

# CN Filters - expanded clay

## for biological water purification

### Technical data

|                                    |  |
|------------------------------------|--|
| <b>Production method:</b>          | Ceramic expanded clay made of selected untreated Eocene clay with over 60 % Montmorillonit clay, expanded and fired in a rotary kiln according to the Leca method.   |
| <b>Certification:</b>              | EN ISO 9001:2000 Quality management systems<br>EN ISO 14001:1996 Environmental management systems  |
| <b>Properties:</b>                 | Inert ceramic, biologically and chemically neutral, odourless, structurally stable, resistant to decay, rotting and decomposition and humic acid.<br>Total pore volume approx. 82 %  |
| <b>Performance characteristics</b> | <ul style="list-style-type: none"> <li>◆ Large surface area</li> <li>◆ Good colonisability</li> <li>◆ Neutral to water and plants</li> <li>◆ Structurally stable</li> <li>◆ Good flow profile</li> <li>◆ High water contact area</li> <li>◆ Resistant to rotting</li> <li>◆ Easy to clean, reusable</li> <li>◆ High endurance</li> </ul> |

### Physical properties

|   |                               |                               |                               |
|---|-------------------------------|-------------------------------|-------------------------------|
| <b>Grain sizes:</b>   | <b>2 - 4 mm</b>               | <b>4 - 8 mm</b>               | <b>10 - 20 mm</b>             |
| <b>Bulk weight (dry):</b> EN 13055-1                        | ≥ 305 kg/m <sup>3</sup>       | ≥ 290 kg/m <sup>3</sup>       | approx. 235 kg/m <sup>3</sup> |
| <b>Granule shape:</b>                                       | Cracked                       | Cracked                       | Kidney-shaped                 |
| <b>Over/undersize:</b>                                      | ≤ 15 mass %                   |                               |                               |
| <b>Void volume (Vol. %):</b>                                | approx. 40 %                  | approx. 45 %                  | approx. 50 %                  |
| <b>Water permeability (mod. K*):</b>                        | > 600 mm/min.                 |                               |                               |
| <b>Water-bearing surface (open pores &gt; 0.2 µm) :</b>     | approx. 450 m <sup>2</sup> /l | approx. 400 m <sup>2</sup> /l | approx. 80 m <sup>2</sup> /l  |
| <b>Colonisable contact surface (open pores &gt; 2 µm) :</b> | approx. 70 m <sup>2</sup> /l  | approx. 60 m <sup>2</sup> /l  | approx. 12 m <sup>2</sup> /l  |

\*Note: Due to its extremely light weight, CN expanded clay floats to the surface. It is thus ideally suited for use in filter drums, cartridges, chambers or nets, fixed and fluidized bed reactor and similar sealed systems. The 10-20 mm granules are primarily used in trickle filters and stripping units.

### Chemical properties

|                    |      | Anforderung |  |
|--------------------|------|-------------|--|
| pH value           |      | ≥ 5,5       |  |
| Salt content (KCl) | g/l  | ≤ 1,25      |  |
| Ca                 | mg/l | ≤ 450       |  |
| Na                 | mg/l | ≤ 50        |  |
| Mg                 | mg/l | ≤ 75        |  |
| Cl                 | mg/l | ≤ 50        |  |
| F                  | mg/l | ≤ 5         |  |

Last updated: August 2021