

i.idro DRAIN

Technical data sheet

Description

i.idro DRAIN is a dry ready-mixed product for continuous paving applications. The product features an excellent drainage capacity ensured through an accurate selection of the aggregates and the specific action of the cementitious binder used in the mix. The drainage capacity of **i.idro DRAIN** can be 100 times as high as that of native soils.

Application

i.idro DRAIN is used for continuous paving systems requiring high drainage performance. The careful selection of top-quality aggregates - which may be naturally grey or white or pigmented by the user - offers a valuable aesthetic plus.

i.idro DRAIN can be used for sidewalks, trails, parking lots, cycle lanes, low-volume roadways, walkways and alleys, environmentally protected roads and areas subject to fire hazards.

Specifications

As demonstrated through comparative tests performed by the DIAR laboratory with Milan's Politecnico, the **very high drainage capacity** of **i.idro DRAIN** exceeds that of naturally-available loose materials like sand, clay and silt, and, according to the maximum size of aggregates used, it equals or even exceeds that of traditional water-draining asphalt pavements.

Maximum size of the aggregate	da 6 a 11 mm
28-days compressive strength ⁽¹⁾ (UNI EN 12390-3)	≥ 10 Mpa
Fresh density	> 1650 Kg/m ³
Void percentage	> 15% <25%
Drainage capacity (UNI 12697-40)	2,69* 10 ⁻² m/s > 1000 mm/min Vers. Extra Large (XL)
	5,78* 10 ⁻³ m/s > 300 mm/min Vers. Large (L)
Free surface area (draining)	25%
Flexural strength	> 1 Mpa

Packaging	25-kg plastic bag
Color	White or Gray

DRAINING CAPACITY	REFERENCE CLASS	REFERENCE MATERIALS
Very high	> 1000 mm/min	Clean loose gravel Draining asphalt
High	> 200 mm/min	Fine sandy gravel
Low	> 50 mm/min	Sand
Very Low	< 10 mm/min	Silt and clay silt Asphalt



Advantages

i.idro DRAIN allows air to re-circulate inside the mass, thus accelerating snow and ice melting and avoiding **ice patch formation**.

i.idro DRAIN promotes **water drainage** thus reducing surface runoff and hydroplaning phenomena.

i.idro DRAIN guarantees groundwater recharge (**deep drainage**) and is therefore particularly suitable for application within environmentally protected areas where water is to be returned to the ground.

i.idro DRAIN absorbs less heat compared to traditional asphalt pavements (albedo) and reduces the ground temperature significantly (down to 30° C) thus providing more comfortable conditions for pedestrians.

i.idro DRAIN allows **harvesting and reuse of stormwater**, as this can be adequately conveyed through suitably designed sub-services.

i.idro DRAIN reduces **stormwater treatment costs** compared to traditional draining asphalt pavements as the water drained from the surface does not contain any of the oil components of asphalt pavements.

i.idro DRAIN keeps its aesthetic as well as physical & mechanical properties unchanged over time. Only **routine maintenance** is required and cleaning can be done by means of water jet pumps.

i.idro DRAIN makes **better use of surfaces** compared to traditional asphalt pavements as it prevents bike lifts from sinking into asphalt and avoids the formation of holes, channels and ruts.

Preparation and use

i.idro DRAIN is "cold" poured, hence with no air emissions and no safety risks for the operators. Thanks to a specially workable mix and according to the type and size of the pavement, **i.idro DRAIN** can be poured either by means of vibrating surfacing road pavers or manually resorting to special building site equipment.

The type and degree of compaction affects the final strength properties and the percentage of voids. The receiving surface must be coplanar, smooth, clean, with no grease or salt that may prevent **i.idro DRAIN** from adhering perfectly. On account of the cementitious nature of the product, the pavement subgrade system shall have been adequately designed.

For thorough homogenization, we suggest mixing **i.idro DRAIN** in a truck mixer or similar equipment using approximately 1.3-1.5 l of clean water each 25 kg bag until an even and smooth mix is obtained (S1 consistency class). Apply the product on the receiving surface using a screed to level the surface and compacting it properly. Application should be within 30 minutes from batching (time referred to a temperature of about 20° C).

Packaging and storage

i.idro DRAIN is available in 25 kg bags on 1,250kg wooden pallets secured with stretch wrap. Store in a cool dry place in its original packaging. The product's shelf life is 6 months.

Technical specification

***i.idro DRAIN**-type concrete based on cementitious hydraulic binders, selected aggregates and special admixtures; supplied in bulk; featuring drainage and breathability properties, high void percentage; to be mixed with water alone and applied, by mechanical means or manually, as a layer of appropriate thickness and adequate compaction on different types of substrate. In order to keep the draining properties unaltered, no sand or powder shall be added neither in the fresh nor in the hardened state, as this may cause voids to become clogged.*

For professional use only. It is up to the user to check for newer updates or further technical information if needed for the intended purpose.

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Last update September 2013



