

Resin Transfer Moulding with flax and hemp for new applications

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Profile

- NPSP Composieten is a manufacturer of Fibre Reinforced thermo-set Composite products
- Focus on (a combination of)
 - High precision products
 - Aesthetic products
 - Environmentally friendly products

Mission and Key values

Mission

- We produce high-value products of fibre reinforced composites. We apply a high tech production method to optimise quality, reproducibility and working environment and at the same time minimise environmental impact.
- We are an innovative, problem solving and very reliable partner for our customers. We are inspiring, dynamic and creative. We create sustainable value for our customers and shareholders and a challenging working environment for our employees.
- Our goal is to be leading, via our products and actions, in sustaining our society. [It is our mission to make nature based composites an ordinary material.](#)

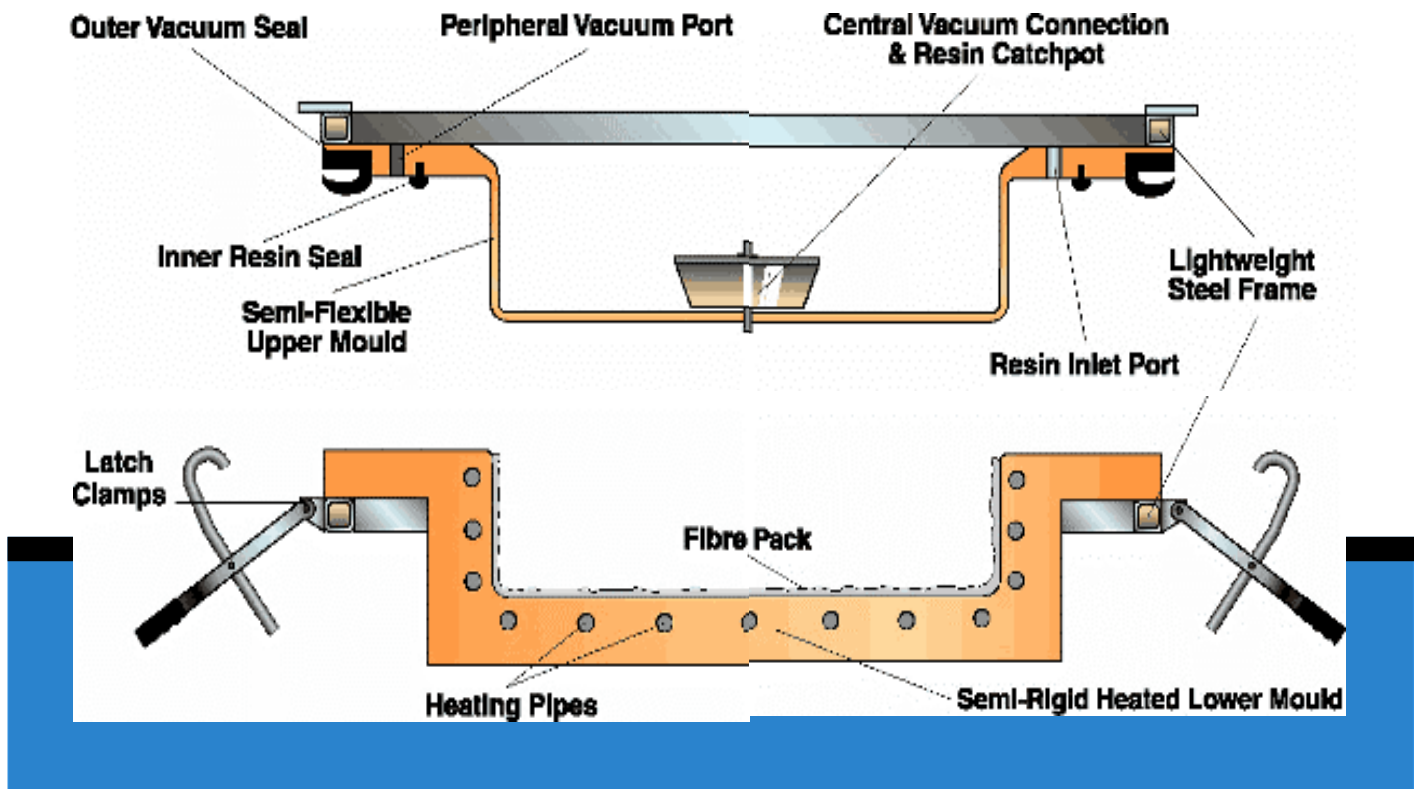
We are:

- responsible, for our products as well as for our environment;
- pro-active;
- open to new knowledge, methods and partners.

VA-RTM process

- Vacuum Assisted Resin Transfer Moulding (VA-RTM)
- high-tech production technique
- easier to control
- better reproducibility
- results in high-grade products
- lower styrene emissions.

VA-RTM process



Advantages of VA-RTM

- Surface finish on both sides of the product and thickness are exactly as specified as a result of the closed moulding technique;
- The workplace environment stays very clean;
- No emissions of fumes during the production process;
- High quality and reproducibility;
- With or without gelcoat finish
- Reduction of working hours by factor 10 maximum;
- Relatively low investments;
- Amount of waste limited to 5% maximum

Solar Car Nuna



High Precision Composites

Audio Horns



Radar Casing



Aesthetic Composites







Sustainable Composites

Sustainable Composites

Drivers of Sustainable Composites:

- Climate, ending of resources, environment
- Drivers result into legislation

Market development via developed brand:

- Nabasco - Nature Based Composites

Currently built up out of:

- Fibres Hemp, Flax, Coir, Jute
- Resin Conventional Polyester (future ?)
- Process VA RTM

		Advantages	Status
Material innovations	Natural fibres a.o. flax, hemp, jute and coir	• More stiff and lighter at same strength • Esthetical values • Ability to be burnt • 50% biomass (CO2 – neutral) • Employee ARBO • Environmentally friendly	Demonstration
	Natural resin	• Environmentally friendly • Biomass (CO2 – neutral)	R&D
	Wovens	• Design possibilities (dyed, printed)	Product development
Process innovations	Vacuum Assisted Resin Transfer Moulding	• Higher (visual) quality • Higher reproducibility • 90% less exhaust of Styrene, less waste	Market ripe

Flaxcat



ANWB Route signs



Actions for the near future

- Market development of Nature Based Composites in the Netherlands
 - Positive Publicity
 - Product development
 - Technology push
- Look for
 - woven natural fibres
 - Natural fibres with good water resistance
- Research nature based polyester resin
- Set up international network