



Biodesign technology  
presentation

Padua 10 February 2016



## Mission Statement:

«Create a unique aquatic environment, tailored to the human needs in perfect harmony with the natural surround»





# Biodesign technology advantages



## COMPLETELY PERSONALIZED

Pools are designed and built according to specific individual requirements, thereby increasing their real value.



## THE BEST POOL EXPERIENCE

Swimming areas, beaches, submerged seating and walkways modelled in natural stone offer the best bathing experience.



## ENVIRONMENTALLY FRIENDLY CONSTRUCTION TECHNOLOGY

Respect for the environment increases the value of the product and increases the success and longevity of the business.



## PROTECTED BY INTERNATIONAL PATENTS

A network of dedicated dealers guarantees quality of installation and maintenance.



## CERTIFIED STRUCTURAL SOLIDITY

A technology designed specifically to eliminate the weaknesses of old-style swimming pools, redistributing the load and improving the performance of the materials.



## SHORTER CONSTRUCTION TIME

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## The Secret: the waterproofing system under a permeable structure



SYSTEM PROTECTED BY INTERNATIONAL INVENTION PATENT	
1	EXCAVATION
2	PROTECTIVE GEOTEXTILE
3	WATERPROOF EPDM LINER
4	CONSOLIDATION NET
5	STRUCTURAL COATING FIRST LAYER
6	INTERMEDIATE CONSOLIDATION NET
7	STRUCTURAL COATING SECOND LAYER

Example: coating structural pool with surface area greater than 20 m<sup>2</sup>



1

Less weight to be supported: only people and not the water weight.



## PROTECCIÓN CON PATENTES INTERNACIONALES

Una red de concesionarios dedicados, garantiza una alta calidad de instalación y mantenimiento.



## SOLIDEZ ESTRUCTURAL CERTIFICADA

Una tecnología diseñada específicamente para eliminar los puntos débiles de las piscinas tradicionales, redistribuyendo las cargas y mejorando las prestaciones de los materiales.

# The secret: waterproofing liner flexible at 300%

## CONSTRUCTION TECHNOLOGY



TRADITIONAL POOL

A traditional concrete pool is sized to withstand the structure's own loads (about 600 kg per m<sup>2</sup>) plus the thrust and weight of the water it contains (140 cm water depth = 1400 kg per m<sup>2</sup>). The thickness and therefore the weight of the structure thus become essential RIGID elements whose overall weight is borne by the ground on which it is installed.



BIODESIGN POOL

A Biodesign swimming pool bears a very limited structural load (about 70kg per m<sup>2</sup>) and is NOT subjected to any load from the weight of water it contains. In fact, the thrust and weight of the water is transferred entirely to the ground that, thanks to the elasticity of the waterproof liner (+ 300%), is free to move and settle without any damage to the pool.







## FLEXIBILITY

EPDM remains flexible even at extreme temperatures and can, therefore, be installed at any time of year and in any climatic condition.



## STRESS AND PUNCTURE RESISTANCE

It is stress and puncture resistant: pressure and movement of the substrate have no effect on the EPDM.

		EPDM		Thermoplastic materials	
At -40°C the EPDM is unchanged and flexible. The thermoplastic is rigid, friable and break.	-40°C		0% 300% 0%		0% 0% 0%
At +150°C the EPDM is unchanged. The Thermoplastic become liquid.	+150°C		0% 300% 0%		0% 0% 0%
After decades the EPDM is unchanged. The Thermoplastic become thin, stretch and can break.	The stretching is due to adjustment and movement.		0% 300% 0%		0% 40% 40%

2

Flexibility: possibility to follow the soil movement





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## The secret: a structure with better performance than concrete

### STRUCTURE CERTIFICATIONS



UNIVERSITY OF MODENA AND  
REGGIO EMILIA, ITALY

"Enzo Ferrari" Department of Engineering



#### Researchers

**Angelo Marcello Tarantino**  
Professor of Building Science

**Andrea Nobili**  
Researcher Role in Building Science

Modena, 4/10/2012

### Resistance and compression tests

#### Content:

- Structural description of the application of Biodesign technology building material.
- Analysis of materials and results of experimental tests.
- Analysis of actual loads.

#### Conclusions of the study:

- Biodesign technology provides a high degree of resistance when compared to the stresses generated by the thrusts and pressure of both the soil and the water.
- The structure is free from extra loads caused by soil movement.
- The structural paving made of quartz and resin is easily able to support the secondary loads.
- The Biodesign structure has strong and significant mechanical properties.
- Based on the considerations set out in this study, for ordinary Biodesign projects there is no need for additional structural inspections.

3

Resistance: capacity of 2.000 kg/sqm

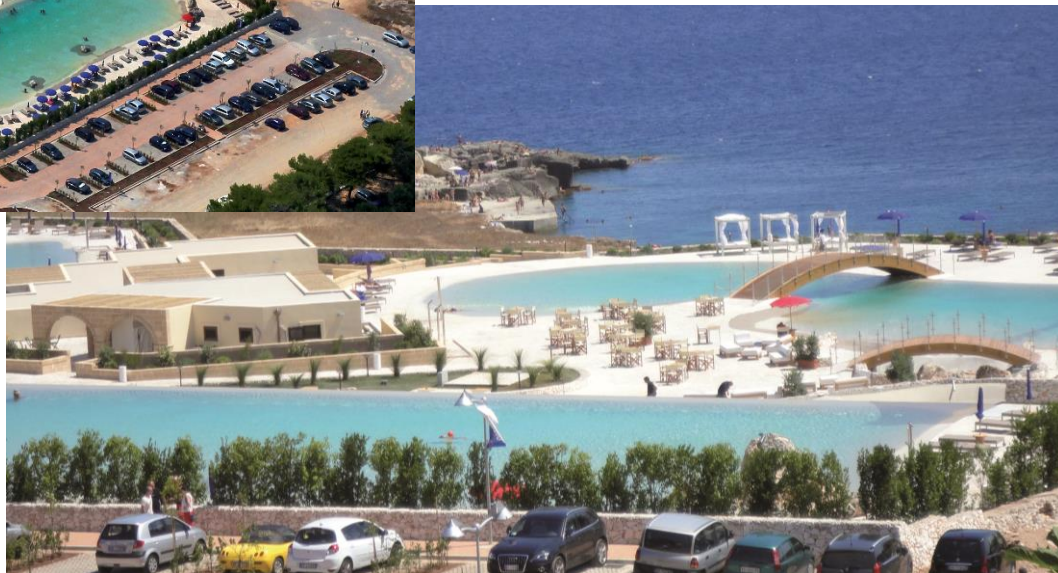
## Il Diciannove

Balneario  
Lacated in Santa Cesarea Terme  
(Prov. de Lecce) Italia

Water surface: 3.400 m<sup>2</sup>



without any  
Structural Calculation





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# The secret: simple to build and not invasive

The use of the Biodesign technology also means reducing installation times and eliminating the inconveniences of complex constructions. A team of three workers is capable of completing a 60m<sup>2</sup> pool, key-in-hand, complete with filtration system, plant room, border, and lighting, in ten working days, all without any need to interrupt the continuity of their work at any time. Compared to traditional pools, this represents a huge benefit for the company that builds them, both in terms of organising their business as well as in terms of reducing the inconveniences for the client who purchases them.

## Sample 60 sqm Pool Construction time







## SHORTER CONSTRUCTION TIME

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# The difference with traditional pool:

## COMPLICATE TO BUILD



## SIMPLE TO BUILD





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# The secret: the use of completely eco-friendly material



- 1. TOTAL ABSENCE OF CONCRETE WORKS**
- 2. STABILITY OF THE EXCAVATION:** wall degrading with slopes from 10° to 50° max.
- 3. LIGHTENING OF THE AREA BELOW THE EXCAVATION:** a swimming pool Biodesign completely finished and filled with water weighs considerably less than the weight of the removed soil (1.070 kg x m<sup>3</sup> of the structure + water vs the 1600 Kg x m<sup>3</sup> aprox of the soil)
- 4. EPDM IS CHEMICALLY STABLE AND COMPLETELY INERTS:** . It does not contain polluting additives and heavy metals, and does not release harmful substances in the environment. The old installations in EPDM can be burned for energy production (since it does not produce dioxins), disposed of in landfills or recycled for the production of new products EPDM. The EPDM is indicated by Greenpeace as an alternative to PVC plastic.
- 5. ALIMENTARY CERTIFICATION OF THE RESIN:** Properly hardened Biodesign resins are considered inert and can be disposed of together with the inert stone material of the pool



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## The possibility to furnish the pool as a room of the house:

Free to propose:

- Shape;
- Seating and chaise lounge;
- External Beaches;
- Submerged Beaches;
- Monoliths;
- Stairs;
- Natural stone coatings in different colors;

Without a substantial price variation





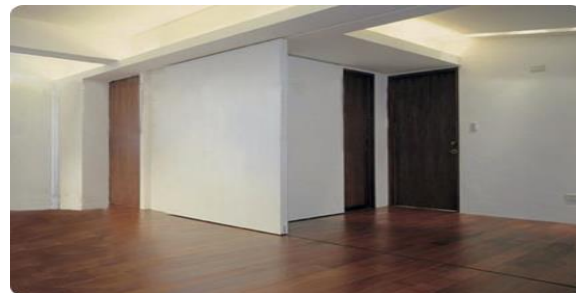
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# The possibility to furnish the pool as a room of the house:

The pool is a room of the house. It increases the value and the merchantability of the same. It is an environment associated with wellness, a meeting place for all ages. To furnish this space is a need 'for those who live in it and it is a great opportunity' for those who sells.

If we imagine a traditional swimming pool in a residential environment this is what I get:



If we imagine a Biodesign pool in a residential environment this is what I get:





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## The difference with traditional pool:

### INVASIVE IN THE LANDSCAPE



### TOTALLY INTEGRATED IN THE LANDSCAPE







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## The difference with traditional pool:

### ONLY FOR THE SUMMER



### A DECORATIVE ELEMENT IN ANY SEASON

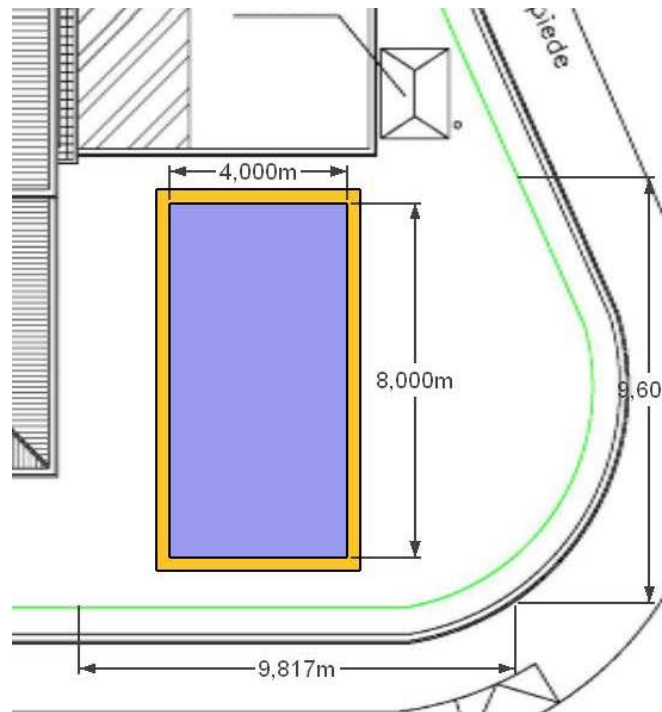
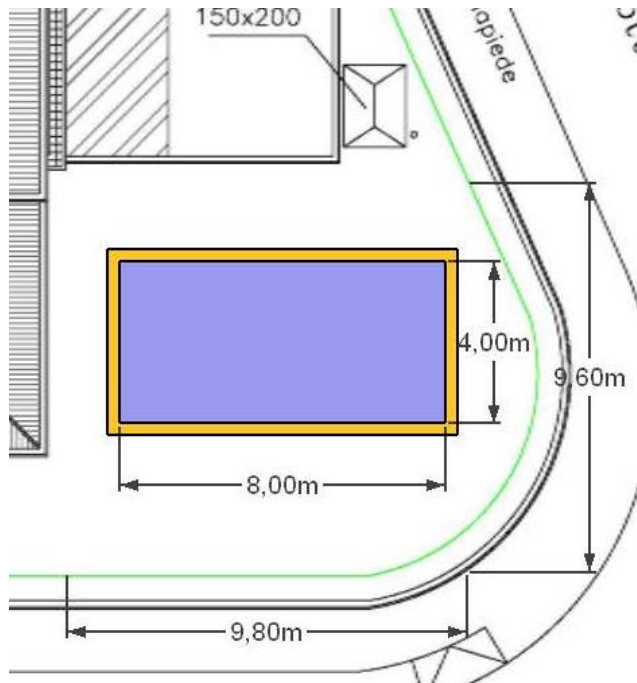




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# Where do we place the pool without invading the whole garden?

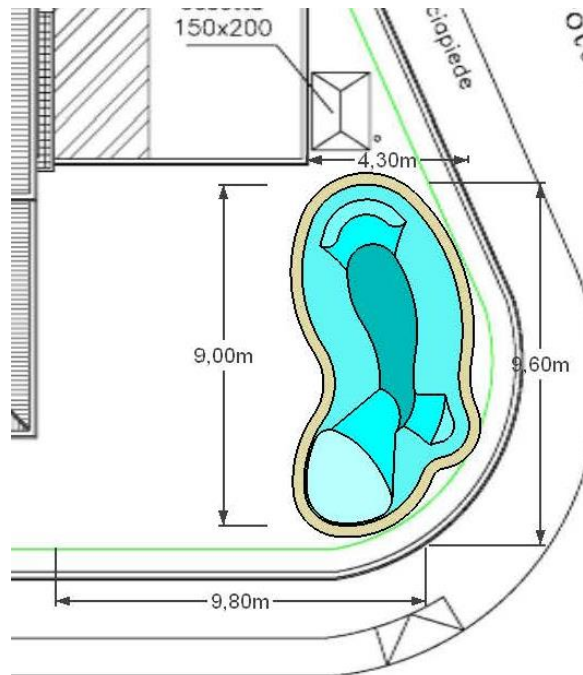




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## The best pool experience

Biodesign pools has a shape that perfectly integrates into the landscape.

Beaches where children can play in complete safety, relaxation areas in the shoreline, submerged seating and beds to maximize the enjoyment of the pool.

Biodesign pool meets the needs of all swimmers. Unique design, different shades of sand and pebbles.





## The difference with traditional pool:

### NON COMFORTABLE



### COMFORTABLE





# Main References



## Relilax Miramonti Hotel

Montegrotto Terme (PD) Italy  
Pool surface: 700 sqm



Data: 01/09/2011

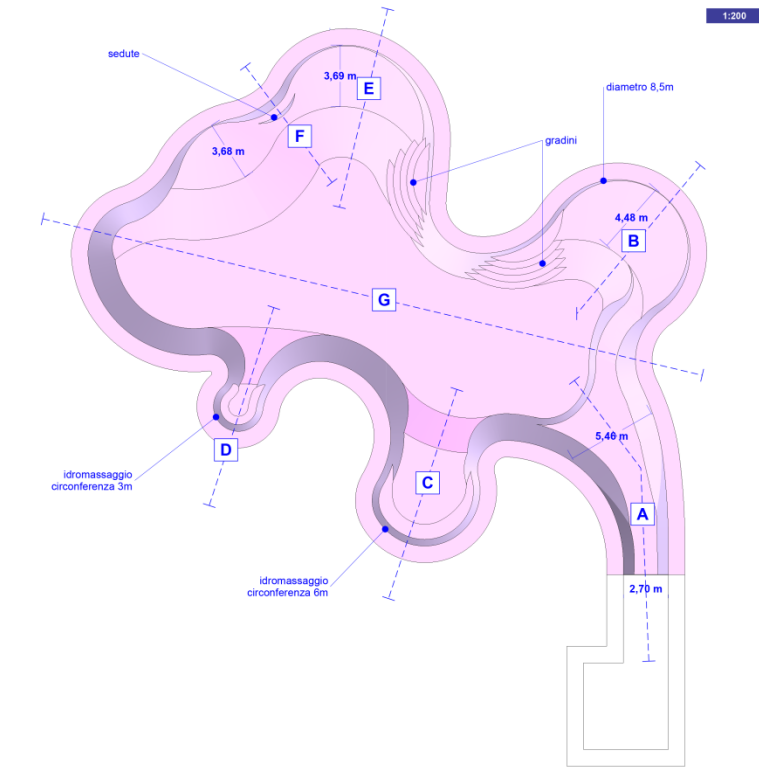
CLIENTE:

RIF.:

RIVESTIMENTO:

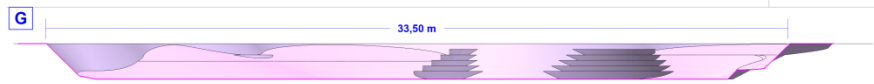
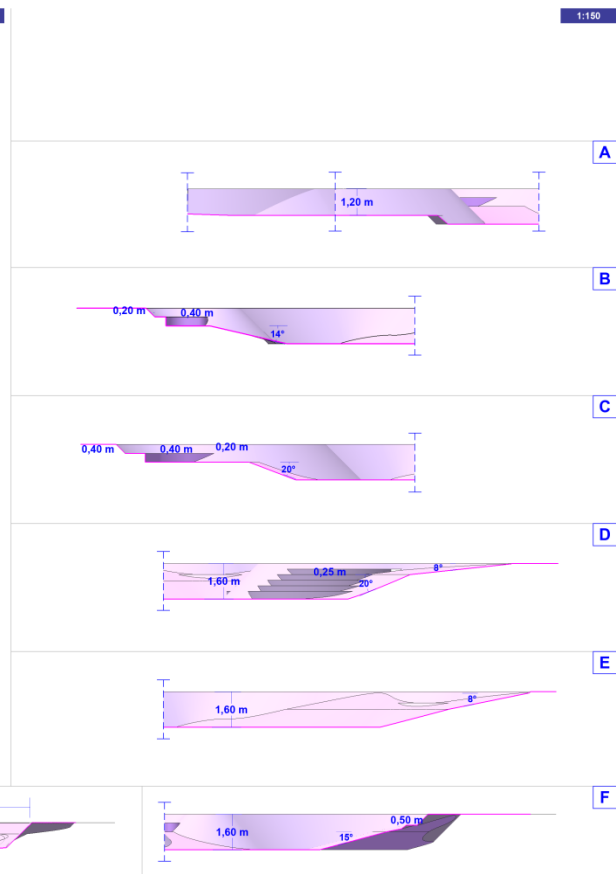
SCHEMA INDICATIVO Il seguente disegno è stato elaborato sulla base di elementi forniti dal committente acquirente. API ITALIA srl non ha effettuato alcun sopralluogo né ha verificato la fattibilità pratica dell'intervento. La società ha una tolleranza di +/- 5% rispetto le dimensioni indicate. Il disegno dovrà essere successivamente soggetto a verifica sul sito. Si rinvia, salvo a quant'altro alle l.r. della fattibilità del disegno stesso.

Offerta: m <sup>2</sup>	Superfici morfologiche: m <sup>2</sup>	Volume: 650 m <sup>3</sup>	Perimetro: m	Impermeabilizzazione: DDX00 m	Giunti di dilatazione: 0 m <sup>2</sup>	Revisione: NO
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1:200

1:150





















# Osiek

Poland

Pool surface: 1500 sqm







## TOP 10 Resort

Taupo New Zeland  
Pool surface: 722 sqm

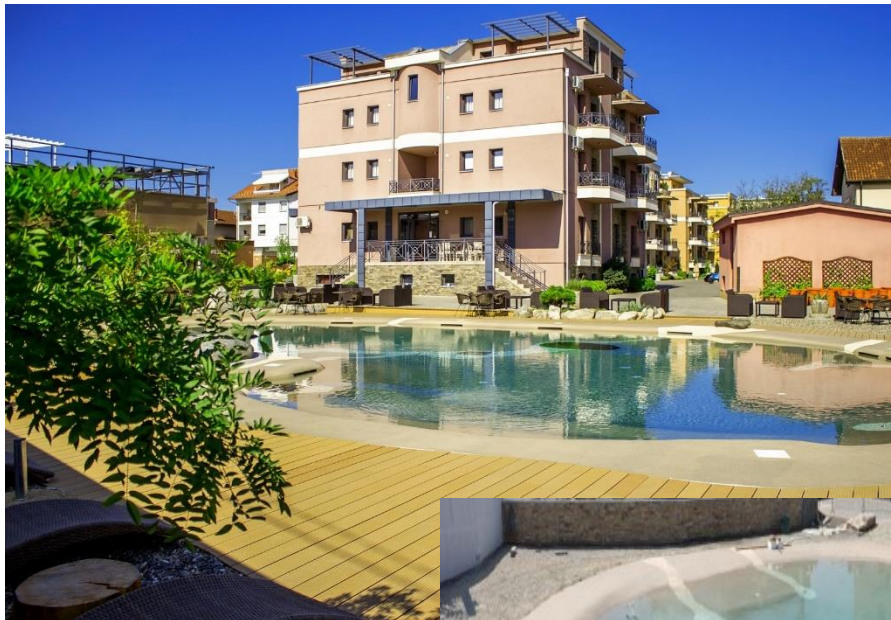




# CHOISY LE BANS

Mont Choisy, Mauritius  
Pool surface: 2x1000 sqm





# Solaris Hotel

Serbia

Pool surface: 200 sqm







## VB Studio

Bulgaria  
Pool surface: 550 sqm





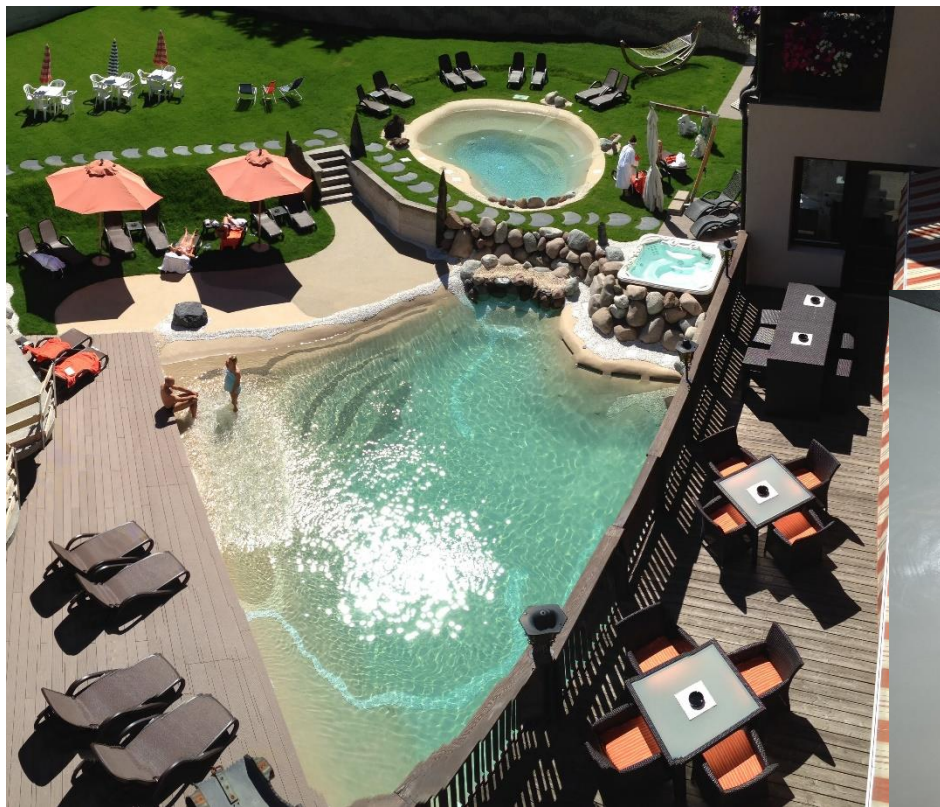
# Kardial Hotel

Bosnia

Pool surface: 650 sqm







# Hotel Croce Bianca

Canazei (TN) Italia  
Pool surface: 275 sqm





## Other References:

CUSTOMER	CITY - PROVINCE - COUNTRY	M2	TYPE	CONSULTANT	YEAR
OSIEK	POLAND	1500	OVERFLOW	PHU GARDEN MAREK IGNATOWICZ	2015
CHOISY LE BANS	MAURITIUS	2 x 1000	SKIMMER	CARLETON BIO POOL	2015
SOLARIS HOTEL	SERBIA	200	SKIMMER	GRATIM	2015
TOP 10 HOLIDAY RESORT	NEW ZELAND	722	SKIMMER	ECOSPRINGS	2014
VB STUDIO	BULGARIA	550	SKIMMER	ART.PRO	2014
TENUTA RE FERDINANDO	-CASERTA - ITALIA	500	OVERFLOW	BLU PISCINE Srl	2014
KARDIAL HOTEL	BOSNIA	650	SKIMMER	LAKMUS	2014
GONETTA SPORT RESORT SRL	SAN CARLO CANAVESE - TORINO - ITALIA	400	OVERFLOW	PISCINE & PISCINE Srl	2014
NAUTEC MARE Srl - YACHT CLUB	MONFALCONE - GORIZIA - ITALIA	200	SKIMMER	IL GERMOGLIO	2013
HOTEL CROCE BIANCA	CANAZEI - TRENTO - ITALIA	275	SKIMMER	INACQUA Srl	2013
CLINICHE SAN MARCO	LATINA - ROMA - ITALIA	140	SKIMMER	SA.ME.DAR Srl	2013
BORGO ALLA FONTE	FOLLONICA - GROSSETO - ITALIA	120	SKIMMER	BLU PISCINE Srl	2013
ENDEMOL - SECRET STORY 7	FRANCE	90	SKIMMER	LUX PISCINE	2013
MORRA	CASSINO - FROSINONE - ITALIA	130	SKIMMER	ENRICA S.A.S.	2013
EITAN	ISRAEL	80	SKIMMER	AGAMIT POOLS	2013
KAILASH HOTEL	NEPAL	80	SKIMMER	OODDIY ECO INTERNATIONAL PVT. LTD.	2013
BOULOC	FRANCE	70	SKIMMER	AZUR PISCINE SARL	2013
CAZELIN	MAURITIUS	70	SKIMMER	BPL International LTD	2013
SARTORI	ADRO - BRESCIA - ITALIA	80	INFINITY EDGE	TECNOESSE IMPIANTI	2013
ORLANDO SALVATORE	CASTELLAMARE DEL GOLFO - TRAPANI - ITALIA	60	INFINITY EDGE	DAVIRO COSTRUZIONI	2013
SOORIAH	MAURITIUS	120	SKIMMER	BPL International LTD	2012
REFIDO	CZECH REPUBLIC	100	SKIMMER	JEZRIKA-STAVBY S.R.O.	2012
ZBIGINIEW	POLAND	80	SKIMMER	PHU GARDEN MAREK IGNATOWICZ	2012
ISOLA BLU Srl	CASTELNITO - CUNEO - ITALIA	330	SKIMMER	INACQUA Srl	2012
AGAMIT	ISRAEL	90	SKIMMER	AGAMIT POOLS	2012
EBNER	AUSTRIA	60	SKIMMER	POOLTECHNICK	2012
MULLER	GERMANY	80	SKIMMER	Eng. Muller	2012
MENAGE	MAURITIUS	80	SKIMMER	BPL International LTD	2012
GOOLIAURY	MAURITIUS	60	SKIMMER	BPL International LTD	2012
COMO ACIMA	PORTUGAL	100	SKIMMER	REGACENTRO	2012
MONASTERO SANTA ROSA	AMALFI - NAPOLI - ITALIA	150	INFINITIVE EDGE	Dott. Luca Canavacciolo	2012
MARIANI	SVIZZERA	70	SKIMMER	INACQUA Srl	2012
BARTOLI	CELLI LIGURE - GENOVA - ITALIA	60	INFINITY EDGE	INACQUA Srl	2012
DICIANNOVE - SUMMER ON THE ROCKS	SANTA CESAREA TERME - LECCE - ITALIA	3400	INFINITY EDGE + OVERFLOW	POOL GARDEN	2011
FURNI RUSSI TENUTA	SERRANO - LECCE - ITALIA	900	SKIMMER	SYS PISCINE 2000	2011
PISCINA COMUNALE ALTEDO	ALTEDO - BOLOGNA - ITALIA	320	SKIMMER	C3 SRL	2011
RELIAUX MIRAMONTI HOTEL	MONTEGROTTO TERME - PADOVA - ITALIA	700	SKIMMER	Dott. Gianluigi Braggion	2010
TORRE	GORLE - BERGAMO - ITALIA	60	SKIMMER	INACQUA Srl	2010
ROTELLI	GORLE - BERGAMO - ITALIA	60	SKIMMER	INACQUA Srl	2010
CONDOMINIO VECCHI COPPI	SEREGNO - MILANO - ITALIA	120	SKIMMER	INACQUA Srl	2010

Thanks.

[www.biodesignpools.it](http://www.biodesignpools.it) - [www.termapond.it](http://www.termapond.it)

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