

# MasterLife PAV 300

Water based polyfunctional dispersion of innovative copolymers, designed for durable pervious concrete.

## Material description

MasterLife PAV 300 is a water based, non chloride polyfunctional dispersion for the production of durable pervious concrete.

## Pervious concrete

Pervious concrete, sometimes referred to as “no-fines concrete,” is a mixture of hydraulic cement, coarse aggregate of smaller size, admixtures and water. Pervious concrete allows the water to percolate through the concrete into the sub-base and recharge the underground water level. Typically, pervious concrete does not contain any sand and its air void content varies between 15 and 30%.

A small amount of sand can be used for compressive strength improvement but air void content will be reduced and permeability lowered. It is important to maintain the proper volume of paste/mortar in the mix design so that the aggregate is equally coated but the excess of paste/mortar does not fill the void space within coarse aggregate. Voids within the pervious concrete should be interconnected so they create channels through which water can freely flow.

## Safety and environmental advantages of pervious concrete

- Reduces risk of flooding and top soil wash away.
- Reduce hydroplaning on the surface of roads.
- Recharges the ground water level.
- Allows for the natural treatment of polluted water by soil filtration.
- Does not create heat islands due to its light color respect to asphalt.
- Improves the quality of landscaping and reduces the need for watering.
- Reduce interaction noise between the tires and the pavement.
- Pervious pavement looks better and elegant.
- Longer service life and lower life cycle cost than asphalt.

## Typical applications

MasterLife PAV 300 is to be used for a wide range of a wide range of pervious concrete applications:

- pervious pavement for residential and commercial parking lots;
- rigid drainage layers under exterior mall areas;
- greenhouse floors to keep the floor free of standing water;
- structural wall applications where lightweight or better thermal insulation characteristics, or both, are required;
- pavements, walls, and floors where better acoustic absorption characteristics are desired;
- base course for city streets, county roads, driveways, and airports;
- surface course for parking lots, tennis courts, zoo areas, and animal barns and stalls;
- bridge embankments;
- swimming pool decks;
- beach structures and seawalls;
- sewage treatment plant sludge beds;
- solar energy storage systems;
- wall linings for drilled water wells;
- artificial reefs where the open structure of pervious concrete mimics the reef structure.

## MasterLife PAV chemistry

MasterLife PAV 300 is the result of study of an in-house expertise in the Research laboratories of BASF Construction Chemicals Italia Spa. MasterLife PAV 300 is a polyfunctional admixture that allow at the fresh state to improves rheology so that the finishing operations results more easy both manually than mechanically. In addition MasterLife PAV 300 improve the quality of the bonding paste/mortar in terms of adhesiveness. After placement, pervious concrete needs to be completed as quickly as possible. Infact concrete has little excess water in the mixture. Any time the fresh material is allowed to sit exposed to the elements is time that it is losing water needed for curing. Drying of the cement paste can lead to a raveling failure of the pavement surface. MasterLife PAV 300 contains a water retention ingredient that keep the water and allow the correct cement hydration.



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All of this benefits make it possible to obtain a more durable drainage over time and less subject to surface raveling of aggregates.

## Advantages for the Ready mix producer:

The use of MasterLife PAV 300 allows to obtain a pervious concrete having:

- constant quality as it allows the production of more homogeneous and uniform mixtures than conventional pervious concrete, reducing the risk of costly repairs to finished work;
- better compactability and a faster finishing;
- better cement hydration and curing;
- better bond between cement paste and aggregates.

## Compatibility

MasterLife PAV 300 is compatible with all cements meeting the EN 197-1 and ASTM C 150 standards.

To prepare a ready mix pervious concrete we strongly recommend the use of MasterLife PAV 300 in combination with:

- water-reducing admixtures from MasterGlenium SKY or MasterEase line to reduce W/C ratio;
- retarding admixture MasterSet DELVO to control the setting time especially in hot weather conditions to allow the time

needed for placing and finishing the concrete. It is important to avoid the addition of water at the job site because during the finishing, a high cement paste content on surface can closed the porosity and compromised the functionality of pervious concrete;

- air entraining agent MasterAir to improve freeze thaw resistance;
- mineral oxides in powder form from MasterColor 100 line to realise coloured decorative pervious concrete;
- high performance integral waterproofer MasterPel 793 for a more shiny color in decorative pervious concrete.

## Dosage

The dosage of MasterLife PAV 300 can range from 1.0 to 2.0 liters per 100 kg of cement.

Other dosages may be used in special cases according to specific job site conditions. In this case please consult our Technical Services Department.

## Packaging and storage

MasterLife PAV 300 is available in 10L cans, 208L drums and 1.000L tanks.

MasterLife PAV 300 must be stored indoors in a place where temperature does not drop below + 5°C.

Technical Information	
Form	White liquid
Relative density (g/cc at 20°C)	0.980 – 1.020

## Directions for use

MasterLife PAV 300 is a ready to use admixture to be used after all the ingredients cement, aggregates, water and water-reducer are well mixed. MasterLife PAV 300 is compatible with most admixtures, particularly with MasterGlenium, MasterSet and should always be used together with MasterGlenium to reduce the water-cement ratio.

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## Other services

For additional technical information, brochures, references, technical reports and technical support please visit [www.master-builders-solutions.com/it-it](http://www.master-builders-solutions.com/it-it) or alternatively contact [infomac@masterbuilders.com](mailto:infomac@masterbuilders.com).

Scan QR code to visit the product page and download the latest version of this technical data sheet and any additional documentation.



## Disclaimer

Since 16/12/1992, Master Builders Solutions Italia Spa has been operating under a Certified Quality System compliant with the UNI EN ISO 9001 Standard. Furthermore, the Environmental Management System is certified according to the UNI EN ISO 14001 Standard and the Safety Management System is certified according to the UNI ISO 45001 Standard.

For further information, please consult the local Technician of Master Builders Solutions. The technical advice on how to use our products, either written or verbally given, are based on the current state of our scientific and practical expertise, and does not imply the assumption of any guarantee and/or responsibility for the final results of works executed using our products.

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This version supersedes all the previous ones.

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