daliform GROUP
Building Innovation © Creatori dell'Iglù®

INNOVATIVE SOLUTIONS FOR BUILDING

DALIFORM GROUP
Tel. +39 0422 2083

EXPORT DEPARTMENT
export@daliform.com

TECHNICAL DEPARTMENT
tecnico@daliform.com

INDEX

History

Daliform Group srl in 2009 inherited the prestigious and exclusive wealth of knowledge and skills of Daliform srl of Pordenone, which since 1993 has been characterized by the ability to create advanced products for the construction in recycled plastic, aimed at definitively solving the problem of rising humidity, as well as the concentration of Radon Gas emerging from the subsoil.

This entrepreneurial initiative was initiated in the early 90's due to a law from the Region Friuli Venezia Giulia (number 44 dated 23 August 1985) that, for the first time in Italy, regulated in detail the obligation to use ventilated under-floor cavities due to the strong concentration of Radon gas in the region.
In comparison to traditional implementations (low walls and hollow blocks or attic) Daliform srl proposed its own innovative and revolutionary system of IGLU' formworks that was met with clamorous success in a short period of time.

Daliform Group, today, is the leading company in the creation and production of plastic products for the world of construction, the reference point for those who design, distribute and build.
It is an innovative company that spreads the culture of excellence by offering the best products and the best solutions for the environments in which you live, work and relax and who aspires to help all those who build to do it in the best, most efficient and most beautiful way for a better quality of life.
The company, with its technical staff of highly qualified engineers, has always been a "forge of highly successful innovations"; innovations that have significantly improved the way of building over the past decades with particular reference to ventilated crawl spaces, bidirectional and one-way lightened floors, driveways and vertical greenery.
Daliform Group is always at the forefront, ready to take on tomorrow's challenges with unchanging enthusiasm.

Philosophy

Mission
Our dream is our work: offering innovative systems and excellent products for the construction industry. We want to help everyone working in construction to do it better, more efficiently and more attractively, improving the quality of life.

Values
The love for what we do, our respect for our customers, the valorisation of people, the passion for intense excellence intended as the love for quality, beauty and well done work.
Search for growth, that lasts over time and respects the environment and sustainability.

Vision
We want to be the point of reference in the construction industry for those who design, distribute and construct.
An innovative company that spreads a culture of excellence by offering the best products and best solutions for the environments in which we live, work and enjoy ourselves.

Stakeholders
1) Customers (resellers, builders, users, designers, commissioning entities...)
2) Staff
3) Suppliers
4) Community
5) Company structure

Ceompany's certifications

Certified Management System
UNI EN ISO 9001 - UNI EN ISO 14001 - UNI EN ISO 45001 - SA8000

Member of
GBC Italy

Daliform Group works in compliance with the strictest International Standards in terms of **Quality UNI EN ISO 9001, Environment UNI EN ISO 14001, Safety UNI EN ISO 45001 18001 and Social Responsibility SA 8000**.

Daliform Group, extremely careful to respect the health and the environment, became partner of the **Green Building Council Italy** and it was the first one to obtain the **Certificate of Environmental Compatibility**.

Products' test and certifications

Daliform Group products are produced in compliance with the highest quality standards and have numerous product certifications and tests:

- BBA - Technical Approvals for Construction.
- Hygienic Certificate issued by the National Institute of Hygiene (Poland).
- Avis Technique issued by the French institute CSTB.

To confirm the validity of the products, there is the success of the following tests:

- Technical Construction Certificate issued by the Technical and Test Institute for Constructions Prague (Czech Republic).
- Technical Construction Certificate issued by the Agency for Quality Control and Innovation in Building (Hungary).
- Hygienic Certificate issued by the National Institute of Hygiene (Poland).
- Fire Resistance Certificate REI 180 for U-Boot Beton® issued by the CSI institute in Bollate (MI).
- Certification of a Load Test on an Attic with U-Boot Beton® issued by the University of Darmstadt.
- Acoustic check for the verification of DIN standards.
- Acoustic test according to the standard UNI EN ISO 140-6 – Measurement of acoustic insulation in buildings and building elements; laboratory measurements of the insulation footstep noise issued by the Istituto Giordano di Gatteo (FC).
- Acoustic test according to the standard UNI EN ISO 140-3 – Measurement of acoustic insulation in buildings; Laboratory measurements of the insulation of air-borne noise from building elements issued by the Istituto Giordano di Gatteo (FC).
- Rupture load tests certified by the University of Padua.
- GOST-R (Russia). Certificate of conformity about the quality of security of the products.

Credits

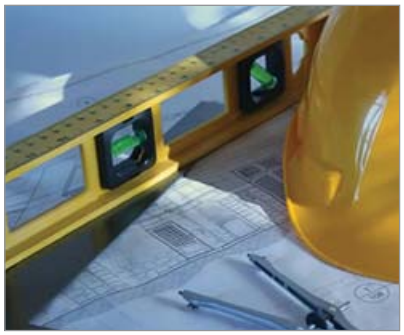
"Reinforced concrete voided slabs subjected gravity and seismic actions – Analysis and design of voided slabs lightened with the U-Boot Beton® system." is the book written at the end of a project, started in 2013 and developed in collaboration with Politecnico of Milano.
The book is addressed to all the consultants of the building sector that would like to learn more about the use of two-way voided slabs with U-Boot Beton®, to improve the seismic response of buildings, since the high seismicity of our Country.
Published by Dario Flaccovio Editore.

Daliform Group Technical Department

The technical advices are only for Daliform Group's products.

FEASIBILITY STUDY
Predimensioning and optimisation of the structures, comparative and/or revised proposals, material and manpower estimates, cost analysis. Evaluation of forced ventilation in the case of cold rooms.

CALCULATION REPORT
Reports certifying the execution of Daliform Group constructive systems.

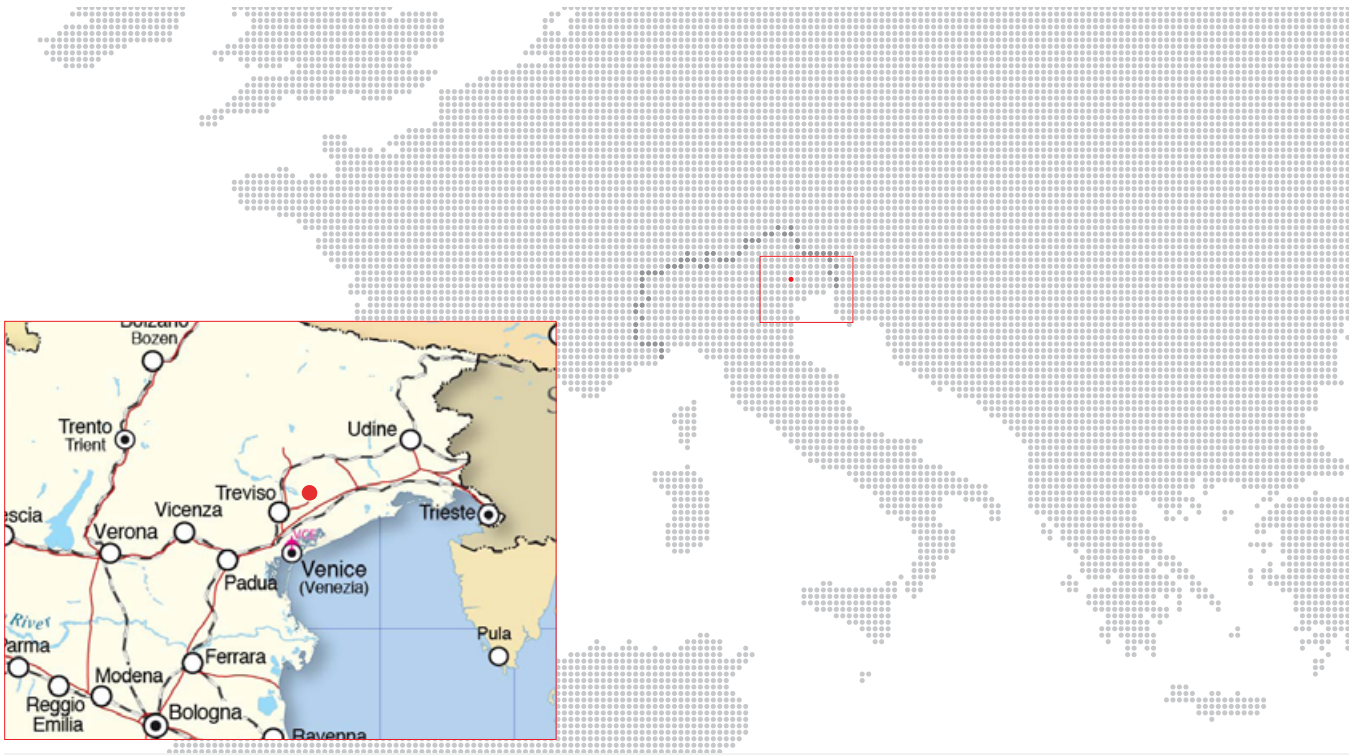


SUPPORT FOR THE EXECUTIVE DESIGN
Support by design professionals. Upon request, the formwork positioning plan can be supplied with a list of the products required to carry out the work and the relative accessories.

ON-SITE SUPPORT
If necessary, our technical staff can be present on-site to help the construction company during the operational phase.

To contact the technical office: Tel. +39 0422 2083 - tecnico@daliform.com
To obtain updated technical cards, support material, new photos and case studies, go to www.daliform.com.

Where we are



From Venice-Mestre
take the A4 highway in direction TRIESTE and exit at the tollbooth of CESSALTO.
From Trieste-Venice
take the A4 highway in direction VENICE and exit at the tollbooth of CESSALTO.
Follow the indications for Motta di Livenza and then for Gorgo al Monticano Industrial Area - Via Postumia Centro 49.

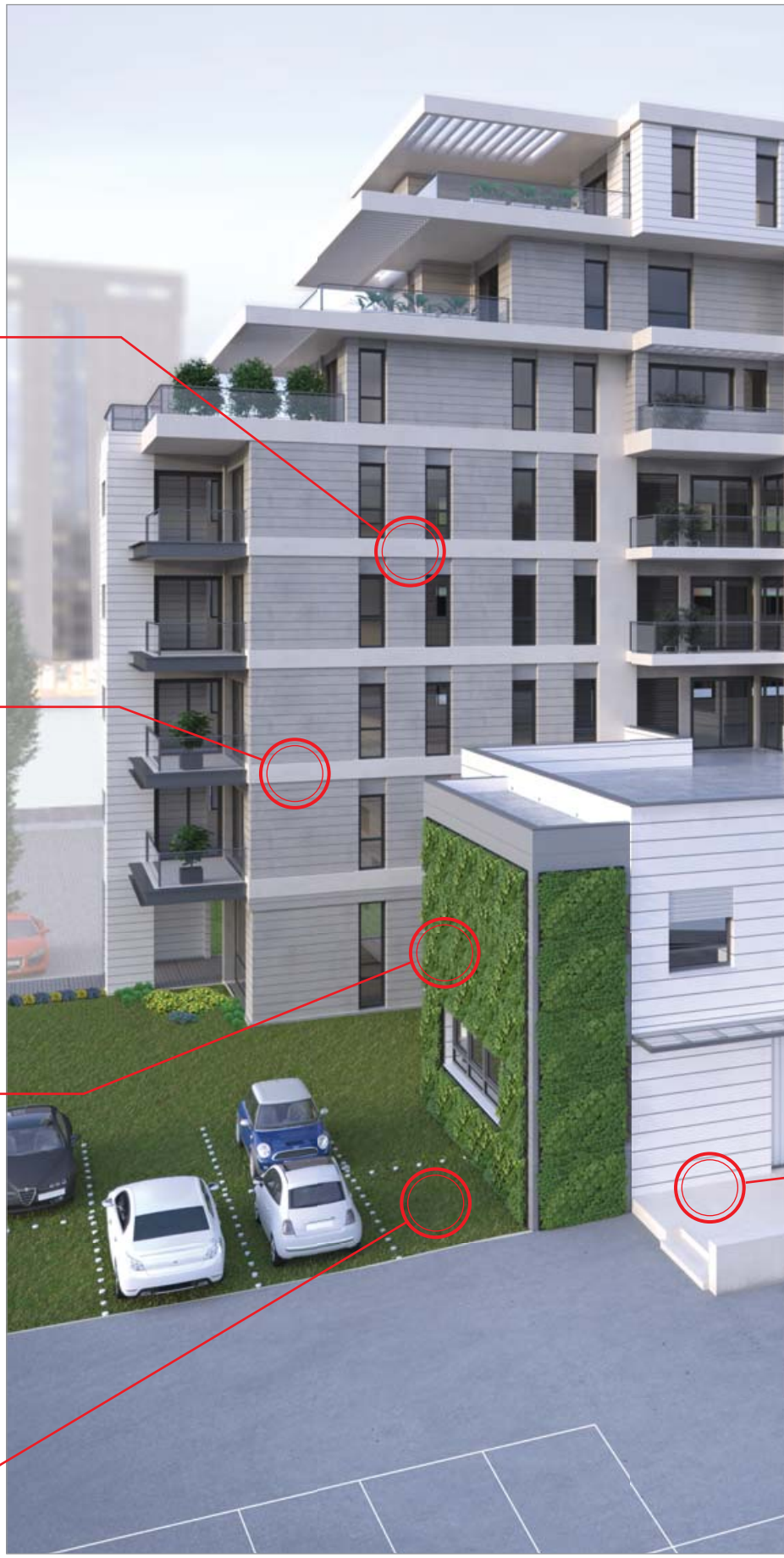
Building solutions

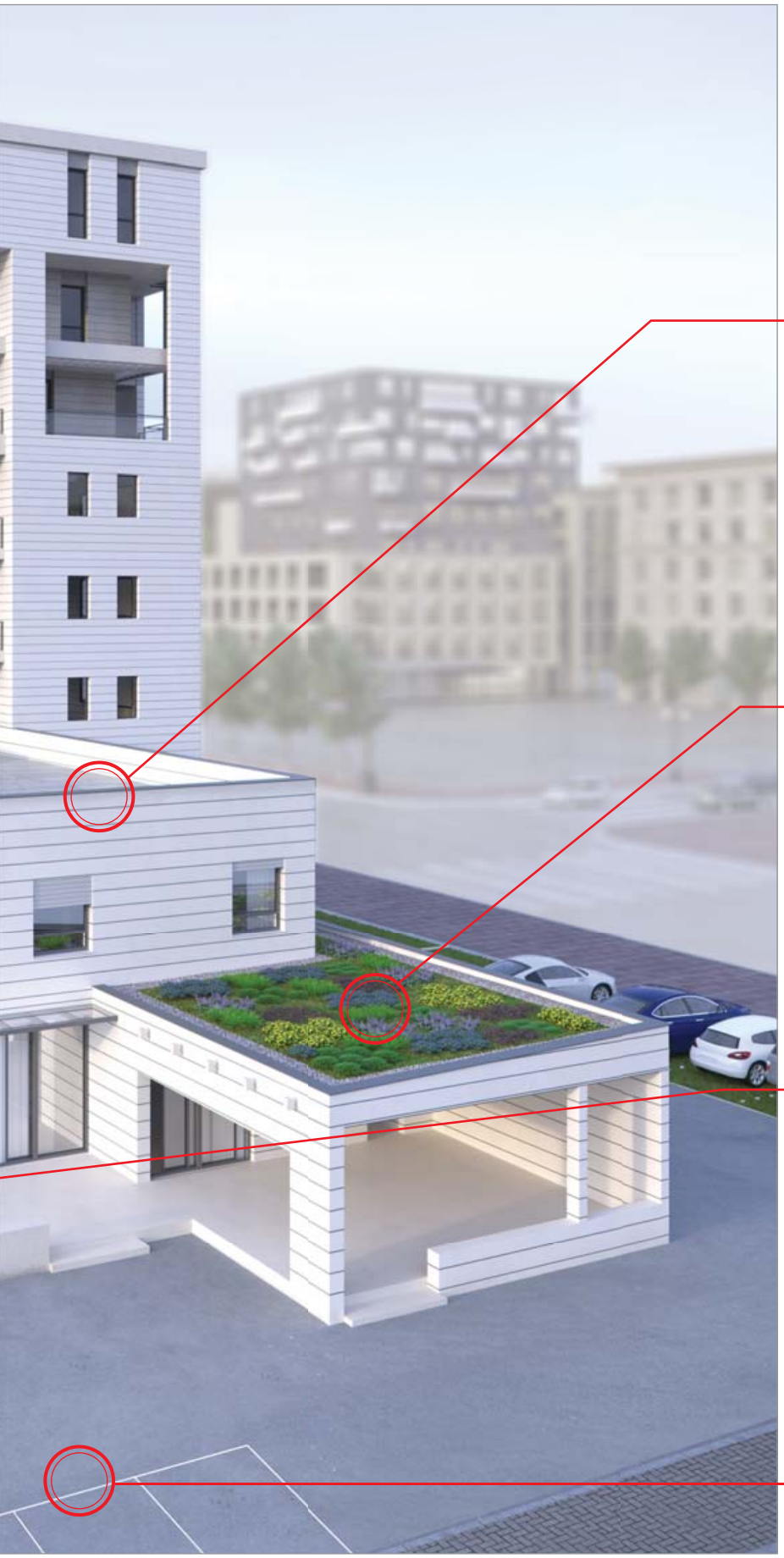
Systems for lightened slabs
bidirectionals U-BOOT® BETON,
monodirectionals U-BAHN® BETON and
monodirectionals FIT SLAB

Systems for the acoustic insulation
from airplain's noise and by impact.
U-BOOT® BETON + U-BOOT SILENCE

Systems for vertical climbing green
V-GREEN®

Systems for driveway surfaces
PRATOPRATICO®, E.C.O. by PRATOPRATICO®
ERBY SALVAPRATO, EASY PARK®, GREEN PARK





Systems for sloped or flat ventilated roofs
IGLU'® VENTILATED ROOF

Systems for roof gardens
IGLU'® GREEN ROOF

Systems for ventilated under-floor cavities.
IGLU'®, IGLU'® SMART and SISTEMA ATLANTIS

Systems for underground collection tanks
IGLU'® and SISTEMA ATLANTIS TANK

KEY:


Water, collection tanks


Air, moisture


Radon


Cold rooms


Utility passage


Foundations


Certifications

Iglu'® is a market leading product that was created and patented for the realisation of sanitary spaces, ventilated cavities, under-floor cavities, ventilated floors and roofs during the construction and restructuring of civil and industrial buildings. The innovative capacity of **Iglu'®** has received numerous successes and recognitions on a national and international level, quickly confirming it as a product of excellence in the building world.
The modular plastic **Iglù®** and **Iglu'® Plus** formworks, placed side by side in sequence according to a predefined direction, make it easy to quickly create a self-supporting pedestrian platform above which a layer of concrete is cast in order to easily and economically create a ventilated slab placed on vertical supports with the below cavity area available for the passage of systems but above all ventilated to counteract rising humidity and radioactive gases.

Applications

- Ventilated under-floor cavities for civil and industrial buildings that are being built new or reconstructed.
- Urban infrastructures: squares, sidewalks, sports facilities.
- Creation of an intermediate slab or roofing for cavities used for ventilation and the passage of systems.
- Rooms used for humidity and temperature control: drying cells, cold rooms, greenhouses, storage rooms and cellars.
- Underground pipes for the passage of utilities. Inspectionable cavities and pits.
- By filling it in simply with expanded clay, it can be used to create roof-top gardens.
- Underground ducts for the dispersion of water and for drainage.
- Overhead sidewalks for passenger loading and unloading or the creation of floating floors.
- Levelling height.

Advantages

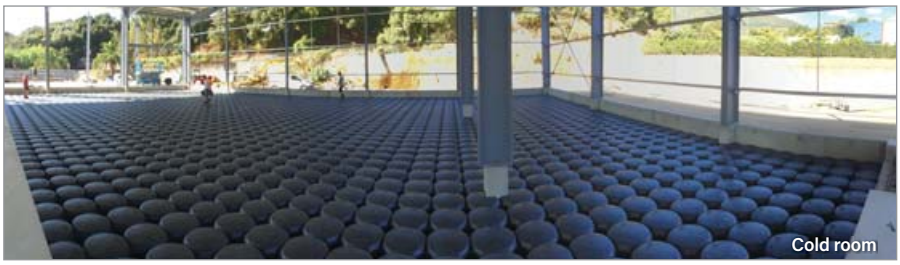
- Possibility to implement, in a single solution, foundation beams and the slab with the help of the *L-Plast* accessory.
- Reduction of manpower requirements by up to 80% in comparison to traditional systems.
- Drastic reduction in the use of concrete and aggregates as the arch form permits maximum resistance with a minimum thickness.
- Adaptable to non-standard spaces as the modules can be cut without underpinning.
- Ease of positioning due to lightness and simple linking of the modules.
- Simple adaptation to various perimeters.
- Quick and immediate cutting and shaping of the modules.
- Passage of the underground systems in every direction.
- Creation of a barrier against humidity.
- Tightness against rising humidity.
- Effective ventilation in all directions.
- Disposal of any RADON gas.
- No point of contact between the concrete and the ground.
- Perfect transpiration of the perimeter wall.


Roof-top garden

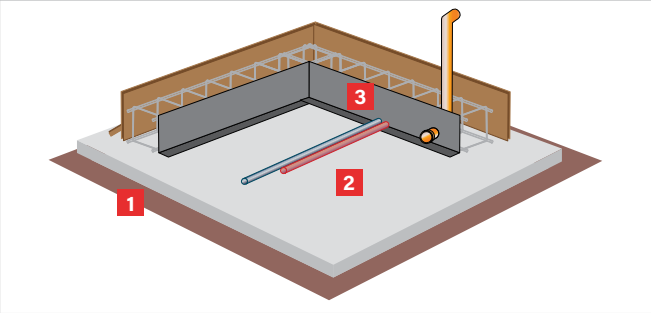

Ventilated interspace


Vasca di raccolta acqua


Passagge of utilities


Cold room

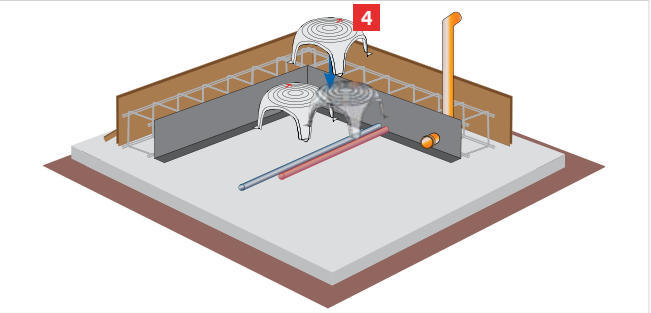
Method for creating under-floor cavities



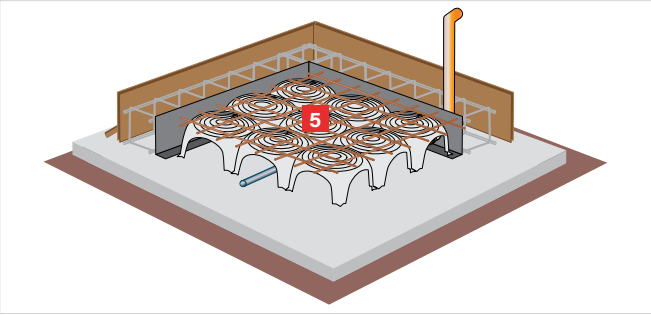
1 Preparation of the natural ground.

2 Preparation of the lean concrete foundation, to be sized according to the loads and capacity of the ground.

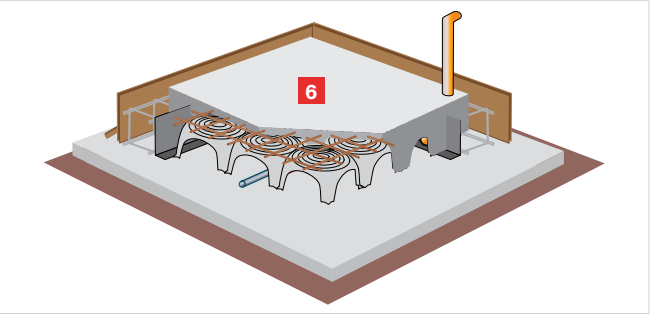
3 Positioning the L-Plast panel around the foundation beams after positioning the necessary reinforcements.



4 Positioning the linking male/female formworks, working from the left to the right, from the top down, making sure the arrow is facing upward.



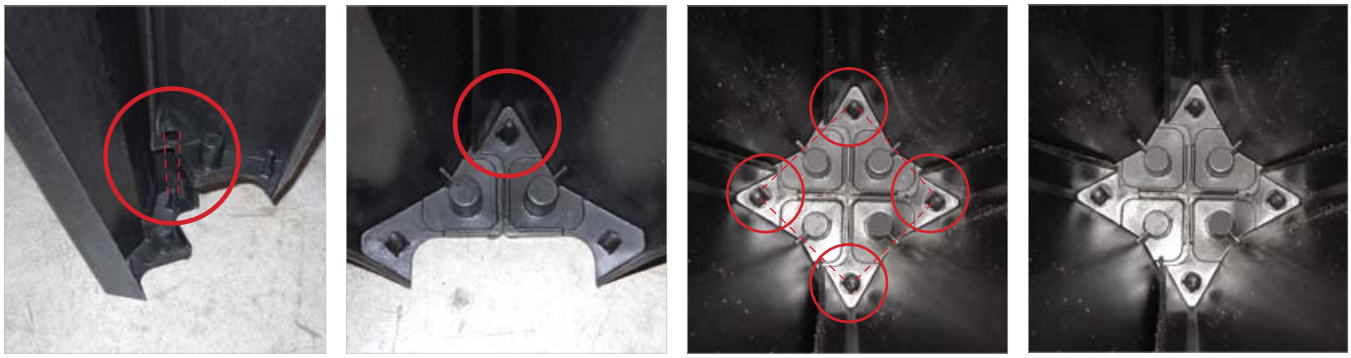
5 Laying the welded mesh Ø 6 20x20 above the formworks.



6 Casting the concrete starting from the centre of the arc, letting it go inside the legs of the Iglu®.

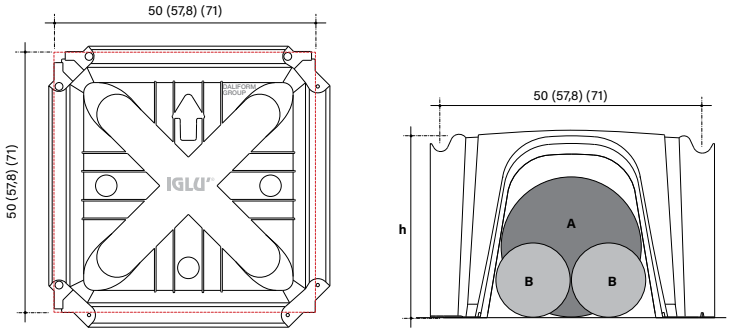
⚠ **To ensure a correct installation and perfectly created under-floor cavity please refer to the product's usage requirements.**

Detailed view of the complete sequence of positioning the Iglù®, subsequent reinforcement, casting and smoothing.



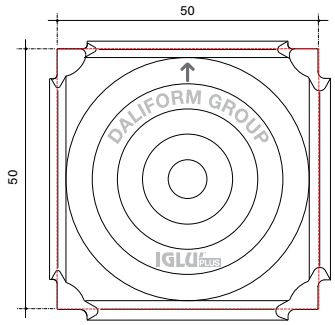
Detailed view of the male-female system linking phase - note the perfect seal of the feet.

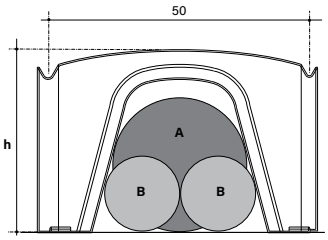
IGLU'® technical data



Height (cm)	Dimensions (cm)	Height tunnel clearance h (cm)	Pipe A max diameter 1 x Ø (cm)	Pipe B max diameter 2 x Ø (cm)	Quantity of concrete to the crown (m^3/m^2)	Piece weight (kg)	Pallet dimensions (cm)	Pieces per pallet (pcs/PAL)	M^2 pallet (m^2/PAL)	Pallet weight (kg/PAL)
4	50 x 50	2,2	2,2	2,2	0,006	0,735	110 x 110 x 250	600	150	454
5	58 x 58	-	-	-	0,014	1,136	120 x 120 x 256	960	320	1.104
6	50 x 50	3,9	3,9	3,9	0,007	0,757	110 x 110 x 253	600	150	467
8	50 x 50	5,9	5,9	5,9	0,010	0,789	110 x 110 x 254	600	150	487
9	58 x 58	-	-	-	0,018	1,190	120 x 120 x 262	996	332	1.199
10	50 x 50	5,8	5,8	5,5	0,013	0,833	110 x 110 x 246	580	145	496
12	50 x 50	7,7	7,7	7,5	0,021	0,865	110 x 110 x 249	580	145	515
13	50 x 50	-	-	-	0,021	1,287	110 x 110 x 256	420	105	554
14	50 x 50	9,8	9,8	9,4	0,028	0,963	110 x 110 x 248	460	115	465
16	50 x 50	11,8	11,8	11	0,030	0,984	110 x 110 x 250	460	115	466
18	50 x 50	13,8	13,8	12,5	0,033	1,179	110 x 110 x 250	380	95	461
20	50 x 50	15,8	15,8	13,5	0,034	1,038	110 x 110 x 251	460	115	491
22	50 x 50	17,8	17,8	15	0,036	1,265	110 x 110 x 256	380	95	494
25	50 x 50	20,5	20,5	15	0,039	1,330	110 x 110 x 254	400	100	545
27	57,8 x 57,8	22,5	22,5	16,8	0,043	1,687	120 x 120 x 250	324	81	561
27	50 x 50	-	-	-	0,031	1,952	112 x 112 x 259	480	120	950
30	50 x 50	26,3	25	13	0,046	1,406	110 x 110 x 243	320	80	463
35	50 x 50	31,3	26,5	14,5	0,052	1,492	110 x 110 x 248	320	80	491
40	50 x 50	36,3	28,5	15	0,058	1,557	110 x 110 x 253	320	80	511
45	50 x 50	41,3	29,5	16	0,064	1,622	110 x 110 x 247	300	75	500
50	57,8 x 57,8	45,5	30,8	16,6	0,077	2,552	120 x 120 x 261	240	80	627
55	57,8 x 57,8	50,4	32,2	17,3	0,080	2,693	120 x 120 x 248	228	76	628
60	57,8 x 57,8	55,4	33,6	18,1	0,083	2,801	120 x 120 x 257	228	76	653
65	71 x 71	60,7	45	25	0,112	4,261	77 x 155 x 246	120	60	527
70	71 x 71	65,7	45	25	0,114	4,402	77 x 155 x 244	116	58	527
75	71 x 71	70,7	45	25	0,117	4,661	77 x 155 x 244	114	56	547
80	71 x 71	75,7	45	25	0,118	4,867	77 x 155 x 248	110	55	551

IGLU'® PLUS technical data





Height	Dimensions	Height tunnel clearance	Pipe A max diameter	Pipe B max diameter	Quantity of concrete to the crown	Piece weight	Pallet dimensions	Pieces per pallet	M² pallet	Pallet weight
(cm)	(cm)	h (cm)	1 x Ø (cm)	2 x Ø (cm)	(m³/m²)	(kg)	(cm)	(pcs/PAL)	(m²/PAL)	(kg/PAL)
4	50 x 50	3	3	3	0,004	0,865	110 x 110 x 108	400	100	359
8	50 x 50	4,5	4,5	4,5	0,012	1,460	110 x 110 x 210	400	100	597
12	50 x 50	8	8	8	0,016	1,334	110 x 110 x 226	400	100	546
16	50 x 50	11	11	9,5	0,034	1,536	110 x 110 x 244	300	75	474
20	50 x 50	13	13	10	0,035	1,482	110 x 110 x 234	300	75	457
27	50 x 50	21	21	16	0,040	1,720	110 x 110 x 246	300	75	529
35	50 x 50	29	25,5	14,5	0,056	2,044	110 x 110 x 231	300	75	626
40	50 x 50	34	27,5	15	0,060	2,131	110 x 110 x 230	300	75	652
45	50 x 50	39	27	14,5	0,065	2,239	110 x 110 x 236	300	75	685
50	50 x 50	43	26,5	14	0,067	2,185	110 x 110 x 236	300	75	668
55	50 x 50	44	25,5	13,5	0,090	2,823	110 x 110 x 243	300	75	860

The images are by way of example. The formworks might have different shapes depending on their height. Please refer only to the technical sheet of the product.

Accessories

L-PLAST

It is used for new constructions to create the slab and foundation beams with a single concrete casting; when restructuring is used to easily create reinforcement curbs for existing foundations. Furthermore, it is ideal for creating air ducts in general or in geothermal applications where air must be blown into the under-floor cavity.

ISO IGLU' - for insulated slabs *(only for IGLU'® PLUS from H 16 cm to H 45 cm)*

The combined use of Iglu'® Plus and Iso Iglu'® is the ideal solution for efficiently insulating buildings from external agents such as humidity, heat and the cold. Above, Iso Iglu'® is preformed with channels or cavities for the pipe coils of the underfloor heating and cooling system, making them quick and easy to lay.

BETON UP - for monolithic slabs *(only for IGLU'® PLUS)*

Beton Up is an accessory for the Iglu'® Plus system (or Atlantis) that prevents the concrete from forming feet. In this way, the formworks take on the simple function of scaffolding on which a monolithic reinforced concrete slab can be created that is bound to the surroundings. With Beton Up the slab is not self-supporting.

PIBI STOP - for diagonal beams

It is a casting stop panel for obstructing, as needed, the "side tunnels" of the individual Iglu'® or Iglu'® Plus. PIBIstop is optimal for creating foundation beams without the need to use classical wood shuttering and it is particularly suited for reconstruction where an underpinning must be created where the existing structures are often not squared.

PROLUNGA

A component in expanded polystyrene of suitable density to resist concrete pressure, which makes it possible to develop a ventilated floor in any shape or size. It permits the casting in a single phase of the substructure grating and the ventilated floor, saving on reinforcement and dismantling operations.

KEY:


Air, moisture


Radon


Cold rooms


Utility passage


Foundations


Certifications

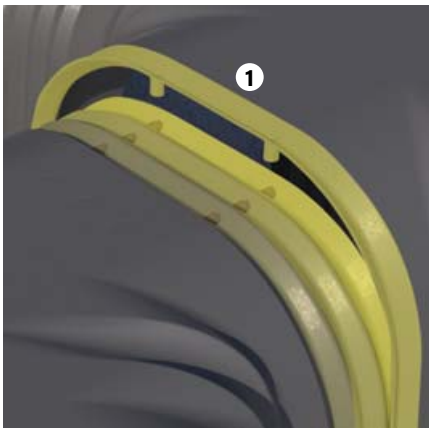
Iglu'® Smart is the innovative disposable formwork which is both vertically and horizontally adjustable in plan, to facilitate the creation of ventilated cavities that offer even greater flexibility than normal formworks.
Iglu'® Smart's unique, innovative configuration and special interlocking system with adjustable notches in its two horizontal and vertical appendages, allow for easy adjustment of the size of the formwork's plan in both directions, at right angles to each other, horizontally and vertically.
For example, with **Iglu'® Smart**, in addition to the dimensions shown below: 50 x 50 cm, 52.5 x 52.5 cm, and 55 x 55 cm, it is also possible to obtain non-standard dimensions such as 55 x 52.5 cm, 52.5 x 50 cm, 50 x 55 cm, or 50 x 52.5 cm, simply by adjusting the position of the overlap between the formworks, i.e. by shifting the formwork using the pre-set notches.
Iglu'® Smart is ideal for covering large surface areas in considerably shorter time frames than with normal formworks without using additional accessories such as extension systems, for example.

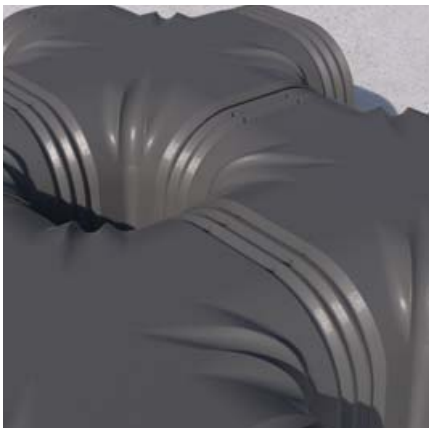
IGLU' smart

Applications

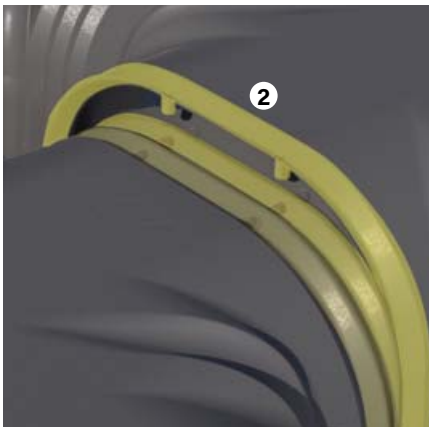
- Ventilated under-floor cavities for civil and industrial buildings that are being built new or reconstructed.
- Urban infrastructures: squares, sidewalks, sports facilities.
- Creation of an intermediate slab or roofing for cavities used for ventilation and the passage of systems.
- Rooms used for humidity and temperature control: drying cells, cold rooms, greenhouses, storage rooms and cellars.
- Underground pipes for the passage of utilities. Inspectionable cavities and pits.
- By filling it in simply with expanded clay, it can be used to create roof-top gardens.
- Underground ducts for the dispersion of water and for drainage.
- Overhead sidewalks for passenger loading and unloading or the creation of floating floors.
- Levelling height.

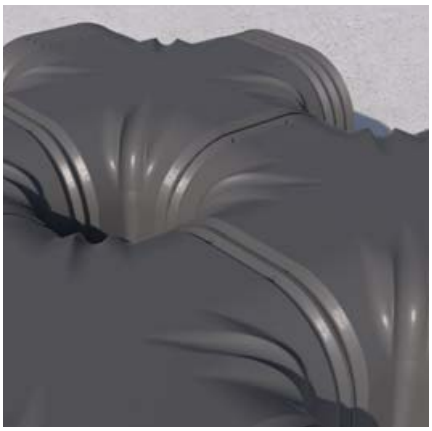
1. Laying in position 55 x 55 cm — 1 m² = 3,31 pcs



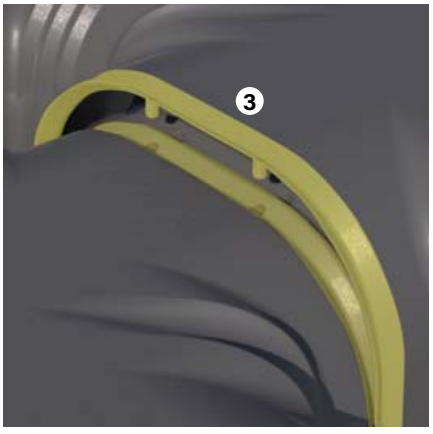


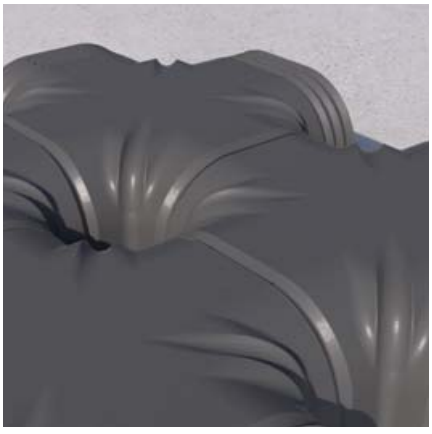
2. Laying in position 52,5 x 52,5 cm — 1 m² = 3,63 pcs





3. Laying in position 50 x 50 cm — 1 m² = 4 pcs

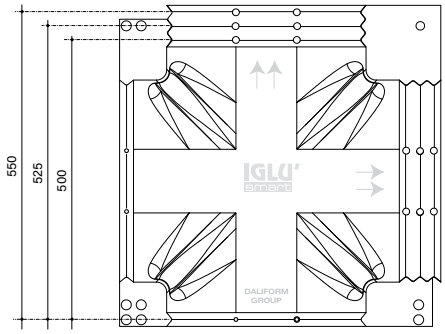


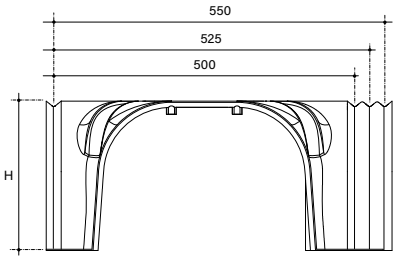


Advantages

- By adjusting the surmount position of the formowork, it allows to easily adjust the plan dimensions in both directions.
- Possibility to cover large surfaces areas in considerably shorter time frames than with normal formworks.
- Reduction of manpower requirements by up to 80% in comparison to traditional systems.
- Adaptable to non-standard spaces as the modules can be cut without underpinning.
- Ease of positioning due to lightness and simple linking of the modules.
- Simple adaptation to various perimeters.
- Quick and immediate cutting and shaping of the modules.
- Passage of the underground systems in every direction.
- Creation of a barrier against humidity.
- Tightness against rising humidity.
- Effective ventilation in all directions.
- Disposal of any RADON gas.
- No point of contact between the concrete and the ground.
- Perfect transpiration of the perimeter wall.

Tachnical data





Height (cm)	Dimensions (cm)	Quantity of concrete to the crown (m^3/m^2)	Piece weight (kg)	Pallet dimensions (cm)	Pieces per pallet (pcs/PAL)	M^2 pallet (m^2/PAL)	Pallet weight (kg/PAL)
H 13	55 x 55	0,029	1,525	120 x 120 x 241	400	121	624
	52,5 x 52,5	0,025	1,525	120 x 120 x 241	400	110	624
	50 x 50	0,022	1,525	120 x 120 x 241	400	100	624
H 15	55 x 55	0,032	1,536	120 x 120 x 243	400	121	628
	52,5 x 52,5	0,027	1,536	120 x 120 x 243	400	110	628
	50 x 50	0,024	1,536	120 x 120 x 243	400	100	628
H 20	55 x 55	0,037	1,828	120 x 120 x 248	400	121	745
	52,5 x 52,5	0,032	1,828	120 x 120 x 248	400	110	745
	50 x 50	0,028	1,828	120 x 120 x 248	400	100	745
H 25	55 x 55	0,042	1,968	120 x 120 x 253	400	121	801
	52,5 x 52,5	0,036	1,968	120 x 120 x 253	400	110	801
	50 x 50	0,031	1,968	120 x 120 x 253	400	100	801
H 30	55 x 55	0,047	2,001	120 x 120 x 258	400	121	814
	52,5 x 52,5	0,039	2,001	120 x 120 x 258	400	110	814
	50 x 50	0,033	2,001	120 x 120 x 258	400	100	814
H 35	55 x 55	0,050	2,044	120 x 120 x 263	400	121	832
	52,5 x 52,5	0,042	2,044	120 x 120 x 263	400	110	832
	50 x 50	0,035	2,044	120 x 120 x 263	400	100	832
H 40	55 x 55	0,053	2,282	120 x 120 x 258	380	115	881
	52,5 x 52,5	0,044	2,282	120 x 120 x 258	380	105	881
	50 x 50	0,036	2,282	120 x 120 x 258	380	95	881

KEY:

Drainage

Respect for the environment

Environmentally friendly, environmentally compatible

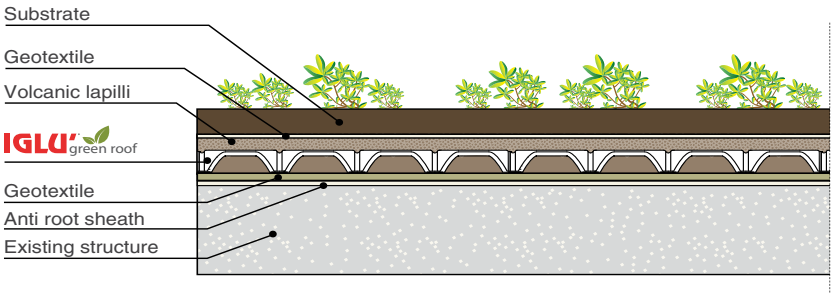
Lightening of the structure

Certifications

Iglu'® Green Roof is a system of great environmental significance against the continued overbuilding of our cities for the construction of roof gardens and green roofs to protect the waterproofing, and with a guaranteed life of the garden.
The main problem of green roofs was to adjust the drainage to prevent the death of the vegetation due to excessive stagnation or lack of water.
Today it is possible to adjust the drainage of roof gardens thanks to Iglu'® Green Roof whose surface area allows for adequate water storage and, at the same time, for the drainage of excess water through the "overflow" holes.
Creating a roof garden the with Iglu'® Green Roof system can satisfy the public administrations requirements in terms of building parameters, energy saving, and reducing and mitigating the release of water into the sewer system.

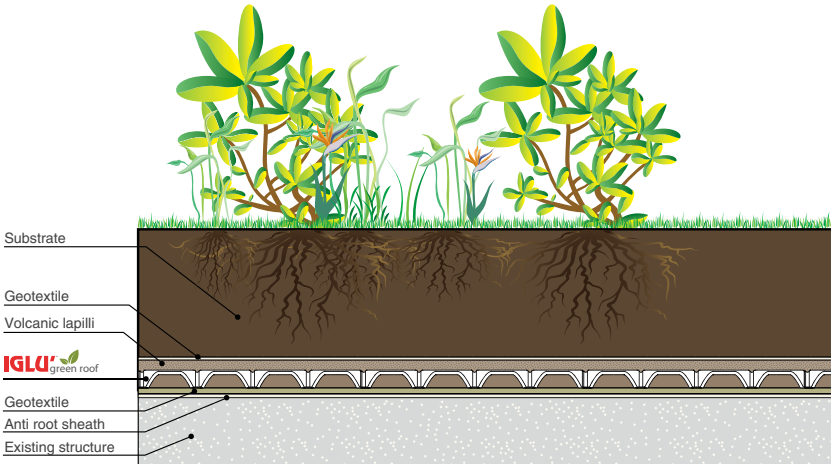
Extensive roof-top garden

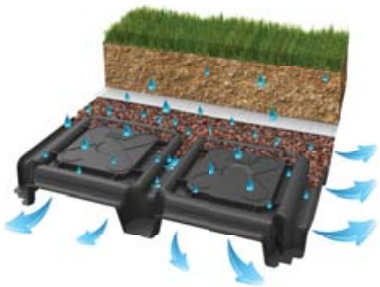
Extensive roof garden is a type of green cover for medium-large surfaces, with reduced load capacity, which does not require special implementation and maintenance costs, given the limited thickness of the substrate and the type of vegetation belonging to very durable species with shallow roots (grass, sedum, herbaceous perennials).
It can be applied on flat or sloped coverings (up to 30°), and it is particularly suitable for the roofs of industrial buildings, shopping centers, office blocks and garage roofing.
From the economic point of view, it is a valid solution also for covering residential complexes and single-family houses. Generally it is not a usable type of covering, but it is important especially for environmental mitigation and compensation in highly urbanized contexts.
The certainty of lower heat loss during the winter, but, above all, the high natural cooling in summer, make the extensive green roofs made with **Iglu® Green Roof** an ideal solution also for less useful roofs to be turned green.



Intensive roof-top garden

Intensive roof garden is the most representative solution of the traditional garden. This solution allows the choice between a huge number of different species, which also include shrubs and trees of the third magnitude and requires a high degree of maintenance. The ability to recreate environments which are fully comparable to the traditional gardens on the ground, make this type of covering a fully usable structure.
Coverings of this type are particularly suitable for private homes and hospitals, elderly homes, tourist facilities, covers for underground garages, driveways and parking areas, where high loads and mechanical stress are expected.



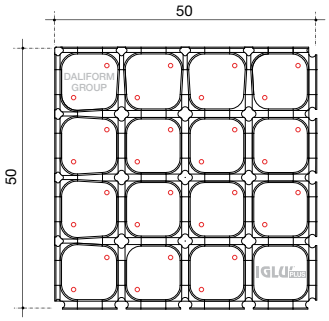


Advantages

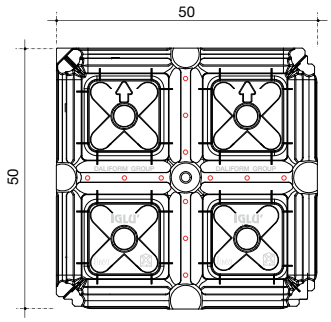
- Control of meteoric waters.
- Improvement of the macro- and micro-climate.
- Sound insulation.
- Improvement of air quality.
- Ecological balance.
- Mitigation of environmental impact.
- Creation of new accessible surfaces and green areas.
- Increased durability of the cover: the waterproof coatings remain protected from temperature changes, UV rays, hail and frost.
- Increased thermal insulation: the improvement of the microclimate inside the building ensures considerable savings on of air conditioning and heating costs.
- Increased value of properties

Technical data

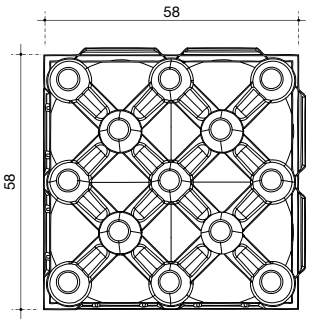
with tank



dispersion



with tank/dispersion



Height (cm)	Function -	Dimensions (cm)	Piece weight (kg)	Pallet dimension (cm)	Pieces per pallet (pcs/PAL)	M² pallet (m²/PAL)	Pallet weight (kg/PAL)
4	WITH TANK	50 x 50	0,865	110 x 110 x 108	400	100	359
5	WITH TANK / DISPERSION	58 x 58	1,136	120 x 120 x 256	960	320	1.104
9	WITH TANK / DISPERSION	58 x 58	1,190	120 x 120 x 262	996	332	1.199
4	DISPERSION	50 x 50	0,735	110 x 110 x 250	600	150	454
6	DISPERSION	50 x 50	0,757	110 x 110 x 253	600	150	467
8	DISPERSION	50 x 50	0,789	110 x 110 x 254	600	150	487
10	DISPERSION	50 x 50	0,833	110 x 110 x 246	580	145	515
12	DISPERSION	50 x 50	0,865	110 x 110 x 249	580	145	515


Intensive green roof


Extensive green roof


Intensive green roof

KEY:

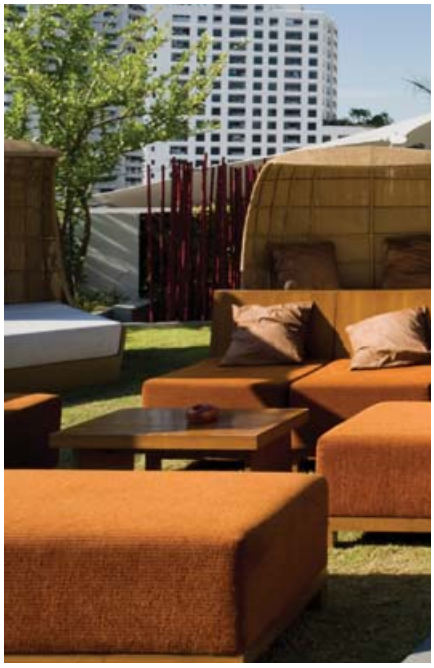
Air, moisture

Radon

Ventilation

Certifications

An increasingly important topic over the past few years has been the excessive amount of energy used by buildings, a use that can be considerably reduced through roof ventilation achieved by using Iglu'® Ventilated Roof.
By placing Iglù® Ventilated Roof formworks on the building's horizontal roof, an air cavity is created that insulates from the heat in the summer and from the cold in the winter, resulting in savings in indoor air conditioning.
The accumulation of heat in the summer and low winter temperatures with the formation of condensation and mold, are phenomena that can find a valid solution with the adoption of a ventilated roof with Iglu'® Ventilated Roof, a system that promotes continuous air flow inside the under-covering.



IGLU' ventilatedroof

Applications

- Comfortable attics with the appropriate hygrothermal characteristics: the creation of an air gap of constant thickness is a brilliant design choice, compatible with any pitched roof in reinforced concrete.
- Flat roof terraces so up to allow full exploitation of the surface of the built space.

Advantages

- In the winter months, closing the ventilation with a simple register, it can isolate from the cold outside.
- In the summer months it can reduce heating of the spaces below thanks to ventilation.
- The ventilation also avoids moisture stagnation below the roof surface and thus prevents the formation of mold or other substances which may lead to a degradation of the structure.
- Significant savings on energy consumption (heating/cooling).


Cross section of a flat ventilated roof

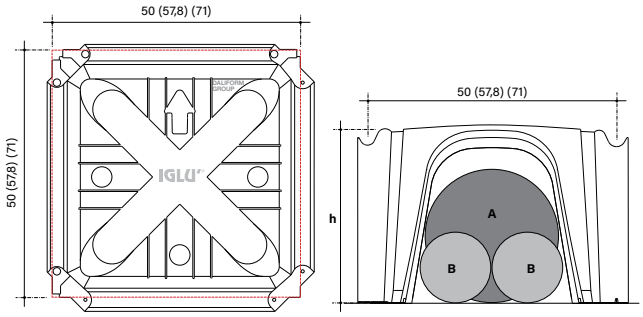

Cross section of a pitched ventilated roof

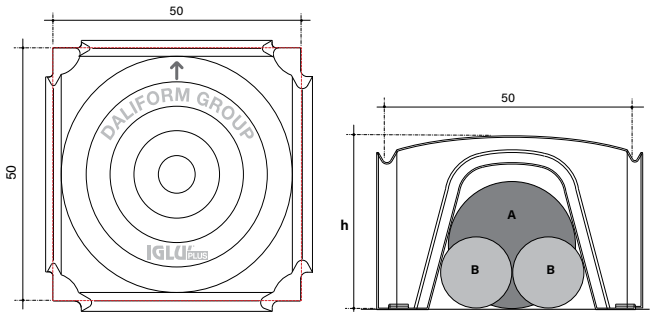

Flat ventilated roof


Flat ventilated roof


Flat ventilated roof

Technical data





Height (cm)	Dimensions (cm)	Height tunnel clearance h (cm)	Pipe A max diameter 1 x Ø (cm)	Pipe B max diameter 2 x Ø (cm)	Quantity of concrete to the crown (m^3/m^2)	Piece weight (kg)	Pallet dimensions (cm)	Pieces per pallet (pz/PAL)	M^2 pallet (m^2/PAL)	Pallet weight (kg/PAL)
4	50 x 50	3	3	3	0,004	0,865	110 x 110 x 108	400	100	359
4	50 x 50	4,5	4,5	4,5	0,006	0,735	110 x 110 x 250	600	150	454
6	50 x 50	8	8	8	0,007	0,757	110 x 110 x 253	600	150	467
8	50 x 50	11	11	9,5	0,012	1,460	110 x 110 x 210	400	100	597
8	50 x 50	13	13	10	0,010	0,789	110 x 110 x 254	600	150	487
10	50 x 50	21	21	16	0,013	0,833	110 x 110 x 246	580	145	496
12	50 x 50	29	25,5	14,5	0,016	1,334	110 x 110 x 226	400	100	546
12	50 x 50	34	27,5	15	0,021	0,865	110 x 110 x 249	580	145	515
14	50 x 50	39	27	14,5	0,028	0,963	110 x 110 x 248	460	115	456
16	50 x 50	43	26,5	14	0,034	1,536	110 x 110 x 244	300	75	474
16	50 x 50	44	25,5	13,5	0,030	0,984	110 x 110 x 250	460	115	466

The images are by way of example. The formworks might have different shapes depending on their height. Please refer only to the technical sheet of the product.

KEY:


Air, moisture


Radon


Ventilation


Energy savings

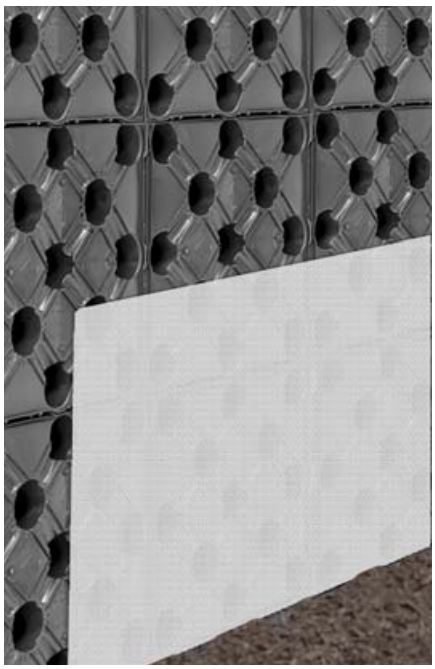

Thermal insulation


Environmentally friendly, environmentally compatible


Certifications

IGLU® BARRIER

Retaining walls and other walls that are in contact with the ground are exposed to damp due to capillary action; added to this is the possibility of damp air resulting from inadequate thermal insulation. This situation can lead to the formation of mould, unpleasant odours and, more importantly, it can compromise the durability of the structure.
It is therefore imperative to select materials that maintain their impermeability to water and water vapour as well as their rot-resistance and mechanical strength over time, even when under loads from construction-site vehicular traffic.
When Iglu'® Barrier disposable formworks are connected to a ventilated cavity under the foundation, they create a "chimney effect" which can then increase the outflow of moisture and Radon gas. Installing a ventilated cavity between a waterproofed retaining wall and the backfill eliminates contact between the ground and the waterproofing.
This system is the safest way to protect below-ground walls which are intended to last over time and will accompany the structure throughout its service life.



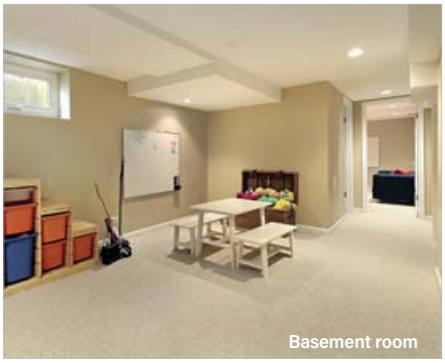
Application

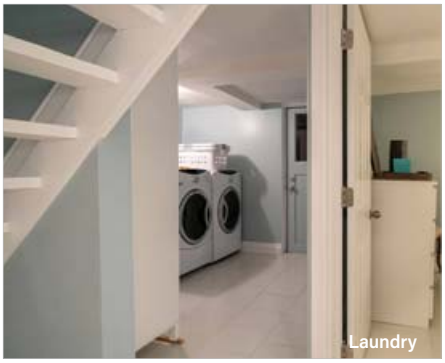
The presence and diffusion of moisture in construction works generates a multitude of problems. Discomfort and damage affect both the contemporary building sector and various areas within the restoration and conservation sectors.
Capillary rising damp and infiltration into below-ground structures or into structures used to contain soil are among the principle causes of deterioration in building works.

Due to its special configuration and the natural air chamber that forms between the wall and the panel, the **Iglù® Barrier** panel protects walls in below-ground living spaces (such as cellars, garages, laundries, taverns, etc.) from both "penetrating damp" (a.k.a. lateral damp) and temperature changes.

The cost reduction compared to traditional systems, the guarantee of eliminating contact between soil moisture and the waterproofing membrane, the excellent resistance to compression combined with the ease of installation and handling on site, make **Iglù® Barrier** an essential product for the protection of walls in contact with the ground.


Garage


Basement room


Laundry

Advantages

Because the thermal insulation used for the external surface of the wall is subject to extremely high stresses due to its continuous contact with the ground, the associated lithostatic load and the effects of moving loads, as well as contact with rainwater, **Iglù® Barrier** offers optimal performance with regard to:

- ventilation in all directions thanks to the cavity created by laying **Iglù® Barrier** directly in contact with the waterproofing membrane;
- better environmental conditions in underground rooms;
- lower incidence of problems with humidity and moisture;
- reducing the "cold wall" effect;
- effective "impact protection" for waterproofing during the backfilling phases of the excavations;
- forming a root barrier to protect the waterproofing;
- reducing installation costs compared to the traditional system using gravel and a dimpled membrane;
- easy installation;
- ease of storage and handling on site;
- suitability for laying under all weather conditions;
- benefitting the durability of the building, potentially extending its service life and increasing its value.

Pose

Install and waterproof the concrete channel at the base of the wall to be buried to facilitate the outflow of rainwater.
Waterproof the channel and the wall to be buried.

Start laying the Iglu'® Barrier panels. First solution: anchor a row to the ground; this row will be developed vertically.
Hook the head element to the upper reinforcement bars with wire.

Second method for locking the panels to the wall to be buried: support with a wooden plank every 3 - 4 rows vertically and every 3 metres horizontally; the plank will be removed while the excavation is being backfilled.

Third method: attach the support feet of the panels to the waterproofing using polyurethane spray or suitable adhesives compatible with the waterproofing used.

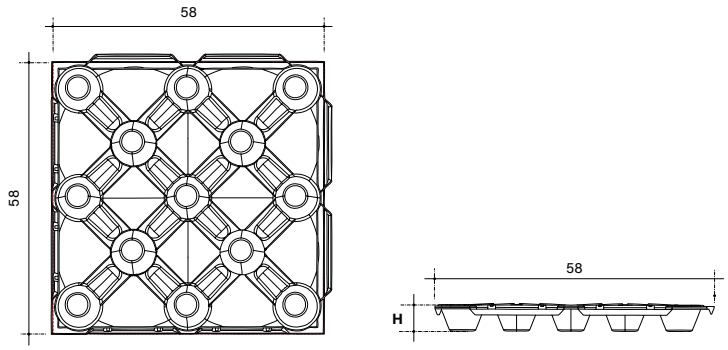
For waterproofing with a bituminous or similar membrane, lightly torch the membrane and attach the feet to it.

Pass a wire through the drainage holes of each individual panel in the last row mounted, and tie it to the upper reinforcement bars of the retaining wall.

Any discontinuities in the laying of the Iglu'® Barrier panels due to the passage of pipes or corners of the underground wall must be covered with a vertical band of geotextile approximately 50 cm wide on each side.

Before proceeding with the backfilling, the last mounted row of Iglu'® Barrier panels must be sealed using the proper guard for perimeter sealing, a plastic sealing strip to be inserted between the underground wall and the panels.

Technical data



Height	Dimensions	Piece weight	Compressive strength	Support foot surface area	Pallet dimensions	Pieces per pallet	M² pallet	Pallet weight
(cm)	(cm)	(kg)	(kg/m²)	(cm²/m²)	(cm)	(pcs/PAL)	(m²/PAL)	(kg/PAL)
5	58 x 58	1,136	> 10.000	1.240	120 x 120 x 256	960	320	1.104
9	58 x 58	1,190	> 10.000	609	120 x 120 x 262	996	332	1.199

KEY:

Air, moisture, unpleasant smell

Composting, biofiltration, waste stabilisation

Phytopurification

Food storage rooms

Eolo represents the efficient, fast and economic remedy for the realisation of a perforated floor in reinforced concrete with high load-bearing capacity, which can be also accessed by heavy vehicles. Thanks to the vertical asymmetric nozzles, axially perforated, it can be conveniently used for the distribution of air in composting, waste stabilisation systems, deodorising systems and for aerating the floors of the storage rooms for the storage/curing of food products.
Eolo is constructed with recycled plastic, it is eco-compatible, and it is composed of special high nozzles which permit the realisation of a 6 cm high perforated plate.
Through the **Eolo** elements the air is uniformly distributed in the air cavity and it is then blown into the overhead environment.

Applications

Eolo is used in all applications which require the presence of self-bearing perforated floors and with high resistance both in terms of static loads and in terms of moving heavy vehicles, such as:

- composting systems;
- waste stabilisation systems;
- biofiltration systems;
- phytopurification tanks;
- food storage rooms.

Advantages

- Efficient ventilation in all directions thanks to the cavity created by the Eolo formworks.
- High load-bearing capacity of the structure both in terms of static loads and in terms of moving heavy vehicles.
- Ease of positioning due to lightness and simple linking of the modules.
- Possibility of maintenance/cleaning through the inspection channels.
- Reduction of reinforcement time thanks to the presence of spacers integrated with the nozzles which host the welded mesh.
- Collection of possible leachate.

Pose

Fig. 1 - Dry positioning of the first formwork, the arrow is facing the foundation curb.

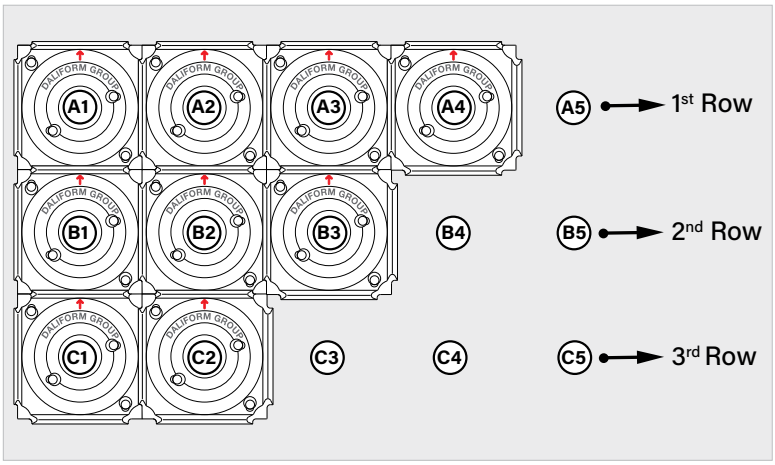


Fig. 2 - Dry positioning sequence of the modules by row.

1 Position the first element to the upper left with respect to the work surface, making sure that the arrow is pointing up (Fig. 1).

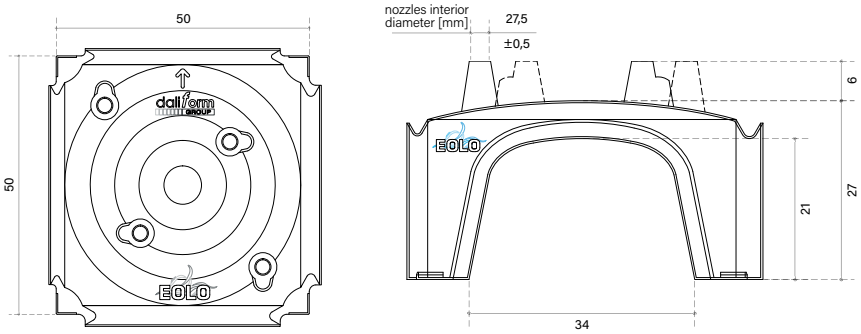
2 Unite the elements in sequence, by horizontal row, proceeding from the left towards the right and from the top downwards (following the direction normally used for writing), as shown graphically on the crown of each unit (Fig. 2).

3 Laying the steel reinforcements using the notches next to the nozzles, specifically created for hosting the reinforcements.

4 Casting of concrete of 6 cm of height, starting from the centre of the arc, letting it go inside the legs of Eolo. Subsequent vibration.

5 Removal of Eolo plugs following the solidification of the cement casting.

Technical data



Height	Dimensions	Quantity of concrete to the crown	Piece weight	Nozzles: internal Ø (mm)/ heigh(cm)	Pallet dimensions	Pieces per pallet	M² pallet	Pallet weight
(cm)	(cm)	(m^3/m^2)	(kg)		(cm)	(pz/PAL)	(m^2/PAL)	(kg/PAL)
27	50 x 50	0,040	1,974	Ø 27,5 ± 0,5 / H 6	110 x 110 x 250	220	55	447

4 plugs to close the nozzles with their dirt-stopping grilles are included.

KEY:

Foundations

Environmental Compliance

Ecological, Environmentally Friendly

Energy Conservation

Certifications

COFFRARGILE

With foundation problems in clayey soils, conditions which facilitate a "proactive" approach with regard the soil rarely occur within the scope of the project.
In most cases, the structure is designed and its behaviour is then anticipated as a function of the mechanical characteristics of the soil, while only seldom it's possible to act on these in order to modify unfavourable environmental conditions.
Daliform Group created **Coffrargile**, a disposable formwork made of recycled plastic, to effectively handle the movements of clayey soils and protect floors from shrinkage/swelling.
Coffrargile is used in combination with Beton Up, an accessory that prevents the reinforced concrete from forming the "pillars" typical of the classic Iglu'® system. In this way, the formworks take on the function of simple scaffolding on which a load-bearing slab of reinforced concrete can be installed with a cavity below, the purpose of which is to accommodate the swelling and shrinkage of the sediment underlying the foundation due to the special mechanical properties of clayey soils.

COFFRARGILE

Applications

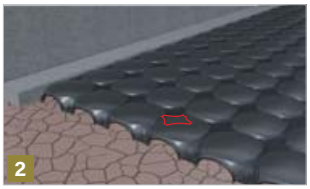
Coffrargile is the effective solution for creating cast-in-place reinforced concrete slabs that do not suffer from the effects of swelling and shrinkage inherent in clayey soils for the construction of office and commercial buildings as well as civil and industrial projects which are threatened by underlying clayey sediments.

Advantages

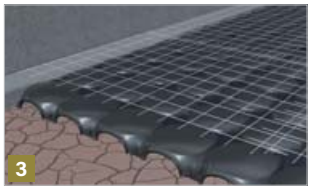
- Compared to the alternative system which is composed of disposable formwork made of biodegradable cardboard and for which outdoor storage on building sites is unsuitable due to the risk of humidity, fog or precipitation, the Coffrargile system is impervious to the weather.
- Ease of storage and handling on site.
- Resistant to termites, insects, rodents and other animals which, can in contrast, destroy cardboard elements.
- Ecological and environmentally compliant. Compared to the alternative system of formwork made of cardboard, Coffrargile leaves no compostable organic residue that can give rise to offensive odours and provide nesting material for various animals.
- Greater solidity during the setting of the load-bearing reinforced concrete slab.
- Does not transmit stresses to the structures that it supports. Coffrargile provides a void, whose height depends on the thickness of the product, under the load-bearing slab in order to adapt to any problems with the soil, regardless of the amount of swelling anticipated.
- Easy installation due to the lightness and simplicity of interlocking elements.
- Supports the weight/passage of workers on site, avoiding the risk of accidents and injuries.

Pose

Lay the interlocking male/female formworks directly on the dry ground, from left to right and top to bottom, ensuring that the arrow marked on the Coffrargile formwork is facing up.



Place the Beton Up element above each leg to plug the hole and prevent the concrete from forming legs.



Placement of the reinforcing rods is above the formwork and above the foundation beams, according to the project.

Casting of the reinforced concrete to form a load-bearing slab that is reinforced and supported with a cavity along the edges to accommodate the movements of the ground.

Fig. 1 - Dry positioning of the first formwork, the arrow is facing the foundation curb.

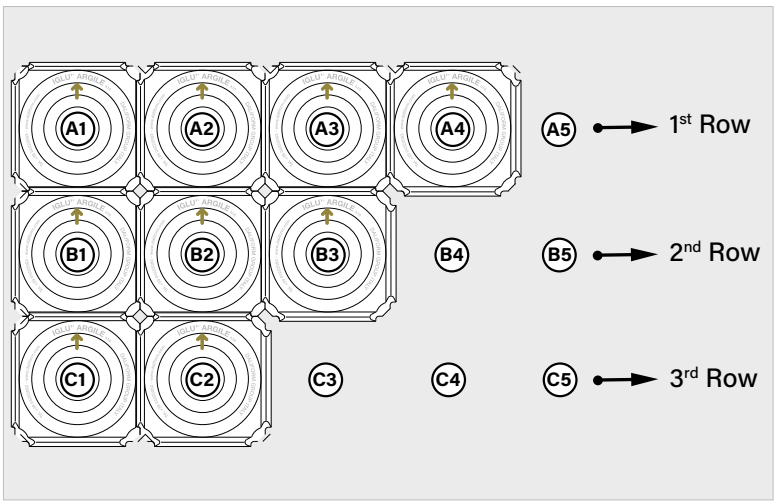
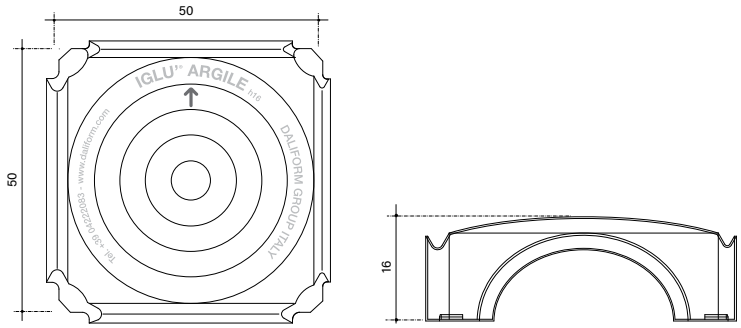


Fig. 2 - Dry positioning sequence of the modules by row.

1 Position the first element to the upper left with respect to the work surface, making sure that the arrow is pointing up (Fig. 1).

2 Unite the elements in sequence, by horizontal row, proceeding from the left towards the right and from the top downwards (following the direction normally used for writing), as shown graphically on the crown of each unit (Fig. 2).

Technical data



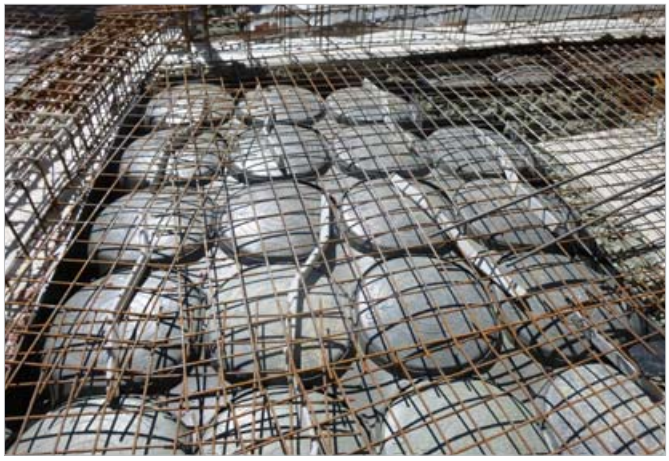
Height	Dimensions	Quantity of concrete to the crown	Piece weight	Pallet dimensions	Pieces per pallet	M² pallet	Pallet weight
(cm)	(cm)	(m^3/m^2)	(kg)	(cm)	(pz/PAL)	(m^2/PAL)	(kg/PAL)
16*	50 x 50	0,034	1,536	110 x 110 x 244	300	75	474

*Other heights are available on request

Accessories

Beton Up - for monolithic slabs

Beton Up is an accessory which prevents the concrete from penetrating between one formwork and another and from forming legs. In this way, the formworks take on the function of simple scaffolding on which a monolithic reinforced concrete slab that is bound to the surroundings can be installed.
It should be noted that, with Beton Up, the slab is not self-supporting.



KEY:


Water, collection tanks


Air, moisture


Radon


Cold rooms


Utility passage

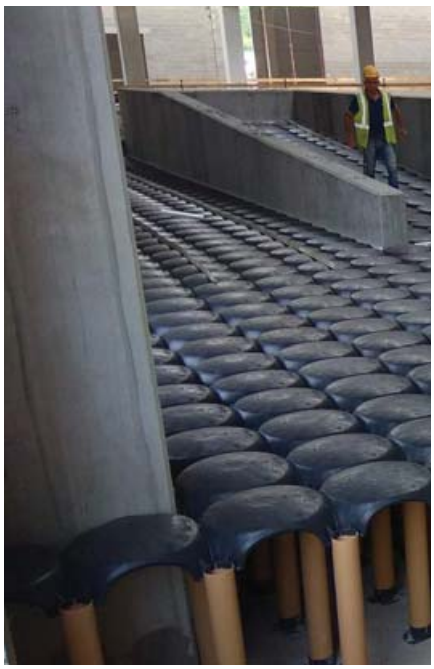

Foundations

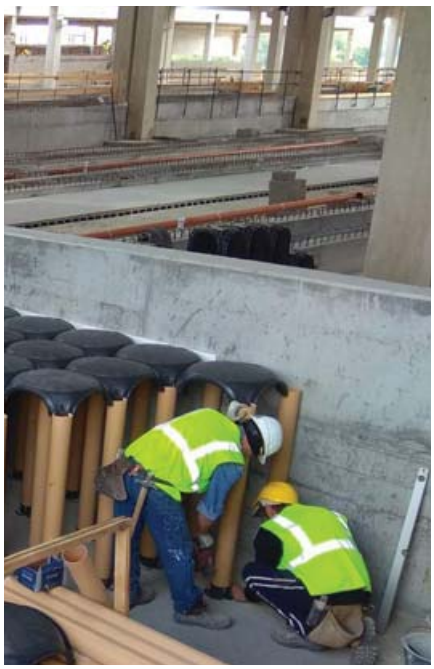

Certifications


Ecocompatibility

Sistema Atlantis

Sistema Atlantis *(Atlantis System)* is an advanced system for creating cavities in general, under-floor cavities and ventilated floors in newly constructed or restructured civil and industrial buildings, accumulation tanks, dispersion tanks, honeycomb rafts, low temperature cold rooms.
The **Atlantis System** is used when the depth of the under-floor cavity or cavity is such that the classic Iglù® formworks cannot be used, with the advantage that the constant diameter of the elevator pipes makes it possible to minimise the use of concrete for filling. The main system features are speed, simplicity and cost performance.
Furthermore, with **Atlantis**, a sanitary space is obtained with a suitable humidity barrier and, if properly ventilated through piping connected outdoors, it is a tool for the disposal of the Radon gas present in the ground.





Sistema
Atlantis

Applications

- Realization of under-floor cavities where there is considerable height available.
- Distribution of systems and technological networks under the pavement so they do not need to be buried in screed.
- Thermally insulated cavities for cold rooms with or without forced ventilation.
- Accumulation or dispersion tanks and for pool restructuring.
- It is the ideal system for creating inclined or multilevel surfaces.
- When used in combination with the special Muro formwork, represents an innovative, quick and economic solution for the creation of honeycomb or box foundation rafts (superrafts).

Advantages

- Ease of positioning as it is light-weight and simple to install through the linking of the elements, with time savings up to 80%.
- Minimum use of concrete for level filling thanks to the lowered dome form.
- The possibility, due to the pipe system, to have any height up to 3 m supplied to the yard.
- Possibility to bear loads of considerable size by providing the vertical supports with suitable reinforcement.
- Adaptable to non-standard spaces.
- Possibility to pose the elements with the help of a single support.
- Passage of systems under the pavement in all directions.
- Total ventilation of the space and air flows in all directions.
- Simple material management in the yard, as it is not bulky and can be exposed to bad weather.
- Enhancement and respect for the environment thanks to the use of "second life" plastic material.


Atlantis System in combination with Cassaforma Muro

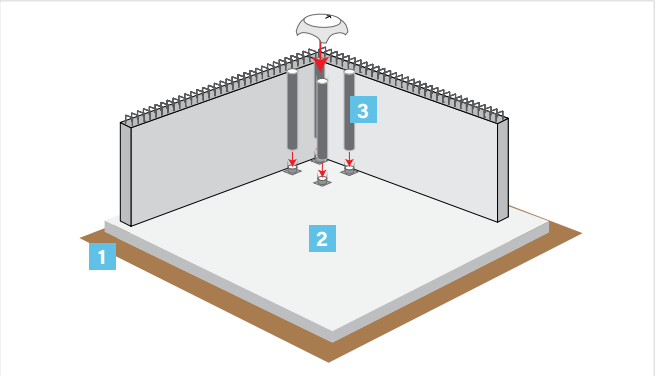

Residential building

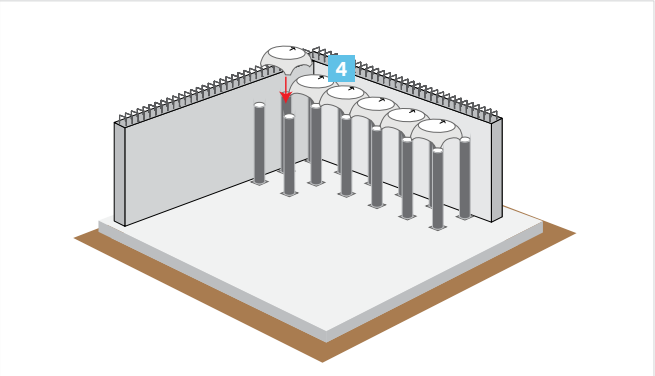

Passage of utilities


Airport


Swimming pool elevation

Method for creating under-floor cavities



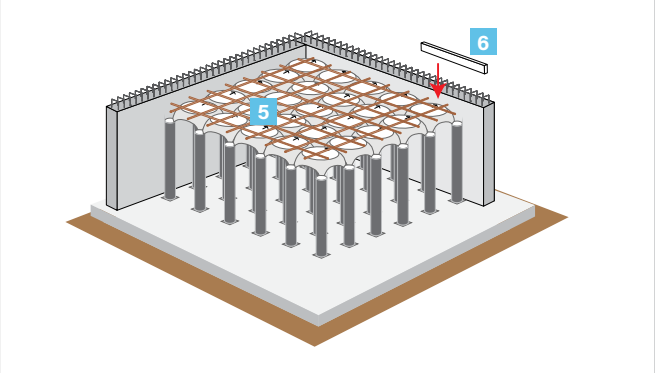


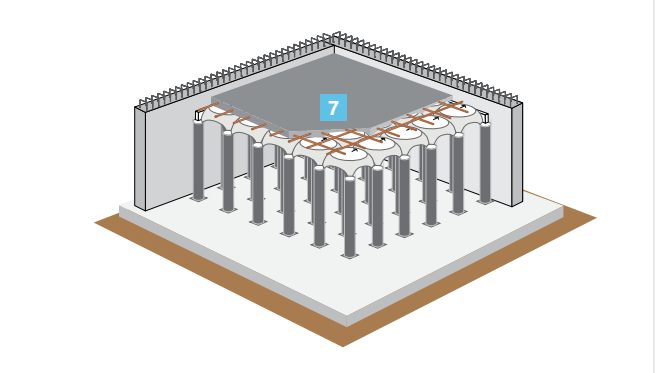
1 Preparation of the natural ground.

2 Preparation of the lean concrete foundation, to be sized according to the loads and capacity of the ground.

3 Pose of Atlantis system (foot+pipe+formwork).

4 Pose the elements from left to the right; once completed a row, proceed with next one.





5 Laying the welded mesh Ø 6 20x20 above the formworks.

6 Insert polystyrene panels, between wall and formwork, along the cavity perimeter.

7 Realization of concrete casting, filling previoulsy Atlantis pipes and then covering the formworks till reaching the quote of project.

⚠ To ensure a correct installation and perfectly created under-floor cavity please refer to the product's usage requirements.

Dry assembly method

fig. 1 - Dry positioning of the first formwork, the arrow is facing the foundation curb

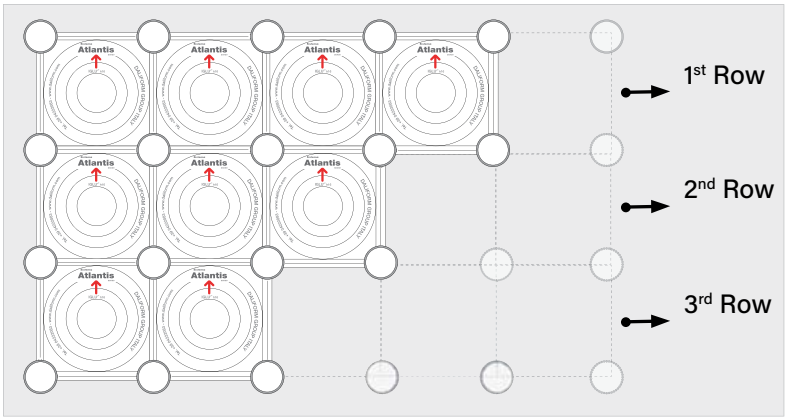
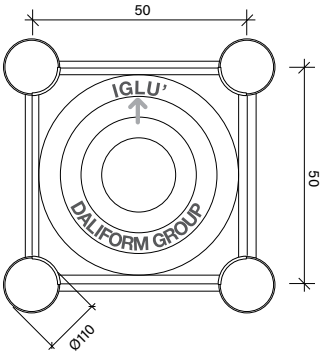


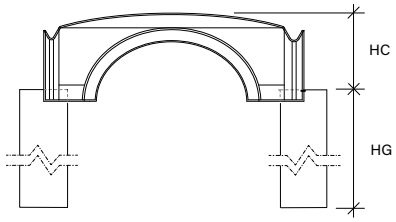
fig. 2 - Dry positioning sequence of the modules by row

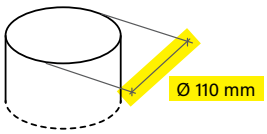
1 Position the first element to the upper left with respect to the work surface, making sure that the arrow is pointing up *(fig. 1);*

2 Unite the elements in sequence, by horizontal row, proceeding from the left towards the right and from the top downwards (following the direction normally used for writing), as shown graphically on the crown of each unit *(fig. 2).*

Technical data

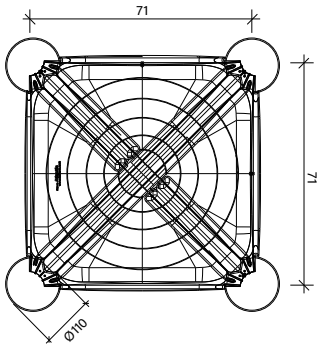


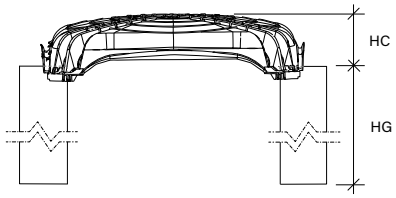


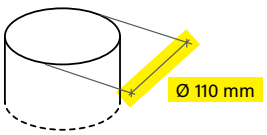


Dome 50x50 cm
Pipe Ø 110 mm

Height (cm)	Dimensions (cm)	Dome height (cm)	Pipe height HG (cm)	Quantity of concrete to the crown (m^3/m^2)	Pallet dimensions (cm)	Pieces per pallet (pz/PAL)	M^2 pallet (m^2/PAL)	Pallet weight (kg/PAL)
56 / 80	50 x 50	16	from 40 to 64	from 0,048 to 0,056	110 x 110 x 250	300	75	490
81 / 110	50 x 50	16	from 65 to 94	from 0,056 to 0,068	110 x 110 x 250	300	75	490
111 / 140	50 x 50	16	from 95 to 124	from 0,068 to 0,079	110 x 110 x 250	300	75	490
141 / 170	50 x 50	16	from 125 to 154	from 0,079 to 0,089	110 x 110 x 250	300	75	490
171 / 200	50 x 50	16	from 155 to 184	from 0,089 to 0,100	110 x 110 x 250	300	75	490
201 / 230	50 x 50	16	from 185 to 214	from 0,100 to 0,111	110 x 110 x 250	300	75	490
231 / 260	50 x 50	16	from 215 to 244	from 0,111 to 0,122	110 x 110 x 250	300	75	490
261 / 300	50 x 50	16	from 245 to 284	from 0,122 to 0,136	110 x 110 x 250	300	75	490



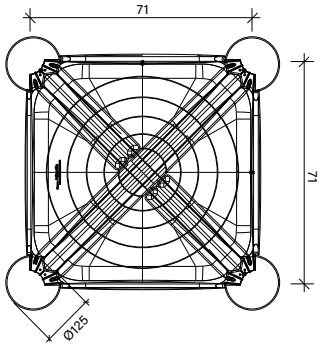


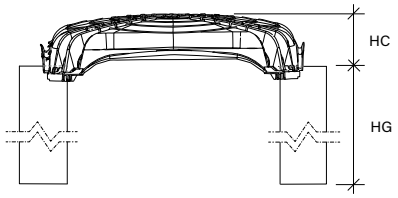


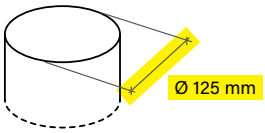
Dome 71x71 cm
Pipe Ø 110 mm

Height (cm)	Dimensions (cm)	Dome height (cm)	Pipe height HG (cm)	Quantity of concrete to the crown (m^3/m^2)	Pallet dimensions (cm)	Pieces per pallet (pz/PAL)	M^2 pallet (m^2/PAL)	Pallet weight (kg/PAL)
56 / 80	71 x 71	15	from 41 to 65	from 0,041 to 0,045	76 x 149 x 259	230	115	660
81 / 110	71 x 71	15	from 66 to 85	from 0,045 to 0,049	76 x 149 x 259	230	115	660
111 / 140	71 x 71	15	from 86 to 125	from 0,049 to 0,056	76 x 149 x 259	230	115	660
141 / 170	71 x 71	15	from 126 to 155	from 0,056 to 0,061	76 x 149 x 259	230	115	660
171 / 200	71 x 71	15	from 156 to 185	from 0,061 to 0,067	76 x 149 x 259	230	115	660
201 / 230	71 x 71	15	from 186 to 215	from 0,067 to 0,072	76 x 149 x 259	230	115	660
231 / 260	71 x 71	15	from 216 to 245	from 0,072 to 0,078	76 x 149 x 259	230	115	660
261 / 300	71 x 71	15	from 246 to 285	from 0,078 to 0,085	76 x 149 x 259	230	115	660

Technical data

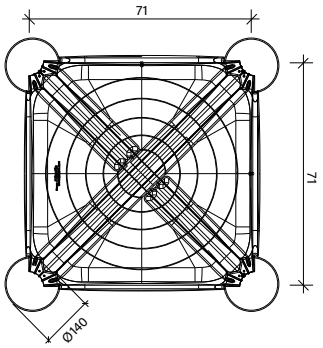


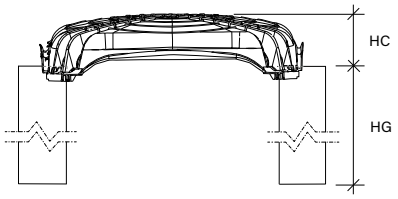


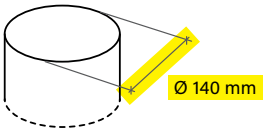


Dome 71x71 cm
Pipe Ø 125 mm

Height (cm)	Dimensions (cm)	Dome height (cm)	Pipe height HG (cm)	Quantity of concrete to the crown (m^3/m^2)	Pallet dimensions (cm)	Pieces per pallet (pz/PAL)	M^2 pallet (m^2/PAL)	Pallet weight (kg/PAL)
56 / 80	71 x 71	15	from 41 to 65	from 0,042 to 0,048	76 x 149 x 259	115	230	660
81 / 110	71 x 71	15	from 66 to 85	from 0,048 to 0,055	76 x 149 x 259	115	230	660
111 / 140	71 x 71	15	from 86 to 125	from 0,055 to 0,062	76 x 149 x 259	115	230	660
141 / 170	71 x 71	15	from 126 to 155	from 0,062 to 0,069	76 x 149 x 259	115	230	660
171 / 200	71 x 71	15	from 156 to 185	from 0,069 to 0,076	76 x 149 x 259	115	230	660
201 / 230	71 x 71	15	from 186 to 215	from 0,076 to 0,082	76 x 149 x 259	115	230	660
231 / 260	71 x 71	15	from 216 to 245	from 0,082 to 0,089	76 x 149 x 259	115	230	660
261 / 300	71 x 71	15	from 246 to 285	from 0,089 to 0,099	76 x 149 x 259	115	230	660



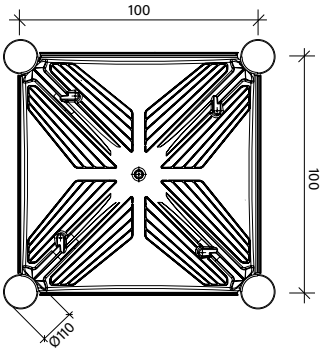


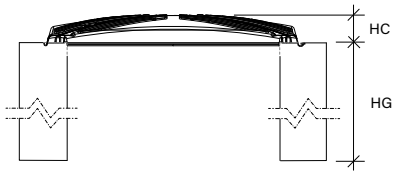


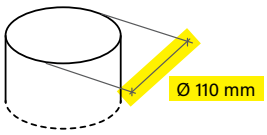
Dome 71x71 cm
Pipe Ø 140 mm

Height (cm)	Dimensions (cm)	Dome height (cm)	Pipe height HG (cm)	Quantity of concrete to the crown (m^3/m^2)	Pallet dimensions (cm)	Pieces per pallet (pz/PAL)	M^2 pallet (m^2/PAL)	Pallet weight (kg/PAL)
56 / 80	71 x 71	15	from 41 to 65	from 0,045 to 0,052	76 x 149 x 259	230	115	660
81 / 110	71 x 71	15	from 66 to 85	from 0,052 to 0,061	76 x 149 x 259	230	115	660
111 / 140	71 x 71	15	from 86 to 125	from 0,061 to 0,069	76 x 149 x 259	230	115	660
141 / 170	71 x 71	15	from 126 to 155	from 0,069 to 0,078	76 x 149 x 259	230	115	660
171 / 200	71 x 71	15	from 156 to 185	from 0,078 to 0,087	76 x 149 x 259	230	115	660
201 / 230	71 x 71	15	from 186 to 215	from 0,087 to 0,095	76 x 149 x 259	230	115	660
231 / 260	71 x 71	15	from 216 to 245	from 0,095 to 0,104	76 x 149 x 259	230	115	660
261 / 300	71 x 71	15	from 246 to 285	from 0,104 to 0,116	76 x 149 x 259	230	115	660

Technical data

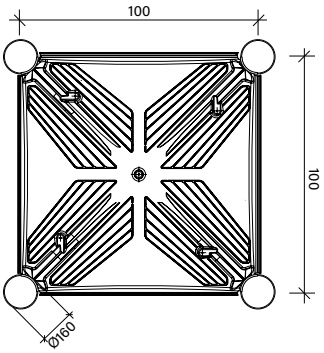


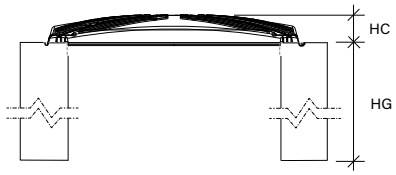


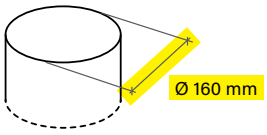


Dome 100x100 cm
Pipe Ø 110 mm

Height (cm)	Dimensions (cm)	Dome height (cm)	Pipe height HG (cm)	Quantity of concrete to the crown (m^3/m^2)	Pallet dimensions (cm)	Pieces per pallet (pz/PAL)	M^2 pallet (m^2/PAL)	Pallet weight (kg/PAL)
56 / 80	100 x 100	12	from 44 to 68	from 0,038 to 0,040	110 x 110 x 244	70	70	700
81 / 110	100 x 100	12	from 69 to 98	from 0,040 to 0,043	110 x 110 x 244	70	70	700
111 / 140	100 x 100	12	from 99 to 128	from 0,043 to 0,046	110 x 110 x 244	70	70	700
141 / 170	100 x 100	12	from 129 to 158	from 0,046 to 0,049	110 x 110 x 244	70	70	700
171 / 200	100 x 100	12	from 159 to 188	from 0,049 to 0,051	110 x 110 x 244	70	70	700
201 / 230	100 x 100	12	from 189 to 218	from 0,051 to 0,054	110 x 110 x 244	70	70	700
231 / 260	100 x 100	12	from 219 to 248	from 0,054 to 0,057	110 x 110 x 244	70	70	700
261 / 300	100 x 100	12	from 249 to 288	from 0,057 to 0,060	110 x 110 x 244	70	70	700







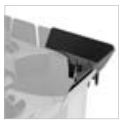
Dome 100x100 cm
Pipe Ø 160 mm

Height (cm)	Dimensions (cm)	Dome height (cm)	Pipe height HG (cm)	Quantity of concrete to the crown (m^3/m^2)	Pallet dimensions (cm)	Pieces per pallet (pz/PAL)	M^2 pallet (m^2/PAL)	Pallet weight (kg/PAL)
56 / 80	100 x 100	12	from 44 to 68	from 0,043 to 0,047	110 x 110 x 244	70	70	700
81 / 110	100 x 100	12	from 69 to 98	from 0,047 to 0,053	110 x 110 x 244	70	70	700
111 / 140	100 x 100	12	from 99 to 128	from 0,053 to 0,059	110 x 110 x 244	70	70	700
141 / 170	100 x 100	12	from 129 to 158	from 0,059 to 0,065	110 x 110 x 244	70	70	700
171 / 200	100 x 100	12	from 159 to 188	from 0,065 to 0,070	110 x 110 x 244	70	70	700
201 / 230	100 x 100	12	from 189 to 218	from 0,070 to 0,076	110 x 110 x 244	70	70	700
231 / 260	100 x 100	12	from 219 to 248	from 0,076 to 0,082	110 x 110 x 244	70	70	700
261 / 300	100 x 100	12	from 249 to 288	from 0,082 to 0,088	110 x 110 x 244	70	70	700

Accessories

TYMPANUM
Accessory with compensation and occlusion function, to be used in combination with the wall or whenever necessary. The tympanum is equipped with flexible vertical slats to adhere perfectly to the wall even in the presence of roughness and irregularity of the latter. Available for all sizes of the Atlantis System: cm 50x50, 71x71, 100x100.

SHELF
Accessory with compensation and occlusion function to be used whenever the dimensions of the intervention area do not correspond to an exact multiple of the Atlantis formwork measurements. Available for all sizes of the Atlantis System: cm 50x50, 71x71, 100x100.



ANGLE
Angular occlusion element. Universal element that adapts to all pipe diameters available in the Atlantis System.
The angle element is made of recycled PP (Alaplen®) and is available for all sizes of the Atlantis System: cm 50x50, 71x71, 100x100.

FLANGE
Accessory with reinforcement to compensation function.
The flange element is made of recycled PP (Alaplen®) and is available for all sizes of the Atlantis System: cm 50x50, 71x71, 100x100, but only with the Ø 11 cm pipe.

HOOK
Accessory with reinforcement to compensation function.
The flange element is made of recycled PP (Alaplen®) and is available for all sizes of the Atlantis System: cm 50x50, 71x71, 100x100.

PANEL
Accessory with compensation and occlusion function.

KEY:

Water, collection/dispersion tanks

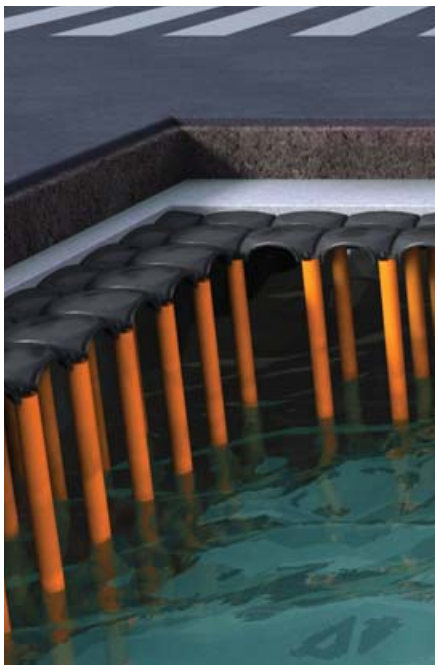
Utility passage

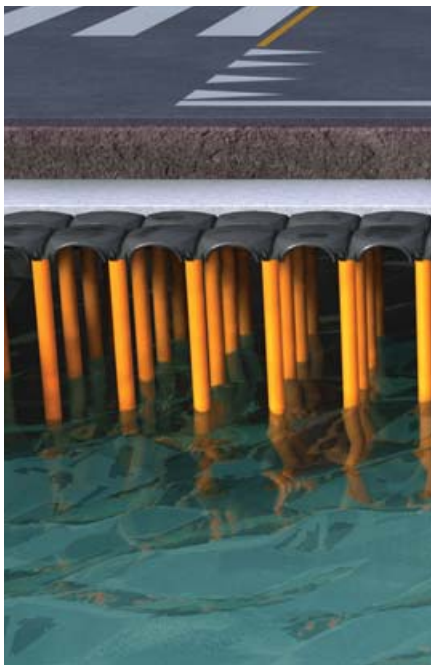
Certifications

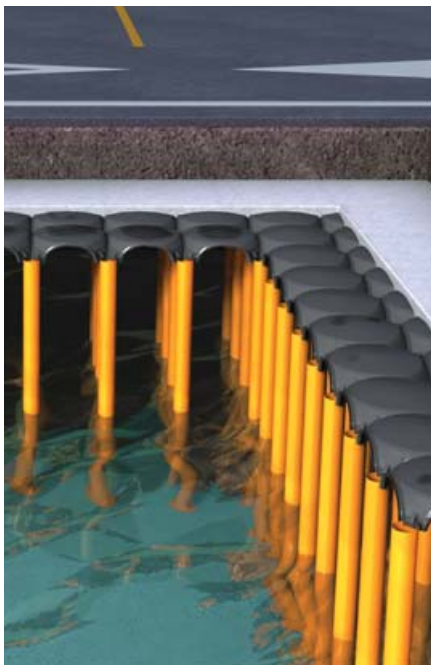
Ecocompatibility

Sistema Atlantis *Tank*

Atlantis Tank is the patented system to create tanks cast on site for the collection or the dispersion of large volumes of water in a small space.
The reinforced concrete structure achievable through the **Atlantis Tank** system consists of a slab, perimeter walls, and a slab supported by small pillars; the structure thus formed, guarantees high resistance to overload, both permanent and accidental.
The tank formed with **Atlantis Tank** can be laid underground so as to create a green area on top, or it can be directly loaded for the transit of vehicles, also heavy.
The main features of the **Atlantis Tank** system are speed, simplicity and cost performance.







Sistema Atlantis Tank

Applications

- Tanks cast on site for the collection and/or the dispersion of water for the renovation of swimming pools.
- It is the ideal system for creating multi-level or sloping surfaces.
- The tank made of Atlantis Tank is drivable and it can be implemented under squares, streets and parking lots, both commercial and industrial.
- Mitigation of the effect of floods caused by exceptional weather events.
- The accumulated rainwater can be reused for all those applications that do not require drinking water.

Advantages

- The tank can be inspected through a simple inspection pit.
- High resistance to overload, even of vehicles in motion.
- Ease of positioning as it is light-weight and simple to install through the linking of the elements, with time savings of up to 80%.
- Minimum use of concrete for level filling thanks to the lowered dome.
- Possibility to have any height up to 3 m supplied to the yard.
- Possibility to bear loads of considerable size by providing the pillars with suitable reinforcement.
- Adaptable to non-standard spaces.
- Possibility to pose the elements with the help of a single support.
- Rise, difference in height creation and levelling heights.
- Simple material management in the yard, as it is not bulky and can be exposed to bad weather.
- Enhancement and respect for the environment thanks to the use of "second life" plastic material.


Water collection tank


Inspectionability

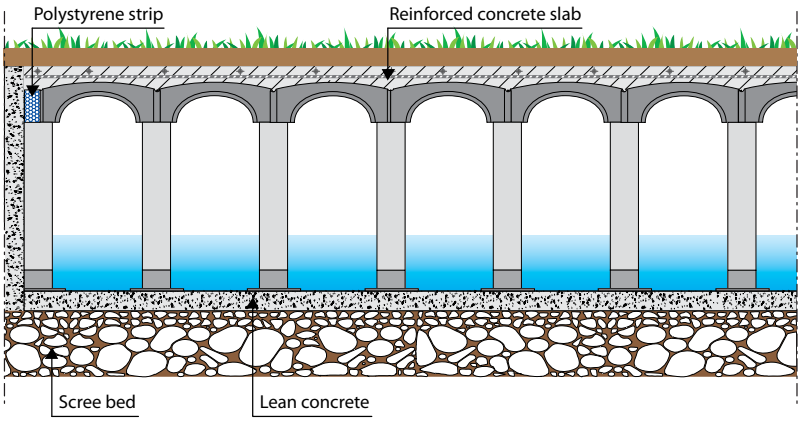

Dispersion tank - residential area


Dispersion tank under a parking lot


Rainwater collection tank

Water collection tank

Thanks to its modularity, manoeuvrability, ease of installation and large vertical accumulation capacity, **Atlantis** is the ideal tool for creating large volume tanks at extremely low costs. Its spherical vaulted structure provides the concrete casting with considerable resistance with less thickness so that the outside of the tank can be used as a surface for a parking lot (ex.: the IKEA parking lot in Amsterdam) or for sports facilities (ex.: tennis courts, football fields etc.). The same principle can also be applied to residential building, both for individual homes or in the case of parcelling. It is possible in fact to prepare suitable volumes to be covered with **Atlantis** formworks, which will be subsequently filled with the rainwater collected by the building's rainwater draining system. The volume of collected water can be used for all applications that do not require potable water. The tank must be made waterproof and have an overflow valve installed.

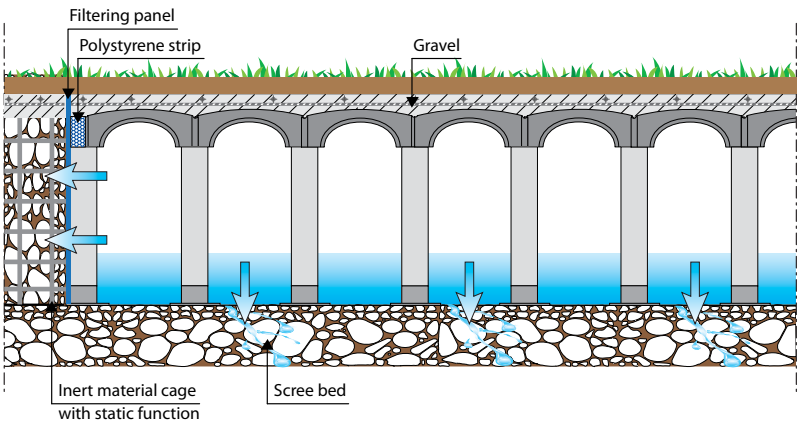


Tank maintenance is made possible by the large walkable spaces inside the tank, created through the combined use of the **Atlantis System** and the Beton Up accessory.

A large distance between the columns can be obtained with the use of **Atlantis 100%**.

Water dispersion tank

In comparison to collection tanks, dispersion tanks are not perfectly waterproof but permit the gradual release of the rainwater to the water bed through slits in the walls or draining bottom.
Dispersion tanks are a means for rebalancing the ground water that have been decreased due to cementification, which has seriously reduced the natural draining capacity of the ground. On a river basin level, the dispersion tanks could be a tool for planning, thereby decreasing, the hydrogeological risk.
On a public level, on a river basin level, there are many benefits:
- relieving the sewage system in the case of heavy rain and resulting reduction in the capacity delivered to the purifiers and the final destination (rivers, lakes, sea, etc.);
- the local hydrological balance is preserved.



The implemented tank can be loaded directly on the concrete layer or be positioned underground to create an asphalted parking lot or a green area on the surface.

KEY:


Water, swimming pools


Utility passage


Certifications


Energy savings


Recycled material

Sistema Atlantis *Swimming Pool*

The **Atlantis System** has proven particularly effective for the construction and renovation of swimming pools of all shapes and sizes thanks to its flexible, fast and cheap use. For some time, we have witnessed a growing expansion of facilities for the care and well-being of the person, spas, and water parks, where pools have a fundamental role.
Architectural, as well as functional and safety requirements, bring the necessity of pools of highly complex geometries, with frequent changes of shape and depth. Optimal sizing is also very important for proper energy management related to water heating.
The bottom of the existing structures must sometimes be raised in order to reduce the volume of the water.
Due to its affordability and versatility, the **Atlantis System** is particularly suitable, because it manages to meet the needs of the most complex projects with ease.

Sistema Atlantis Swimming Pool

Applications

- Renovation of swimming pools, whether public, private, in resorts and spas.
- Faced with the need for a renovation of the pool, whether for cosmetic or functional reasons, Atlantis is the ideal system for creating multi-level or inclined surfaces where the available thickness allows for it.
- Thanks to the customizable elevator pipes, it allows the creation of inclined surfaces up to a maximum height of 300 cm.
- The possibility to adjust the height of the elevator tube within a centimeter also makes it possible to easily create slopes in structures that have a finished bottom and surface with different inclinations, with a considerable saving in terms of time and costs of intervention.

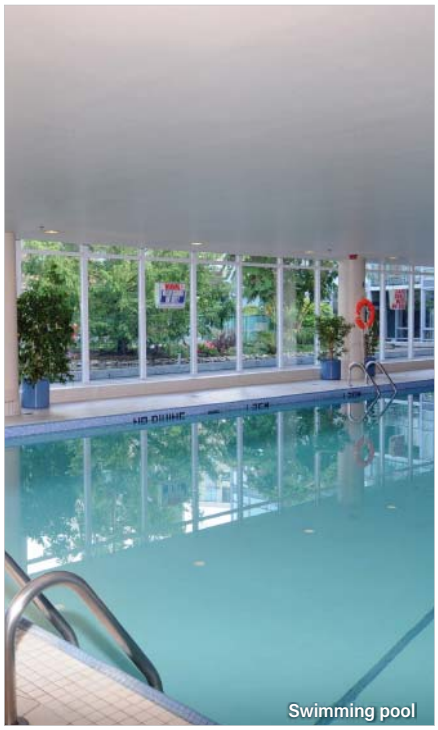
Case study: renovation of a swimming pool

In a municipal swimming pool the need arose to create a safe swimming environment for children. The existing pool was very deep, and this was the main problem to be solved.
Using the **Atlantis System**, the bottom of the pool was raised to create a smooth sloping floor. The space under the Atlantis formwork was used for utilities. The PVC pipes used in the **Atlantis System** was cut to size so that the new concrete floor could be level. The concrete cover had to have the same thickness. The framework was modelled to fit the curved sides of the pool.
This project demonstrates the flexibility and variety of use of the **Atlantis System**. The main advantage for the owner of the pool is that the **Atlantis System** stood as the most economical solution to renovate the pool.

Customer: Public institution
Swimming pool - Area: 800 m²
Capacity: concrete layer n/a
Thickness: 25 cm (10")
Material: Atlantis
State: Existing swimming pool
Installation of the system: Atlantis System 50x50 cm, pipe Ø11 cm

Advantages

- Ease of positioning as it is light-weight and simple to install through the linking of the elements, with time savings of up to 80%.
- Minimum use of concrete for level filling thanks to the lowered dome form.
- Possibility to have any height up to 3 m.
- Possibility to bear loads of considerable size by providing the vertical supports with suitable reinforcement.
- Simple adaptation to various perimeters.
- Possibility to pose the elements with the help of a single support.
- Passage of the underground systems in every direction.
- Levelling of the height.
- Simple material management in the yard, as it is not bulky and can be exposed to bad weather.
- Reduction of the water volume with a consequent energy saving for the heating of the swimming pool.
- Enhancement and respect for the environment thanks to the use of "second life" plastic material.


Swimming pool


Water park


SPA


Swimming pool renovation


Swimming pool renovation

KEY:

Water, collection tanks

Foundations

Cassaforma Muro

Cassaforma Muro

Cassaforma Muro *(Wall Formwork)* was designed as an alternative to traditional wood shuttering, which permits casting walls at a height, reversed beams and foundation bases, drastically reducing the time for creating the foundation. This disposable formwork consists of a combination of pipes, panels, collars and stirrups all made of polypropylene.
In combination with the Atlantis System, the **Wall Formwork** makes it possible to create foundation beams and a slab, which optimises and speeds up the work in the building site, with considerable economic implications.
For this reason this system is greatly appreciated for the creation of water collection and/or dispersion tanks, which are always needed in various construction contexts. Due to its easy, quick positioning, it is also perfectly suited for creating ribbed rafts, where the empty spaces between the beams are filled by Atlantis System formworks.

Cassaforma
Muro

Applications

- Creation, in a single solution, of an upper slab (cavities) and internal and perimetric foundation beams for a structure.
- Creation of ribbed rafts (structures not used often normally due to the excessive work of shuttering and deshuttering).
- For the creation of water dispersion and/or collection tanks.
- For any project that requires, for a variety of reasons, elaborate and geometrically complex shuttering.

Advantages

- Less time used for shuttering and deshuttering.
- Saving time in cleaning the planking, which will be smooth and clean.
- Saving time and expenses related to storing, depositing and transporting formworks; the material is not bulky and not affected by bad weather.
- A specialised workforce is not required.
- Simultaneous casting of the foundation beams and slab if combined with the AtlantisSystem.

Pose of Wall Formwork and Atlantis System

1 Placing the foundation reinforcements on the prepared light concrete base.

2 Nailing along the inner and perimetric foundation beams of the lower stirrups and pipe base at an equal distance, approx. every 50 cm.

3 Place the initial panel by inserting it in the guide of the lower stirrups and fasten it on the top with the collars inserted on the pillars.

4 After assembling the first Atlantis formworks, position the intermediate stirrups on the panel and then connect the stirrups and collars of the opposing pillars with the steel forks (to be prepared in the construction site).

5 Position other panels on top, always fastening them with stirrups and collars, based on the necessary height to be reached. Complete assembling the Atlantis modules and plugging up the side that remained open in the formwork along the perimeter with polystyrene panels.

6 Start casting the concrete starting from the pillars, continuing with the curbs and the slab.

Technical data

	Dimensions (cm)	Thickness (mm)	Piece weight (kg)	Pallet dimensions (cm)	Pieces per pallet (pcs/PAL)	M² pallet (m²/PAL)	Pallet weight (kg/PAL)
PANNELLO MURO	200 x 50	1	2,000	200 x 100 x 120	200	200	420

	Inside diameter (cm)	Average incidence per sq.mt. of a pallet (pcs)	Pieces per box (pcs)	Pallet dimensions (cm)	Pieces per pallet (pcs/PAL)	M² pallet (m²/PAL)	Pallet weight (kg/PAL)
COLLAR	11	4	100	120 x 120 x 255	3.000	200	250

	Average incidence per sq.mt. of a pallet (pcs)	Pieces per box (pcs)	Pallet dimensions (cm)	Pieces per pallet (pcs/PAL)	Pallet weight (kg/PAL)
INTERMEDIATE STIRRUP	4	100	120 x 120 x 255	18.000	400

	Average incidence per sq.mt. of a pallet (pz)	Pieces per box (pcs)	Pallet dimensions (cm)	Pieces per pallet (pcs/PAL)	Pallet weight (kg/PAL)
LOWER STIRRUP	4	100	120 x 120 x 255	36.000	400

	Piece weight (kg)	Pieces per box (pcs)	Pallet dimensions (cm)	Pieces per pallet (pcs/PAL)	Pallet weight (kg/PAL)
TYMPANUM	0,175	84	100 x 120 x 255	2.520	486

KEY:

Formwork

Utility passage

Foundations

Certifications

u-boot beton®

U-Boot® Beton is a recycled polypropylene formwork that was designed to create lightened slabs and rafts. The use of U-Boot Beton® formwork makes it possible to create mushroom pillars, with the possibility to have the mushroom in the thickness of the slab.
Thanks to the conic elevator foot, immerging the U-Boot® Beton formworks in the concrete casting will create a gridwork of mutually perpendicular beams closed from the bottom and the top by a flat plate that is created with a single casting; this results in considerable reduction in the use of concrete and steel.
The product is available also in the U-Boot® Beton Cone version, provided with a central cone that facilitates the execution operations. In fact, it allows a visual check of the completion of the lower slab, a better yield of the exterior finishing of the intradox, the decrease of the lifting force during casting, a greater resistance to walkability, the air vent.

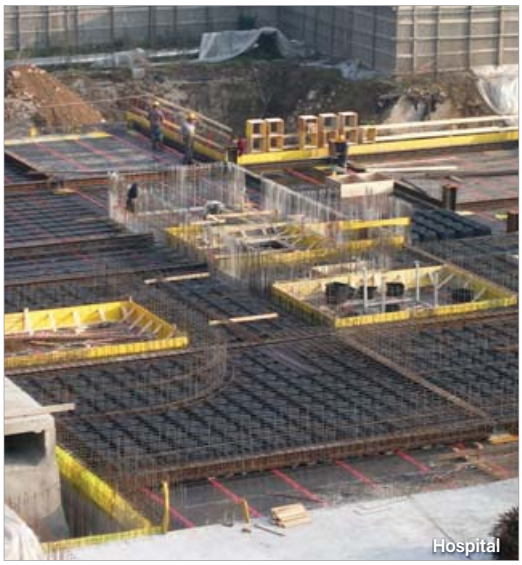
u-boot beton

Applications

- Creation of slabs with a large span and/or great load-bearing capacity: it is particularly suited for structures that require considerable open spaces, such as executive, commercial and industrial buildings as well as public, civil and residential structures.
- Due to its stackability, modularity, lightness and manoeuvrability, can be used to make horizontal structures without the help of handling and hoisting equipment.
- Creation of foundation rafters with a larger thickness with a reduced amount of concrete.

Advantages

- Increased number of floors.
- Large span and great architectural freedom.
- Reduced slab thickness.
- No beams between pillars.
- Optimisation of the section of pillars and reduction in the number of pillars.
- Reduction of the overall load of the structure weighing on the pillars and the foundation.
- Less deep foundation excavation.
- Improved acoustic behaviour.
- Reduction of the foundation load.
- Economical and easy to transport, handle and store, also outdoors.
- Earthquake proof.
- Decreased acoustic transmittancy.
- Considerable fire resistance certified REI 180 with a concrete cover of only 3 cm.


Hospital

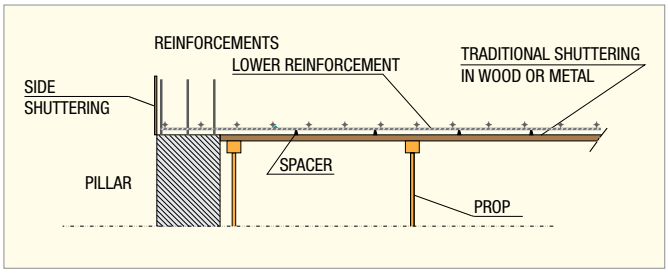

Cinema


Shopping center

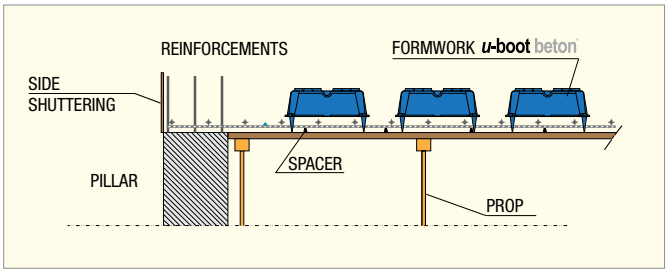

Industrial building


City Life

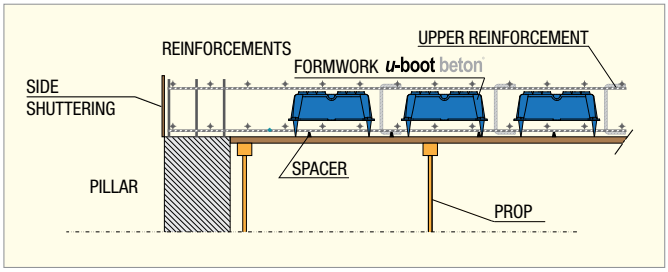
Pose



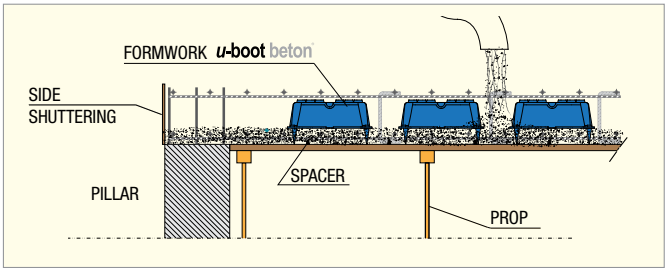
1 The entire surface of the slab to be cast on site is shuttered with wood deckings (or similar systems), then the lower reinforconcrete bars are positioned in two mutually perpendicular directions according to the design and the lattice for the upper reinforconcrete is arranged.



2 The U-Boot® Beton formworks are positioned using the lateral spacers joints to place them at the desired centre distance that will determine the beam width. Thanks to the conic elevator foot, the U-Boot® Beton formworks will be lifted from the surface, making it possible for the lower slab to be formed. If double or triple elements are used, these elements must first be assembled, which will be supplied on distinct pallets in the yard.

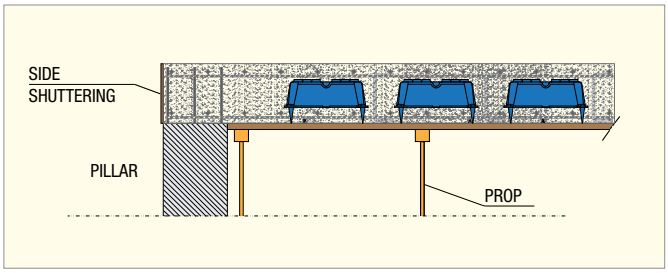


3 The positioning of the reinforconcretes is completed by placing above the U-Boot® Beton formwork the upper bars in the two directions as well as the reinforcement for shear and punching where necessary, according to the design.

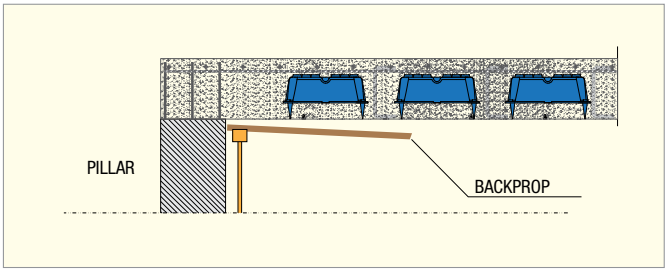


4 The concrete casting must be performed in two phases to prevent the floatation of the formworks: an initial layer will be cast to fill a thickness equal to the height of the elevator foot. Casting will continue for this first portion of the slab until the concrete starts to set and become semi fluid.

⚠ Wait a period of time (depending of fluidity of concret and climatic condition) before the second casting of the concrete.



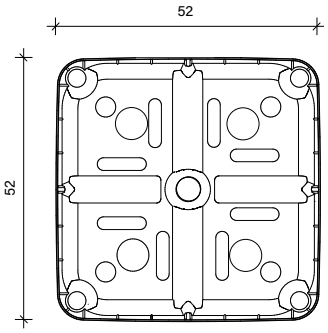
5 Once suitably set, the casting can be restarted from the starting point, completely burying the U-Boot® Beton. The casting is then levelled and smoothed in a traditional manner.

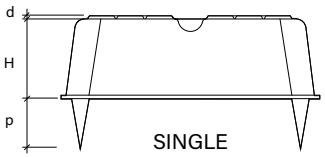


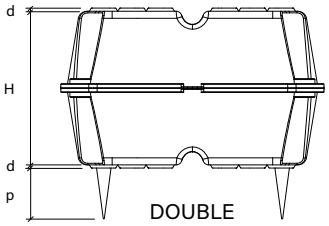
6 Once the structure has hardened, the formwork can be removed. The surface is smooth in correspondence of the ceiling.

⚠ Comply with the requirements for concrete.

Technical data







U-Boot® Beton single

Formwork height (cm)	Dimensions (cm)	Foot height p (cm)	Piece weight (kg)	Piece volume (m^3)	Pallet dimensions (cm)	Pieces per pallet (pcs/PAL)	Pallet weight (kg/PAL)
10	52 x 52	0-5-6-7-8-9-10	1,395	0,0213	110 x 110 x 247	720	1.017
13	52 x 52	0-5-6-7-8-9-10	1,406	0,0280	110 x 110 x 212	600	857
16	52 x 52	0-5-6-7-8-9-10	2,044	0,0350	110 x 110 x 254	440	912
18	52 x 52	0-5-6-7-8-9-10-12	1,784	0,0396	110 x 110 x 249	440	798
20	52 x 52	0-5-6-7-8-9-10	1,644	0,0430	110 x 110 x 236	460	769
22	52 x 52	0-5-6-7-8-9-10-12	1,882	0,0470	110 x 110 x 253	440	841
24	52 x 52	0-5-6-7-8-9-10-12	2,033	0,0513	110 x 110 x 254	440	908
25	52 x 52	0-5-6-7-8-9-10	1,849	0,0518	110 x 110 x 249	440	827
26	52 x 52	0-5-6-7-8-9-10-12	2,044	0,0550	110 x 110 x 249	420	871
28	52 x 52	0-5-6-7-8-9-10-17	2,152	0,0562	110 x 110 x 236	400	874

U-Boot® Beton double

Formwork height (cm)	Dimensions (cm)	Foot height p (cm)	Piece volume (m^3)	Composed of (H cm)	
				U-Boot® UP	U-Boot® DOWN
20	52 x 52	0-5-6-7-8-9-10-15	0,0426	10	10
23	52 x 52	0-5-6-7-8-9-10-15	0,0493	13	10
26	52 x 52	0-5-6-7-8-9-10-15	0,0563	13*	13*
28	52 x 52	0-5-6-7-8-9-10-15	0,0609	18	10
29	52 x 52	0-5-6-7-8-9-10-15	0,0630	16	13
30	52 x 52	0-5-6-7-8-9-10-15	0,0643	20	10
31	52 x 52	0-5-6-7-8-9-10-15	0,0676	18	13
32	52 x 52	0-5-6-7-8-9-10-15	0,0700	22*	10*
33	52 x 52	0-5-6-7-8-9-10-15	0,0710	20	13
34	52 x 52	0-5-6-7-8-9-10-15	0,0746	24*	10*
35	52 x 52	0-5-6-7-8-9-10-15	0,0750	22*	13*

U-Boot® Beton double

Formwork height (cm)	Dimensions (cm)	Foot height p (cm)	Piece volume (m^3)	Composed of (H cm)	
				U-Boot® UP	U-Boot® DOWN
36	52 x 52	0-5-6-7-8-9-10-12-15	0,0792	26*	10*
37	52 x 52	0-5-6-7-8-9-10-15	0,0793	24	13
38	52 x 52	0-5-6-7-8-9-10-12-15	0,0826	25*	13*
39	52 x 52	0-5-6-7-8-9-10-15	0,0830	26	13
40	52 x 52	0-5-6-7-8-9-10-12	0,0866	22*	18*
41	52 x 52	0-5-6-7-8-9-10-15	0,0868	28*	13*
42	52 x 52	0-5-6-7-8-9-10-12	0,0909	24*	18*
43	52 x 52	0-5-6-7-8-9-10-12	0,0914	25	18
44	52 x 52	0-5-6-7-8-9-10-12	0,0946	26*	18*
45	52 x 52	0-5-6-7-8-9-10	0,0948	25	20
46	52 x 52	0-5-6-7-8-9-10-12	0,0983	24*	22*
47	52 x 52	0-5-6-7-8-9-10-12	0,0988	25	22
48	52 x 52	0-5-6-7-8-9-10-12	0,1026	24*	24*
49	52 x 52	0-5-6-7-8-9-10-12	0,1031	25	24
50	52 x 52	0-5-6-7-8-9-10-12	0,1063	26*	24*
51	52 x 52	0-5-6-7-8-9-10	0,1068	26	25
52	52 x 52	0-5-6-7-8-9-10-12	0,1075	28	24
53	52 x 52	0-5-6-7-8-9-10	0,1080	28	25
54	52 x 52	0-5-6-7-8-9-10-12	0,1112	28	26
56	52 x 52	0-5-6-7-8-9-10-17	0,1124	28	28

* Other combinations are possible.

Accessories

LATERAT SPACER JOINT

It ensures the correct positioning of U-Boot® Beton during the installation phase. Thanks to this system, the connection of the formworks is simple and quick as it is not hampered by the presence of the reinforcement for the ribs.

CLOSING PANELS

For U-Boot® Beton SINGLE with foot ≥ 5 cm

For U-Boot® Beton SINGLE with foot 0 cm

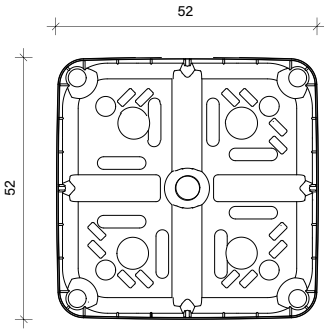
FOOT

Additional elevator foot of variable height from 11 to 20 cm to be grafted onto the existing ones.

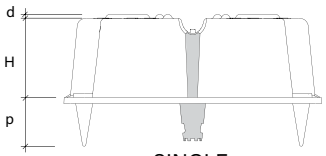
For U-Boot® Beton SINGLE only H 16 cm and H 24 cm

u-boot beton cone

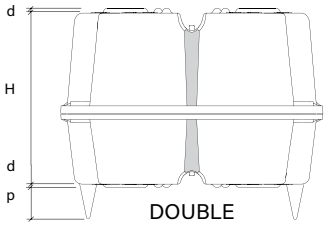
Technical data



U-Boot® Beton Cone single



SINGLE



DOUBLE

Formwork height (cm)	Dimensions (cm)	Foot height p (cm)	Piece weight (kg)	Piece volume (m³)	Pallet dimensions (cm)	Pieces per pallet (pcs/PAL)	Pallet weight (kg/PAL)
10	52 x 52	0-5-6-7-8-9-10...15	1,579	0,0220	110 x 110 x 243	460	739
13	52 x 52	0-5-6-7-8-9-10...15	1,730	0,0290	110 x 110 x 248	460	809
14	52 x 52	0-5-6-7-8-9-10...15	1,650	0,0310	110 x 110 x 249	460	846
16	52 x 52	0-5-6-7-8-9-10...15	1,784	0,0350	110 x 110 x 250	460	834
18	52 x 52	0-5-6-7-8-9-10...15	1,860	0,0387	110 x 110 x 254	460	869
20	52 x 52	0-5-6-7-8-9-10...15	1,806	0,0427	110 x 110 x 249	440	808
22	52 x 52	0-5-6-7-8-9-10...15	1,947	0,0465	110 x 110 x 249	440	870
24	52 x 52	0-5-6-7-8-9-10...15	2,044	0,0503	110 x 110 x 250	440	912
26	52 x 52	0-5-6-7-8-9-10...15	2,195	0,0540	110 x 110 x 247	420	935
28	52 x 52	0-5-6-7-8-9-10...15	2,271	0,0576	110 x 110 x 248	420	967
30	52 x 52	0-5-6-7-8-9-10...15	2,250	0,0611	110 x 110 x 251	420	958

U-Boot® Beton Cone double

Formwork height (cm)	Dimensions (cm)	Foot height p (cm)	Piece volume (m³)	Composed of (H cm)	
				U-Boot UP	U-Boot DOWN
20	52 x 52	0-5-6-7-8-9-10...20	0,0440	10	10
23	52 x 52	0-5-6-7-8-9-10...20	0,0510	13	10
24	52 x 52	0-5-6-7-8-9-10...20	0,0530	14	10
26	52 x 52	0-5-6-7-8-9-10...20	0,0581	13*	13*
27	52 x 52	0-5-6-7-8-9-10...20	0,0600	14	13
28	52 x 52	0-5-6-7-8-9-10...20	0,0608	18*	10*
29	52 x 52	0-5-6-7-8-9-10...20	0,0641	16	13
30	52 x 52	0-5-6-7-8-9-10...20	0,0647	20*	10*
31	52 x 52	0-5-6-7-8-9-10...20	0,0678	18	13
32	52 x 52	0-5-6-7-8-9-10...20	0,0701	16*	16*
33	52 x 52	0-5-6-7-8-9-10...20	0,0718	20	13

Technical data

U-Boot® Beton Cone double

Formwork height (cm)	Dimensions (cm)	Foot height p (cm)	Piece volume (m^3)	Composed of (H cm)	
				U-Boot UP	U-Boot DOWN
34	52 x 52	0-5-6-7-8-9-10...20	0,0738	18*	16*
35	52 x 52	0-5-6-7-8-9-10...20	0,0755	22	13
36	52 x 52	0-5-6-7-8-9-10...20	0,0778	20*	16*
37	52 x 52	0-5-6-7-8-9-10...20	0,0793	24	13
38	52 x 52	0-5-6-7-8-9-10...20	0,0815	22*	16*
39	52 x 52	0-5-6-7-8-9-10...20	0,0830	26	13
40	52 x 52	0-5-6-7-8-9-10...20	0,0854	20*	20*
41	52 x 52	0-5-6-7-8-9-10...20	0,0866	28	13
42	52 x 52	0-5-6-7-8-9-10...20	0,0892	22*	20*
43	52 x 52	0-5-6-7-8-9-10...20	0,0901	30	13
44	52 x 52	0-5-6-7-8-9-10...20	0,0930	22*	22*
46	52 x 52	0-5-6-7-8-9-10...20	0,0968	24*	22*
48	52 x 52	0-5-6-7-8-9-10...20	0,1006	24*	24*
50	52 x 52	0-5-6-7-8-9-10...20	0,1043	26*	24*
52	52 x 52	0-5-6-7-8-9-10...20	0,1080	26*	26*
54	52 x 52	0-5-6-7-8-9-10...20	0,1116	28*	26*
56	52 x 52	0-5-6-7-8-9-10...20	0,1152	28*	28*
58	52 x 52	0-5-6-7-8-9-10...20	0,1187	30	28
60	52 x 52	0-5-6-7-8-9-10...20	0,1222	30	30

* Other possible combinations.

Accessories

LATERAT SPACER JOINT

It ensures the correct positioning of U-Boot® Beton during the installation phase. Thanks to this system, the connection of the formworks is simple and quick as it is not hampered by the presence of the reinforcement for the ribs.

CLOSING PANELS

For U-Boot® Beton CONE SINGLE with foot and cone ≥ 5 cm

For U-Boot® Beton CONE SINGLE with foot and cone 0 cm

For U-Boot® Beton CONE SINGLE with foot 0 cm and cone ≥ 5 cm

MOVABLE FOOT

Available in heights from H 11 cm to H 20 cm

UNMOVABLE FOOT

Available in heights from H 5 cm to H 20 cm

KEY:

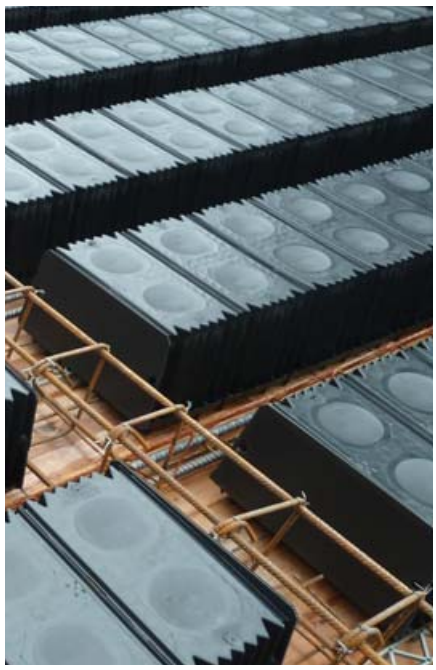
Formwork

Utility passage

Foundations

Certifications

U-Bahn® Beton is a modular framework in recycled polypropylene that was specifically designed to create one way slabs that are cast on site or semi-prefabricated. The various elements, overlapping in their terminal sections, allow the creation of ribs of any length.
Thanks to the conic elevator feet, indeed, by submerging the formworks U-Bahn® Beton in the concrete casting you obtain flat beams, parallel to each other, closed from the bottom and top by a flat slab made in sequence and with a single casting. All this with a great saving on concrete and steel, as well as considerable advantages in terms of fire risk compared to expanded polystyrene formworks. Light and stackable, it is easy to handle during positioning, functional in its use, can be exposed to bad weather and is easy to store in the yard with minimum dimensions.



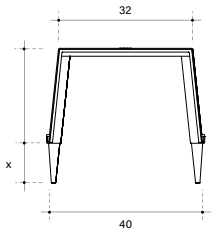
Applications

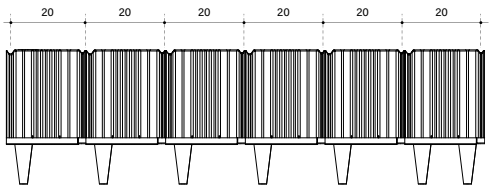
- Residential, commercial, executive, industrial buildings.
- Public structures.
- Constructions carried out using the 'top-down' technique, where instead of working from bottom to top (as for normal open-air constructions), they proceed building the load-bearing floors from the top to the bottom (precisely top down), alternating the construction of the floor with the excavation of the lower level.
- Underground parking.

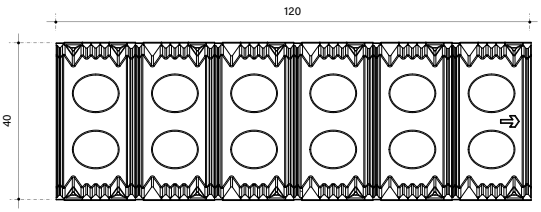
Advantages

- Reduction in time and cost related to the formworks positioning.
- High precision and regularity of the width of the concrete slab ribbing.
- Flexible, practical and simple creation of lengths below the standard size.
- Greater yard cleanliness and improved disposal of the waste in comparison to traditional formworks (hollow blocks and EPS).
- Better work performance guarantee in comparison to expanded polystyrene that, due to its crumbling into granules, tends to attach itself statically to everything, and is difficult to remove, compromising the correct filling of the concrete for the beams and in the nodes.
- Possibility to trim the soffit with immediate economic advantages, avoiding expensive plastering.
- Possibility to perform a single concrete casting for the creation of lightened slabs with the slab also in the soffit.
- Quicker execution of prefabricated slabs without the need to prepare specific safety vents in the case of a fire.
- Providing the slab with greater fire resistance.
- Considerable reduction in the yard of overall volumes thanks to its characteristics of stackability, modularity, lightness and manoeuvrability.
- Better seismic behaviour.
- Advantage of using the cavities created using U-Bahn® Beton, which run along the entire slab, as an equipment room for various types of systems.

Technical data







Height formwork (cm)	Dimensions (cm)	Foot height p (cm)	Piece weight (kg)	Piece volume (m^3)	Pallet dimensions (cm)	Pieces per pallet (pcs/PAL)	Pallet weight (kg/PAL)
13	120 x 40	0-4-5-6-7	2,526	0,055	120 x 120 x 251	270	604
16	120 x 40	0-4-5-6-7	2,552	0,068	120 x 120 x 257	270	712
20	120 x 40	0-4-5-6-7	2,832	0,086	120 x 120 x 258	270	820
24	120 x 40	0-4-5-6-7	3,154	0,102	120 x 120 x 260	270	1.036

Accessories

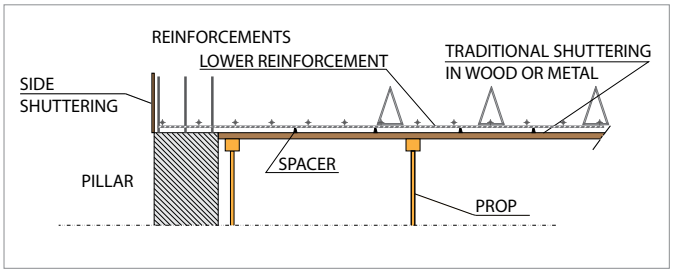
FRONTAL CLOSING TYMPANUM

This is a "stop-flow" panel, necessary to close the "tunnel" created by the U-Bahn® Beton elements arranged in line.

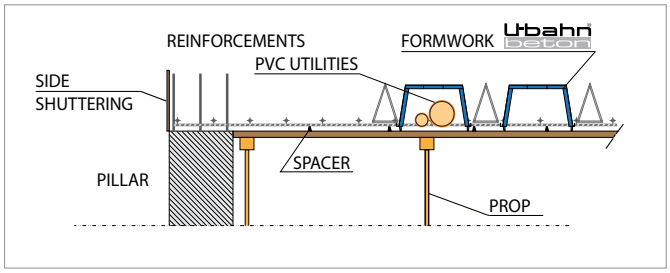
LOWER CLOSING PANEL

This is a closing plate used for the realization of cast on site slabs.

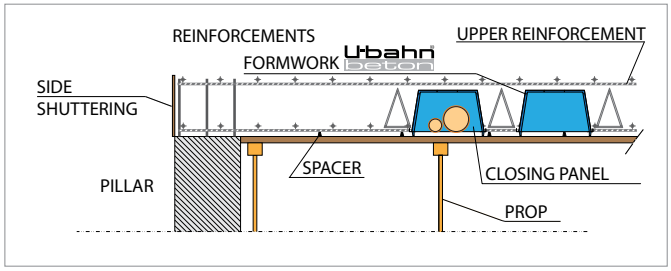
Pose



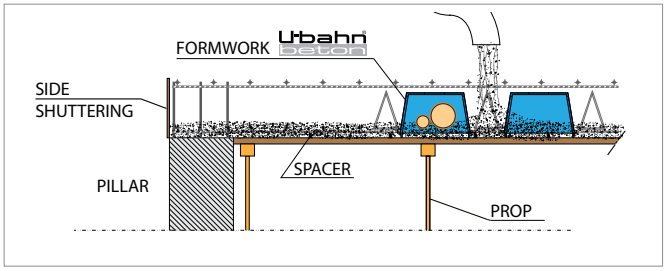
1 The entire surface of the slab to be cast on site is shuttered with wood deck (or similar systems), then the welded reinforcement irons and mesh are positioned according to the design and the spacing lattice for the upper reinforcement is arranged.



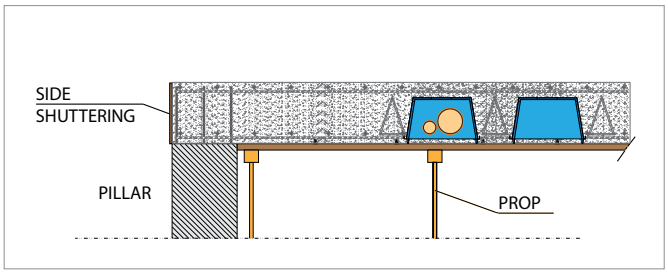
2 The **U-Bahn® Beton** formworks are positioned with the desired centre distance that will determine the width of the beams. Thanks to the conic elevator foot, the **U-Bahn® Beton** formworks will be lifted from the surface, making it possible for the lower slab to be formed. The systems will be arranged in the internal cavities of the formworks.



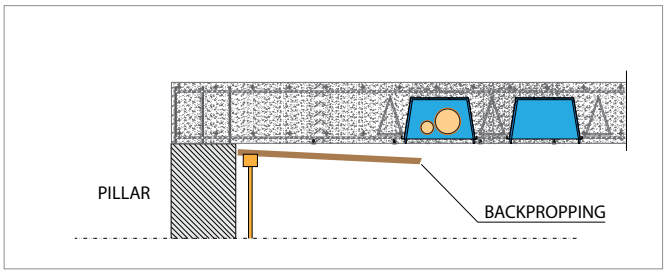
3 The positioning is completed by closing the open final ends of the **U-Bahn® Beton** formwork with a lateral closing plug above which the reinforcements, welded mesh as well as the instruments for cutting and punching are positioned according to the design.



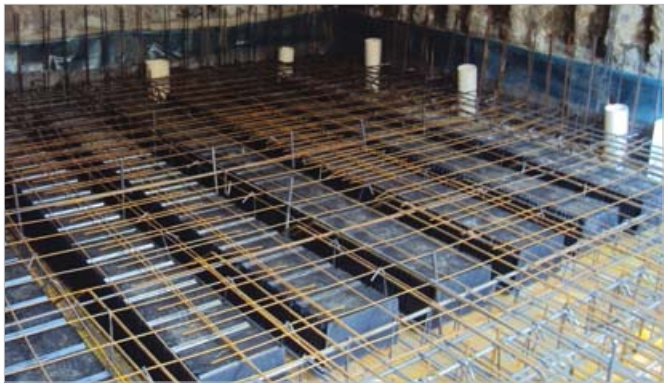
4 The concrete casting must be performed in two phases to prevent the floatation of the formworks: an initial layer will be cast to form a thickness equal to the height of the elevator foot. Casting will continue for this first portion of the slab until the concrete starts to set and become less fluid.

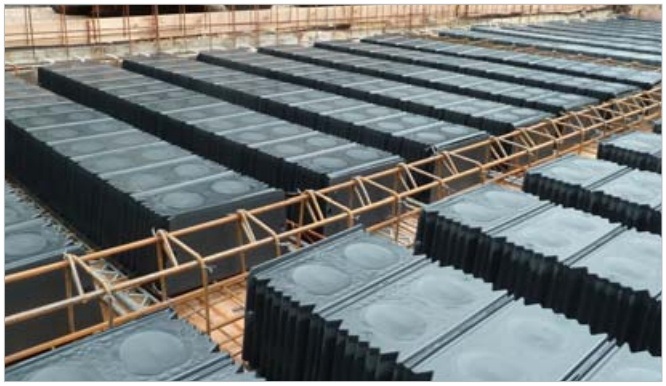


5 Once suitably set, the casting can be restarted from the starting point, completely burying the **U-Bahn® Beton**. The casting is then levelled and smoothed in a traditional manner.



6 Once the structure has hardened, the formwork can be removed. The surface is smooth in correspondence of the soffit.



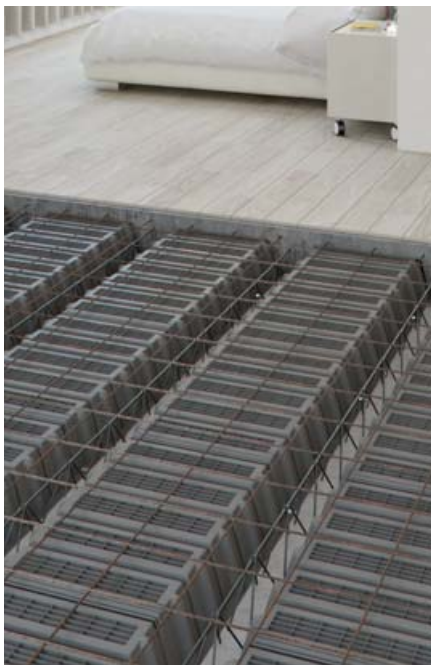


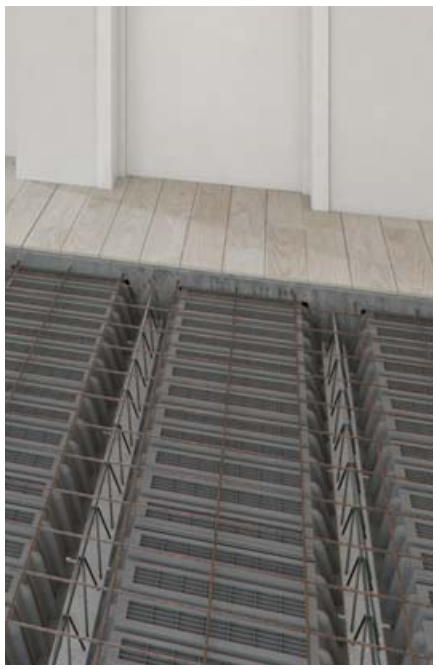
KEY:

Lightening

Utility passage

Fit Slab is a formwork made of polypropylene; its principal function is lightening and, when used in conjunction with prefabricated beams made of pre-stressed reinforced concrete, or lattices or directly on prefabricated lattice slabs, it enables the construction of various types of voided slabs made of reinforced concrete, with extremely quick installation in both reconstructions and new buildings.
This construction technique is quick and practical and yields a higher-performance slab with a lower structural weight compared to that of floor slabs made using conventional methods such as hollow bricks or voided reinforced concrete.
The use of Fit Slab leads to a significant reduction in the loads on the framework and elevated load-bearing walls as well as foundations. In addition, seismic activity which the slab transmits to the elevated structures are reduced in proportion to the weight of the slab.





fitslab

Applications

- Voided slabs with prefabricated beams made of pre-stressed reinforced concrete or lattices (Bausta).
- Voided slabs with plates made of reinforced concrete (prefabricated lattice slabs).
- Voided slabs made of reinforced concrete cast in situ with parallel or cross-hatched ribbing.
- It can also be used in seismic risk areas; in fact, the upper reinforced-concrete finishing slab can serve the purpose of a "plane diaphragm", ensuring the complete transmission of horizontal forces to the primary anti-seismic system.

Advantages

- Optimal mechanical strength properties.
- Reduction in costs for the construction of temporary retaining structures.
- Easily interlocking modules reduce laying time and cost.
- Flexible implementation, practical and simple to scale down both lengthwise and width-wise.
- Reduction of seismic masses to enhance structural safety.
- Economical and practical in terms of transportation, handling and outside storage.
- Gives the slab the best fire resistance properties.
- The void below the Fit Slab modules enables the passage of electrical, water and heating installations.
- Better site clean up and waste disposal compared to conventional lightening measures (hollow bricks and EPS).
- On-site safety. With the slab shored up at the beams, Fit Slab supports the weight of the workers and the reinforced concrete.
- Underfoot safety for workers.
- Option of covering floor plans with articulated forms.

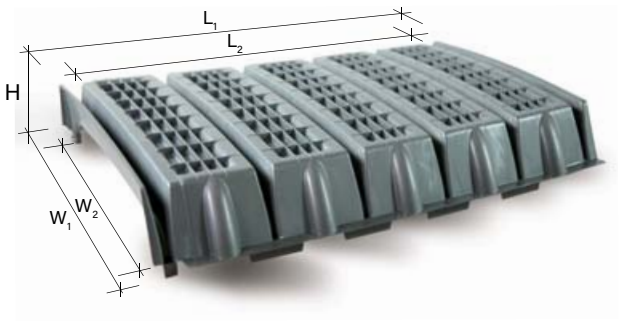
Pose on lattice beams

1. Prepare the props to support the beams and position the lattice beams according to the plan. At first, the beams must be distanced from each other by placing Fit Slab modules at the two ends in order to achieve the correct degree of parallelism between them.
2. Once the beams are in place, the operator, positioned at one of the ends, gradually inserts the Fit Slab modules, interlocking them with each other, one after the other, sliding them in until the row is finished.
   The Fit Slab module can be easily adapted to smaller measurements by cutting it both lengthwise and width-wise, until the surface is completed.
3. Close the two ends of each row by inserting the "abutment" closure element to prevent the overflow of concrete during the casting phase.
4. After installing the modules, one on top of the other, put a suitable electro-welded mesh in place. If required by the project, both thermal and acoustic insulating materials can be inserted into the stratigraphy of the slab.
5. Proceed with the casting of the reinforced concrete cap. Unlike bricks, the Fit Slab formworks do not need to be wetted before casting; as they are waterproof, they do not absorb the mix water for the reinforced concrete.
   Begin casting by first filling the beams, the full fascia and the kerbs and continuing with the ribbing and upper slab, avoiding any interruption of the casting.
   The class and consistency of the reinforced concrete used must fulfil the technical specifications established in the design and must be adequately vibrated.

⚠ CAUTION!
The waiting times vary as a function of the type of reinforced concrete and the weather conditions under which the work is done.

6. After the appropriate curing time for the reinforced concrete has passed, the support structure can be disarmed. The intrados of the slab should be closed after the technological systems have been passed through.
   Closure can be performed with a suspended plasterboard ceiling or with other types.

Technical data



Formwork height	Dimensions	Dimensions	Piece weight	Piece volume	Pallet dimensions	Pieces per pallet	Pallet weight
(cm)	L_1 x W_1 (cm)	L_2 x W_2 (cm)	(kg)	(m^3)	(cm)	(pcs/PAL)	(kg/PAL)
9	79,7 x 56	77,5 x 52	1,911	0,0326	80 x 120 x 244	200	390
14	79,7 x 56	77,5 x 52	1,995	0,0500	80 x 120 x 249	200	407

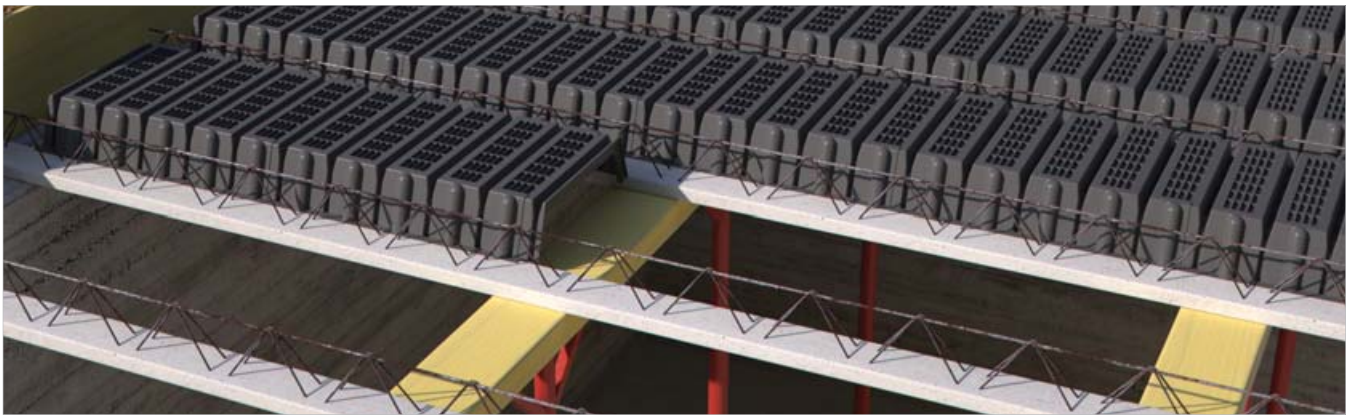
Accessories

SHOULDER

Placed at the beginning and at the end of each row, acts as a "closing gable" and facilitates the casting of the upper cap of concrete without it overflowing and pouring out of the formworks.


Slab detail


Installation passage



KEY:


Drainage


Environment

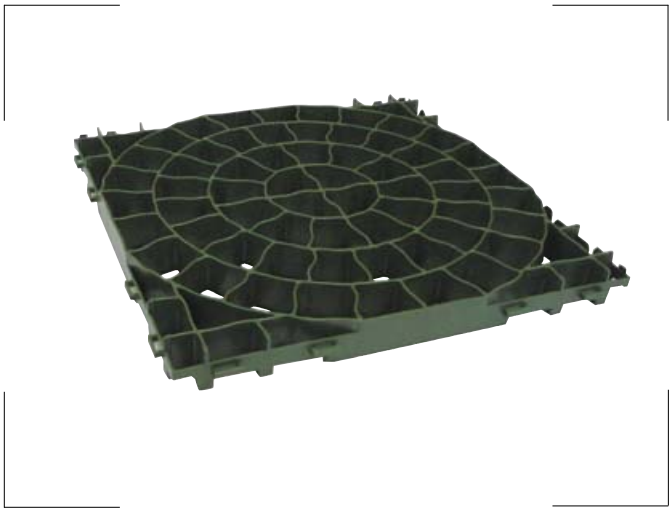

Ecocompatibility


Aesthetics


Certifications

PRATOPRATICO

LA GRIGLIA SALVAERBA



Pratopratico® represents an ingenious system to make a lawn treadable, protecting it from damage caused by the transit and parking of vehicles, including heavy vehicles, in any kind of atmospheric conditions.
The essence of Pratopratico® is very simple: it's a question of "arming" the natural soil surface with a modular flooring made up of a grating with a highly robust cellular structure where the turf, which remains a few millimitres below the higher limit of the flooring walls, is protected from squashing or stress. The grating is made of a particular plastic material with high quality technical/mechanical characteristics, non-toxic and unattackable by atmospheric and chemical agents.
The Pratopratico® flooring develops rapidly and economically through the union of various gratings with a male/female hooking system. The aesthetic, functional and ecological advantages offered by this innovative flooring are evident: a lawn surface naturally filters the soil's meteoric waters, respecting the site's hydrogeological balance.

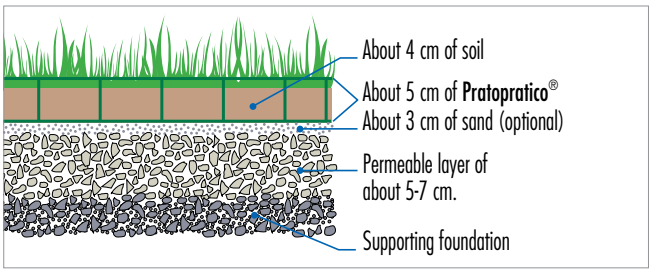
Applications

- Access areas for cars and motor vehicles.
- Public and private parking areas.
- Bicycle tracks and pedestrian walkways.
- Paths in golf courses and sport plants.
- Equipped areas (gazebo and barbecue areas, etc.).
- Ornamental gardens.
- Gravel paths.
- Pool borders and beach paths (not presenting any sharp corners, the flooring can be treaded barefoot).
- Lawn protection.
- Consolidation of slopes to contrast wash away and erosion phenomenons.
- Temporary surfaces, on chance pieces of land for various events (fairs, markets, tent theatres, etc.).
- Surrounding surfaces for tree trunks.
- Heliports and strips for ultralight aircraft.
- Protection of lawn surface against damage caused by hostile acts of animals (dogs, etc.).
- Roof gardens.
- Covers for flat roofs and terraces for the protection of the waterproofing layer.

Advantages

- It respects the soil's vital structure and protects the lawn in a non-invasive way.
- It favours drainage and the exchange of nutritional elements that benefit a rapid and solid root growth.
- It allows natural meteoric waters to filter in the soil while respecting the hydrogeological balance of the site.
- It acts as a surface stabilizer; it can be used to contrast soil wash away and erosion phenomena on slopes.
- It does not absorb humidity and does not transmit heat, allowing the grass to grow naturally.
- It does not give up heat, considerably improving the thermal quality of the context and mitigating the effect of soil irradiation, especially in summer.
- It gives the grass a spectacular "mosaic effect".
- The curvilinear shape improves the resistance of the vertical walls both in compression and flexion, reproducing the classic "arch effect".
- The product can be entirely recycled in full respect of the environment.

Pose for treadable surfaces with lawn finishing



1 PERMEABLE LAYER - Its thickness must amount to about 5/7 cm, consisting of granular, finely crushed stone 3-10 mm, which completes the division of loads, drains excess meteoric water and favours root growth towards the lower layer.

2 SAND BED (optional) - This finishing layer, consisting of siliceous sand, about 3 cm thick, levels the surface on which Pratopratico® modules are placed and favours root growth in the sub-layer contained in the grating below.

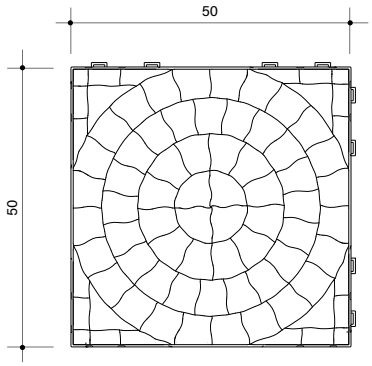
3 LAYING OF Pratopratico® - Develop the modular surface by orienting all the grids with the female hook in the upper left-hand corner. Face the first grid and then proceed the assembly from left to right and downward from above.

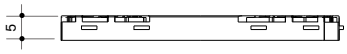
4 FILLING OF THE Pratopratico® CELLS - Placing of the cultivable sub-layer which will act as a base for the sowing components, composed of a mixture of siliceous sand, vegetable terrain, peat and inert volcanic material (pumice), enriched with slow-release fertilizer. The filling process must partially saturate the cells, the level reaching to 1cm below the flooring's upper border.

5 SOWING - Must be carried out immediately after laying the cultivable sublayer in order to avoid excessive compactness. The seeds must be selected according to the nature of the site (pay attention to the altimetric quota) and the climate. In any case the grass seeds must be resistant to trampling. You are advised to use a blend composed of Lolium Perenne, Poa Pratensis, Festuca Arundinacea in the proportions and varieties suitable to each single case.

6 DELIMITING OF PARKING AREAS with the aid of signs - Made in such a way so they can be inserted in any point of the flooring, they are available in the 3 classic colours provided by the Highway Code: white (free parking areas), yellow (reserved parking spaces), for ex. parking spaces reserved for invalids.

Technical data





Colour	Dimensions (cm)	Pieces per sq.mt. (pcs)	Piece weight (kg)	Resistance (t/m²)	Pallet dimensions (cm)	Pieces per pallet (pcs/PAL)	M² pallet (m²/PAL)	Pallet weight (kg/PAL)
GREEN	50 x 50 x 5	4	1,593	> 320	100 x 120 x 220	212	53	346
BROWN	50 x 50 x 5	4	1,593	> 320	100 x 120 x 220	212	53	346
WHITE	50 x 50 x 5	4	1,593	> 320	100 x 120 x 220	212	53	346

Accessories

SIGNALLING ELEMENT

They are available in the catalogue in the classic 3 colours provided by the Highway Code: white (free parking area), yellow (reserved parking area, for ex. parking spaces reserved for invalids) and blue.
It is possible to manufacture colours ad hoc on request.

ANCHORAGE STAKE

Deeply penetrating stakes to anchor the grating on slopes.


Public parking


Gravel path


Ornamental garden


Heliport

KEY:

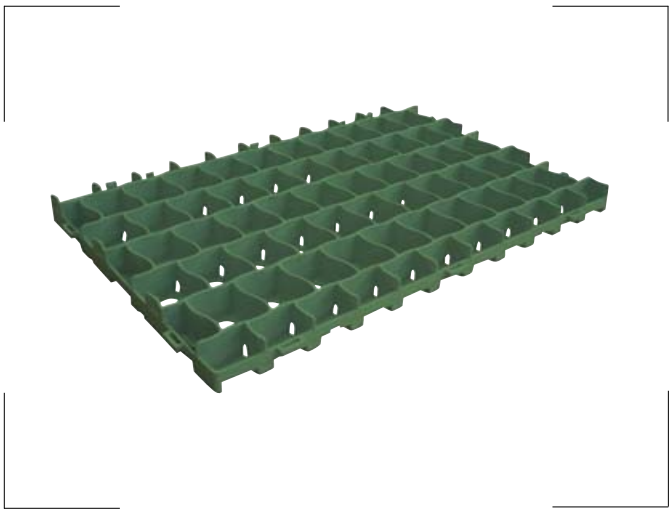
Drainage

Environment

Ecocompatibility

Aesthetics

Certifications



E.C.O. di PRATOPRATICO® is an ornamental element suitable for vehicles that allows the creation of grassy driveways or paths and equipped areas, keeping the soil compact and protecting the grass from being crushed, especially in frequently used areas.
E.C.O. di PRATOPRATICO® is made of a particular plastic material (half pure with high technical and mechanical performance and half recycled) that is able to offer an excellent quality/price ratio.
The use of recycled material, although it represents a laudable initiative from an ecological point of view, is not always free from contraindications. A recycled compound certainly affects the price favorably, to the detriment, however, of the quality and durability of the product. Precisely for this reason E.C.O. di PRATOPRATICO® is made with 50% virgin material, in order to favorably combine cost-effectiveness and product quality.

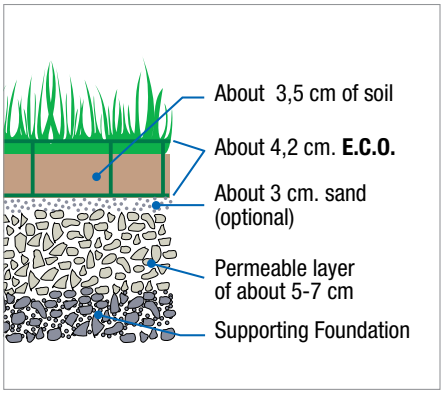
Applications

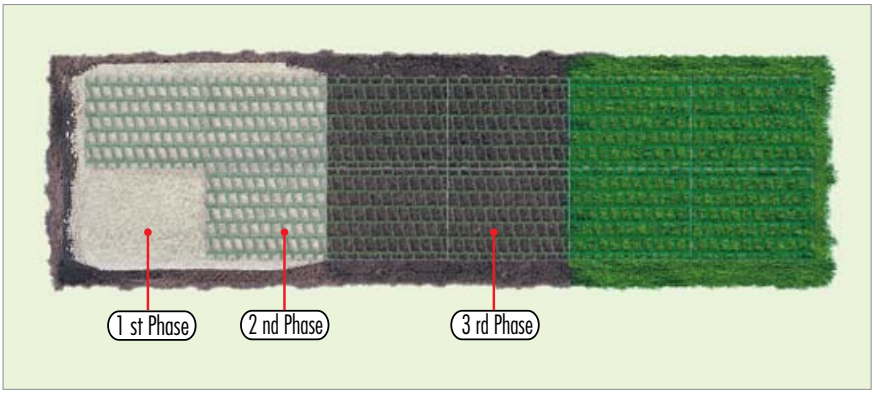
- Access areas for cars and motor vehicles.
- Public and private parking areas.
- Bicycle tracks and pedestrian walkways.
- Paths in golf courses and sport plants.
- Equipped areas (gazebo and barbecue areas, etc.).
- Ornamental gardens.
- Lawn protection in spaces used for entertainment and recreation and in the areas beneath the benches.
- Consolidation of slopes to contrast wash away and erosion phenomenons.
- Temporary surfaces, on chance pieces of land for various events: fairs, markets, tent theatres, etc.
- Removable laybies for campers, roulottes, various garage areas, etc.
- Surrounding surfaces for tree trunks.
- Heliports and strips for ultralight aircraft.
- Protection of lawn surface against damage caused by hostile acts of animals (dogs, etc.).
- Roof gardens.
- Covers for flat roofs and terraces to protect the impermeability layer.

Advantages

- It protects the lawn from damage caused by the transit and parking of vehicles.
- It supports the growth and natural rooting of the lawn.
- Easy to pose, it allows the creation of great surfaces in less time.
- It is ecological and it respects the site's hydrogeological balance.
- During the summer period it does not produce undesired thermic effects linked to overheating of the surface with natural finishing.
- The curvilinear shape considerably improves the resistance of the vertical walls to compression and bending.

Pose





It is important to carry out an adequate evaluation of the local conditions of the soil. Our instructions are, in fact, in general terms and the preparation of the foundation must be suitable for the type of soil, the climatic conditions and the load intensity.

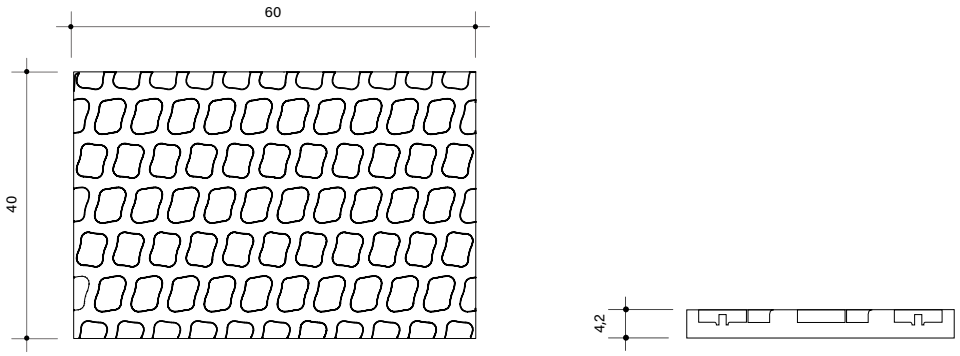
Due to the light weight of each single element laying is possible with the aid of machinery. If it becomes necessary to adapt and shape the module, E.C.O. di PRATOPRATICO® may be cut directly on site with the tools commonly used in such cases. Once the stability of the sand bed has been verified – a common problem before any kind of roadworks – the following steps must be taken to create our driveway lawn:

1 PERMEABLE LAYER Consisting of granular, finely crushed stones 3-10 mm. Thickness must amount to about 5/7 cm. The optional sand bed (consisting of siliceous sand) has to be about 3 cm thick.

2 DEVELOPING OF THE FLOORING WITH THE GRATINGS OF E.C.O. Leave empty spaces of about 3/5 cm for the natural dilatation of the material in the following cases: when laying on large surfaces, when laying on variable slopes; in the presence of stringcourses or other elements delimiting the perimeter that is being treated.

3 FILLING OF THE E.C.O. CELLS The filling process must partially saturate the cells, the level reaching to 1 cm below the flooring's upper border. Then sowing.

Technical data



Colour	Dimensions (cm)	Pieces per sq.mt. (pcs)	Piece weight (kg)	Resistance (t/m²)	Pallet dimensions (cm)	Pieces per pallet (pcs/PAL)	M² pallet (m²/PAL)	Pallet weight (kg/PAL)
GREEN	60 x 40 x 4,2	≃ 4	1,297	> 300	100 x 120 x 218	260	62,4	345
WHITE	60 x 40 x 4,2	≃ 4	1,297	> 300	100 x 120 x 218	260	62,4	345

Accessories

SIGNALLING ELEMENT

They are available in the catalogue in the classic 3 colours provided by the Highway Code: white (free parking area), yellow (reserved parking area, for ex. parking spaces reserved for invalids) and blue.
It is possible to manufacture colours ad hoc on request.

ANCHORAGE STAKE

Deeply penetrating stakes to anchor the grating on slopes.


Private parking


Private parking


Sport facility path

KEY:

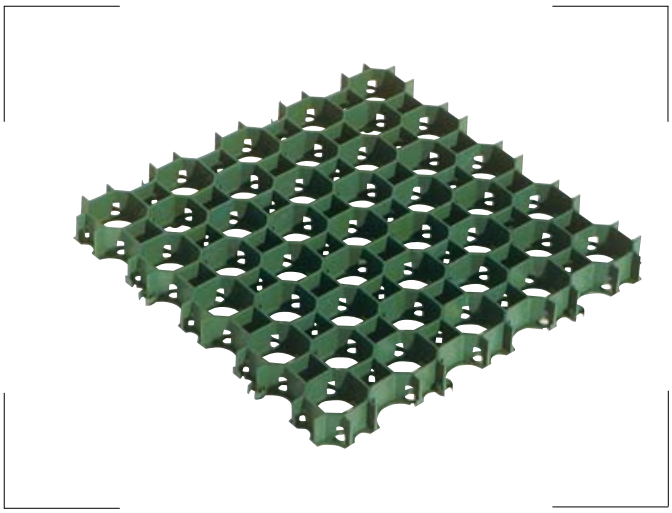
Drainage

Environment

Ecocompatibility

Aesthetics

Certifications



Salvaprato ERBY is a modular plastic grid for outdoors that allows to realize paved driveways with lawn finish, with great aesthetic, functional, ecological and economic advantages.
Salvaprato ERBY with its particular structure protects, in any weather, the turf from the stresses produced by the passage and parking of motor vehicles and, at the same time, it promotes the growth and rooting of natural grass.
The principle is to arm the natural surface of the soil with the grids provided with a very robust cellular structure in which the sward, remaining few mm below the vertical walls of the pavement, is protected from crushing.
Easy and intuitive to install thanks to the male/female interlocking hooking system, it allows you to prepare large areas quickly.

Applications

- Access areas for cars and motor vehicles.
- Public and private parking areas.
- Bicycle tracks and pedestrian walkways.
- Paths in golf courses and sport plants.
- Equipped areas (gazebo and barbecue areas, etc.).
- Ornamental gardens.
- Lawn protection in spaces used for entertainment and recreation and in the areas beneath the benches.
- Consolidation of slopes to contrast wash away and erosion phenomenons.
- Temporary surfaces, on chance pieces of land for various events: fairs, markets, tent theatres, etc.
- Removable laybies for campers, roulottes, various garage areas, etc.
- Surrounding surfaces for tree trunks.
- Heliports and strips for ultralight aircraft.
- Protection of lawn surface against damage caused by hostile acts of animals (dogs, etc.).
- Roof gardens.
- Covers for flat roofs and terraces to protect the impermeability layer.

Advantages

- Immediate consolidation of the soil.
- The possibility to make use of grassy areas in urban centers allows the creation of green spaces, natural habitats of insects and small animals.
- It allows high values of compressive strength depending on the type of the underlying soil, substrate, and corresponding thicknesses.
- Aesthetical, functional and ecological advantages: a lawn area lets the rainwater filter into the ground naturally, respecting the hydrogeological balance of the site.
- During the summer it does not produce unwanted thermal effects due to overheating of the sealing surfaces such as those in the asphalt.

Pose

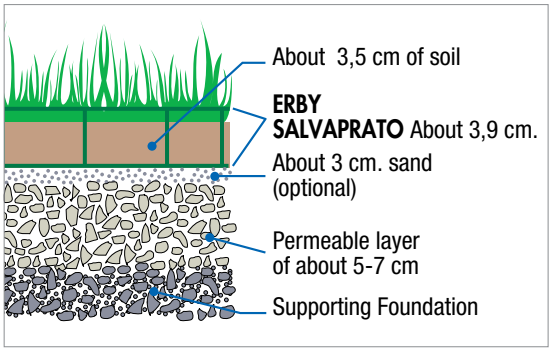
The practicality of the hook and the lightness of the individual grids, the moldability in various forms (a simple hacksaw will suffice), enable a rapid and effective implementation of Salvaprato ERBY both for large and small surfaces.

After preparing a substrate carrier in relation to the nature of the site and the intended use, proceed as follows:

1 CREATION OF A PERMEABLE LAYER (crushed stone with a variable grain of 3-10 mm) of approx 5-7 cm. Possible bedding layer with siliceous sand, properly levelled, approx. 3 cm.

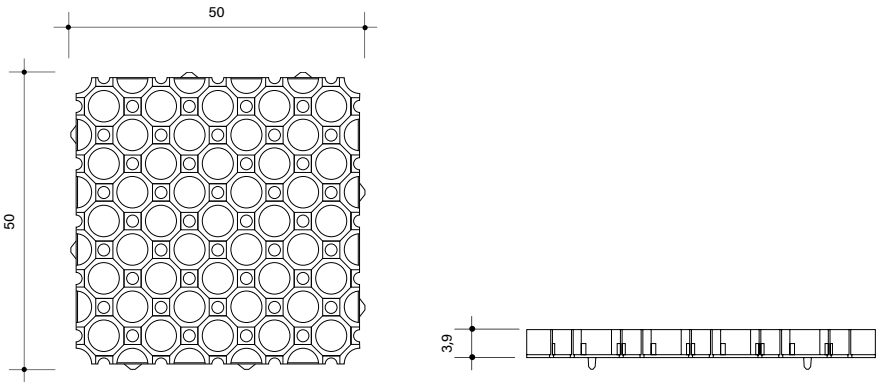
2 PREPARATION OF THE PAVEMENT WITH ERBY GRIDS. When positioning them on large surfaces or in the case of curbs or other elements that surround them perimeter, a venting space of approx. 3-5 cm should be left.

3 FILLING OF THE ERBY GRIDS with garden soil leaving at about 1 cm from the edge, subsequent watering - so that the soil is compact in a natural way - and sowing.



It is recommended that a fair assessment of the local conditions of the land be carried out. Our instructions, in fact, have the character of a general nature and the preparation of the substrate must be appropriate to soil type, climatic conditions, and intensity of the load.

Technical data



Colour	Dimensions (cm)	Pieces per sq.mt. (pcs)	Piece weight (kg)	Resistance (t/m²)	Pallet dimensions (cm)	Pieces per pallet (pcs/PAL)	M² pallet (m²/PAL)	Pallet weight (kg/PAL)
GREEN	50 x 50 x 3,9	4	1,365	> 210	100 x 120 x 218	240	60	336

Accessories

SIGNALLING ELEMENT

They are available in the catalogue in the classic 3 colours provided by the Highway Code: white (free parking area), yellow (reserved parking area, for ex. parking spaces reserved for invalids) and blue.
It is possible to manufacture colours ad hoc on request.

ANCHORAGE STAKE

Deeply penetrating stakes to anchor the grating on slopes.


Parking


Parking

KEY:


Drainage


Environment


Ecocompatibility


Aesthetics


Certifications

Green Park is a modular product made of environmentally friendly, recyclable thermoplastic resin. It makes grassy areas suitable for vehicular traffic by protecting the surface from damage caused by the transit and parking of wheeled vehicles, including heavy equipment. It is distinguished by its ornamental effect, easy to install, maintenance-free, and withstands the stresses of use under extreme environmental conditions over time.

The different contouring on the two opposite sides make Green Park extremely versatile, in that it can be installed with either side facing upwards; when it is installed with the thinnest ribs facing upwards, this creates drive-over areas and paving with grassy or gravel finishes, and installation with the thinnest ribs facing downwards creates temporary green areas for pedestrian use.

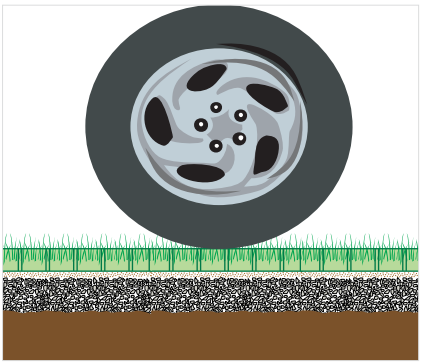
Applications

- Access areas for cars and motor vehicles.
- Public and private parking areas.
- Bicycle tracks and pedestrian walkways.
- Paths in golf courses and sport plants.
- Equipped areas (gazebo and barbecue areas, etc.).
- Consolidation of slopes to contrast wash away and erosion phenomenons.
- Temporary surfaces, on chance pieces of land for various events: fairs, markets, tent theatres, etc.
- Surrounding surfaces for tree trunks.
- Protection of lawn surface against damage caused by hostile acts of animals (dogs, etc.).

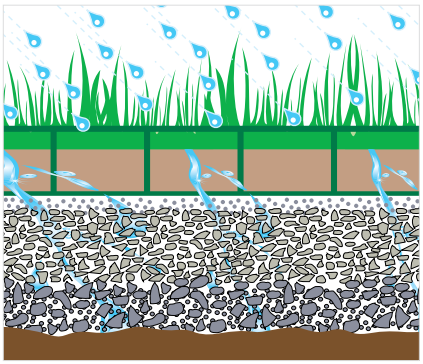
In case of slopes it is important to consider the adherence coefficient. For this reason, assuming prudentially a wet surface and tires and medium/high use status, it is not recommended to use Green Park for inclinations greater than 8%. This slope can be incremented in case of gravel finishing. The use of locking rings is mandatory for laying on inclined surfaces.

Advantages

- Ecological due to the use of recyclable, environmentally friendly, reusable materials.
- Light and easy to pose
- It respects the soil's vital structure and protects the lawn in a non-invasive way.
- Due to its unique coupling system, the grid can be mounted either horizontally or vertically, at right angles or staggered, and even overlapping or with alternating sides in the same substrate.
- If used temporarily on an existing lawn, it can be removed and repositioned at any time, so that it can be used several times over the course of its service life.
- Individual cut pieces can be coupled with intact pieces, virtually eliminating product waste or scraps.
- The interior of Green Park offers a water grid (tubing) with the capacity to accumulate a water reserve of 1.5 l/m^2.
- This guarantees the gradual distribution of water, prevents stagnation and favours the uniform growth of the lawn.
- With Green Park, the draining properties of the soil remain unaltered (by more than 90%), keeping the surface passable during all seasons and under any weather conditions, thereby avoiding the formation of mud and always keeping the surface dry.
- During the summer it does not produce unwanted thermal effects due to overheating of the sealing surfaces such as those in the asphalt.
- It gives the turf a spectacular ornamental effect.
- Both sides of the grating have non-slip surfaces which makes it suitable for installation in walkways



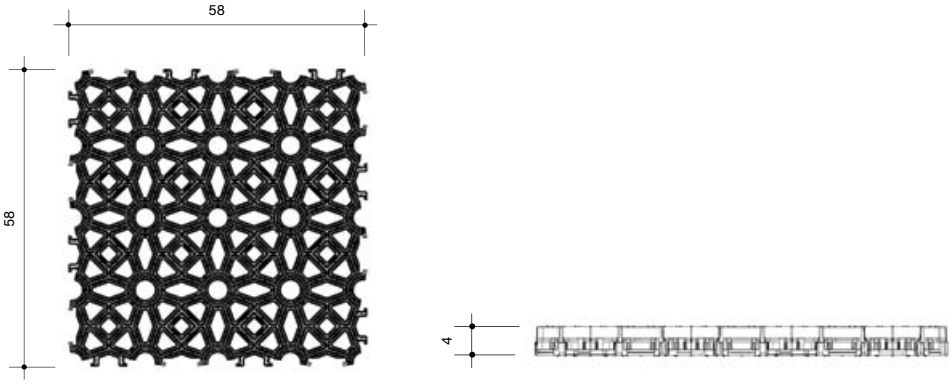
Lawn surface with protective grating



Hydrogeological balance

Non-slip grating's surface

Technical data



Colour	Dimensions* (cm)	Pieces per sq.mt. (pcs)	Piece weight (kg)	Load capacity with empty cells (t/m²)	Load capacity with full cells (t/m²)	Water reserve (l/ m²)	Pallet dimensions (cm)	Pieces per pallet (pcs/PAL)	M² pallet (m²/PAL)	Pallet weight (kg/PAL)
GREEN	58 x 58 x 4	≃ 3	1,796	187	360	1,5	120 x 120 x 240	420	140	768
WHITE	58 x 58 x 4	≃ 3	1,796	187	360	1,5	120 x 120 x 240	420	140	768

** In consideration of the recycled material, it is permitted a size variation of 2.5%, for the same reason the colour tone is subject to variation.*

Accessories

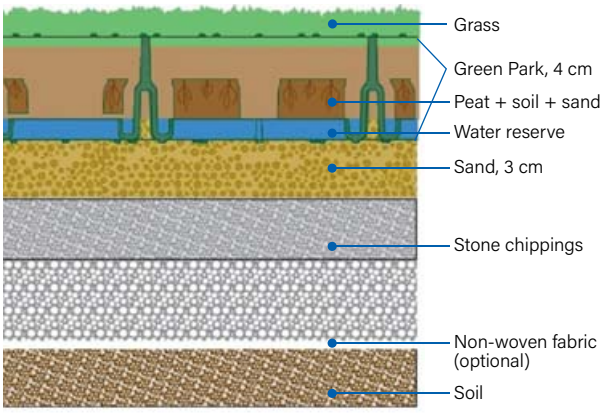
SIGNALLING ELEMENTS


They are available in the catalogue in the classic 3 colours provided by the Highway Code: white (free parking area), yellow (reserved parking area, for ex. parking spaces reserved for invalids) and blue.

LOCKING RINGS


Locking accessory to strengthen the joining of the grids where needed; this is mandatory for installation on inclined surfaces.

Pose



It is important to carry out an adequate evaluation of the local conditions of the soil. Our instructions are, in fact, in general terms and the preparation of the foundation must be suitable for the type of soil, the climatic conditions and the load intensity.

1 PREPARE ROAD SUBSTRATE with stabilised, well levelled, rolled and compacted crushed stone of a thickness suitable for vehicular transit.

2 LAY A WELL-LEVELLED LAYER OF FINE SAND approximately 3 cm thick.

3 DEVELOP THE ROAD SURFACE USING GREEN PARK GRIDS with the thinner ribs facing upwards. When laying on large surfaces or in the presence of stringcourses or other elements delimiting the perimeter, leave empty spaces of about 3/5 cm for the natural dilatation of the material.

4 FILLING OF THE GREEN PARK CELLS.
The filling process must partially saturate the cells, the level reaching to 1 cm below the flooring's upper border.
Then sowing.

KEY:

Environment

Ecocompatibility

Aesthetics

The **V-Green®** *(Vertical Green)* system is an opportunity to bring life and greenery in urban gray.
V-Green® is a support for climbing plants to employ for the vegetable covers of perimetric walls of a building, that offers easy and affordable realization of true vertical gardens, which produce effects of compensation, mitigation and improvement not only on the building but also on the surrounding environment, thanks to the purifying action of the absorption of CO_2 and fine dust, as well as to one beneficial aesthetically and psychologically.

Applications

- An excellent tool for urban architecture that condenses, into a single application, aesthetics, technical performance of insulation, protection of the building's external surface and improvement of the environment.
- It is used on new or renovated buildings for any use: residential, office, commercial, industrial and public buildings such as schools, hospitals, ministries.

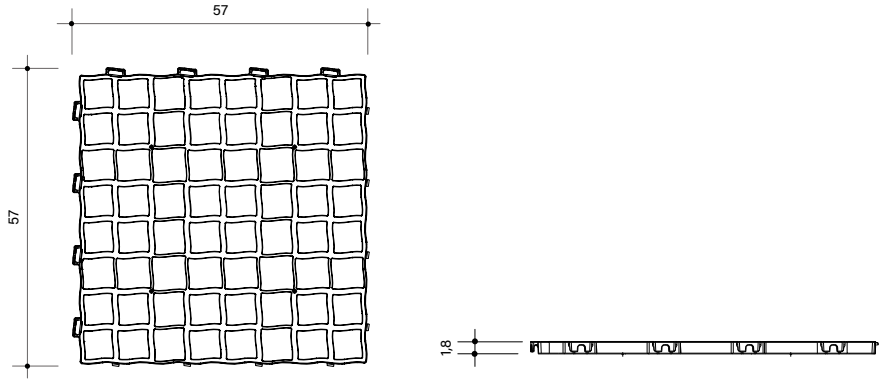
Advantages

- Protection of building surfaces from sunlight and from the effects of rainwater.
- Thermal insulation and barrier protection from the wind, resulting in energy savings.
- Improvement of the microclimate by lowering the external heating: at night the vegetation prevents heat loss, while in daylight hours, it absorbs the heat due to perspiration keeping the building cooler.
- Sound insulation: the presence of green and its substrate opposes a natural barrier to the spread of noises.
- Improving air quality: through chlorophyll synthesis, plants absorb carbon dioxide and release oxygen, and certain species, also absorb particulate matter and pollutants.
- Improvement of the aesthetics and reduction of visual impact.
- Increased biodiversity: it creates ideal habitats for plants and birds.
- Visual and psychological benefits: the presence of vegetation, especially in cities, where it is lacking, spreads positive feelings, reduces the stress and relaxes.

Pose

The V-Green® grid is permanently fixed to the wall by means of plugs to be inserted into the holes.
Easy and intuitive to install, allows you to prepare large areas quickly. V-Green® is a modular and flexible product made from recycled plastic (PE LD) UV-stabilized and environmentally friendly.

Technical data



Colour	Dimensions (cm)	Pieces per sq.mt. (pcs)	Piece weight (kg)	Resistance (t/m²)	Pallet dimensions (cm)	Pieces per pallet (pcs/PAL)	M² bancale (m²/PAL)	Pallet weight (kg/PAL)
GREEN	57 x 57 x 1,8	3	0,877	> 200	120 x 120 x 121 120 x 120 x 240	240 480	80 160	230 440
GREY	57 x 57 x 1,8	3	0,877	> 200	120 x 120 x 121 120 x 120 x 240	240 480	80 160	230 440

KEY:

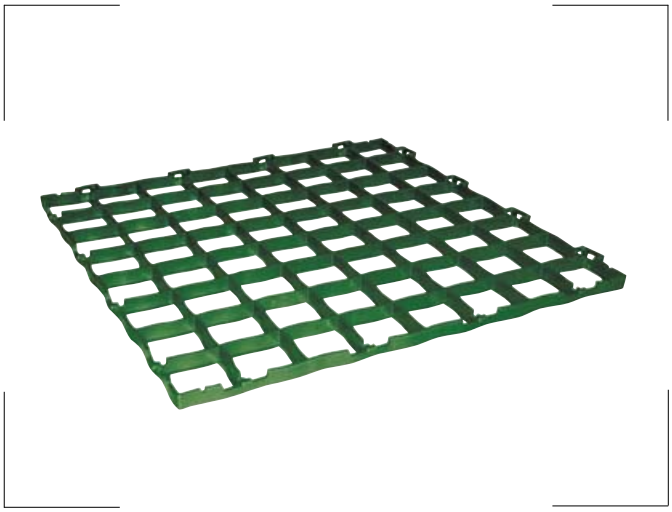
Drainage

Environment

Ecocompatibility

Aesthetics

Certifications



Easy Park® is a highly versatile technical grating to pave natural surfaces, made of thermoplastic resin, UV-stabilized and environmentally friendly. It represents the ideal solution for permanently (or provisionally) creating driveways, parking areas, walkways, or islands according to various needs.
Lightweight, easy and intuitive to install, **Easy Park®** is especially suitable for already turfed lawn areas where the grating only has to be laid. With its particular structure it protects, in any weather, the turf from the crushing due to the passage and parking of motor vehicles, at the same time promoting natural growth and rooting. It can also be used for surfaces made of sand, clay, soils with poor bearing capacity, etc.

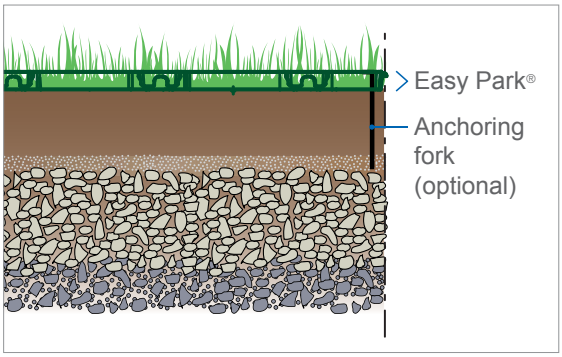
Applications

- Permanently or temporary protection of the lawn in the case of events, concerts, exhibitions, festivals, ecc.
- Landing area for helicopters and microlights, on any surface.
- Parking area.
- Quickly creation of pedestrian paths, lanes, emergency areas, tent cities, reception centres.

Advantages

- Protection of the natural surface of the soil that can be immediately used for transit and parking of motor vehicles.
- Highly resistant to weathering.
- Extreme versatility, easy to position, light-weight, intuitive interlocking hooking system with male/female guides that makes it possible to cover larges surfaces in a short period of time, with a resulting reduction in installation costs.
- Ecologic thanks to the use of material that is recyclable, ecocompatible and reusable.
- It can be easily removed and conveniently and quickly repositioned.
- Particularly flexible, it follows the profile of the ground even in the case of uneven surfaces.
- It respects the vital structure of the ground, protecting the lawn in a non-invasive manner.
- Promotes draining and the exchange of nourishing elements, which benefits quick and solid root formation.
- It permits the rain water to filter naturally through the ground, respecting the site's hydrogeological balance.
- It enhances the beauty of the lawn.

Pose



Easy Park® is placed directly over the existing lawn.
The first grid at the top left of the surface to be paved is positioned on the ground; then, the various grids are assembled from left to right and from top to bottom, hooking them together with the appropriate male/female hooks.
In the case of large areas meant to temporary protect the lawn or in the presence of roughness or bumps, it is preferable to anchor the grids to the ground using anchoring forks.
After the pavement has been laid on the lawn, only regular maintenance is required, such as mowing with a conventional mower.


Easy Park just after installation

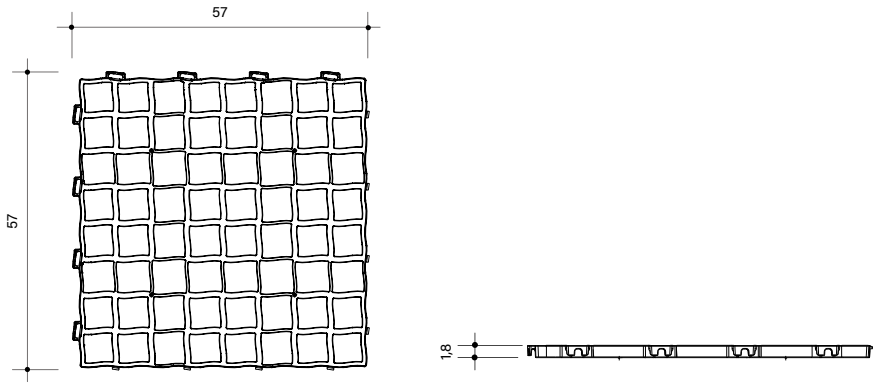

Easy Park after a few days


Easy Park after 10 days


Temporary parking


Temporary protection during an event

Technical data



Colour	Dimensions (cm)	Pieces per sq.mt. (pcs)	Piece weight (kg)	Resistance (t/m²)	Pallet dimensions (cm)	Pieces per pallet (pcs/PAL)	M² pallet (m²/PAL)	Pallet weight (kg/PAL)
GREEN	57 x 57 x 1,8	3	0,877	> 200	120 x 120 x 121 120 x 120 x 240	240 480	80 160	230 440
GREY	57 x 57 x 1,8	3	0,877	> 200	120 x 120 x 121 120 x 120 x 240	240 480	80 160	230 440

Accessories

SIGNALLING ELEMENT

They are available in the catalogue in the classic 3 colours provided by the Highway Code: white (free parking area), yellow (reserved parking area, for ex. parking spaces reserved for invalids) and blue.
It is possible to manufacture colours ad hoc on request.

ANCHORAGE STAKE

Deeply penetrating stakes to anchor the grating on slopes.


Protection of the lawn


Temporary landing platform

KEY:

Drainage

Environment

Ecocompatibility

Aesthetics

Certifications

Easy Ride is a grid made out of recycled plastic that is ecocompatible and UV ray stabilised, which makes it possible to improve and stabilise surfaces crossed by animals, also large ones, preserving mobility and safeguarding the general hygiene of their living environment.

Easy Ride, thanks to its elasticity and stability, is particularly suited to the field of horse riding because it prevents the horse from suffering limb injuries, especially those resulting from jumping or running a high speed, providing it with greater adherence to the ground and therefore improved dynamic equilibrium.

Applications

- Solidification of covered and uncovered riding grounds.
- Stabilisation of the ground in free stalls.
- Suitably combined with specific material for riding it is ideal for solidifying the ground in competition areas, bridling zones and loading and pasture access zones.

Advantages

- Elimination of the mud, providing the ground with a considerable draining capacity due to its very high permeability: 88%.
- Stabilisation of uneven and rough surfaces, thanks to its high resistance due to the tensile support structure that effectively distributes the loads.
- Reduction in maintenance work for the foundation thanks to the elimination of holes and ditches.
- Considerable draining capacity.
- Preservation of the stratigraphy of the technical base.
- Greater hygiene of the parking and manoeuvring areas as the surfaces are easier to clean.
- Antislip finish.
- Ecologic as it is made with recycled plastic that is ecocompatible and UV ray stabilised.
- Extremely easy to install thanks to its lightness and interlocking hooking system with male/female guides.

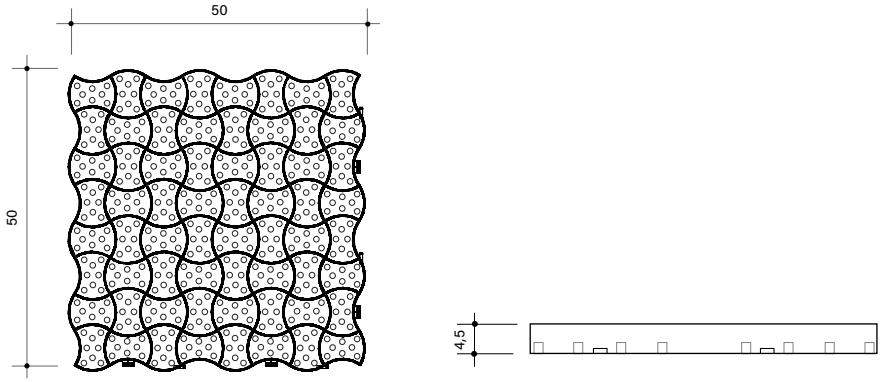
Pose

1. CREATION OF A PERMEABLE LAYER (crushed stone with a variable grain of 3-10 mm) of approx 15-20 cm. Possible bedding layer with siliceous sand, properly levelled, approx. 4 cm. Laying of the geotextile prior to the development of the flooring.

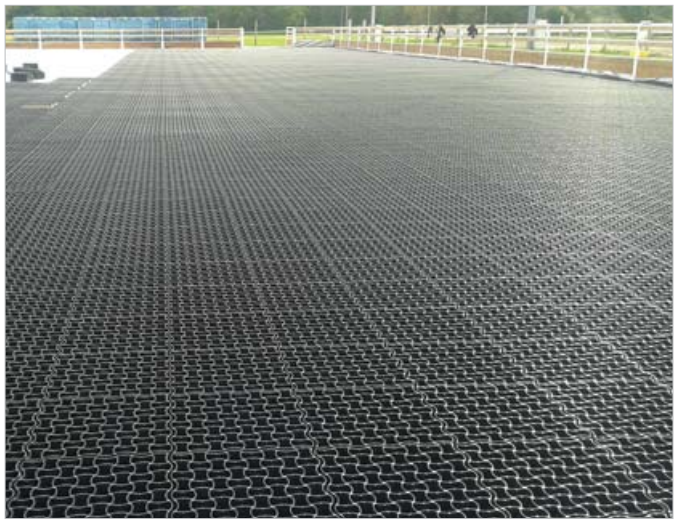
2. PREPARATION OF THE PAVEMENT WITH EASY RIDE GRIDS When positioning them on large surfaces or in the case of curbs or other elements that surround the perimeter, a venting space of approx. 3-5 cm should be left.

3. FILLING THE EASY RIDE GRIDS Level filling of the cells with volcanic lapillus (variable grain 0-4 mm) which keeps the foundation moist, thanks to its porosity, preventing problems with dust. Then, apply a 20 cm layer of silica sand for levelling purposes.

Technical data



Colour	Dimensions (cm)	Pieces per sq.mt. (pcs)	Piece weight (kg)	Resistance (t/m²)	Pallet dimensions (cm)	Pieces per pallet (pcs/PAL)	M² pallet (m²/PAL)	Pallet weight (kg/PAL)
GREY	50 x 50 x 4,5	4	1,491	> 200	100 x 120 x 220	212	53	324



NOTES

DALIFORM GROUP s.r.l.

Tel. +39 0422 2083
Fax +39 0422 800 234
export@daliform.com
Via Postumia Centro, 49 - 31040
Gorgo al Monticano (TV) - Italy

Certified Management System
UNI EN ISO 9001 - UNI EN ISO 14001 - UNI EN ISO 45001 - SA8000

Member of
GBC Italy

Rating di legalità: ★★+

PRODOTTO CONFORME
ai criteri di
COMPATIBILITÀ AMBIENTALE

www.daliform.com

Rev. 00-09/20