

## 1. PRODUCT DESCRIPTION

**Arexpan® Hydro** is a ceramic lightweight aggregate based on expanded clay especially appropriate for hydroponics, floriculture and horticulture. It is also used as a decorative media in the sectors of landscaping, gardening and interior design. The product presents a more intense 'terracotta' colour than the **Arexpan®** traditionally manufactured by ARCIRESA.

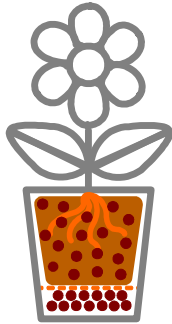
## 2. FIELDS AND METHODS OF USE

### 1. Drainage & water reservoir:



A layer of Arexpan® Hydro at the bottom of the pots or containers, retains the moisture surplus, storing it inside the granules and releasing it when plants need it.

This drainage layer assures an ideal aeration and prevents plants roots from rotting as they are not in direct contact with water.



*Recommended use:* First place a layer of Arexpan® Hydro of 1 – 2 cm width at the bottom of the pot and dispose a separation mesh over it. Then, fill with cultivation soil or with a mix of Arexpan® Hydro & soil in a relation 1:9.

### 2. Protective & decorative top layer:



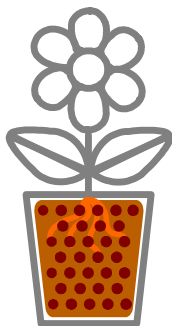
An extra layer of Arexpan® Hydro spread over the cultivation soil creates a barrier which protects plants from extreme temperatures ensuring a right moisture control, saving too frequent waterings and preventing weeds growing.

The round shaped granules and the terracotta colour provide the

product with a pleasant natural appearance which makes it ideal for its use in floral design (vases, pots, etc.) and landscaping.

*Recommended use:* Remove some soil from the top and place a layer of Arexpan® Hydro of 3 – 5 cm width.

### 3. Cultivation soil mixed with Arexpan® Hydro :

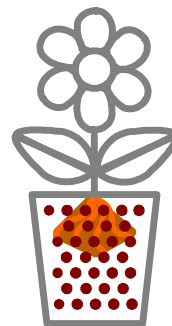


Over time cultivation soil compacts due to its own weight and water.

Mixed with soil, Arexpan® Hydro improves aeration (gas exchange) which accelerates roots growth. It assures better drainage, avoiding roots suffocation and moisture control. Soil breaks up and retains greater quantities of water and nutrients.

*Recommended use:* Mix Arexpan® Hydro and soil at equal parts inside a container. Then place the plant and water.

### 4. Growing media:



Arexpan® Hydro can also be used as a solo growing substrate.

It is also an excellent product for creating hanging and roof gardens as the low density of the product significantly lightens the structures, improving at the same time the plants growth by protecting them against excessive evaporation or frosts.

*Recommended use:* Place directly the root ball in the container filled with product.

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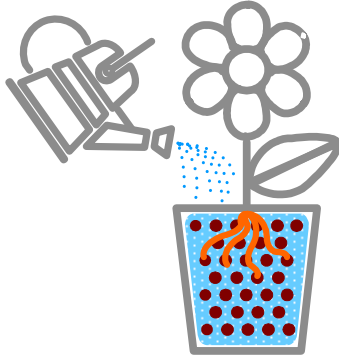
Version:

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Date:

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## 5. Hydroponic substrate



The honeycomb core of the balls offer a balanced capillary action and assure a high water storage capacity, turning Arexpan® Hydro into the ideal substrate for hydroculture.

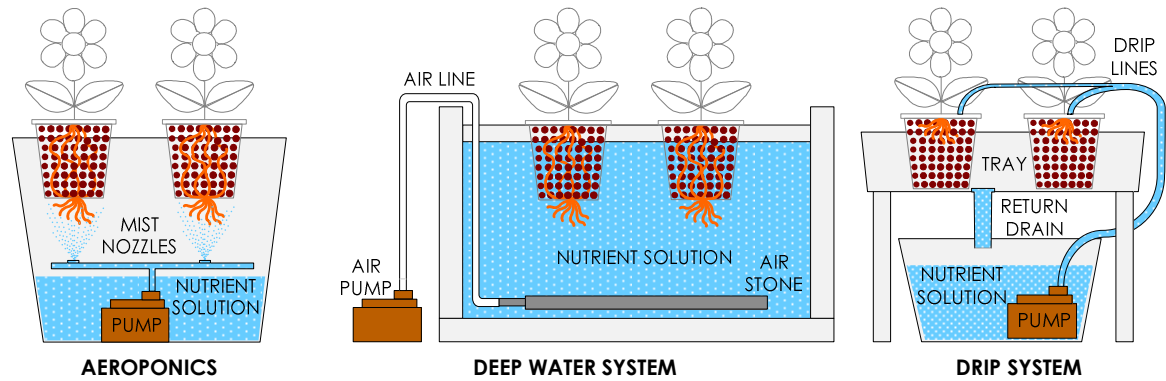
The shape and particle size distribution of the granules conform a bounded structure which ensures optimal support for plants.

The expanded clay balls do not compact when the hydroponic system drains, allowing excess liquid to drain away and fresh oxygen to pull through.

Arexpan® Hydro can be cleaned and re-used showing a greater durability than other media such as perlite or rockwool. The product is also lightweight and easy to handle.

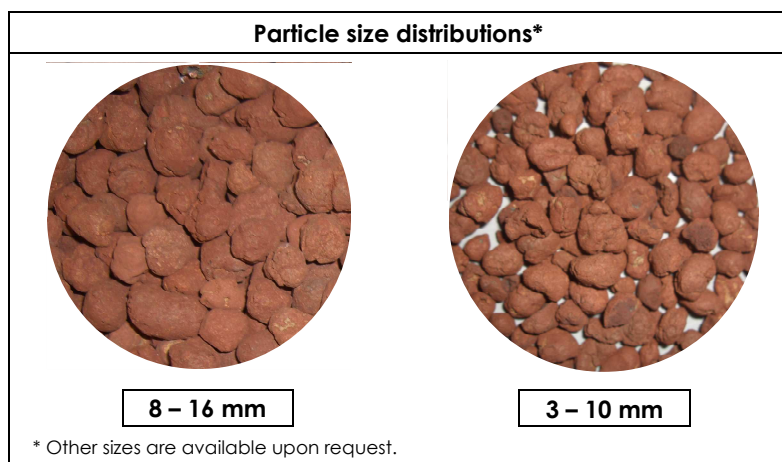
**Advice:** Fill the pot with Arexpan® Hydro up to the half. Place the plant inside it and distribute the roots through the granules. Afterwards fill with product to the top and water.

Arexpan® Hydro is also the top choice for other hydroponic systems such as *aeroponics*, *deep water system* and *drip system*.



## 3. PHYSICO – CHEMICAL PROPERTIES AND PARTICLE SIZE DISTRIBUTIONS

Chemical analysis	
% Al <sub>2</sub> O <sub>3</sub> .....	18,0
% SiO <sub>2</sub> .....	64,0
% Fe <sub>2</sub> O <sub>3</sub> .....	6,5
% TiO <sub>2</sub> .....	0,9
% CaO.....	2,0
% MgO.....	2,5
% Na <sub>2</sub> O.....	0,7
% K <sub>2</sub> O.....	3,5
% CO <sub>3</sub> <sup>-2</sup> .....	< 0,1



### Physical properties

Appearance: Round *terracotta* granules/balls.

Loose bulk density:

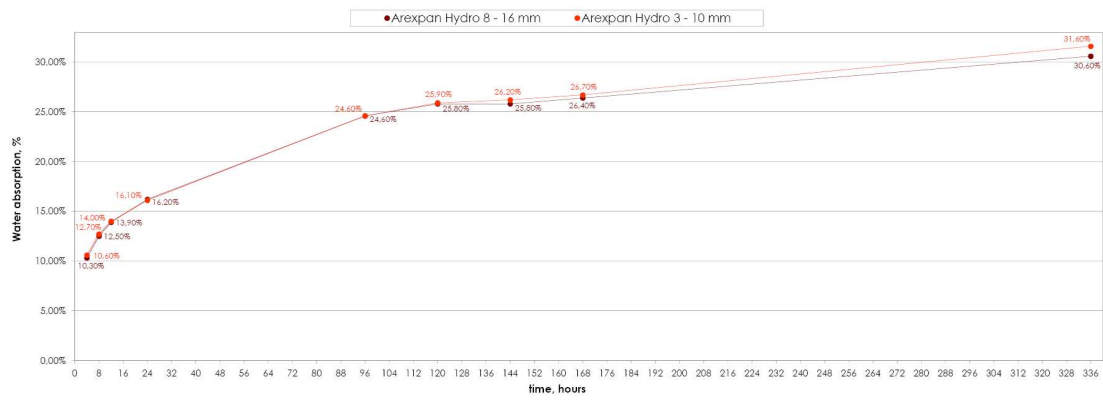
Size 8 – 16 mm: 0,39 ± 0,06 kg/m<sup>3</sup>

Size 3 – 10 mm: 0,45 ± 0,07 kg/m<sup>3</sup>

Melting point: 1.250 °C

Fire resistance: A - 1 (non-combustible)

Water absorption:



### Leaching test\*

<b>pH at 25°C</b> .....	8,8	<b>Metals:</b>	
<b>Conductivity at 20°C</b> .....	293 µS/cm	Antimony (Sb).....	< 0,05 mg/kg
<b>Dissolved Organic Carbon (DOC)</b> ..	< 150 mg/kg	Arsenic (As).....	0,238 mg/kg
<b>Total phenolics content</b> .....	1,6 mg/kg	Barium (Ba).....	0,057 mg/kg
<b>Total dissolved solids</b> .....	6200 mg/kg	Cadmium (Cd).....	< 0,01 mg/kg
<b>Anions:</b>		Chromium(Cr).....	< 0,05 mg/kg
Bromide (Br <sup>-</sup> ).....	1,2 mg/kg	Cobalt (Co).....	< 0,05 mg/kg
Chloride (Cl <sup>-</sup> ).....	210 mg/kg	Copper (Cu).....	< 0,05 mg/kg
Fluoride (F <sup>-</sup> ).....	9,6 mg/kg	Lead (Pb).....	< 0,05 mg/kg
Sulphates (SO <sub>4</sub> <sup>2-</sup> ).....	573 mg/kg	Mercury (Hg).....	< 0,001 mg/kg
		Molybdenum (Mo).	0,106 mg/kg
		Nickel (Ni).....	< 0,05 mg/kg
		Tin (Sn).....	0,052 mg/kg
		Selenium (Se).....	< 0,05 mg/kg
		Vanadium (V).....	0,501 mg/kg
		Zinc (Zn).....	< 0,5 mg/kg

\* Leaching test according to UNE - EN 12457-4: 2003.

## 4. PACKAGING, STORAGE AND DELIVERY

**Arexpan® Hydro** expanded clay can be stored for a long period of time without alteration of its properties. Packaging of the product in bags makes it easier to transport, store, handle, use and dose.

**Arexpan® Hydro** is supplied in the following formats:

- In bulk.
- In big – bags of 1,5 m<sup>3</sup> and 3 m<sup>3</sup>.
- In plastic bags of 50 liters (palets of 3,5 m<sup>3</sup>).

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