Ceramic Water Filtration Spheres

AKRON Porcelain & Plastics Company serves the Water Filtration Industry by supplying ceramic spheres for Wheeler filter bottoms. AKRON’S water filtration spheres are certified to ANSI/NSF Standard 61 and AKRON retains membership in the American Water Works Association (AWWA).

The Wheeler Filter Bottom for gravity filters has been recognized for many years as a most efficient and durable filter bottom. The Wheeler Filter Bottom, monolithic type, consists of a reinforced concrete floor slab, or “false” floor, supported on piers about 22 in. above the floor of the filter box. Inverted pyramidal depressions located at 12 in. intervals throughout the Wheeler Bottom, each containing five 3 in. porcelain spheres and nine smaller porcelain spheres. A porcelain thimble having 3⁄4 in. diameter clear opening permits passage of water through the Bottom.

Operation

Water being filtered flows downward through the sand and gravel, past the openings between the spheres, through the 3⁄4 in. thimbles, and into the chamber below the filter bottom, then into the effluent pipe and through the Venturi Rate of Flow Controller.

During backwashing the direction of flow is reversed. The water flows from the wash water pipe into the chamber at the bottom of the filter, up through the 3⁄4 in. porcelain thimbles and is diffused by the porcelain spheres before entering the lower gravel layer. Absolutely uniform wash water distribution, for which the Wheeler Bottom is noted, is of utmost importance in maintaining clean, efficient filters, free of mudballs and caking.

<table>
<thead>
<tr>
<th>Sphere Size</th>
<th>Weight per piece</th>
<th>Pieces per carton</th>
<th>Carton weight</th>
</tr>
</thead>
<tbody>
<tr>
<td>3”</td>
<td>576 gm</td>
<td>50</td>
<td>63 lbs</td>
</tr>
<tr>
<td>1 3/8”</td>
<td>53 gm</td>
<td>600</td>
<td>69 lbs</td>
</tr>
<tr>
<td>1 1/4”</td>
<td>40 gm</td>
<td>800</td>
<td>72 lbs</td>
</tr>
</tbody>
</table>

Physical Properties

- Water Absorption, %: 1.0
- Specific Gravity: 2.4
- Resistance to Impact, in./lbs.: 2.4
- Tensile Strength, lbs./sq. in.: 2,500
- Compressive Strength, lbs./sq. in.: 40,000
- Flexural Strength, lbs./sq. in.: 5,000

Spheres are sold in even carton quantities only.