Nature Works

To whom it may concern:

Mr. Jose María Pérez Martínez, as The Manager of the PERGA INGENIEROS S.L. Energy Research Center, located in Totana, province of Murcia, with CIF B-836-23 512, signs this document to attest that by using
Nature Works Hi Tech Filter Media for industrial purposes, which, I have been informed, has MC2 Callibration Technology (Grupo Camacho) we have found substantial improvements regarding:

Hydraulic performance

Energy Savings

The filter medium replaced in this case was Silica Sand

The increased performance found using MC2 Callibration Technology Glass is very significant and we can point out, based on tests carried out up to now, that the improvement regarding hydraulic performance is at least
90% , leadiing to an energy saving of at least 80%.

We are carrying out more complex studies to be able to give more concrete performance data, which without doubt will be superior to those stated here.

(With nothing further to add)

Yours

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Experience

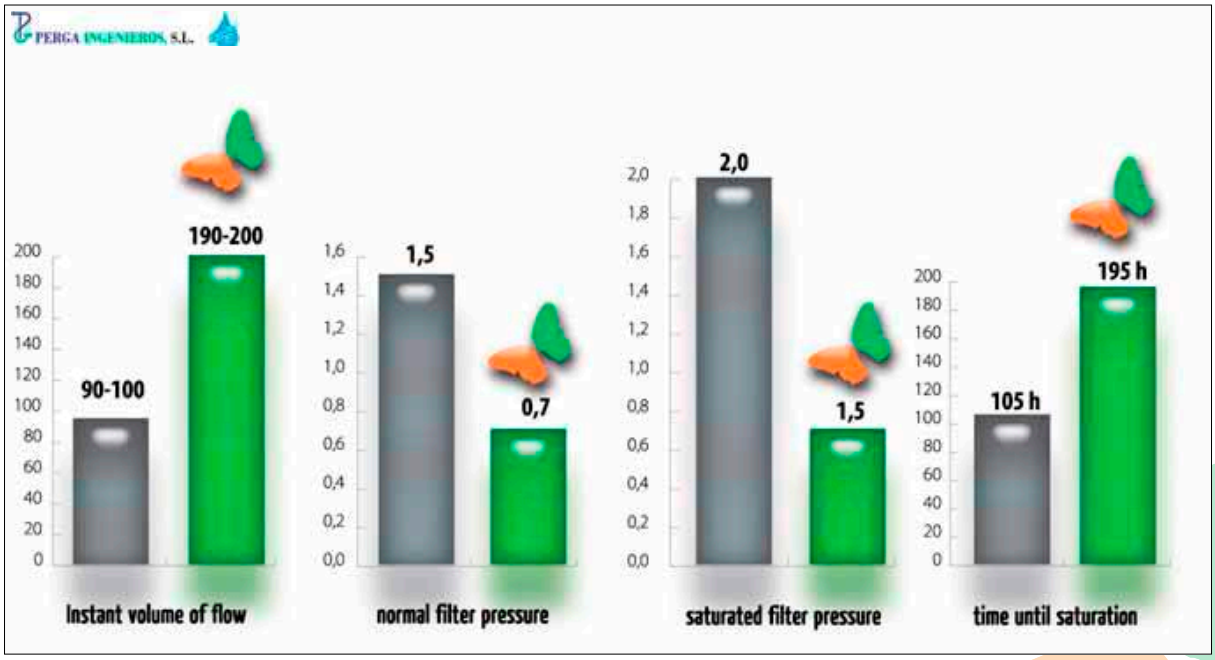
Nature Works Hi-Tech Glass Filter Media® is a recycled hi-tech glass filter media for filtration systems developed by *MC2 Calibration Technology®*, and designed by the **Camacho Group** I+D+i department. Its characteristics assure the best permanent filtration performance..

Centre of Energetic Investigation (CIE) installations

Certified experience at the Centre of Energetic Investigation (CIE) in Totana Murcia (Spain)

- Water tank or pool with a total volume of 100m3
- Silica sand water filter
- Filter Glass water filter
- Two 1CV power pumps
- Instant volume of flow meter (litres/minute)
- Saturation control Manometers in both filters (in kg/cm2)
- Electric control panel and pump protector with time performance control

Comparative table comparing silica sand and Nature Works.



*Parameters taken after **3000 hours** of continuous performance.*

Methodology

Filters were backwashed at 2kg pressure in the sand filter and at 1.5kg in the glass filter, so as not to exceed 200 backwashing hours without cleaning the filter.

Conclusions:

With **Grupo Camacho Nature Works** industrial glass filter media, distributed by **Kripsol**, both volume of flow and time taken to saturate the filter are doubled.

Nature Works Glass Filter Media lowers filter pressure, increasing its instant volume of flow, so the same quantity of liquid are filtered in a shorter time by using less total energy.

This is because less pressure lost in the filter (despite its smaller sieve), the instant volume of flow is greater, and pool water is filtered in a shorter time by using less energy.

Detailed explanation:

$$P = \frac{(9.81 \times Q \times Hn)}{n}$$

P = KW power.
Q = Volume of flow in m^3/sec.
Hn = Net height pressure in metres
n = Total output.
Hn = **Hg + hf**.

Means:
Hg = Geometrical height or difference in height levels.
hf = Total pressure loss, from all the installation elements.

If the total output (**ŋ**) and the pump power (**P**), are equal, the net height (**Hn**) lessens due to lower pressure loss (**hf**) and the volume of flow increases proportionately.

That is to say, the pump's working point is displaced to the right in the pump's characteristic curve (supplied by the manufacturer). As the volume of flow is increased, it is filtered in a shorter time by less energy.

Pool volume (m3) = Volume of flow (Q) x Time (seconds); the pool volume is the same in both cases so if the volume of flow is increased the filter time is shortened.

Energy (Kw/h) = Power (KW) x Time (Hours): the power is the same but the filter time is shortened, so less energy is used.

Besides, it takes over double the time to saturate the filter, so less maintenance is needed and less water is used for backwashes, reducing the time needed for the filter media backwash.

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