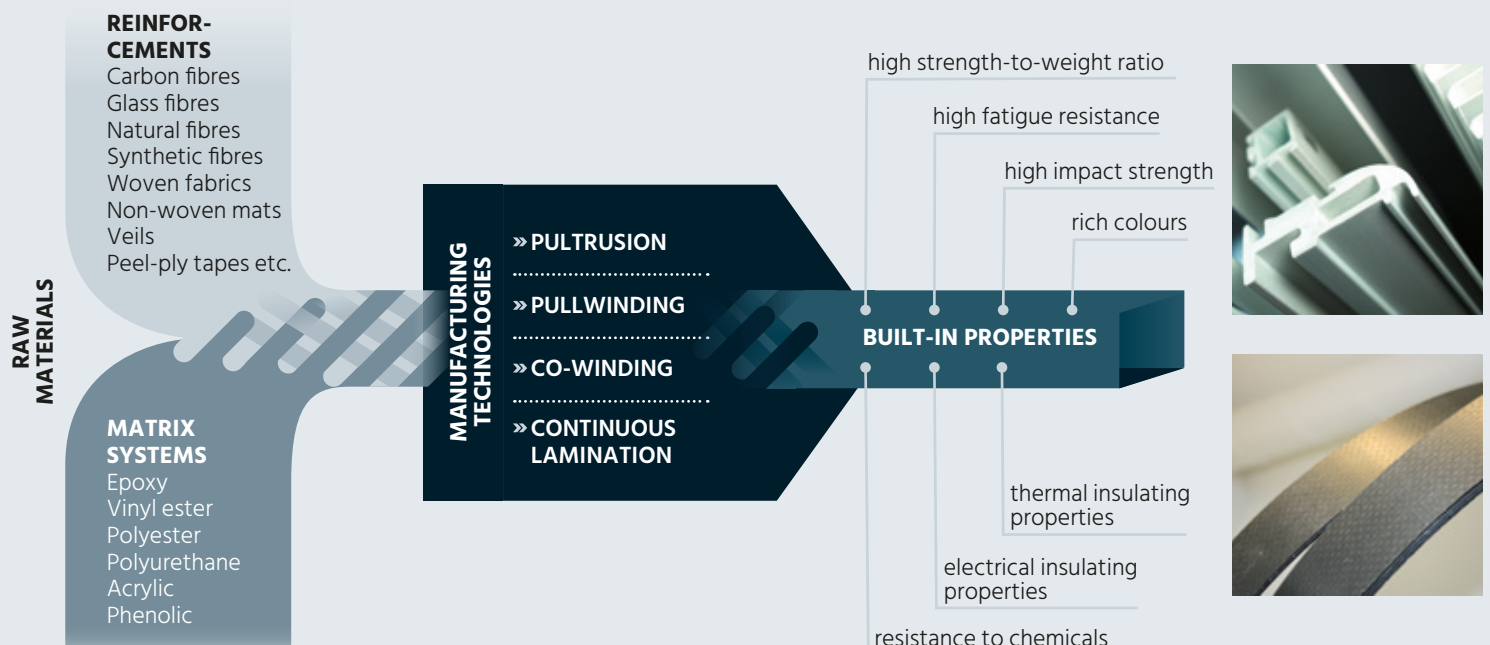
1. Reinforcements
2. Pultrusion die
3. Pulling unit
4. Sawing unit

Principle drawing of pultrusion process

### PULTRUSION

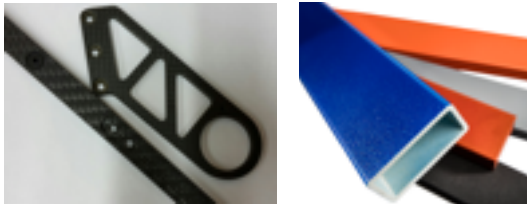
Pultrusion is the most efficient and cost-effective continuous manufacturing process for composite profiles.

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.





# FROM PROFILES TO COMPLETE SYSTEMS



In addition to profile manufacturing, we offer additional secondary services:

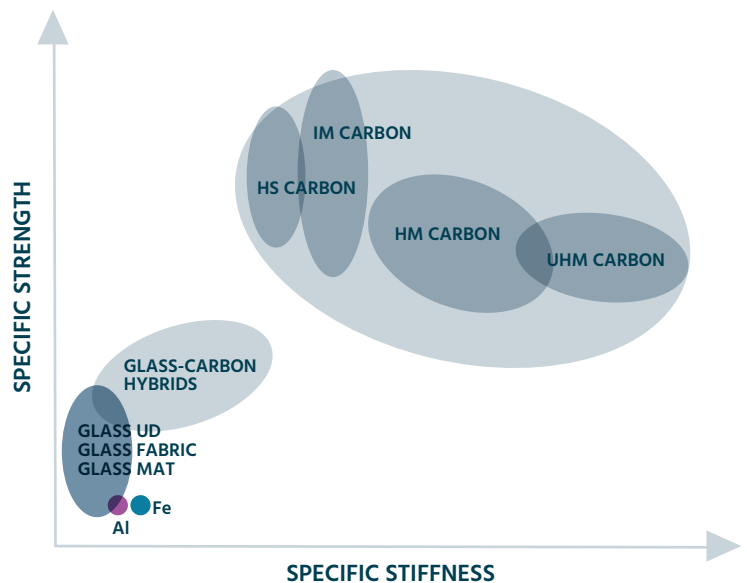
- Machining
- Coating : wet paint, powder coating
- Assembly
- Marking and branding: silk print, laser-, tampon- and ink jet

## 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.

# 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 load-bearing capacities, while providing a number of advantages in relation to traditional materials.



LIGHT WEIGHT



CHEMICAL RESISTANCE



ELECTRICAL INSULATION



DESIGN FLEXIBILITY



FIRE RETARDENCY



DURABILITY



HIGH STRENGTH AND STIFFNESS



THERMAL INSULATION



LOW THERMAL EXPANSION

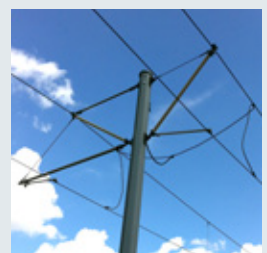
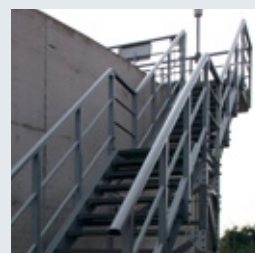
## CUSTOM PROFILES

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.





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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.