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TETEX

EUROPEAN TECHNICAL TEXTILES MAGAZINE

SPRING 2016

AGRICULTURAL REVOLUTION
**PROTOTYPE
GREENHOUSES**

PRODUCT TEST
AGILITY TUNNELS

CHANGE YOUR GARDEN
**TRANSFORM
YOUR LIFE**

PREPARE YOUR GARDEN FOR SPRING
AGROTEXTILES • GREENHOUSES • HALL CONSTRUCTION



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Editorial



Dear readers!

The spring is waking up and so is the Tetex Magazine!

This issue of Tetex Magazine is dedicated to our gardens and cultivation. It doesn't matter if you are either an amateur or professional gardener, in this issue you'll find something for you.

In this edition we compared agrotexile, tunnel constructions and also ways of reinforcing PVC materials.

For the first time the Tetex tried and tested some new products for pets. As always, we present the latest and most interesting findings from the world of technical textiles.

We hope that all our readers will find time to relax during their springtime reading the 5th issue of Tetex Magazine!

Dorota Sakowska-Hunt

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Don't miss out!

TOP 10 PRODUCTS FOR THE SPRING SEASON



T-HOLDER 1

The nature of men's shirts is that they do not stay in their place for long. Bending, sitting, raising hands, even walking – all of these activities can make the shirts move, come untucked from the trousers and generally make an effect that by no means could be described as 'elegant'. The band is fitted to the thigh and the buckles are fastened to the bottom edges of the shirt.

2 BUBBLE TENT

Do you like to spend your evenings watching stars and wake up surrounded by nature? Unfortunately the cold, rain, wind and insects can spoil these blissful moments. Bubble tents are becoming increasingly popular in Poland. Thanks to their transparent walls they enable you to watch the sky or observe nature without giving up on comfort. They consist of a small awning that leads to a bedroom that can easily accommodate two adult persons. The tent is inflatable and can be readily used as an exhibition space.



GIANT KITES 3

Traditional kites have been popular since the 1990's. Nevertheless, this childhood game has now been re-discovered in a new, more exciting version! Giant kites are far more impressive so flying them gives a lot more satisfaction. The cost of a kite starts at around 100 GBP, but there are places that hire kites. They can have up to 20 metres in length, which is the height of a six-storey building and are frequently used as an unusual advertising space.



INFLATABLE CLIMBING WALL 4

A popular item at any outdoor event whether it is in the middle of the forest or the city centre. The installation of a simple climbing wall can take even a whole day. The inflatable wall reduces the installation time to only a few hours. This kind of attraction is increasingly more popular all year round and not only during children's fairs. Their use is safe and risk-free. Fun is guaranteed!

INFLATABLE SOFA 5

Handy, easy and fun to use, portable and versatile – such a gadget is a real gem for fans who love to spend time outdoors. KAISR is a sofa that is inflated in a matter of a few seconds by "catching" the air in it. The sofa is suitable for any kind of surface, including water. Additionally, it has pockets for a book, tablet and phone, and a handy bottle opener. After deflating the sofa fits into a tiny bag which you can carry on your shoulder.





SELF-ROLLING MAT

6

The initiator and main designer of this innovative mat is Aaron Thornton –fitness and yoga enthusiast who wanted to find a solution to the problems related to exercise mats. It turns out that the inspiration for his invention were the self-rolling slap bracelets. The new mat is perfectly straight after unrolling and does not curl. If you want to roll it, you just have to flip the mat over. The mat does not unroll by itself, but you don't have to remember about any straps to secure it.

DRESSING IN A SYRINGE

7

The most frequent cause of death of soldiers is bleeding. The reason for that is the inability to provide surgical aid in a short time; **Xstat** is designed to prevent these kind of situations. Syringe filled with sponges that are absorbent, sterile, rapidly expanding and biocompatible. They are made out of wood pulp and coated with chitosan - a blood-clotting, antimicrobial substance. The sponges fill the wound completely and stop the haemorrhage in a matter of seconds.



INFLATABLE VEHICLE JACK

8

If you have ever been stuck with a flat tyre in the middle of nowhere, take away the stress in these moments! An inflatable vehicle jack is connected to the exhaust pipe by means of a hose in order to fill it with the exhaust gas made by the running motor. The airbag can safely handle vehicles of up to 3 tonnes of weight without the risk of damage, e.g. scratches.



WATERDROP

9

Do you let the cold water flow and wait until the hot water pours before each bathing or showering? Young Spanish designers found a solution to prevent this! Just hang a plastic bag (WaterDrop) on the tap so that the cold water is collected. The special shape of the bag allows for its easy transport and use as a watering can.



TRANSPARENT CANOES

10

A recent addition to the market place this item is becoming increasingly popular despite the high price (2,500 US Dollars). The canoe is made of a transparent polymer that makes it possible to admire the submarine world without the need of diving. The light, aluminium framework facilitates the canoe's transport and storage. It has been designed for two persons and equipped with adjustable seats. It is the perfect product for all canoe lovers that look for even more fun.

NECK BAND MADE TO PROTECT THE BRAIN



The neck band essentially makes the brain bigger, so it has less room to slosh around within the skull. When we think about avoiding concussions, we tend to think of helmets. The problem is, concussions are typically caused by the brain suddenly „sloshing” within the skull, knocking itself against the inside of the cranium. Helmets help to reduce the likelihood of that happening by absorbing impact energy, but they're not 100 percent effective – that's why concussions can sometimes occur even without a hit being delivered directly to the head. Help may be on the way, however, in the

form of a simple neck band. Invented by a team led by Cincinnati Children's hospital's Dr. Gregory Myer, and developed through the company Q30 Innovations, the band constantly applies slight pressure to the neck. This in turn mildly increases blood volume in the vein structure of the brain. Wearers report a sensation somewhat like the feeling that you get when hanging upside down, but less pronounced – so users aren't likely to be passing out from wearing it.

More importantly, the increased blood volume causes the brain to take up more room within the skull. This

means that it has less room to slosh around, so it strikes the inside of the cranium with less force when impacts occur. In two separate studies, use of the band reportedly resulted in an 83 percent reduction in the number of torn brain fibres in a standard concussion model.

Performance Sports Group, which acquired the license for the technology last October, is now conducting further research and pursuing regulatory approval. It is hoped that once testing is complete, the band could be commercially available within one to two years.



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SELF-CLEANING CLOTHES ON THE HORIZON

Wouldn't it be great if clothes could wash themselves! This may seem like a distant dream but Australian researchers have managed to develop clothes which can wash themselves.

Wouldn't it be great if clothes could wash themselves! This may seem like a distant dream but Australian researchers have managed to develop clothes which can wash themselves.

The researchers, who are based at RMIT University in Melbourne have managed to develop a range of self-cleaning textiles which, when exposed to sunlight can degrade organic matter and effectively self-clean. If there is no sunlight the same effect can also be achieved by using a light bulb.

Despite their space-age design, the textiles are created using special nanostructures which are inexpensive and efficient to produce.

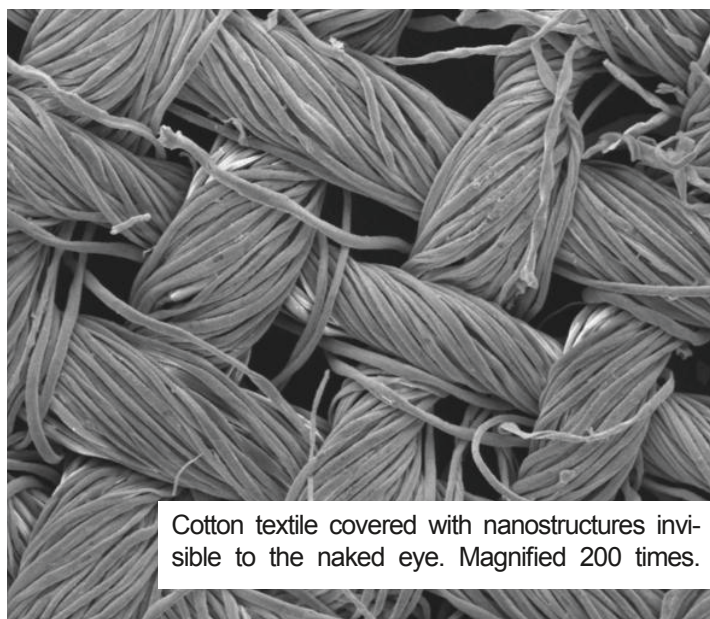
How do the Textiles Self-Clean?

The textiles contain copper or silver-based nanostructures which receive a boost of energy when they are exposed to light. This creates hot electrons which then release a burst of energy which allow the nanostructures to degrade the organic matter.

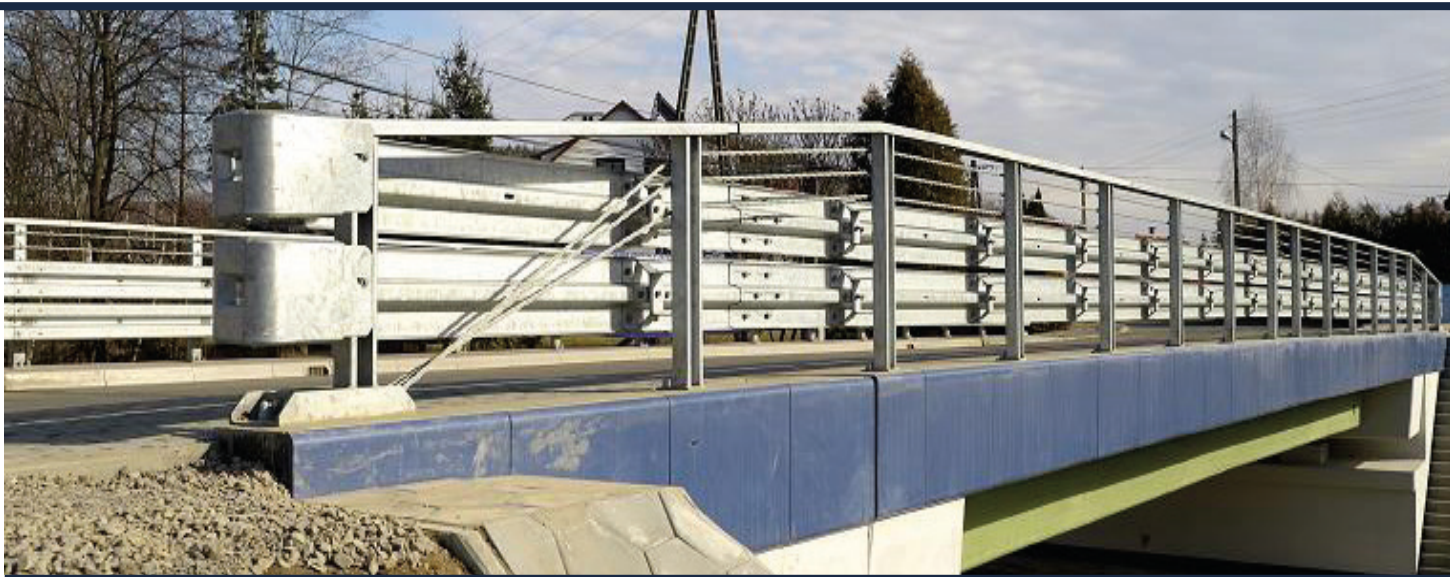
The main advantage of the specially designed textiles is that they have a 3D structure. This means that they are already excellent light absorbers and so can degrade organic matter quickly. The next step for the researchers is to transfer this concept from the lab into textiles which can be produced on an industrial scale. Although there is still more re-

search required before washing machines become defunct this research is a large step forward towards the possibility of self-cleaning textiles being

readily available. Wouldn't it great if the next time someone spilt a glass of wine on your carpet, it cleaned itself within a matter of minutes?



Cotton textile covered with nanostructures invisible to the naked eye. Magnified 200 times.



The first ever composite bridge in Poland

**The longest single-span
bridge of its kind in the world**

What is the recipe for technological success? Many years of experience, creative approach to technology and innovative engineering. These were the factors that contributed to the creation of the first ever composite bridge in Poland.



The research project Com-bridge was carried out by experts of Mostostal Warszawa in collaboration with Promost Consulting from Rzeszów, the Rzeszów University of Technology and the Warsaw University of Technology. The investment, which is the first of this kind in Poland and one of the few in the world, was launched in Białowa in Rzeszów powiat in February this year.

Bridge construction

In the construction of the bridge

materials employed in space, aviation, automotive and sports industry were used. Glass fibre and carbon fibre made it possible to obtain a light, durable and corrosion-resistant structure. The bridge holds a world record in the span length.

The material used to build the beams of the bridge is a fibrous composite in polymer coating usually called the FRP composite (fibre-reinforced polymer). The glass and carbon fibre reinforcement were saturated with resin in order to create a material with new parameters





that are not a direct result of the properties of the components that form it.

One feature of FRP which particularly attracted the attention of the bridge engineers was its greater durability when compared with traditional materials used in construction works. FRP does not rust like steel, nor is it subject to erosion like concrete. In addition, its low density and high durability allow for the pre-fabrication of large structural elements that can be assembled easily and fast using equipment with a lower capacity than the conventional prefabricates. The structure is a novelty on the Polish market, which means that there are no clear standards and rules which have to be met. The Mostostal engineers had to carry out a detailed survey in the material strength.

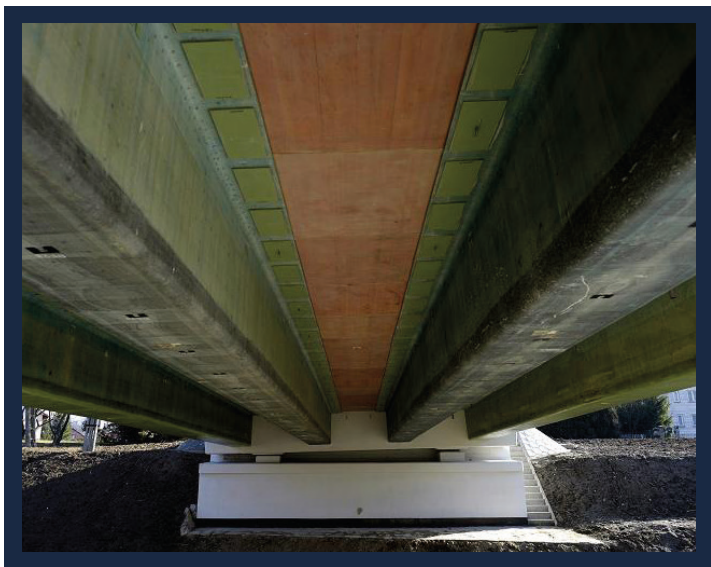
Preparations

Four beams of the bridge were made by the Research and Development Division of Mostostal Warszawa in the company's composite workshop. The production of beams involved the infusion technology, i.e. vacu-

um-supported resin supersaturation of dry fibres.

The manufacturing process of one beam takes about a month, but one has to keep in mind that even the slightest failure or defect means starting from scratch. The use of beams in the construction significantly reduces installation time. In Błażowa, 4 beams were installed in around 2 hours. Composite beams are also easier to transport thanks to their relatively low weight (21 metre beam weighs 3.7 tonnes).

"The cost is slightly higher than in the case of a traditional bridge, but the use of modern materials reduces construction time and lowers the costs of its maintenance. The universalisation of FRP composites in bridge construction will certainly lead to a decline in their prices (...). The cost analysis within the construction life cycle shows that building composite bridges is justified from an economic point of view" adds Juliusz Żach, head of Research and Development Division at Mostostal Warszawa S.A.



Technical and geometric parameters

- Total length of the bridge: 22.10 m
- Total width: 10.02 m
- The total height: 1.44 m
- Structural height in the span: 1.24 m
- Construction height over the support: 1.44 m
- Crossing angle of the lengthwise axis bridge with the river: 82°
- Horizontal light of the structure (gross): 19.20 m
- Obstacle: the Ryjak river
- Theoretical span: 21.00 m
- Static scheme: **freely supported beam**
- Load bearing structure of the span: **composite girder joint with a slab**
- Location of the structure on the plan: **straight**
- A longitudinal fall of the gradeline in the structure: ~0.6%
- Load class according to PN-85/S-10030: "B", i.e. 40 tons
- Support bodies: **massive bridgeheads**
- Foundation: **indirect on wells (beams)**
- Draining the structure: **surface carrying rainfall waters to the existing storm water drainage**

source: www.mostostal.waw.pl

Anti - Vandalism Truck Side Curtains

Anti-Vandalism Devices

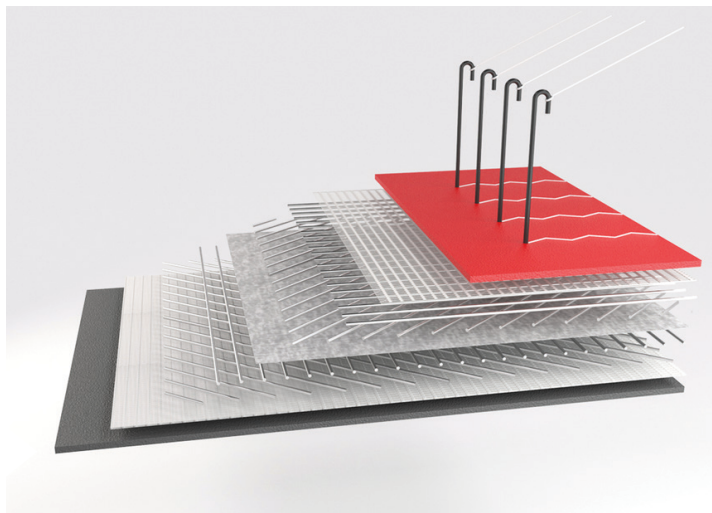
Anti-Vandalism Devices

When transporting goods it is essential that the load is secured and protected during transit. Vehicles parked overnight are particularly vulnerable to attack as the tarpaulin, if unprotected, can be easily cut open whilst the driver is asleep.

Having a cargo stolen can have a negative impact on your business. Not only will there be financial costs involved in replacing the stolen goods and damaged tarpaulin but there may also be financial implications caused by a damaged reputation and loss of trust.

Protecting Goods from Theft

To protect your load, and your wallet, it is worthwhile considering the use of an anti-vandalism device. There may be an initial cost outlay but the benefits of peace of mind and an intact reputation are priceless. Here are some of the options available:



Steel Netting



SIOSTEEL

Steel netting can be used to create intrusion-resistant side curtains which provide protection for your goods. Siosteel is a composite consisting of PVC-coated steel net with a double-sided PVC-coated polyester fabric it offers reinforced protection.

COASECURE

Coasecure is another composite, which, although similar to Siosteel, offers greater flexibility when opening the side curtain.

PROTECTOR

Another option is Protector®. This is a reinforced composite fabric consisting of multi-axial galvanized steel wires, sewn into either woven or non-woven fabrics. The properties of the steel wires within the multi-axial construction increase the resistance to cutting and, in contrast to Siosteel and Coasecure, offer protection on each square mm of the curtain. For enhanced security an alarmed version is also available.



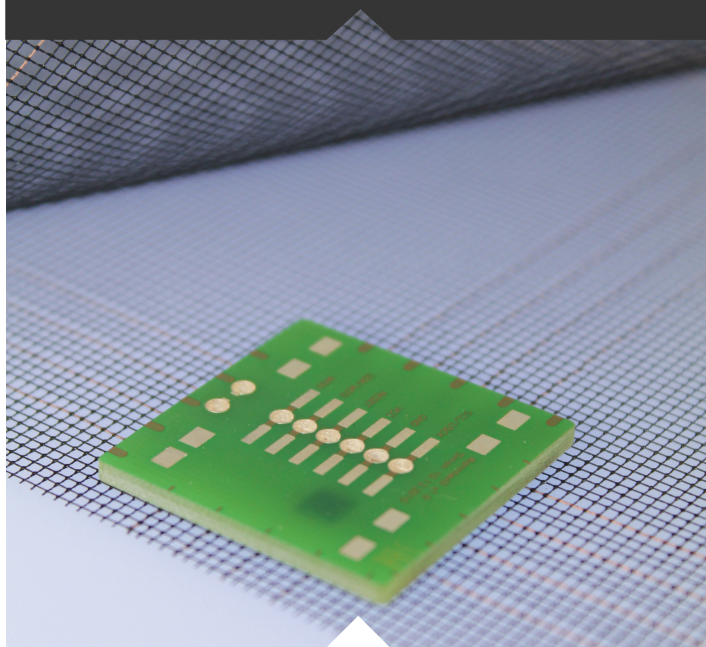
Anti-Vandalism Fasteners

Although not as strong as steel, plastic cabling made from PVC cord can be used to strengthen and secure truck tarpaulins. An alternative to cabling is the galvanised steel tape produced by Roffelsen Plastics. This can be fused to the interior of a trailer curtain making it almost impossible to cut.



Anti-Theft Smart Fabric

A new form of anti-theft system, the intelligent fabric, which features a fine lattice of conductive threads woven into the fabric, is designed to trigger an alarm by means of a microcontroller. This enables the exact location of the break-in to be identified as soon as a break-in occurs. Apart from being economical to produce the fabric uses standard manufacturing processes and so can be custom made into any size.



Electronic Alarms

Fitting an electronic alarm enables you to monitor the location of the goods from a mobile phone on a continual basis. The system uses GPS data and will trigger a visual warning or alarm if the goods are damaged or there is a loss of signal.





Summary


So far, we do not have access to detailed statistics, how the additional reinforcement tarpaulins influences to decrease in thefts and burglaries. However, if your cargo are sent to places particularly vulnerable to attacks, should consider adding such equipment.

REMEMBER



If you are going to choose a anti-theft device for tracking, make sure you find out whether or not it is approved as a anti-theft tool in your country! Then you are entitled to insurance discounts.


Protector[®]
Total Security Curtain Protection System






D-fence[®]
Open Fence Curtain Protection System


Carapax[®]
The Outer Shell With Inner Core








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Innovative products that will help you in your garden

In the spring and summer season the weather encourages us to spend time outdoors. We take out our garden furniture, go on cycling trips and picnics in the countryside; in a word, we commune with nature more eagerly. But despite all the advantages, life outside our four walls can bring about inconveniences that in the long run can result in a real disturbance. Happily, we live in the 21st century and there aren't any problems that don't have solutions. Here are some gadgets that you will love from the first use!



Water your plants!

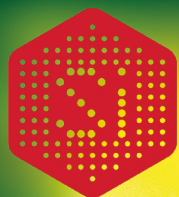
You're just about to lie on your sun lounger and relax and then you remember that you didn't water your plants? In high temperatures and sun exposure it should be done practically every day. This scene can look differently if you take advantage of the Hydrobox mat, a revolutionary device in plant watering.

Hydrobox is a box designed in the form of a cage that is coated by nonwoven fabric and filled with superabsorbent pellets. The pellets are highly absorptive and store water by expanding in size a few times.

The plant that has the Hydrobox under it will automatically detect the water source and direct its roots towards it.

Not all water of the watering reaches the plant itself. Some part penetrates the deeper layers of soil, and a huge part evaporates. It is only a small portion of it that is uptaken by the root. The Hydrobox catches the water and holds in order to feed it to the roots.





**Smart
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Nanoscale empowerment



Get rid of the mosquitoes!

All camping lovers know that even the best fun in the open air can be spoilt by the mosquitoes. You can cover yourself with heaps of clothing from head to toe, spill hectolitres of mosquito repellents on your body and try hundreds of other ways only to give up in the end and let yourself be eaten alive (almost literally) by those buzzing monsters.

It was with such situations in mind that Repel Mosquito was created – a repellent that really guarantees protection against unpleasant insect bites. Repel Mosquito was initially produced as a fabric additive that was applied already at the stage of fabric manufacturing. Now, it is available in spray or in washing capsules.

Here is how it works: just add the capsule to the washing of the fabric that is to protect you against mosquitoes. These can be shades, jackets, blankets or even summer house curtains. Then, you can just enjoy your evenings without mosquitoes.

The product is used by soldiers during their missions to tropical regions and receives extremely positive reviews. Importantly, it is



Have a barbecue!

Going for a picnic in the country, a cycling trip or a camp? Surely you would like to take a portable grill, too. The traditional aluminium grills available in supermarket chains are handy only when put into the car boot or used in the backyard of your house. But if you're planning to go hiking, cycling or on a trip by train, they turn out to be bulky and unwieldy. In such cases, we offer a different solution – the ultra-portable packable GoBQ grill.

GoBQ was built from a fireproof silicone-coated fiberglass fabric that can handle temperatures up to 648° C (a similar material is used in cookware applications like baking pans). The material makes the grill not only extremely lightweight (3,6 kg), but also easy to set up. After use, just fold the legs and the rollable cooking grate and then compact them into the included special cover that can be carried like a bag. The cleaning is made easier by the silicone coating.



Nonwoven agrotexiles, woven agrotexiles or geotextiles? We help you to choose the best covering material!



Anyone who even once tried to grow something on his or her garden plot knows very well how troublesome and oppressive weeds can be. People professionally involved in growing plants as well as amateurs of gardening work increasingly look for alternatives to the traditional methods of removing weeds. In this case, a good option is the choice of agrotexiles and landscape fabrics made of polypropylene that enhance plant growth.

The market features a very large variety of both kinds of fabric and it is worth the effort to learn which will be best suited to our needs. We decided to check out what is in the offer.

What is an agrotexile?

Nonwoven agrotexile is a material used for both soil mulching and for plant covering. Due to the multiplicity of its applications it is available in different colours and thicknesses, or weights (weight is the amount of material used per square meter; the more weight it has, the more durable it is). Choice of colour and weight should depend on the needs of our plants.

Black, brown and green nonwoven agrotexile is used for soil mulching in order to protect the plants against weeds, soil pests and diseases. Additionally, it helps to keep the soil moisture while ensuring its workability, because – unlike foil – water is able to penetrate it and evaporate. Applying the nonwoven agrotexile to your crops also supports the development of the root system and enhances the plant growth. It is used, among others, in cultivating vegetables, strawberries, conifers

and other shrubs. It can be used also for soil mulching between plants on beds and then covered with bark. A brown nonwoven agrotexile will look best with this kind of bark cover.

White nonwoven agrotexile is used for the protection of plants against frost, drying wind, hail and other adverse weather conditions. It comes primarily in the spring and winter varieties. (Though it is also available in the form of white protective sleeves and covers for vegetable heaps).

Spring nonwoven agrotexile (smaller weights: 17 g/m², 17 g/m², 23 g/m²) is used in order to enhance yielding and simultaneously protecting plants against spring frost, wind and water loss. It is able to speed up the harvest for up to 2-3 weeks.

Winter nonwoven agrotexile (weight 50 g/m²) is used to cover the plants for the winter to protect them from frost, wind and loss of moisture. With this type of material you can cover vegetables, shrubs, small trees and vines.

The advantages of nonwoven agrotexile:

- outside water and air permeability,
- inhibits weed growth
- prevents low-growing fruits and flowers from dirt
- reduces evaporation and soil water loss
- plants are less susceptible to pests and diseases
- strengthens the root system of the plants

Drawbacks of nonwoven agrotexile:

- dispersal of weeds on the surface,
- the fabric reduces the absorption of the decomposing mulch, compost or manure
- garden rearrangements can be more difficult

Price and availability listing of nonwoven agrotexiles on the Polish market

PRODUCT	WEIGHT [g/m ²]	COLOUR	APPLICATION	WIDTH ¹	LENGTH IN A ROLL ²	PRICE [per m ²]	SELLER
Nonwoven agrotexile P19	19 g/m ²	white	covering	3,2 - 4,8 m	50 / 100 lm	0,06 GBP	Sako-Expo
Spring nonwoven agrotexile	19 g/m ²	white	covering	1,1 - 12,65 m	100 / 200 lm	0,06 GBP	Rolmarket
Spring nonwoven agrotexile P19	19 g/m ²	white	covering	1,6 - 12,65 m	100 lm	0,06 GBP	Polprotex
Covering nonwoven agrotexile P23	23 g/m ²	white	covering	3,2 m	100 lm	0,05 GBP	Sako-Expo
Spring nonwoven agrotexile	23 g/m ²	white	covering	1,6 - 13,6 m	100 / 200 lm	0,09 GBP	Rolmarket
Spring nonwoven agrotexile P-23	23 g/m ²	white	covering	3,2 - 15,8 m	100 lm	0,10 GBP	Polprotex
Nonwoven agrotexile P50/C	50 g/m ²	black	mulching	0,7 - 3,2 m	50 / 100 lm	0,09 GBP	Sako-Expo
Nonwoven agrotexile P50/B	50 g/m ²	brown	mulching	1,1 - 3,2 m	50 / 100 lm	0,16 GBP	Sako-Expo
Nonwoven agrotexile P50/JB	50 g/m ²	light brown	mulching	0,8 - 3,2 m	50 / 100 lm	0,09 GBP	Sako-Expo
Winter nonwoven agrotexile	50 g/m ²	white	covering	1,1 - 3,2 m	50 / 200 lm	0,14 GBP	Rolmarket
Nonwoven agrotexile for crop heaps	50 g/m ²	white	covering	6,25 m	50 lm	0,19 GBP	Rolmarket
Brown nonwoven agrotexile	50 g/m ²	brown	mulching	0,8 - 3,2 m	50 / 500 lm	0,13 GBP	Rolmarket
Black nonwoven agrotexile	50 g/m ²	black	mulching	0,8 - 3,2 m	50 / 500 lm	0,63 GBP	Rolmarket
Winter nonwoven agrotexile P50	50 g/m ²	white	covering	1,1 - 3,2 m	50 / 200 lm	0,11 GBP	Polprotex
Nonwoven agrotexile P50	50 g/m ²	black	mulching	1,6 - 3,2 m	25 / 200 lm	0,14 GBP	Polprotex
Nonwoven agrotexile P80	80 g/m ²	black	mulching	1,1 - 3,2 m	50 / 100 lm	0,25 GBP	Polprotex

¹ Minimal and maximal available width | ² Minimal and maximal available length

What is a woven agrotextile?

A woven agrotextile is also called a mulching mat or a plant nursery mat. It is an antiweed fabric which, like the nonwoven agrotextile, is available in different colours and sizes.

The mulching mat is extremely durable and therefore it is widely used, among others, for starting a garden, strawberry growing, slope covering, conifer nurseries and as an underlay for stone and bark.

The mulching mat, unlike the foil, is permeable to water and mineral

substances and does not decay. An appropriate structure also allows it to maintain the adequate moisture level and soil workability, which affects the growth of crops, even in drought conditions. The soil is warmed up easily so that the root system can develop faster.

The advantages of woven agrotextile:

- significantly reduces the growth of weeds,
- thanks to its structure it is permeable to water and minerals, maintaining the adequate humidity and soil workability,
- does not decay; it is UV stabilised and therefore very durable; sun exposure does not cause its degradation,
- is chemically inert for the soil and does not affect its pH,
- does not inhibit the penetration of fertilizers to the soil; plants can be fertilised with both liquid as well as granular fertilizers,
- improves the conditions for plant growth.

Drawbacks of woven agrotextile:

- It makes the rearrangement of beds, transplanting and repotting plants more difficult,
- prevents soil loosening and its fertilization with compost or manure which are the products of organic matter,
- when there are voles or ants living under the mat it is more difficult to spot them than on an uncovered bed and react before they do damage to the plants,
- when laying the fabric on very heavy clay soils care must be taken so that the excess moisture in the substrate does not cause plant dieback,
- the weeds that penetrate the mat are hard to remove.

Price and availability listing of mulching mats on the Polish market

PRODUCT	WIEGHT [g/m ²]	COLOUR	APPLICATION	WIDTH ³	LENGTH IN A ROLL ⁴	PRICE [per m ²]	SELLER
Woven agrotextile 70	70 g/m ²	brown	underlay for bark	0,6 m	100 lm	0,24 GBP	Rolmarket
Woven agrotextile 70	70 g/m ²	black	mulching	0,8 - 3,2 m	50 / 100 lm	0,16 GBP	Rolmarket
Woven agrotextile 80	80 g/m ²	black	mulching	0,8 - 1,6 m	100 lm	0,18 GBP	Sako-expo
Woven agrotextile P80 BASIC	80 g/m ²	black	mulching	1,6 m	100 lm	0,19 GBP	Polprotex
Woven agrotextile 90	90 g/m ²	black	mulching	1,1 - 4 m	50 / 100 lm	0,22 GBP	Rolmarket
Woven agrotextile P94	94 g/m ²	black	mulching	0,4 - 3,2 m	100 / 150lm	0,29 GBP	Polprotex
Woven agrotextile 94	94 g/m ²	white	underlay for stone and stone chips	0,8 - 1,1 m	50 / 100 lm	0,28 GBP	Rolmarket
Woven agrotextile 94	94 g/m ²	brown	underlay for bark	1 - 1,7 m	50 / 100 lm	0,27 GBP	Rolmarket
Woven agrotextile 94	94 g/m ²	green	mulching	1 - 1,7 m	50 / 100 lm	0,30 GBP	Rolmarket
Woven agrotextile 110	110 g/m ²	black	mulching	1,6 - 5,25 m	100 lm	0,31 GBP	Sako-expo
Woven agrotextile P110 professional	110 g/m ²	black, green, brown	mulching	1,05 - 5,25 m	100 lm	0,35 GBP	Polprotex
Thick woven agrotextile 105	105 g/m ²	black, green	mulching	1,05 - 1,6m	100 lm	0,26 GBP	Rolmarket
Woven agrotextile 100	100 g/m ²	brown	underlay for bark	1,6 m	50 lm	0,31 GBP	Rolmarket
Woven agrotextile P130 PRO	130 g/m ²	black	mulching	1,05 - 3,2m	100 lm	0,45 GBP	Polprotex

⁴ Minimal and maximal available width | ⁵ Minimal and maximal available length

What is a woven geotextile?

Woven geotextiles possess high strength while maintaining a low expansibility - unlike the nonwoven geotextiles.

This is due to the spatial construction of nonwoven geotextiles, in comparison to woven geotextiles. They are made mostly from polypropylene yarns in the form of strips and woven polyester. Woven geotextiles are safe for the environment during installation as well as maintenance,

and are resistant to climatic and environmental factors.

Application:

- reinforces soil layers
- separation in order not to mix two layers of varying grain size
- filtration, which means holding the ground or other particles subject to hydraulic forces
- protection against mechanical damage of the material under the geotextile

Geotextiles are applied to:

- construction of roads, streets, railways, forest roads,
- construction of parking lots, pitches, as an underlay for sett blocks and asphalt paving,
- construction of reservoirs, canals, dams,
- construction of liquid and solid waste landfills,
- in drainage systems.



The advantages of woven geotextile:

- high durability,
- excellent water filtration,
- constantly evolving technology and large manufacturing capabilities provide ever improving characteristics.



Drawbacks of woven geotextile:

- Low resistance to UV rays and chemical substances

Price and availability listing of woven geotextiles on the Polish market

PRODUCT	WIEGHT [g/m ²]	COLOUR	APPLICATION	WIDTH ⁵	LENGTH IN A ROLL ⁶	PRICE [per m ²]	SELLER
Woven geotextile PES200 (polyester)	200 g/m ²	white	separation, drainage, filtration	0,5 / 2 m	10 / 50 lm	0,38 GBP	Rolmarket
Woven geotextile Geo-protex P200 (polyester)	200 g/m ²	white (fibred)	separation, drainage, filtration	0,5 / 2 m	50 lm	0,30 GBP	Polprotex
Woven geotextile PP300 (polypropylene)	300 g/m ²	white	soil reinforcement	1,6 / 2 m	25 lm	0,54 GBP	Rolmarket
Woven geotextile Geo-protex P300 (polyester)	300 g/m ²	white (fibred)	soil reinforcement	1,6 / 2 m	25 lm	0,54 GBP	Polprotex
Woven geotextile PP400 (polypropylene)	400 g/m ²	white	soil reinforcement	1,6 / 2 m	25 lm	0,72 GBP	Rolmarket
Woven geotextile Geo-protex P400 (polyester)	400 g/m ²	white (fibred)	soil reinforcement	1,6 / 2 m	25 lm	0,73 GBP	Polprotex
Woven geotextile PP500 (polypropylene)	500 g/m ²	white	soil reinforcement	2 m	25 lm	0,87 GBP	Rolmarket
Woven geotextile Geo-protex P500 (polyester)	500 g/m ²	white (fibred)	soil reinforcement	2 m	25 lm	0,91 GBP	Polprotex
Woven geotextile PP600 (polypropylene)	600 g/m ²	white	soil reinforcement	2 m	25 lm	1,02 GBP	Rolmarket
Woven geotextile Geo-protex P600 (polyester)	600 g/m ²	white (fibred)	soil reinforcement	2 m	25 lm	1,10 GBP	Polprotex

⁶ Minimal and maximal available width | ⁷ Minimal and maximal available length

Fixing the covering materials

Each nonwoven and woven agrotextile or geotextile should be properly fixed to the ground and, in such a way, protected against adverse weather conditions, e.g. moving up by the wind. In order to fix them pegs are used, also known as needles, or







anchors, which are made of hard plastic or metal. These products may vary in structure so be careful while choosing the type adapted to your needs.

In the case of temporary mat fixing it is recommended to use the fixing needles that resemble nails. The long, even pin allows you to repeatedly hammer and pull the peg

out of the mat without damaging it.

If a permanent fixing is necessary, you should select the fixing anchors with anti-pull ribs that ensure the peg remains in its place. Their use is not recommended if you plan to change the location of the mats frequently. It is difficult to remove them and they are easy to damage.

Fixing tools

PRODUCT	PHOTO	LENGTH	PURPOSE	PCS IN A PACKAGE	PRICE [per piece]	SELLER
h-12 pin		12 cm	permanent fixing	100 pcs	0,03 GBP	Sako-Expo
h-15 pin		15 cm	permanent fixing	100 pcs	0,03 GBP	Sako-Expo
Needles		19 cm	temporary fixing	100 pcs	0,02 GBP	eDOMATOR
H15 pins		15 cm	permanent fixing	20 pcs	0,04 GBP	Trus-mat
GEOLIA pins		12,5 cm	permanent fixing	20 pcs	0,06 GBP	Leroy Merlin
Professional pins		17 cm (width 10 cm)	permanent fixing	100 pcs	0,08 GBP	Rolmarket

All prices in the tables are net, current for 24/03/2016






HAYGROVE - WOVEN GARDEN FOIL
NONWOVEN AGROTEXTILE
ROLSAK - GARDEN




Cutting woven and geotextiles

In case of large amounts of material, or if you want to cut out the holes for plants, cutting agrotexiles can become troublesome. Notches made with the ordinary knife or

a pair of scissors are not good enough because they cause the edges to fray. It is worth buying a professional thermal knife for cutting this type of materials. The hot tip of the knife cuts smoothly even through thick nursery mats and allows you

to quickly make holes of appropriate sizes. Importantly, the cutting knife is compact, lightweight and economical - it is filled with the usual cigarette lighter refill.

Comparison of all types of materials

FEATURE/PRODUCT		NONWOVEN AGROTEXTILE	WOVEN AGROTEXTILE	WOVEN GEOTEXTILE
Photo				
Composition		Homogeneous material – 100% polypropylene	Woven fabric -100% polypropylene	Manufactured in the process of weaving polypropylene, polyester or polyethylene fibres or strips
Weight		30 g/m ² - 60 g/m ²	60 g/m ² - 100 g/m ²	100 g/m ² - 600 g/m ²
Application		Plant protection against low temperatures and wind; thicker ones used as mulching mats	Reduces weed growth, helps maintain soil humidity and temperature	Reinforcement (e.g. subbases, slopes), erosion control (e.g. sea impact), filtration (np. protection against leaching and siltation) and liquid drainage.
Colours available		white (spring, winter) black, brown (mulch)	black, brown and green	Snow white, grey with discolourations
UV stabiliser		✓	✓	✓
Material durability	protected	20 years	20 years	At least 25 years
	unprotected	Up to 4 years	From 6 to 8 years	



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POLITUNNELS **FOLTEX - RAINFORCED FOIL**

Tunnels, halls, tents – what will be best to answer your needs?

We have looked through offers of products for storage, garaging, plant cultivation and crop protection. Among all these, we have picked producers that can boast a substantial experience and high quality of products. Thus, we created an overview that will help you get the idea of the products that would best suit the needs of your farm.

Constructing storage facilities with foundations or glass greenhouses on your plot of land is not always the most profitable solution. Changing weather conditions, high building and maintenance costs or construction permits discourage the farmers and make them look for other possibilities.

The answer for these problems are the steel and material structures. There is such a wide selection among these nowadays that it is hard to decide which product is the right one.

Advantages of hall constructions:

- Quick installation (approx. one day)
- All-year-round usage
- Protection against adverse weather conditions (wind, rain, hail)
- no need for surface preparation beforehand (flat terrain is enough)
- a large selection of different products to suit your needs

What elements of the hall need special attention?

• Type of closure

A standard tunnel is open on both sides, but if you need an enclosed structure then think what type of closure will suit you the most. Basic types of tunnel closures are the sliding gateways, roller blinds or classic two-wing gates. It is also important that the hall should be equipped with at least one additional door.

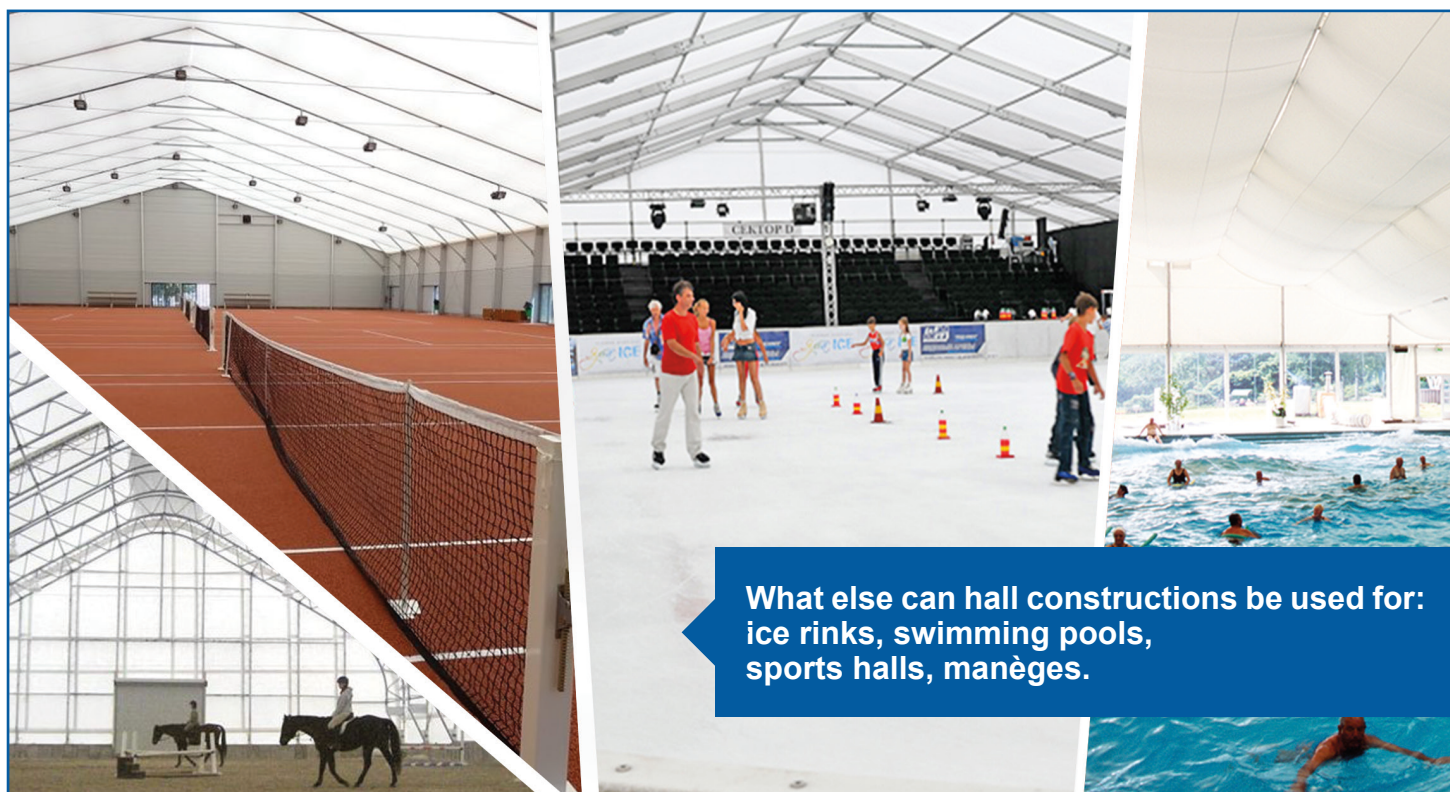
• Lighting

Closed hall constructions may not provide enough light for working inside them. If the space has storage functions, you could

consider ordering a construction equipped with windows or skylights. They are made of thick foil, the weight of which should be no less than 140 g/m².

• Surface coverings

The market offers several kinds of hall tents coverings. From tarpaulins with lower weights (680 g/m²) to the more durable (weight approx. 900 g/m²). Selection of the weight of the covering depends on the strength of the whole structure. You should also pay attention to whether the material is certified for fire resistance and if the tarpaulin is reinforced (with an embedded wire mesh).



**What else can hall constructions be used for:
ice rinks, swimming pools,
sports halls, manèges.**

• Screening

In case of using the foil tunnels to grow crops a screening film is worth considering. This will help to lower the temperature inside

the tunnel and protect the plants from the blazing sun.

• Branding

Think of your hall as a free

advertising space. Placing your company's name on a tent that stands in the quiet of your farm does not make much sense, but if the tent is located on a leased

property, or near freeways, you might want to find out about the possibility to put a name, company logo and basic contact information on the tent walls.

APPLICATION	PLANT BREEDING (small cultivations)	PLANT BREEDING (bigger cultivations)	STORAGE, GARAGE, HANGAR, COLLECTIONS COVER, EXHIBITION SPACE	
Photo				
Producer	Lemar	Sako-Expo	Progress	Konplan
Product	garden tunnel A6 (for beginners)	'Rolsak' garden tunnel	hall constructions	gable roof halls
Span	3 m	8 m	8, 9, 10, 12, 15, 18 m	od 8 do 40 m
Length	6 m	32 m	any due to modular construction	from 10 m to any length
Construction type	white PVC pipes	galvanized pipes	fire-galvanized steel	galvanized steel
Cover	polyethylene foil, 3-layers, UV4	reinforced polyethylene foil UV5 (not included in price)	PVC tarpaulin 900 g/m2 or light-permeable foil	PVC tarpaulin (650 – 690 g/m2)
Possible improvements	foil door	cover with reinforced or dimmed foil, separators which prevent foil damage	foil window, sliding or blind door, reinforced tarpaulins	Additional door, window, drop-stop covers, blinds as a side walls, ventilation
Section	semicircular	semicircular	semicircular	gable roof
Price	140 GBP	540 – 620 GBP	from 20 GBP/m2	from 26 GBP/m2



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The Greenhouse of the future

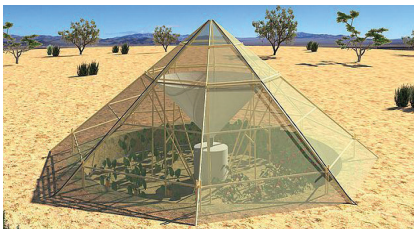
This issue of Tetex Magazine is not only interested in ready-to-go solutions but also in some projects or ideas which are at the beginning of design process. This is why we present you 3 prototype projects of greenhouses which you can use in untypical or even extrem conditions.

Roots up



This greenhouse is multifunctional: grow food and produce water. Inside, the hot air is trapped so the temperature in the greenhouse keeps rising throughout the day. The heat causes water to evaporate, creating air humidity making the greenhouse atmosphere better for plant growth as well as maximising the dew harvest.

When the surface temperature drops between evening and morning, the farmer pulls out the rope to open the top of the greenhouse allowing it to cool, eventually reaching the dew point, atmospheric water vapor condenses to form small droplets on the surface of the bioplastic sheet falling into the water tank container. This system allows farmers to harvest water used as safe drinking water and irrigation.



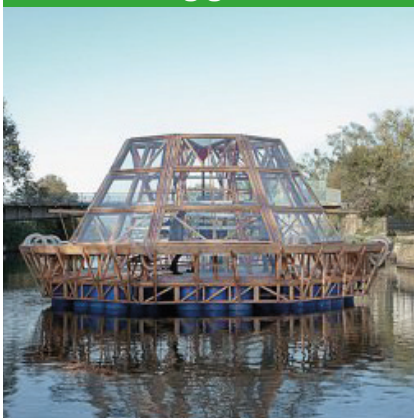
This version of Roots Up greenhouse didn't pass all the tests but the organization is already upgrading it. The final test will be completed on August ,16.

The Noocity Growbed is an unique and efficient and modular self-watering gardening system, specially developed for urban agriculture. Especially developed for urban agriculture, Noocity Growbeds are suitable for any type of space and can be used individually or fitted together in different combinations depending on the space available. Easy to assemble and low maintenance, it allows you to plant a wide variety of fruit, vegetables and medicinal herbs anywhere (verandas, patios or rooftops). The Noocity Growbed is self-sufficient for up to three weeks, solving common problems such as excess or insufficient watering and drastically reducing water loss through evaporation or drainage. The manufacturer has prepared educational material for all who are interested in starting up their own breeding.

The Noocity Growbed



The floating greenhouses



Aimed at creating a low-cost alternative using recycled materials, Italian designers Antonio Girardi and Cristiana Favretto of Studiomobile created this floating modular greenhouse that sits upon 96 repurposed plastic drums. Dubbed "Jellyfish Barge" the idea behind this curious octagonal structure is to empower families and communities that live in coastal areas or near a body of water to grow their own food, without the need for land.

Crops are grown hydroponically in this 750-square-foot space and are nourished with rainwater that is harvested through seven solar stills in a self-sustaining, solar-powered system. The barge's modular design means that it can be scaled up or down and can also be customised to fit various applications like floating farm-to-table restaurants, floating farmer's markets, or floating community gardens that may travel between pick-up points.

Upsalite

How to create 'an impossible material'?



What is Upsalite?

Discovered in 2013, Upsalite is an innovative material made from anhydrous magnesium carbonate. As a result of its impressive water-binding properties it can be used in an extensive range of applications, both domestic and industrial. Apart from having a huge potential, Upsalite is not only inexpensive to make but is also environmentally friendly.

The Material Properties of Upsalite

Upsalite is an alkaline earth metal carbonate (mesoporous magnesium carbonate) and is capable of high moisture adsorption even at low humidity. Non-toxic, Upsalite® has a huge surface area, up to 800m²/g, and can also selectively adsorb specific chemicals.

The adaptable nature of Upsalite means that it can be ground easily into beads or films making it suitable for a wide range of applications. It requires comparatively low regeneration temperature in cyclic processes and so offers significant energy savings in comparison with other materials currently available.

Where is Upsalite Used?

Upsalite has an almost unlimited potential due to its extraordinary moisture retaining properties and can be used in a many diverse fields.

In terms of industrial applications Upsalite is extremely effective as a rubber additive, a catalyst in chemical reactions, or cement filler as well as in gas purification, water purification, blood analysis and paper rolling.

Upsalite can be used to remove humidity from pipelines, dry instrumentation and in dishwashers and for dehumidification. It is equally effective in high performance sport and climbing chalk.

In pharmaceutical applications, Upsalite can be used to improve solubility making medications more accessible. It is also used in creams, powders and nutritional supplements.

Given the water absorbing properties of Upsalite and the low cost in producing it, the likelihood is that Upsalite will be used in considerable more applications in the future.





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Outdoor wedding?

Make it exeptional!

The trend for organising wedding ceremonies in outdoor venues came to us from the United States and even if our wedding market is not half as organised as the US market, still there are several companies that offer a comprehensive organisation of this very special day in the open air.

Considering the polish weather conditions, it is difficult to imagine that a wedding ceremony could take place outdoors. Strong wind, cold weather and rain can only discourage from having a good time. We should keep that in mind when planning a wedding in the open air; let's not be guided only by dreams and fancies, but take into account some more down-to-earth facts and look at the things from a pragmatic perspective.

Wedding tents

Being mainly suitable for major outdoor events, these tents are a great idea for departing from the usual and organising a wedding ceremony practically anywhere. There are various models available on the market that can be used as a wedding banquet hall. But then there is the question: what should be taken into account when choosing a wedding tent?

Canopies

It is the simplest tent structure that is able to give shelter from a light rain, but won't guarantee protection against low temperatures and bad weather conditions. Its advantages are its distinctive look that evokes an oasis in the middle of a desert and the opportunity to enjoy the surrounding landscape. This type of tent will be best suited to pairs that want to organise a smaller wedding party in the summer season.

Cost: from 300 GBP (the hall + facilities for up to 30 persons)

Hall tents

Up to now it is the most popular kind of tent for the Polish weddings. Its ba-



sic advantage is the capacity for a large number of people. In appearance, the tent resembles a banquet hall. The additional decoration (e.g. suspended fabric ceilings) give it an elegant look. Because of its enclosed design, the tent can be heated or air-conditioned depending on the customer's needs.

Cost: from 1000 GBP (the hall + basic facilities for up to 100 persons)

Spherical tents

Sphere-shaped dome tents are the most innovative solution nowadays. Their look can be reminiscent of a space station, so it may be an attractive wedding venue for persons that like this kind of design. Companies hiring dome tents offer a number of different models to choose from. The most impressive ones are the transparent tents that also protect the guests from bad weather conditions and make it possible to enjoy the surroundings. Unquestionably, their biggest disadvantage is the price, which is the highest of all the offers available on the market.

Cost: from 4 000 GBP (the hall + facilities for up to 50 persons)

Things to keep in mind

Hiring the tent is only the tip of the iceberg of all the costs. If you dream of a wedding ceremony in an outdoor venue, you have to think first of a place where to put the tent itself. Get informed in advance if you will need additional permits and if the place has access to utility networks. You should also include the catering service in your **costs** (from 50 GBP per person).

An outdoor wedding is an unforgettable experience that your guests will remember for a long time afterwards, but it also provides reasons for intense work and stress related to the preparations.



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Agility Tunnels

Your dog will rediscover the joy of life!



Spring is for most of us the season to regain good form lost during long winter evenings spent on the sofa. We order gym memberships, start strict diets and nervously count down the days left to summer holidays. With all this, we forget that it is not only us that need more intensive training and a return to fitness activities.

In the winter months our pets also put on weight. It is in part genetically conditioned, but is also related to the fact that they spend less time on walking outdoors and running in the open air.

If you want to help your pet regain its good shape, then we found a product that can make it easier. Until recently, dog

tunnels were featured in the professional agility dog competitions, but, year by year, have been gaining ground in ordinary households as an interesting dog fun alternative.

We went over all the offers available in the market and picked a manufacturer that can boast a wide selection of quality tunnels and accessories. We tested Teseco Agility Tunnels and present the results below.

Transport



In order to carry out the tests we had to get outside the city, so that the tunnel had to be carried by car. That didn't pose any problems whatsoever. The folded tunnel is secured by special buckles and is relatively



Diameter:
Ø 60 cm

Length:
3-6 m



lightweight. The tunnel fitted easily into the boot of the car.

Flexibility

After removing the safety straps we set up the tunnel in any configuration. Its construction is based on a spiral wire, which allows the tunnel to be set in the form of an arc, a turn or a straight line without the need of any other supporting elements. Besides, it weighs enough not to be moved and displaced, for instance, by the wind.

Material and Design

Agility tunnels are made with water-resistant polyester fabric covered on both sides with PVC. The fabric is characterised by a high density (more than 600 g/m²), which makes it durable. The PVC layer serves as an additional protection and makes cleaning easier. The tunnel design is precise and detailed and it is visible at first glance that this product is well-made and will last a long time. The tunnels are available also in anti-slip

versions made out of a fabric with dog bone pattern.

Additional Advantages

Teseco is not only the distributor of the tunnels, but, above all, their manufacturer. Thanks to it, we are met with a vast freedom of choice of size, colour and material when ordering the product. Moreover, the manufacturer offers accessories that make using the tunnels more comfortable. There are locking straps,

ground mounting brackets and sand filled weights.

We recommend Teseco Agility tunnels to everyone. They are suitable to be used both in a backyard garden as well as during professional training and competition. The tunnels meet FCI (World Canine Organization) standards.



AGILITY TUNNELS - EASY WAY TO BE HAPPIER!



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TESECO

Tips for a happy pet and owner

We present to you two products that can help contain your cat at home or when travelling. For the purpose of our test we used products by Evers.

Every cat owner knows that his pet is an individualist; it is hard to meet its preferences given its ever-changing nature. A thing that yesterday was the best of all toys will not make any impression on your cat today. A piece of furniture it has not even noticed for half a year suddenly becomes a perfect place to have a nap. Nevertheless, cat owners continue their efforts to provide their pets with all that is best for them and, at the same time, to make their own lives easier.

Cat Beds

It is well known that a cat sleeps in places where it feels comfortable. Yet, the nature of its preferences can change dozens of times within an hour, so it may be a good idea to follow a few suggestions. If your cat is currently mad about sleeping on pillows and blankets and you cannot catch up with the amount of fur to be removed, you can try a cat bed.

A conventional bed consists of two parts – the base and the pillow. Such an arrangement is convenient in so far as the inside pillow can be picked up and shaken out or washed in a washing machine, which helps to keep your house clean. The bed is made of a very soft PVC coated material, which makes

it slippery to the touch and easier to clean. The wadding-stuffed pillow is very soft and does not deform. The bottom of the bed is made of a durable polyester material (codura) and allows for installing the bed on any kind of surface.

By putting the bed in the corner of a room you won't get much chance to stimulate your cat's interest. But it should become attractive the moment you install it on a higher place that will enable your cat to observe the surroundings.

Have no illusions that your cat will spend every moment of the day in his new home and will stop sleeping on hard banks or tables. Still, if in this



way you may get more space for yourself in your own bed or a few free pillows to lay your head on, then this purchase is definitely worth considering.

Transportation Bags

Even cats that like to travel are usually not willing to leave their home. If your cat dislikes being shut in a plastic carrier, perhaps it would be more comfortable for it to be carried in a fabric bag?

The transportation bag enables the cat to lean its head out freely and observe the surroundings simultaneously granting it the comfort of security. The bags are equipped in clamps to which muzzles or harnesses are fastened.

This is necessary to prevent the cat from escaping. The bag is fitted with two kinds of straps – short straps for carrying in hand and long shoulder straps.

You can consider yourself lucky if your cat remains in the bag for longer than it takes you to reach the car. Most cats will try to get out at all costs as soon as they feel the ground beneath their paws.

For me, the bag is an excellent solution. Diesel, our cat, dislikes travelling inside the ordinary carrier. All attempts to escape end with broken claws and a scratched mouth. The soft bag enables us to carry him to the car so that nobody gets hurt on account of an excessive use of claws.



COYOTEVEST



Do you walk your dog in areas where there are coyotes or hawks? Are you worried about taking your small dog to the dog park or the beach, where there are so many incidents of larger dogs injuring or killing smaller dogs? Do you own a larger dog that won't stop picking on your smaller dog? If you answered yes to any of these questions, then your small dog needs CoyoteVest™ body armor.



CoyoteVest body armour is designed to protect small animals if they are attacked or bitten by a larger dog or coyote. It works by offering multiple levels of protection. Firstly, the large spiked collar area will prevent neck bites and deadly shaking. Secondly, the vest is made of stab-resistant Kevlar that was originally developed by the U.S. Government for prison guard uniforms. The sides of the vest are double laminated to prevent even the sharpest canine teeth from puncturing the vest in the primary bite zone.

The CoyoteVest will not slow your dog down or impair their ability to run and play. It only covers the critical neck and side areas where most bite wounds occur. Since it does not cover your dog's chest area, your dog won't get too hot wearing it. Because water will not damage the CoyoteVest, you can even get it wet to help cool your dog off on a hot day.



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Business Start-Up Ideas

Inflatable obstacle courses

If you're looking for an idea for your business, it is here that it can find its place.

Each of us has competition somehow written in his or her genes. People have always competed with one another, often according to the rule of 'survival of the fittest'. This human trait can be observed on a daily basis in the whole entertainment industry or, even more visibly, in sports. The problem here is how to ensure safe conditions for all those who like a bit of rivalry.

Inflatable bouncy castles and slides became widespread in Poland already in the 1990s, but were only available at public events and fairgrounds as attractions for children. With time, the inflatable facilities evolved and got more and more complex designs that were meant also for adults.

Here is where your idea for business comes in. Inflatable obstacle courses have gained so much popularity that the event organisers make use of them quite often, but are still 'fresh' enough not to feature everywhere and, therefore, the competition is relatively small. We will give you some hints on how to start your business – the inflatable obstacle courses rental!

How to start?

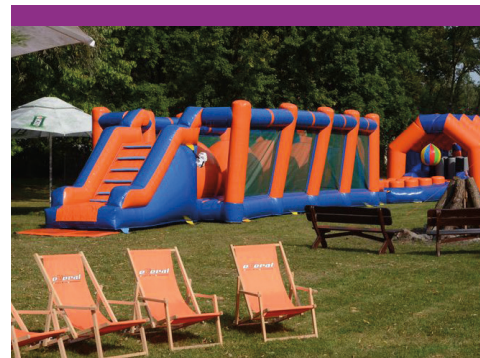
Decide whether to manufacture the course on your own or to buy a ready-to-use product. Remember that it has to meet the standards required for this kind of product, like the materials used in production, paint coating, etc.

Where to look for clients?

The largest target groups are big companies and corporations that organise team events for their employees. Nevertheless, these types of clients usually assign the projects to external event or-

Owners of large companies long ago recognised the benefits of keeping their employees in good shape. There are plenty of companies dealing with organising trips and team-building events that aim at removing the employees from their ordinary tasks and ensuring that they spend time in a friendly, relaxing atmosphere.





ganisers. It is good to get in direct contact with the contractor, circulate your offer, go on a business visit or prepare discounts for new clients. An event organising company prefers working with one supplier on a regular basis rather than changing them with each event, so if you get your chance, do your best to make an excellent impression on your client.

Costs

The cost of one course consisting of 4 – 5 separate attractions is about 3000 GBP. When pricing the rental of your equipment, it is worthwhile taking a look at what your market competitors offer – an average cost of rental amounts to 250 GBP for 24 hours.

You should include the transport of the facilities and their installation by a hired crew as additional costs on your side. Thus, for a one-day event you could earn around 200 GBP net.



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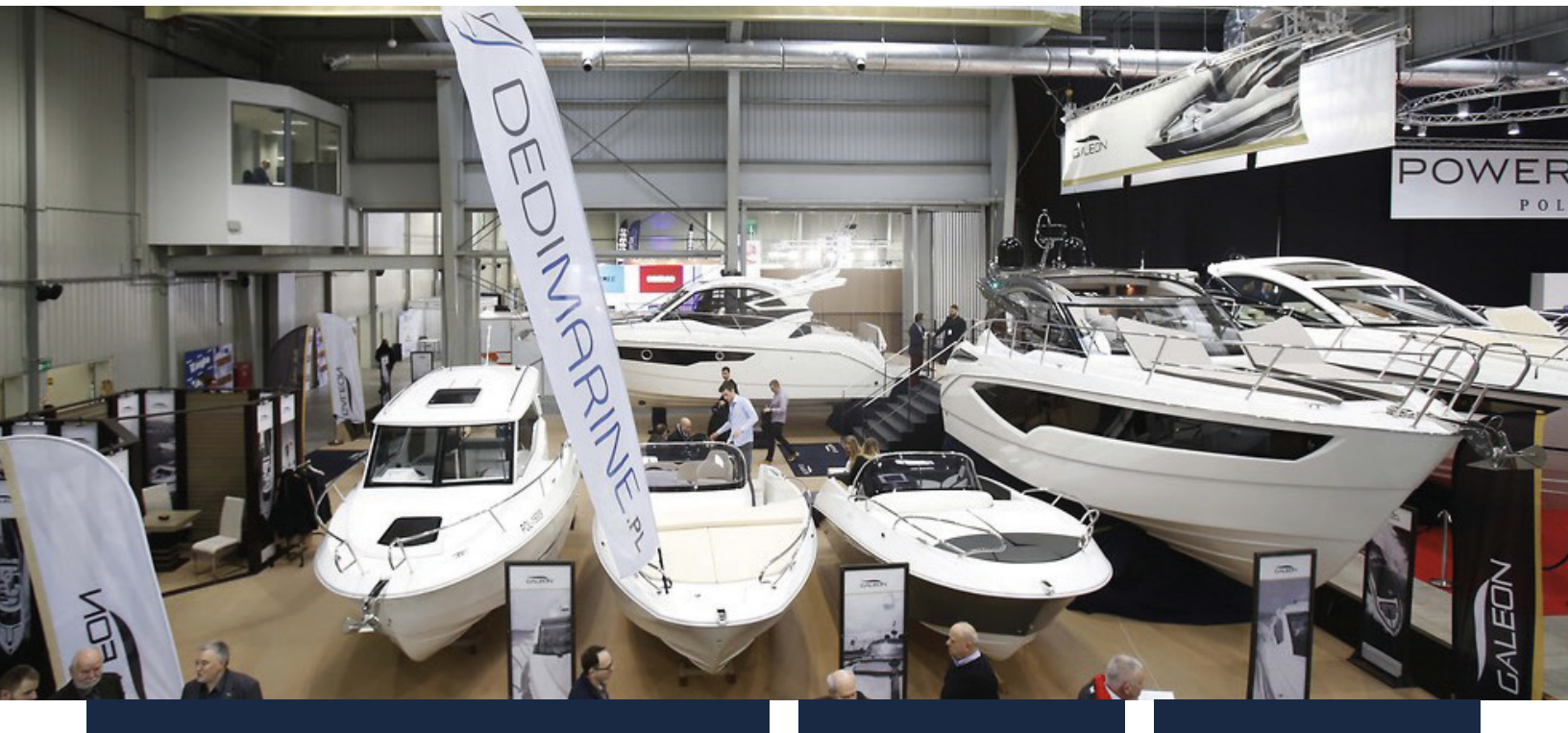
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Water and Winter Fair 2016

The start of a new sailing season.



The 28th edition of the WIND and WATER Warsaw Boat Show, which is the largest event of this kind in this part of Europe, was placed on 10-13 March 2016. As always, the Boat Show attracted representatives of the industry as well as water sports and recreation enthusiasts from Poland and abroad.

In March this year the 28th edition of "Wind and Water" Water Sports and Leisure Fair was held, being the biggest fair of this kind in Eastern Europe. This annual event marks the beginning of the sailing season and gives an opportunity to see new products offered by the Polish and foreign boating industry.

ny for the winners of the Polish Yacht of the Year 2016 and numerous meetings with interesting people connected with water sports. This year, among the special guests of the fair were Aleksander Doba, who kayaked across the Atlantic alone, and Szymon Kuczyński, who sailed around the world, also alone by himself.

This edition of the fair gathered more than 400 exhibitors who jointly presented nearly 150 floating crafts, ranging from luxury sea yachts, through sailboats and motorboats, to canoes, pontoons and simple rowing boats.

The fair is also an occasion to host the official awards ceremony

"Wind and Water" fair is addressed to companies within the industry that get can a chance to establish new business contacts and have an overview of products of the competition, as well as to private persons interested in buying professional equipment. A vast majority of visitors are persons who just want to see



the state-of-the-art watercraft. Undoubtedly, the fair constitutes a unique possibility to have a closer look at luxury water vehicles.

Apart from the floating craft, the visitors can see some cutting-edge water sport accessories. The most spectacular success of this year's edition was the Henri Lloyd Flex 3D jacket that had previously won the best product award of the Marine Equipment Trade Show (METS). The jacket is extremely flexible, thanks to which it grants a freedom of movement and a tight fit without losses in thermal insulation. Moreover, the sailors could

admire a collection of professional boat shoes by TBS, a high profile company, or Garmin Quatix3 watches specially designed for water sport fans.

The fair is also a demonstration of logistic skills of the organisers. The stalls were so well arranged that it was easy to see the offer of all the exhibitors in one go.

We're greatly impressed by the exhibitions (particularly because we don't deal with such kind of equipment on a daily basis) and we encourage all who couldn't come this year to visit the fair the next year. We'll be there for sure!



Since 10 years, WIND and WATER has been a member of the International Federation of Boat Show Organisers (IFBSO), thus obtaining a quality certificate that only the leading international events of this type can boast of.



Summary of the quarter

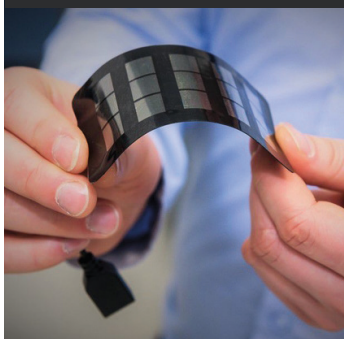
At the end of each quarter we present you with the most innovative solutions, the most sold products and most popular articles. Each of brands which are in our network has the opportunity to publish one article in the next edition of Tetex Magazine for free.

The best company



POL-PLAN company is one of the leading and most experienced producer of car tarpaulins and industrial tents in Poland. Thanks to the long-term experience POL-PLAN offers high quality products which meet client expectations.

The most popular article



Perovskite power supply

The prototype version of smart-phone charger is a thin plate covered with perovskite. You can connect it with your phone using a traditional cable. Perovskite is one of the best light energy absorbent and can charge a phone using only a desk lamp.

Bestseller



Textile snow chains

This winter's best seller! This "chains" don't take a lot of space so you can keep them in your trunk. Putting it on tires is very easy and quick. Textile chains are made of poliophenyl which has very good adhesion even to slippery surface.

New product



Bulletproof vest

The alternative for other products of this kind. The vest is filled with non-newtonian fluid which changes its physical state in case of impact. The dense material protect the one who's wearing it. The vest is also very light and elastic.

The best deal



Panorama+

The specialisations of this company is creating solutions for tarpaulins and tents industry. Panorama+ is not only the distributor, the company also produce and fix technical textiles.



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