



Sistema Atlantis

www.daliform.com



**Disposable formwork for
ventilated under-floor cavities**



KEY:

- 

Water, collection tanks
- 

Air, moisture
- 

Radon
- 

Cold rooms
- 

Utility passage
- 

Foundations
- 

Certifications
- 

Ecocompatibility

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variable height from 56 cm to 300 cm



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 Iglü® 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.



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, which permits maximum resistance with minimum slab thickness.
- 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 pillars with suitable reinforcement.
- Adaptable to non-standard spaces as the modules can be cut without underpinning.
- Passage of systems under the pavement in all directions: perpendicular and diagonally.
- If used in combination with the disposable Muro formwork system it is possible to create elevation plates, both perimetric as well as intermediate, together with the upper slab preventing formwork dismantling, with considerable time savings.
- 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.



Atlantis System in combination with Muro formwork



Inspectionability



Example of the passage of utilities



Compensate gaps of quotes



Easy to pose



Building for residential use



Green roof

Applications

Atlantis is a system for creating under-floor cavities where there is considerable height available. It can be used for the distribution of systems and technological networks under the pavement so they do not need to be buried in screed.

It is suited for creating thermally insulated cavities for cold rooms with or without forced ventilation. It is the ideal solution for creating accumulation or dispersion tanks and for pool restructuring. Thanks to custom sized elevator pipes, it is the ideal system for creating inclined or multilevel surfaces.

Atlantis, 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), a reduced use of concrete and steel makes it possible to obtain extreme stiffness even if the ground does not provide much load bearing capacity.



Building for residential use

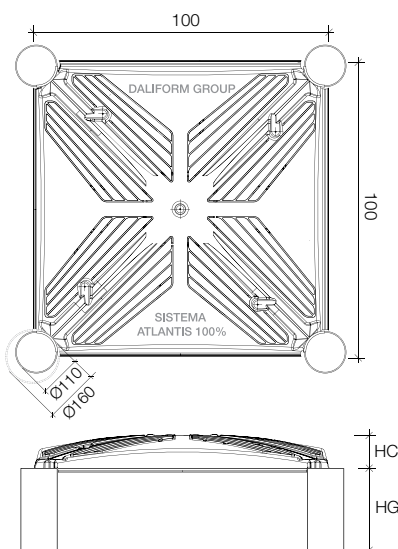


Interspace with root saving function



Square (Waterblock Holland)

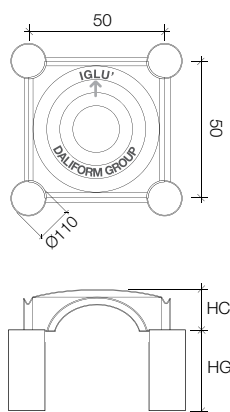
Atlantis System range



Sistema **Atlantis 100%**

	H cm. ▶	from H 56 to H 80	from H 81 to H 110
Working dimensions bxb	cm	100 x 100	100 x 100
Dome height HC	h cm	12	12
Leg height HG	h cm	from 44 to 68	from 69 to 98
Pipe diameter Ø	mm	110	110
Quantity of concrete to the crown	m³/m²	from 0,038 to 0,040	from 0,040 to 0,043
Pipe diameter Ø	mm	160	160
Quantity of concrete to the crown	m³/m²	from 0,043 to 0,047	from 0,047 to 0,053
Pallet dimensions*	axb x h	110 x 110 x 250 h	110 x 110 x 250 h
Weight kg.		740	740
Units		70	70
m²		70	70

*Referred to the dome only.
The product is not affected if weathered.



Sistema **Atlantis**

	H cm. ▶	from H 56 to H 80	from H 81 to H 110
Working dimensions bxb	cm	50 x 50	50 x 50
Dome height HC	h cm	16	16
Leg height HG	h cm	from 40 to 64	from 65 to 94
Pipe diameter Ø	mm	110	110
Quantity of concrete to the crown	m³/m²	from 0,048 to 0,056	from 0,056 to 0,068
Pallet dimensions*	axb x h	110 x 110 x 250 h	110 x 110 x 250 h
Weight kg.		510	510
Units		300	300
m²		75	75

*Referred to the dome only. / The product is not affected if weathered.

Pressures at the bottom of the structure Sistema Atlantis 50x50

Supposing a distributed load, the table shows minimum slab thickness, reinforcement and pressure on soil depending on lean concrete thickness.

Hypothesis of load kg/m²	Slab cm	Mesh Ø mm - cm x cm	Thickness of the lean concrete cm	Pressure at pillar base Kg/cm²
1.000	3	Ø5 25 x 25	0 5 10	4,20 0,49 0,19
3.000	4	Ø5 20 x 20	0 5 10	10,80 1,20 0,45
5.000	5	Ø6 20 x 20	5 10 15	1,94 0,71 0,37
10.000	6	Ø8 20 x 20	5 10 15	3,70 1,35 0,700
20.000	10	Ø8 15 x 15	10 15 20	2,65 1,36 0,800

The table expresses, starting from the various examples of overload and of thickness (to be given to the slab), the pressures that would be applied to the feet of the structure, in relation to the (eventual) thicknesses of the lean concrete.



from H 111 to H 140	from H 141 to H 170	from H 171 to H 200	from H 201 to H 230	from H 231 to H 260	from H 261 to H 300
100 x 100	100 x 100	100 x 100	100 x 100	100 x 100	100 x 100
12	12	12	12	12	12
from 99 to 128	from 129 to 158	from 159 to 188	from 189 to 218	from 219 to 248	from 249 to 288
110	110	110	110	110	110
from 0,043 to 0,046	from 0,046 to 0,049	from 0,049 to 0,051	from 0,051 to 0,054	from 0,054 to 0,057	from 0,057 to 0,060
160	160	160	160	160	160
from 0,053 to 0,059	from 0,059 to 0,065	from 0,065 to 0,070	from 0,070 to 0,076	from 0,076 to 0,082	from 0,082 to 0,088
110 x 110 x 250 h	110 x 110 x 250 h	110x110x250	110x110x250	110x110x250	110x110x250
740	740	740	740	740	740
70	70	70	70	70	70
70	70	70	70	70	70



from H 111 to H 140	from H 141 to H 170	from H 171 to H 200	from H 201 to H 230	from H 231 to H 260	from H 261 to H 300
50 x 50	50 x 50	50 x 50	50 x 50	50 x 50	50 x 50
16	16	16	16	16	16
from 95 to 124	from 125 to 154	from 155 to 184	from 185 to 214	from 215 to 244	from 245 to 284
110	110	110	110	110	110
from 0,068 to 0,080	from 0,080 to 0,089	from 0,089 to 0,100	from 0,100 to 0,111	from 0,111 to 0,122	from 0,122 to 0,136
110 x 110 x 250 h	110 x 110 x 250 h	110x110x250	110x110x250	110x110x250	110x110x250
510	510	510	510	510	510
300	300	300	300	300	300
75	75	75	75	75	75

Certifications



- 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)
- Acoustic check for the verification of DIN standards, Avis Technique issued by the French institute CSTB.
- Series of loading and breaking tests certified by the University of Padua.
- Member of the Green Building Council Italia
- Company Certified according to International Standards UNI EN ISO 9001 (Quality), UNI EN ISO 14001 (Environment) and SA 8000 (Social responsibility).
- Certification of Conformity to the Environmental Compatibility Criteria (CCA).

Installation method (Images and schemes referred to atlantis 50x50 cm with pipe having diameter 11 cm)



The Atlantis System is made up of three basic elements in its standard configuration: Atlantis formwork h 16 cm (A), pipe (B) diameter 110 mm (external and of a variable height, slip-on pipe base (C) with an enlarged support surface.

In order to plug the formworks laid against the wall, it is suggested to use the panel accessory made of polystyrene.

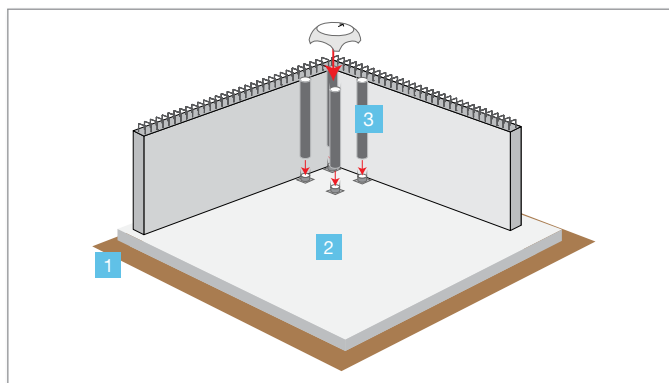
The Atlantis formworks are simple to install: the procedure consists of inserting the pipe into the slip-on base and then linking the Atlantis formwork to the far end of the pipe using the bayonet coupling. Each piece can be hooked to the adjacent piece thanks to the shaped grooves for the male/female linking. For this, simply position them in horizontal rows from the left to the right, with the **arrow on the top** turned outward from the operator, proceeding to the end of each row.

Thanks to the modularity and lightness of Atlantis, each operator will be able to position up to 30 m² per hour standing comfortably in an erect position.

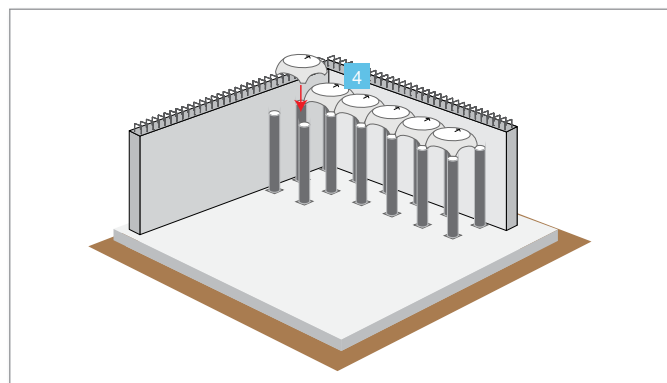


Details of the complete Atlantis System positioning sequence.

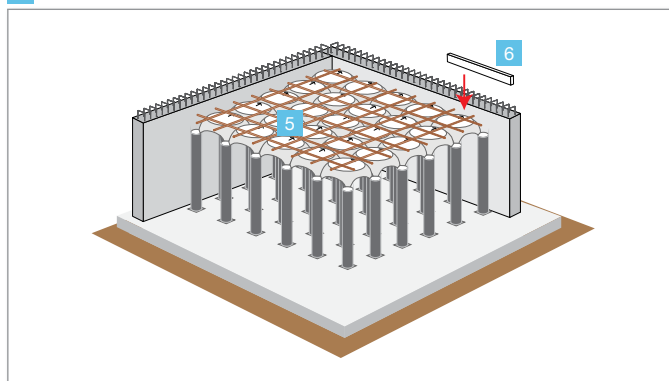
Method for creating under-floor cavities



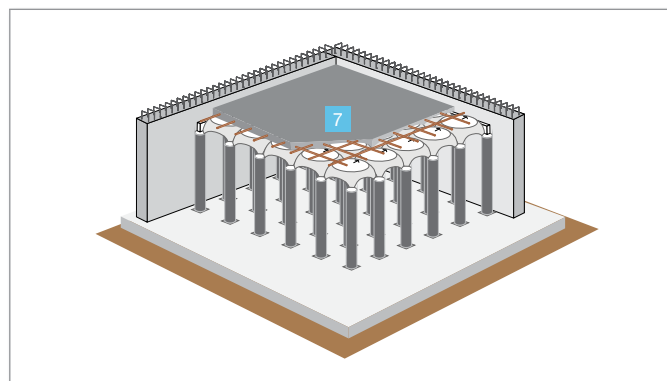
- 1 Preparation of the natural ground.
- 2 Preparation of the lean concrete foundation, to be sized according to the loads and capacity of the ground.
- 3 Pose of Atlantis system (foot+pipe+formwork)



- 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 previously 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

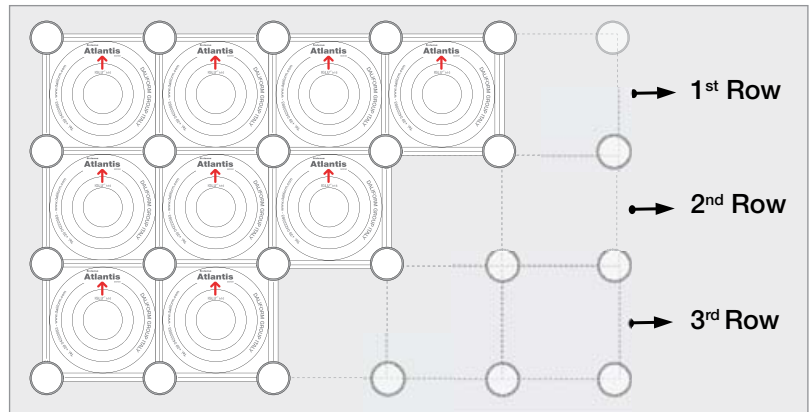


fig. 2 - Dry positioning sequence of the modules by row

- 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)

Application example: formwork raft

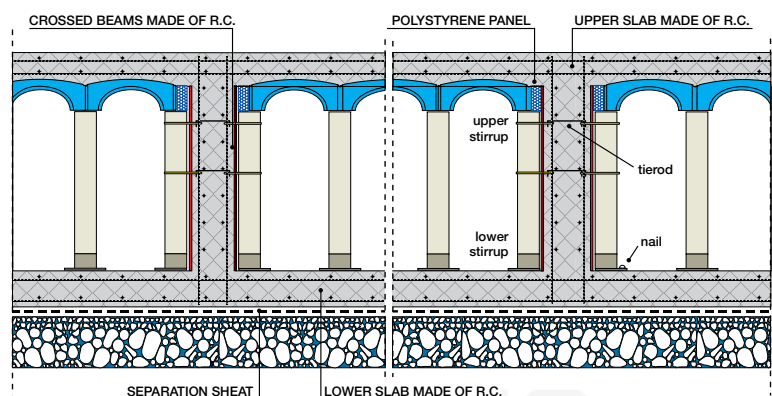


The purpose of the foundation structures is to minimise deferred deformation due to the irregularity of the ground and asymmetric loads to ensure building stability. It is the two latter aspects that represent the true danger to the integrity of the foundation and the overlying structure. Once the type of foundation that is best suited for distributing the loads in the ground has been identified, based on the characteristics of the building and ground, the problem goes from being technical to economical, therefore the most economic solution must be identified for implementing the selected solution.

A solution to this problem, without changing the type of structure, is to create a box type raft (or formwork). This obtains a honeycomb structure consisting of two flat plates connected by mutually perpendicular beams: lower and upper slabs with a thickness of 15-20 cm with connection beams with a height of 70-120 cm positioned at variable centre distances depending on static requirements. Thanks to the Iglu® or Atlantis formworks from the Daliform Group, in association with L-Plast panels or Muro

formwork, it is possible to complete the raft structure in only two phases; that is casting the lower slab on which the Daliform Group products are positioned and then casting the beams and compression slab at the same time. This makes it possible to create extremely rigid foundations at a limited cost.

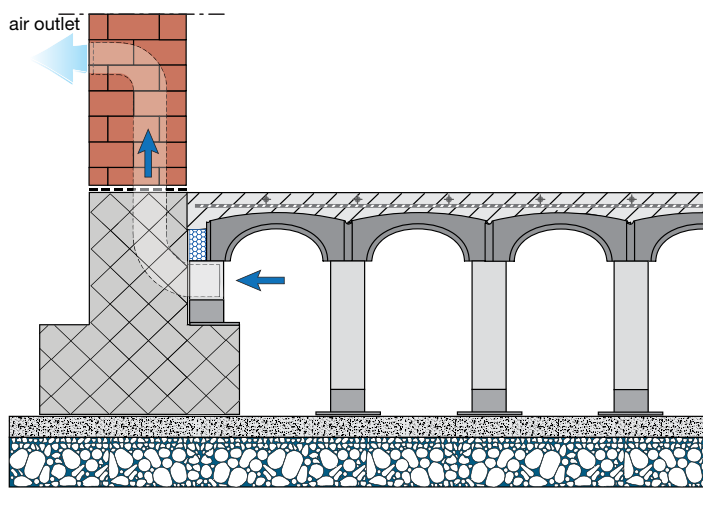
The main function of the foundation structures, such as the one proposed by the Atlantis System is to **distribute the loads** from the pillars, plates and walls to the ground and at the same time anchor the building to the ground, guaranteeing its stability. In some cases, always using the Atlantis System, foundation piles can be eliminated, which would instead be necessary with other construction solutions.



Application example: deep, multi level foundations



The Atlantis System makes it possible to **adjust the height of the elevator pipes within a centimetre**, which can be supplied in different measurements. This will make it easy to **quickly** create structures at a low cost that require variable heights such as sloping ramps, slabs and multi-level slabs. Normally, slabs are created at the same height starting from the foundation bays that are on different levels (a classic example are "reversed T" beams or isolated foundations plinth), the Atlantis System makes it possible to easily create these structures without having to interrupt the regular placement of the formworks. The described system, if combined with the Muro formwork accessory, additionally reduces implementation times.

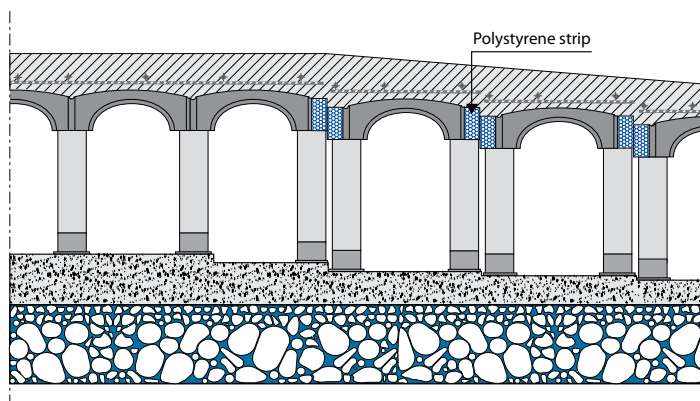


Application example: pool restructuring



It is known that a poorly dimensioned pool almost always causes operating problems, first of which is suitably heating the water at a reasonable cost. For this reason the bottom of the pool must sometimes be raised in order to reduce the volume of the water. A **quick and economic** solution to the problem, thanks to the high resistance, is to lift up the bottom using the **Atlantis System**.

The possibility to adjust the height of the elevator tube within a centimetre also makes it possible to easily create slopes in structures that have a finished bottom and surface inclined with different inclinations. The system can also be used for terracing.

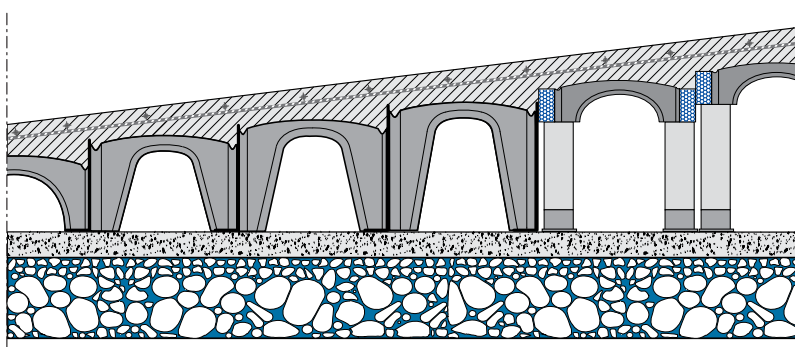


Application example: access ramps



The Atlantis System makes it possible to **quickly create ramps** for accessing underground structures, with considerable savings in material use. In fact, instead of using materials such as sand, gravel or concrete, it is possible to create a foundation for the ramp that has the same height of the adjacent structure (parking area) and create a space with an inclined vehicle accessible slab on the top. **The Atlantis System can also be used for curved ramps.**

Daliform Group technicians are available to you to help you design your under-floor cavity, and upon request can provide customised studies with calculations and executive drawings.



Daliform Group technical office



FEASIBILITY STUDY

Predimensioning and optimisation of the structures, alternative 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.

The technical consultancy is only valid for the Daliform Group construction systems.

To contact the technical office: Tel. +39 0422 208350 - tecnico@daliform.com

To obtain updated technical cards, support material, new photos and case studies, go to www.daliform.com

Photogallery



Industrial pavement



Building for residential use



Building for residential use



Renovation of a train platform



Tree root protection (Waterblock Holland)



Atlantis system and beton up – monolithic slab supported by perimeter



Square



Eni Green Data Center



Hospital



Expansion of San Gerardo hospital, Monza



Bank



Super raft foundation – system Atlantis in combination with wall formwork

Specifications

Implementation of a ventilated under-ground cavity for a total height of _____ cm with the supply and on-site positioning of recycled plastic **Atlantis System** formworks from the Daliform Group, consisting of modular formworks positioned dry for the quick dry formation of a self-bearing pedestrian accessible platform above which the C25/30 concrete is cast to fill the formwork up to its crown and an upper slab of _____ cm reinforced with welded mesh Ø _____ cm 20 x 20 cm, levelled and smoothed with a trowel.

The **Atlantis system** shall be composed of recycled plastic formwork such as **Iglù®** with convex cover with dimensions **50x50 cm**, h 16 cm and sustained by pipes Ø110 mm, di h _____ cm, complete with slip on bayonet connection feet, which can be walked on when dry, guaranteeing a **breaking resistance** of 150 kg in correspondence of the centre of the arch with an 8 x 8 cm clamp.

or

The **Atlantis 100% system** shall be composed of recycled plastic formwork such as **Iglù®** with convex cover with dimensions **100x100 cm**, h 12 cm and sustained by pipes Ø110 (or Ø160) mm, di h _____ cm, complete with slip on bayonet connection feet, which can be walked on when dry, guaranteeing a **breaking resistance** of 150 kg in correspondence of the centre of the arch with an 8 x 8 cm clamp.

Formworks in recycled plastic, such as **Iglù®**, for the formation of the **Atlantis system**, must not release polluting substances, have an **Environmental Compatibility Certification** and be produced by a Company Certified according to International Standards **UNI EN ISO 9001** (Quality), **UNI EN ISO 14001** (Environment); **BSI OHSAS 18001** (Safety) and **SA 8000** (Social responsibility).

The company that supplies the formworks such as **Iglù®**, for the formation of the **Atlantis system**, must also exhibit the product certificate approved by an **EOTA** (European Organisation for Technical Approvals) member agency.

Including accessories, waste, cutting and all other expenses: _____ /m2 _____

Supply and installation cost grid

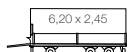
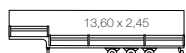
Sample referred to Atlantis system 100x100 cm having pipe Ø 11 cm

No.	Item	U.M.	Quantity	Unit price	Total
1	Supply of Atlantis formwork L 100 x L 100 x H 12 cm	m²	1		
2	Supply of Ø 110 mm pipe with basew	no.	4		
3	Dry positioning of the Atlantis system on the foundation	H/m²	0.05		
4	Supply and positioning of the welded mesh Ø 6/20x20 cm	Kg/m²	2.328		
5	Supply and casting of concrete C25/30 - formwork up to the crown	m³/m²	0.034		
6	Supply and casting of concrete C25/30 - filling of the pipes*	m³/m²			
7	Supply and casting of concrete C25/30 - thickness upper slab	m³/m²			

Total cost €/m²

* 0.036 m³/m² per ml of pipe

Logistics - pallet capacity

MEANS OF TRANSPORT	NO. OF PALLETS	
Tractor (8.20/9.60x2.45)	14/16	
Trailer (6.20x2.45)	10	
Tractor+ Trailer type "BIG" (8.40+7.20x2.45)	14 + 12	
Semi-trailer (13.60x2.45)	24	
20 feet container	10*	
40 feet container	20*	

* the m² per pallet can vary based on the type of container.

The information contained in this catalogue could be changed. Before placing an order, request a confirmation or updated information from the DALIFORM GROUP, which reserves the right to make changes at any moment without notice. In consideration of recycled material, it is specified that there are tolerance margins caused by environmental factors.