



Magnum



FERRACIN
GROUP

PLASTIC SYSTEMS FOR THE
BUILDING INDUSTRY

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Magnum

MAGNUM is a disposable formwork made from recycled polypropylene to create ventilated formworks, cavities and floors in all types of new construction or renovation.



MAGNUM is produced with recycled plastic material resulting from plastic scrap post-consumer and industrial waste. The use of recycled materials saves a lot of emission, just think that for every kg of recycled plastic saves 1.5 kg of CO₂.

Features and Advantages

MAGNUM is an innovative system for building crawl spaces, ventilated floors and cavities in general.

is a square element 71 x 71 cm, equipped with a versatile joining system by which and element can be modularly overlapped to the next. A safety joint prevents the legs from opening during the casting. On each module there are directional arrows and an assembly diagram showing the correct direction of installation.

With **MAGNUM** a safe platform which can be walked on is created and over this the concrete is cast.

MAGNUM is generally installed on a foundation of lean concrete of varying thickness depending on the situation. After the laying of a suitable mesh, proceeding with the casting of concrete, many pillars are formed which, once the concrete is cured, determine the actual resistance of the floor, with the uniform distribution of loads over the entire surface. **MAGNUM** is used in new constructions or in renovations of residential and industrial buildings.

MAGNUM creates a plumbing space with an appropriate steam barrier for the floor and, properly ventilated by pipes connected with the outside, a vehicle for the disposal of Radon gas.

MAGNUM has a spherical shape: this feature allows the structure to work in an arc, (single compression of the concrete) allowing maximum mechanical strength with minimum thickness of concrete, ensuring considerable saving in materials. The spherical shape of the cap allows for the instant identification of the concrete section with the minimum thickness. In this way, at that section the necessary contraction joints can be made, with the absolute guarantee that shrinkage cracks can be controlled.

MAGNUM resists a load of 150 kg. This is the minimum limit required by Italian law, since it corresponds to the weight of a person walking on it safely.

MAGNUM is produced in the following sizes: 60 - 65 - 70 - 75 cm.





Advantages

- Speed and simplicity of installation (one person can lay up to 100 square meters in an hour)
- It can be walked on during the work phase
- Reduces labour time by 80%
- Saves concrete
- Adaptation for out of square areas by cutting the elements
- Natural or forced ventilation across the whole surface
- Passage of the systems under the floor in all directions
- Ability to create the foundation beams and slab with a single casting using the FERMOplast accessory .

Applications

- Crawl spaces, ventilated crawl spaces cavities and floors in residential and industrial buildings, new builds or renovations
- Plumbing spaces
- Floating floors
- Urban redevelopment in general (pavements, squares, etc. ...)
- Sports centres
- Ecological systems and platforms
- Cold rooms, drying rooms, greenhouses, rooms at a constant temperature
- Underground channels

Radon Gas

RADON GAS is a radioactive gas, which is colourless and highly volatile, produced by some of the rocks of the earth's crust and therefore present in different concentrations in all types of terrain.

In areas where the ground is particularly rich in this element, closed environments can favour the build-up of high levels of radon which are dangerous to humans.

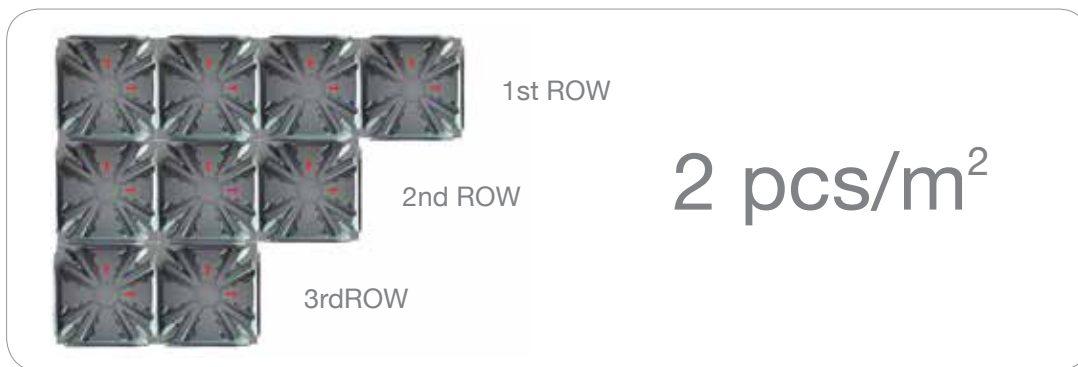
The ventilated crawl space, allowing air flow under the building, allows the release and dispersion of **RADON GAS** into the atmosphere, thus preventing it from reaching the rooms which are lived in.



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Laying method

The joining system of the **MAGNUM** formwork allows it to be installed quickly and easily. Lay the elements from top to bottom and from left to right, ending one row at a time. The two arrows on each element should be directed upwards and to the right respectively (see picture).



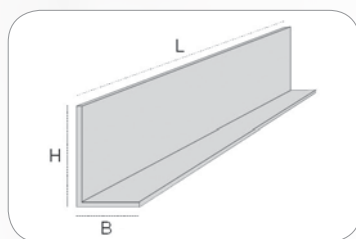
Execution of a ventilated crawl space

- Preparation of the rolled gravel subbase.
- Creation of the lean concrete subbase, of variable thickness depending on the overloads and on the ground capacity.
- Placement of the rebar for the foundation beams.
- Creation of ventilation holes (for correct functioning the creation of a Ø 125 mm hole every 3/4 m is recommended, with low entry to the north and high exit to the south) and placement of pipes if necessary.
- Installation of the FERMOplast accessory (in the case of a single casting for foundation beams and slab).
- Installation of the recycled polypropylene disposable formworks.
- Installation of electro-welded mesh.
- Laying of the concrete to create a cap of variable thickness depending on the intended use of the structure.
- Vibration of the concrete layer.



Accessories

FERMOplast is a polypropylene sheet that allows the closing of the formwork and allows for the creation of the slab and foundation beams with a single laying of concrete (this product can also be used with TOP 4S).



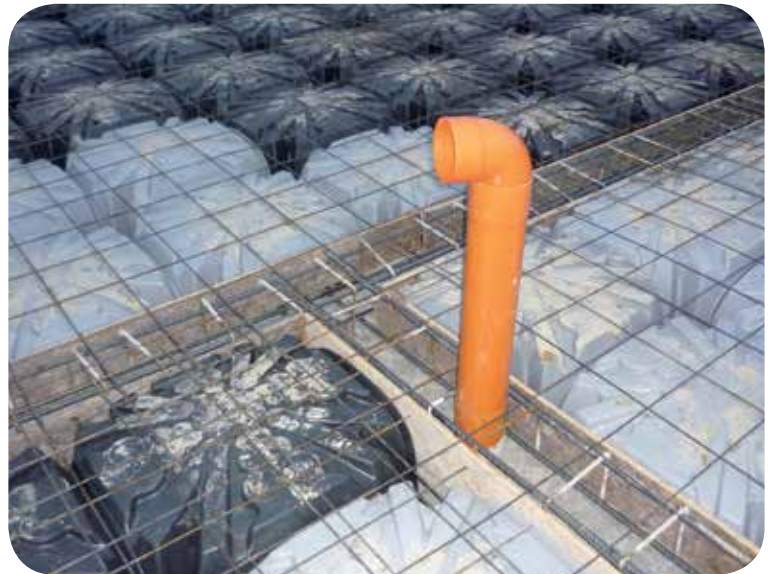
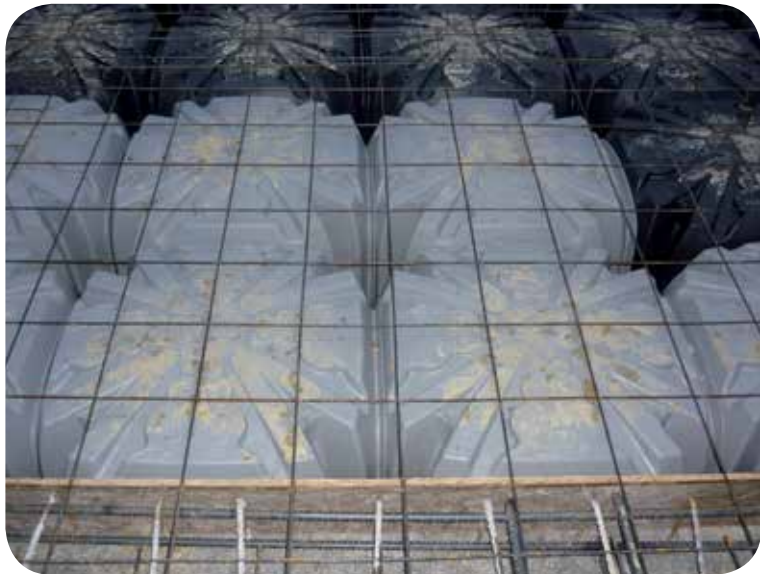
TECHNICAL CHARACTERISTICS

article	H (cm)	B (cm)	L (cm)	thickness (mm)	compatible formworks
FERMOplast H-58	58	7	200	4	MAGNUM H-60
FERMOplast H-63	63	7	200	4	MAGNUM H-65
FERMOplast H-68	68	7	200	4	MAGNUM H-70
FERMOplast H-73	73	7	200	4	MAGNUM H-75





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Technical Details

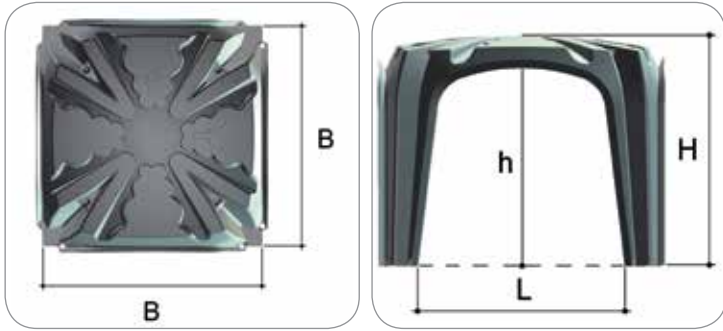


TABLE OF PARAMETERS

Height H (cm)	Base B (cm)	h (cm)	L (cm)	Support area per element (sq.cm)	Weight (kg/piece)	Levelled concrete (2500 kg/m ³)		Packaging Wooden pallet (cm)	No. of pieces Pallet	No. of pieces Pallet	Weight Pallet (kg)
						(mc/ m ²)	(kg/ m ²)				
60	71 x 71	51	53	165,43	4,500	0,066	165,00	150 x 75 x 250	60	30	280
65	71 x 71	56	54	151,71	4,600	0,068	170,00	150 x 75 x 250	60	30	285
70	71 x 71	61	55	130,68	4,700	0,070	175,00	150 x 75 x 250	60	30	290
75	71 x 71	66	56	111,21	4,800	0,072	180,00	150 x 75 x 250	60	30	300

TECHNICAL CHARACTERISTICS

Category	Permanent load (Kg / m ²)	Incidental load (Kg / m ²)	Slab (cm)	Thickness of lean concrete (cm)	Pressure on the ground kg / cm ²				Mesh Ø (mm) mesh (cm x cm)
					60	65	70	75	
residential buildings	200	200	4	0	2,03	2,23	2,61	3,10	Ø 6 - 20x20
				5	0,71	0,36	0,40	0,44	
				10	0,36	0,21	0,23	0,25	
offices	300	200	4	0	2,33	2,56	3,00	3,55	Ø 6 - 20x20
				5	0,82	0,41	0,46	0,51	
				10	0,41	0,24	0,27	0,29	
warehouses	300	800	5	0	4,22	4,62	5,39	6,36	Ø 6 - 20x20
				5	1,48	0,74	0,83	0,92	
				10	0,74	0,44	0,48	0,53	
industrial buildings	300	3000	6	0	10,95	11,96	13,90	16,36	Ø 6 - 20x20
				5	3,84	1,92	2,14	2,39	
				10	1,93	1,16	1,25	1,36	

ELEMENTS FOR THE DESCRIPTION OF ITEM SPECIFICATION

-Supply of formwork in recycled polypropylene - measuring 71x71cm as on plan and height ... as designed, with dry strength kg.150 (DL7.2.4 01/09/1996) called MAGNUM, including cuts, scrap and any additional tooling for the system. - Dry application of the formworks onto the previously prepared level subbase.
 -Supply and installation of 6 mm diameter electrowelded mesh with 20 x 20cm mesh including the scrap and overlapping, directly above the formwork.
 -Supply and laying of concrete Rck = 250 kg / sq cm. To fill the formwork to the edge + the upper slab of adequate thickness.

COST ANALYSIS OF "MAGNUM"

Voci	Units of measurement	Amount per m ²	Price per unit	Price total
Supply of the MAGNUM 71 X 71 formwork, height cm	m ²	1		
Dry application of formwork on the subbase	Hours	0,013		
Supply and installation of Ø 6 electrowelded mesh with a mesh of 20 x 20	Kg	2,3		
Supply and laying of concrete. Rck250 - up to the top of the formwork	Mc			
Supply and laying of concrete. Rck250 - thickness of the upper slab	Mc			
total price €/m ²				



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