

Dear BioNova Partners & Customers,

June 21st marks the beginning of summer in Europe and what would summer be without swimming outside? In addition to swimming in conventional chlorinated public pools or lakes there is a third alternative to enjoy swimming and bathing: biologically filtered public swimming pools have become more and more popular in recent years. These Natural Swimming Pools (NSPs) feature the same comfort and safety as chlorinated pools do, but the visitors can enjoy bathing without chemicals because the water is cleaned up in a 100% biological way. Many public NSPs also offer diverse attractions and play structures such as diving rocks, climbing walls, water slides, etc. For this reason, we have chosen the public Natural Swimming Pool of the Bavarian community Drachselsried as our Project of the Month in June. In this newsletter we will also feature other interesting news and notes about BioNova NSPs and BioNova events around the world! For example, we'll inform you in detail about the possibility of sealing NSPs with different types of liners. Enjoy reading!

Your BioNova Global Head Office Team

Rainer Grafinger, Christine Schoeck, Andrea Enseleit, Stephanie & Jusuf Rifatov

Project of the month



In May 2011 the Bavarian village Drachselsried opened the doors of its own biologically filtered public Natural Swimming Pool for the first time.

The facility has begun its second successful bathing season this year. The bathing area is a total of 970 m², split into a 470 m² non-swimmers area, a 500 m² swimming area which is up to 2 meters deep, and an additional wading pool for small children.

The facility features spacious lawns and sun-bathing decks, a beach volleyball court, and a playground. At the kiosk you can buy light refreshments such as cold beverages, ice cream, coffee or other snacks and enjoy relaxing on the sunny terrace. It is for this reason that the public NSP at Drachselsried is also a popular destination for hikers and cyclists.

The water quality is checked regularly, of course. The Natural Swimming Pool is highly accessible and admission to the facility is free!

The BioNova Family



Last year we introduced the head office of BioNova France, Stella Maris SARL (manager: Serge Paz). France is a huge country so Mr. Paz got several garden professionals and landscape design firms on board. Together they are building BioNova NSPs all over France.

We want to present one of these firms in more detail in this month's Newsletter, the company Déco Jardins. Déco Jardins is located at Roquebrune sur Argens, in Southern France. Manager Dominique Douillard has worked in the gardening and landscaping business since he was 28 years old. Besides a planning office, where Mr. Douillard professionally plans gardens for his clients, he also runs a market garden and a tree nursery. Déco Jardins employs a total of 23 well-trained professionals.

Déco Jardins is a relatively new member of the BioNova family. The company has represented BioNova for 2 years now. To bring his projects to life, Dominique Douillard can always count on the support of the French Head Partner Serge Paz and also the BioNova Global Head Office in Munich, Germany.



Current Events

The long-time BioNova Partner Stephan Zinke from Arenshausen (Germany) has recently updated his website www.zinkegartenbau.de. It's worth a visit - he has uploaded lots of beautiful pictures and interesting information!



Dates 2012

Training events, fairs, meetings – we've got a lot going on with the BioNova Family! Please review the following to see where the next activities of the BioNova Global Head Office and the BioNova Partners will take place:

July

Gardening & Landscaping Show Bamberg

April 26 - October 7, 2012, Bamberg (Germany)

BioNova Partner Rainer Bewersdorff designed a special theme garden where he presents BioNova Natural Pools at the communal gardening show at Bamberg. This will give all visitors a better understanding of Natural Swimming Pools and will show them the advantages of NSPs. To find more information please visit: www.lgs-bamberg.de

August

BioNova Partner Training Program

August 22 – 26, Boston, Massachusetts

BioNova Partners from the US and Canada will be attending a 5-day training program in Boston. If you are interested in becoming a Partner and attending the program, please contact us at: partner@bionovanaturalpools.com

Containment of NSPs - The Possibilities



Water means life, therefore people are instinctively drawn to it. But sterile, chlorinated swimming pools are an insufficient replacement for the positive influences of natural swimming waters. A biologically filtered Natural Swimming Pool is the perfect alternative. Our BioNova experts can create an ecologically harmonious system, replicating the natural cleaning processes that Mother Nature has used for millions of years.

But a stable, ecologically balanced system is not the only requirement for an NSP. First and foremost, the contained vessel mustn't leak! There are several possibilities for sealing an NSP. To make the choice easier, we want to present you with the different sealing methods with all of their advantages and disadvantages. Waterproofing with liners

We want to start with liner for sealing an NSP. Liner is a frequently used material for sealing NSPs. You can use different types of liners for this job.
Types of Liners

PVC Liners

PVC is a very common material in Germany. Its advantages are the favourable price and that it's easy to handle. In addition, there are many compatible supplies on the market such as fittings, different moulded components, etc., and you can use all kinds of common welding and connection technologies.

The quality requirements for PVC liners are specified in several guidelines and standards (i.e. the FLL Standards). A quality liner should offer the following features:

- Extendibility
- Tear strength (as in DIN 53504, 53507)
- Durability, corrosion resistance
- UV & ozone resistance (as in ASTM G53-84 & DIN 7864.1)
- Root-proof (as in DIN 4062 & FLL-Guidelines)
- Acid soil resistance
- Frost resistance & frost flexibility to -25 °C [-13 °F] (gem. ASTM D 746)

Polyethylene (PE) Liners

PE liners can be said to be more eco-friendly than PVC liners, but the material is very rigid. PE liner is not very flexible and so it not so easy to handle. Maintenance repairs and patch jobs can be more costly to do with PE.

Flexible Polyolefins (FPO) Liner

Another alternative is a material which is called FPO in Germany. FPO is an acronym for Flexible Polyolefin. This material is classified as more eco-friendly than other types of liners. It has similar characteristics to PVC but it can be more difficult to handle and also much more expensive. Convenient fittings for tubes and pipes are available in different versions now. All BioNova components can be adapted to FPO sealing if needed.

Ethylene propylene diene monomer (EPDM) liners

EPDM is also a very popular material. This material is synthetic rubber. It's not made of natural rubber, it's a liner made out of vulcanised rubber.

The vulcanising of EPDM is an important component of the production of this material. It makes the EPDM liners very durable and flexible. Therefore the EPDM liners are very expansive and flexible even when it's very cold outside.

The swimming area should always be kept wrinkle-free, which when using EPDM is unfortunately very difficult to do.



Selection of the Colour

Most European customers choose an olive green (RAL 6001) or grey liner. This is a good compromise between not too light and not too dark. The current trend definitely leans towards more varied and lighter colours at this point in time. The selection of the liner colour is a simply a matter of taste.

Pool Floor Preparation

BioNova Partners are always very careful to prepare the floor of the NSP very carefully so that the liner can be fitted properly. The area must be clear of any roots, stones or other foreign objects which could damage the liner. The area of the NSP must be smooth and clean, there mustn't be any hollows or holes at all. A stable compaction of the underground is also very important to prevent the eventual subsidence of the area. It may be necessary to include underfloor drainage in the planning. Depending on the project, it may also be a good idea to create a smooth concrete surface for the floor. This is highly recommended for all formal architectural basins in NSPs, especially when the use of a cleaning robot is specified.

Installing the liner

Our BioNova experts know about all the big and small mistakes that can be made which lead to trouble and frustration when building an NSP with a liner. The best way to proceed is to use the professional planning and construction services offered by licensed BioNova Partners.



BioNova History



This modern and innovative BioNova Natural Swimming Pool was built in 2003 in Wels, Austria. It was the first NSP built according to this method.

The swimming area is not planted - the geometrical shape and formal white edging made out of natural stone may remind you on a traditional swimming pool.

The overflow gutters are located under the edging. The gutters direct the used water from the swimming basin to the regeneration zone. Also the regeneration zone is built in a very special way: in order to save some space for the sunbathers, this area was divided into two parts. One part of the regeneration zone is built as a planted

soil filter which is bordered by wooden decks. Different kinds of water plants grow here, from bulrushes to water lilies. The other part of the regeneration zone was designed as a subterranean soil filter and covered with turf. The used water from the swimming basin flows through the different gravel layers in the subterranean filter which effectively cleans the water. The water of the Natural Pool is cleaned and filtered in a 100% biological way without using any chemicals. There's enough space so that the garden doesn't look cluttered at all.

This innovative Natural Pool was the precedent for many other BioNova Natural Swimming Pool facilities. This unique building method is patented to protect it from imitation.

