npsp

photos cover: front *Riesjard Schropp*, back *C. de Bruine*

NPSP Composites manufactures **sustainable, fibre reinforced plastics** for construction & design, transport and industry.

Together with our clients, we produce **unexpectedly beautiful solutions** to technical problems.

npsp composites

photo: Danielle van der Waard

photo: Riesjard Schrapp

Stunning solutions

We enjoy making beautiful products; beautiful in the broadest sense of the word.

Aesthetic

Both our designs and the materials we use are aesthetically pleasing.

Technical

Ingenious, state-of-the-art solutions for challenging problems.

Sustainable

Products that last longer – better for you and for the planet.

Stunning solutions in composites!

Co-creation

Products from NPSP Composites are created in close collaboration with the client. Your idea is our starting point. We want to find the best options with regard to functionality, materials and investment. Together we explore your brief and invite you to share in our working process. Together we arrive at the optimum solution.

Following a selection process and quality audit, NPSP was commissioned by Nedtrain to produce nose plates for the new version of their iconic 'Koploper' train. The specification of the new plates was perfected on the basis of the initial design to conform to rigorous standards regarding strength, rigidity, fire-safety and the environment.

The Cocoon is a prize-winning hospital bed that was designed by Scope in collaboration with NPK Industrial Design. It owes its reassuring yet modern appearance to the round head and foot boards with integrated electronics, manufactured by NPSP. The Cocoon won both the IF product design award and the RedDot design award.

The philosophy of collaborative thinking

« NPSP thinks along about how things could be improved; simpler, cheaper, smarter. They go further than just delivering goods – they want to do the very best job possible »

Mohamed Ben Salah, project manager at Engineering Nedtrain

Developing together

« We sat down with NPSP, taking the very first drawing as our starting point. We wanted to save weight and work with round shapes. We worked together, thinking about solutions. The design gradually took shape during these discussions »

Onno van der Veen, partner Scope Design & Strategy

Five myths about composites

Fibre reinforced plastic. This relatively young material has unique properties and a host of applications, some as yet to be discovered.

What is so special about composite? Five myths reveal the potential of this exciting new material.

Radar equipment requires a housing that allows radar waves to pass through while being able to withstand weather and vandalism.
The attachment points for the electronic components are integrated into the strong, elegant covers during the production process. Using natural fibres allows the signals to pass unhindered through the housing of the Gatso meter.

Myth 1 *Never as strong as steel!*

Plastic has a cheap image. However, products made from high-quality, fibre reinforced plastic are just as strong as steel, but are a great deal lighter and require less maintenance.

Fibre reinforced composites

- strong and rigid
- light
- weather-resistant and waterproof
- vandal proof
- holds its shape and size
- long service life
- acoustic and electromagnetic properties

NedTrain commissioned NPSP to manufacture the nose plates for the Koploper, Dutch Railways' fully modernised, iconic intercity train.
The new plates are lighter and less costly than their predecessors, which were partly made of steel. Thanks to this weight saving, the train now emits less CO_2 per kilometre. Design and production technology have also provided further savings in installation costs, energy use and maintenance. As well as being strong and rigid, the new plates are resistant to all weather conditions; rain, cold, sun, wind and hail. They may look bright and friendly, but they are practically indestructible.

NPSP works closely with industrial designers, engineers, architects, product designers, researchers, »

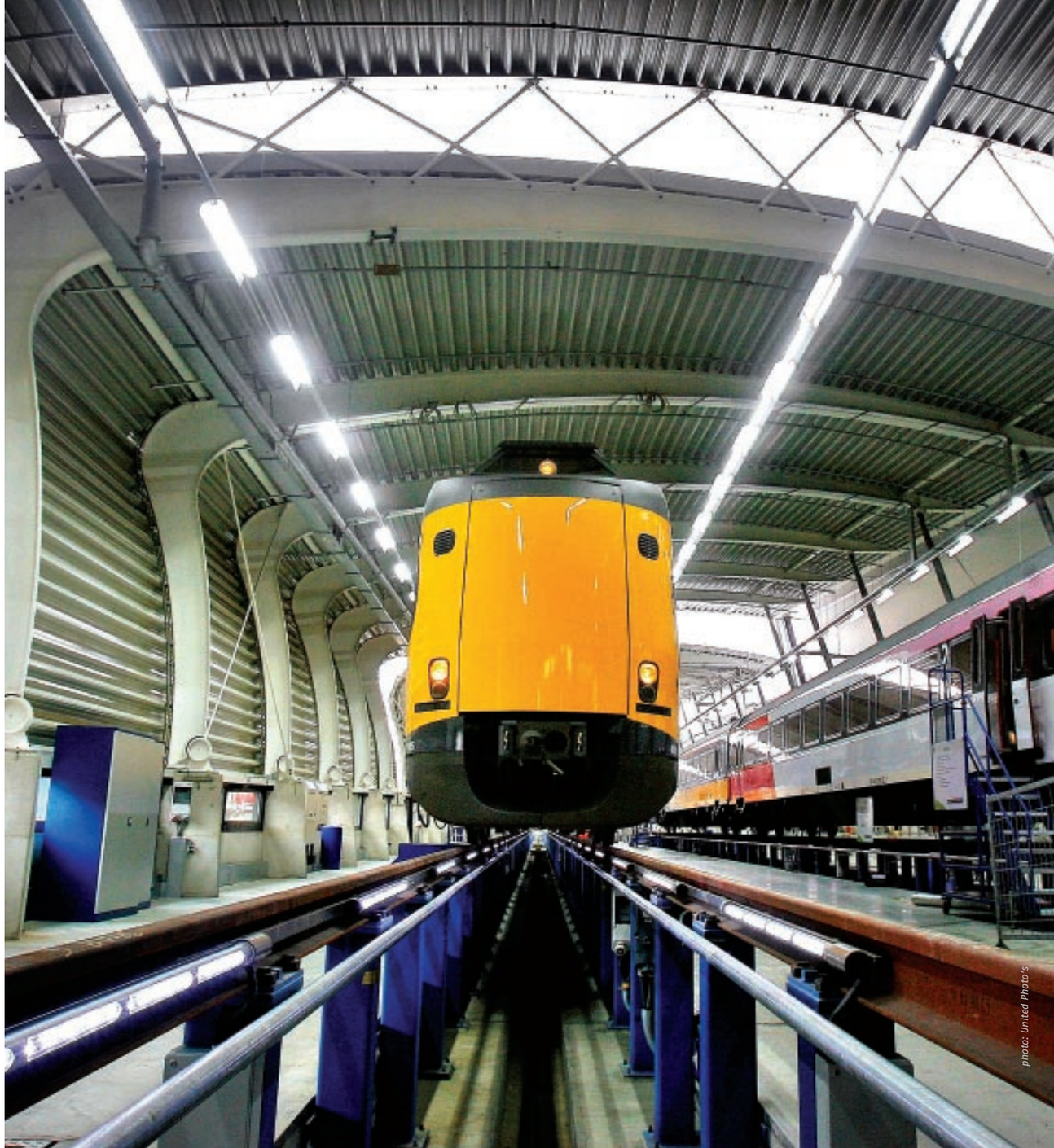


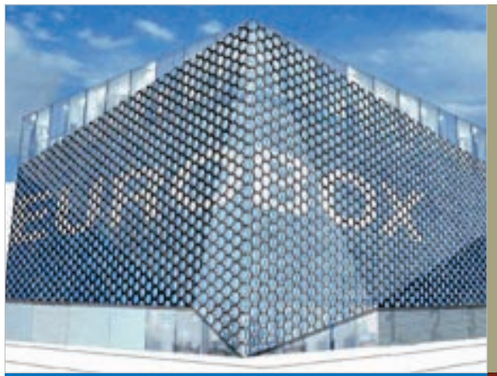
photo: United Photo's

Myth 2 *Not for small orders!*

A new model wheelchair for Wheels Over Europe was developed in collaboration with Van der Veer designers.
The composite components for the prototype were produced to actual size. Only when they met every single requirement did production start.

NPSP can take orders for just one item ...or for several thousand! Relatively low start-up costs enable us to produce prototypes and unique examples at their actual size in collaboration with the client. As soon as the model meets all the set requirements, a definitive mould is made and serial production can commence.

When processing larger orders, we work together with experienced partners who use additional techniques. The higher initial investment is recovered by lower production costs.



UNStudio commissioned NPSP to develop facing panels for the new branch of Eurobox Self Storage in Haarlem.
The building will be covered in over 5,000 panels measuring 70 x 70 cm. Viewing samples and the first prototypes were developed in collaboration with the architect and were thoroughly tested by the builder.

Fibre reinforced composites

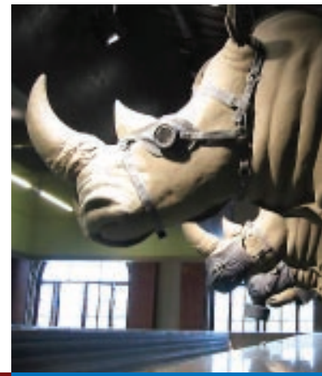
- prototype development
- low investment costs
- quantity: from one to several thousand
- high reproducibility
- excellent price-quality ratio

Fibre reinforced composites

- high tech production method
- flawless finish on both sides
- can be made in any thickness and shape
- intricate detailing
- efficient serial production

Myth 3 *High tech only!*

Composite is often associated with high tech applications for the aviation and space industries, exclusive cabin cruisers and Formula 1 cars. NPSP uses these high tech properties for everyday applications.



NPSP makes life-size Rhinos for G-Star shops all over the world.
To date, over 100 Rhinos have been 'born' in Haarlem.

NS Hispeed, Dutch Railways' high speed division, commissioned NPSP to make sturdy yet comfortable benches for the platforms.

Myth 4 *Bad for the environment!*

As a result of an initiative by NPSP, the ANWB decided to replace their cycle path signposts with a more environmentally friendly version.
The new signposts are reinforced with hemp. According to LCA (life-cycle analysis), this reduces their environmental impact by 40%.

NPSP is an innovator in the use of environmentally friendly materials and techniques. It is the only company in the Netherlands that uses natural materials such as flax, jute, coconut and hemp in addition to glass and carbon fibres. Natural fibres demand less energy to produce and adhere to the resin without requiring chemicals solvents. NPSP works with closed moulds and this reduces solvent emissions by 95%. The remainder is purified by carbon filters. NPSP is working on the development of fully organic composites with the support of the Dutch Ministry of Agriculture, Nature and Food Quality.

NPSP developed and produced new sanitary facilities for the 'natural' campsites run by Staatsbosbeheer, the National Forest Service in the Netherlands.
They were looking for a durable, environmentally-friendly solution.

nabasco
nature based composites

- NATURAL FIBRES
- DEVELOPMENT OF BIO RESINS
- EMISSION-FREE PRODUCTION
- LESS WASTE, MORE REUSE
- CAN BE BURNT TO GENERATE GREEN ENERGY

NPSP is a leader in the field of producing more durable composites and is exploring every opportunity to reduce the environmental burden still further. You can recognise NPSP's environmentally-friendly composites by the Nabasco label.

» *mr. MSG, the Ministries of Economic Affairs, Agriculture, Nature and Food Quality and Housing, Spatial Planning* »

Myth 5 *Can't be design!*

Together with Springtime, NPSP developed the prototype for the fully automatic Bike Dispenser.
In 2007, this striking piece of street furniture won the golden Spark Award, an American design award for sustainable innovation.

The properties of fibre reinforced composites allow architects, designers and engineers enormous creative freedom. NPSP can manufacture practically any shape you can imagine. Bold or intricate, large or small, smooth or craggy. In terms of form there are practically no limits.

NPSP also gets the best out of the materials it uses. Transparent resins can make the fibres visible and enhance the desired look. Playful, chic, sturdy or transparent. These translucent constructions can withstand enormous strain and can be screen printed or permeated with colour.

The work of Maarten Van Severen (1956-2005) is characterised by pure simplicity, carefully thought-through design and the use of contemporary materials.
Pastoe and NPSP collaborated to develop his Low Chair into a design ready for production.

Fibre reinforced composites

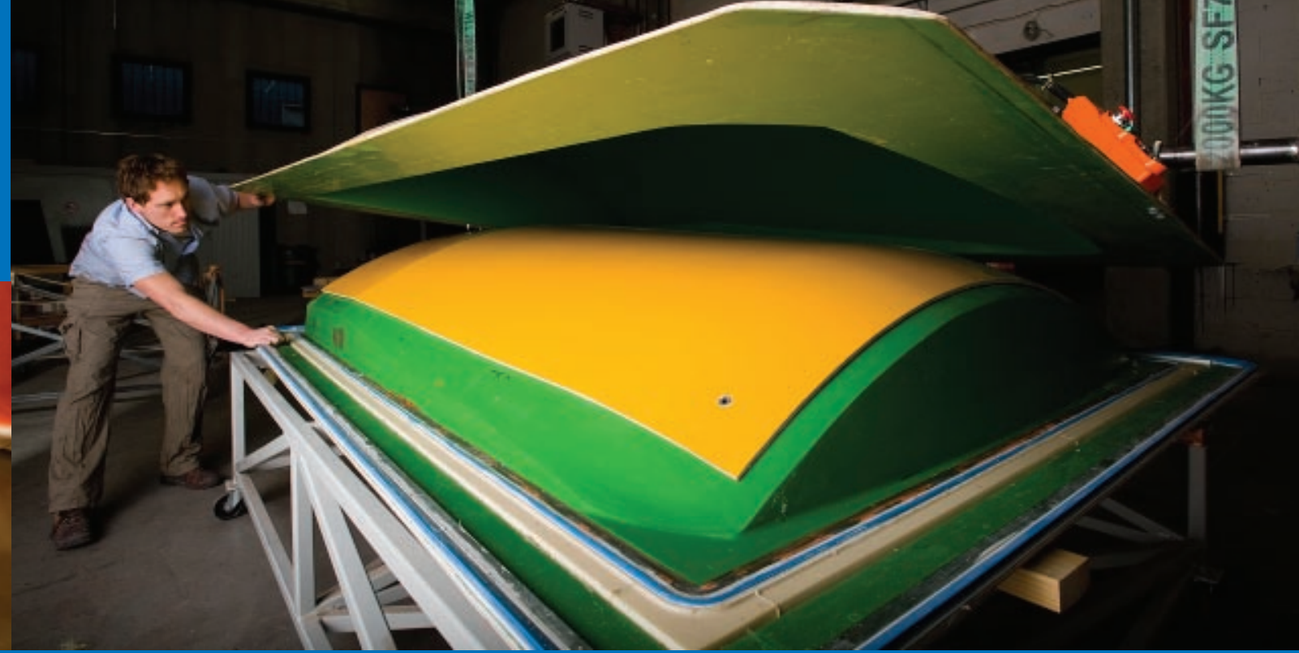
- FREEDOM OF FORM
- PRECISION AND DETAIL
- DIVERSITY OF TEXTURES
- TRANSLUCENT MATERIALS
- INTEGRATED ELECTRONICS
- COLOUR, SURFACE DESIGNS AND PRINTS

» *and the Environment, MVO Nederland, NAM, Nedtrain, Nova Institut, NPK Industrial Design, NRK, NS Hispeed, Nuon, Paradiso, Pastoe* »

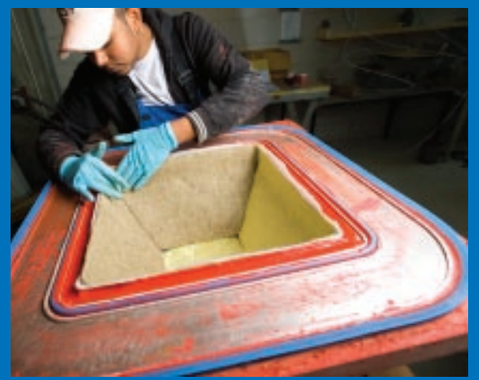
High tech solutions merge with traditional craftsmanship

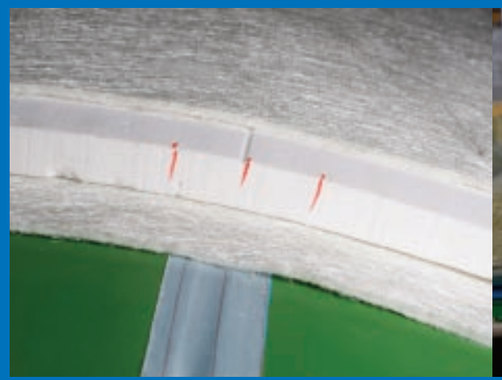
The client's idea is our starting point. NPSP discusses the technical options with the client.

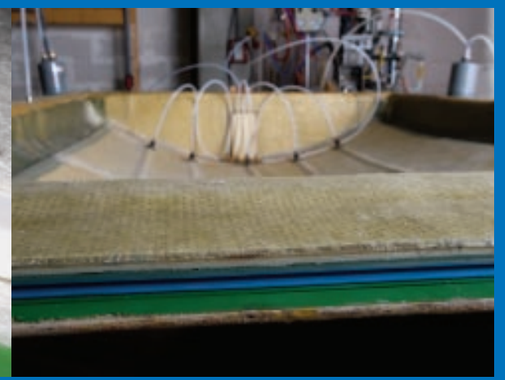
The outer mould is sprayed in the colour of the final product with gelcoat.



The mould is covered in fibre and if applicable, core material and inserts are applied as well. There is a wide choice available, including fibres such as hemp, flax, glass, carbon or aramid; core materials such as PIR foam, balsa or cork, and inserts of wood, plastic or steel for ease of installation.







All the air is sucked out of the double sided mould. The resulting vacuum is then filled with resin, polyester, vinylester, epoxy or organic resin. All in one-shot production.

After the product has hardened, it is released. The seams are finished and the object is processed further, if necessary.

Together we assess the results. We often come across new solutions for tomorrow's problems in the course of these meetings.

»Philip Coppenhagen, Pilots product design, Schell Industries, Scholten & Baijings, Scope Design & Strategy, SenterNovem, Springtime »

»Stay Okay, Sun Electric Systems, SZI Design, Tedac, TNO, TU Delft, UNStudio, Van der Veer designers, Yushi Uehara Architecten »

Dynamic growth

photos Nuon

Natural Powered Speed Products

NPSP was founded in 1998 as Natural Powered Speed Products. Its first triumph was the Flaxcat, a catamaran reinforced with flax. BBC's Tomorrow's World made a special programme about it during the Weymouth Speed Week 2001. During this project, NPSP accumulated a wealth of unique knowledge and experience in the field of natural fibre reinforced composites.

This was followed by Nuna, the first car to run on solar energy, built together with students from the Delft University of Technology. The Nuna came in first in the World Solar Challenge in Australia.

Natural innovator

NPSP is driven by innovation. We search for the very finest solution for each new assignment. To accomplish this, we make full use of the material's aesthetic, technical and durable properties.

NPSP collaborates closely with companies, universities, and government agencies to make fibre reinforced plastics even more sustainable. While developing the environmentally-friendly ANWB cycle path signposts, NPSP launched a new label for natural composites: Nabasco. As well as using natural fibres, NPSP is researching the large scale application of organic resins, for the car industry among others, based on waste products from the sugar industry, natural oils and lactic acid.

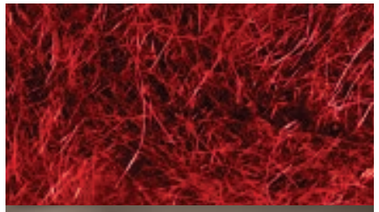
NPSP's methods and products have not gone unnoticed. In addition to a variety of design awards, they have received several prizes for innovation, including the silver PRIMA Award for Enterprise from the Dutch prime minister, Balkenende and a Small Business Innovation Research Project certificate.

Leadership and growth

NPSP's management board consists of a yachtsman, an environmental strategist, a multiple patent holder, a teacher of aviation technology and an industrial production specialist. Production is in the capable hands of a committed and fast-growing production team.

In the space of ten years, NPSP has grown from a niche player to a substantial manufacturer. The company delivers high tech craftsmanship for design and industrial products. A number of major clients have awarded NPSP long term manufacturing contracts. An increasing number of designers and engineers now involve NPSP in developing their products at an early stage.

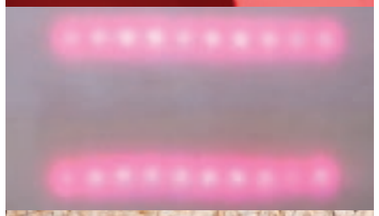
Coloured natural fibre



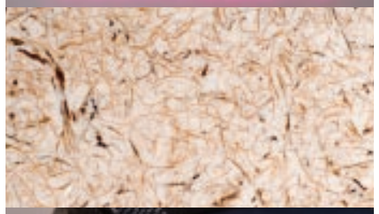
Metal inserts

Freedom of form

Integrated electronics



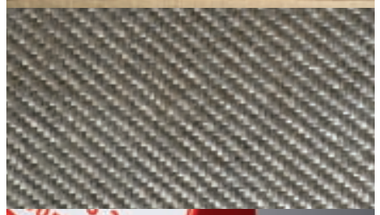
White resin



Carbon fibre

High precision

Natural fibres



Aluminium coated fabric in clear resin

Screen print

Glass fibre

High-quality finish

Concept & text www.fibes.nu | Translation www.crossovertranslations.nl | Design www.fridyvisser.nl | Photography www.fastingfotografie.nl | Printer www.raddraaier.nl

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