
Pipeline Disinfection with ALBILEX[®]-SUPER-des

Requirement

Priorly performed pipe rinsing of the pipe to be disinfected either with water or with air-water mixture.

Devices, accessories, and sterilization agents

- 220 volt power connection
- Dosage kit for pipeline disinfection (delivered with already basic setting of the membrane dosage pump, adjusted to the use of ALBILEX[®]-SUPER-des)
- ALBILEX[®]-SUPER-des container
- ALBILEX[®]-hydrogen peroxide indicator tabs, article no.: 190150, (measurement range: 1-100 mg H₂O₂/litre water)
- Tools for opening and closing the valves and hydrants
- Bridging hoses
- Wear protective gear: safety gloves and safety glasses

Basic rules

- Adherence to safety regulations (accident prevention regulations and work safety regulations: wear protective clothing, secure the construction site)
- Adherence to the information sheet W 291 of the DVGW (*"Sterilization of drinking water pipes"*)
- Adherence to all hygienic regulations

Set up of devices

- Open box loosen wing nuts, take out dosage unit and dosage lance.
- Place dosage unit onto box lid (with rubber base).
- Insert dosage lance with lid into 10-kg-can ALBILEX[®]-SUPER-des and screw tight.
- Close turncock on the outlet side.
- Connect dosage pump to power source, and turn on pump (green ON/OFF button on display). The green lamp will blink as ready-to-operate sign. The dosage pump is set ex factory for the required dosage of ALBILEX[®]-SUPER-des. If other sterilization agents are used, the according dosage can be entered over the menu. If the pump is locked, the key lock must first be unlocked with the four-digit code. Then press middle key repeatedly until „PULSE“ resp. „IMPULSE“ appears in the display. Then press menu button again, and set the desired number „ml/Impulse“ by pressing the „-“ or „+“ button (the dosage range reaches from 0.000069 ml/Impulse to 15ml/Impulse).

ALBILEX GmbH & CO. KG

Achtzehn Morgenweg 3 • D-61250 Usingen • Tel: +49 (0)6081-1040-0 • Fax: +49 (0)6081-1040-40
Email: info@albilex.de • Website: www.albilex.de

- Connect disinfected water hoses (inlet and outlet) with C-Storz clutches on both sides.
- Attention: Close valve at the end of the hose to be sterilized towards drinking water network, place insertion discs into position, and create bridge into canalisation or elsewhere, as no disinfectant may enter the neighbouring pipe system during sterilization.
- Open ventilation valve (on the side of the pump head) by approx. a 1/4 turn. The ventilation valve remains open minimally during the entire dosage process, so that only excess air can escape.
- Ventilation of the pump: press the 100%-button of the control panel until the pump and the hose between pump and place of injection are filled with disinfectant.

Pipeline disinfection in static procedure

- Note the cold water counter at the beginning (and at the end) of the pipe sterilization for supervision and control of the inserted amount of water.
- Open water inlet (for example from existing pipe network) and slowly open closing valve (with green wheel). As soon as the cold water counter starts running, the dosage pump automatically starts to process the disinfectant in the desired amount and mix it with the water.
- With the help of a ALBILEX[®]-hydrogen peroxide indicator tab (measurement range: 1-100 mg/l H₂O₂) the desired concentration in ppm to sample valve (knurled nut made of brass) can be supervised by measurement.
- Fill the pipe to be sterilized with the water-disinfectant-mixture in desired product concentration (usually: 100-300 ppm), and check this minimum amount with sample tab at the end of the pipe to be sterilized (sample tabs should show dark blue colour !). Shortening of standing time with increase of dosage at the same time possible in case of pipe damage.
- If no water is added, and the cold water counter stands still accordingly, the dosage pump also turns off automatically, and therefore no ALBILEX[®]-SUPER-des is added.
- Please pay attention that there is enough disinfecting agent (for example: ALBILEX[®]-SUPER-des) in the canister, as the dosage pump will otherwise automatically stop processing. As a consequence no disinfectant is added to the water.
- Adherence to the recommended standing times (see product brochure: ALBILEX[®]-SUPER-des)
- After finished complete filling of the pipe to be sterilized, insert the dosage lance into a bucket with clean water, press the 100% button, and rinse the unit until no more concentration of H₂O₂ is measured. Subsequently hold the suction lance above your head, and operate pump until no more water is processed.
- Then disassemble the dosage unit vice versa the chronological order as described before, and place into aluminum case.

ALBILEX GmbH & CO. KG

Achtzehnmorgenweg 3 • D-61250 Usingen • Tel: +49 (0)6081-1040-0 • Fax: +49 (0)6081-1040-40
Email: info@albilex.de • Website: www.albilex.de

Application Time of Disinfection

- The standing time of the disinfecting agent solution should be 12-24 hours. In case of shorter standing time (for example in case of repairs) the adherence of the application manual of ALBILEX[®]-SUPER-des is necessary and an increase of the application concentration is recommended. After finish of the application time the remaining content of H₂O₂ should still be at least 10ppm of the originally planned concentration.

Waste disposal of the sterilization agent

- After completion of the sterilization the water in the pipe containing disinfectant must be disposed of harmlessly and according to regulations. Regarding ALBILEX[®]-SUPER-des please keep in mind that the disinfectant liquid can be let into the canalisation or receiving water without further treatment at a hydrogen peroxide content of <10 mg/l. This value is always reached by the necessary rinsing in practice anyway.
- The disinfectant liquid is rinsed out with fresh drinking water until no H₂O₂ is measured with peroxide test tabs at the end of the pipe to be sterilized.

Microbiological test

- Extraction of a water sample (immediate sample!) from the newly laid pipe through the public health officer.
- According to the regulations for the revision of the drinking water regulation the following threshold values for microbiological parameters must be adhered to:
 - no Escherichia Coli in 100ml (threshold value)
 - no coliform germs in 100ml (threshold value)
 - no fecal streptococci in 100ml (threshold value)
 - Colony number ≤ 100 per 1ml of non-sterilized water (at 20°C and 36°C) resp.
 - Colony number ≤ 20 per 1ml of sterilized water (heating temperature of 20°C).

If these values are achieved the pipe may be taken into use. In case of exceedance of already one threshold value the entire process with rinsing, sterilization, sampling, and microbiological test must be repeated.

Fault message & malfunctions

Should fault messages and/or malfunctions occur, please read the list of malfunctions (page 273) in the operating manual of the pump, and adhere to the instructions.