

DIN 19645:2016-07 (E)

Treatment of spent filter backwash water from systems for treatment of water of swimming-pools and baths

| Contents | | Page |
|--|--|-------------|
| 10 | Requirements and performance of treatment stages | 22 |
| 10.1 | General | 22 |
| 10.2 | Requirements for removal from the backwash wastewater storage tank | 22 |
| 10.3 | Requirements for pre-treatment for the separation of coarse material | 23 |
| 10.4 | Requirements on partial removal | 23 |
| 10.5 | Requirements on virus retention | 23 |
| 10.6 | Requirements on adsorption | 23 |
| 10.7 | Requirements on the removal of oxidizing substances | 24 |
| 10.8 | Requirements on full desalination, partial desalination and dissolved organic carbon (DOC) removal | 24 |
| 10.9 | Requirements on equipment for increasing the acid capacity KS4,3 | 25 |
| 10.10 | Requirements on disinfection by chlorination | 25 |
| 10.11 | Requirements for disinfection using UV irradiation for Type 2 service water | 25 |
| 11 | Materials and components | 26 |
| 11.1 | General | 26 |
| 11.2 | Pipelines | 26 |
| 11.3 | Pumps | 26 |
| 11.4 | Valves | 26 |
| 11.5 | Modules with ultrafiltration membranes | 27 |
| 11.6 | Modules with ultrafiltration membranes as in 3.33 | 27 |
| 11.7 | Modules with reverse osmosis and nanofiltration membranes | 27 |
| 11.8 | Control and automation | 27 |
| 12 | Dosing, measuring and control technology | 28 |
| 12.1 | Dosing system | 28 |
| 12.2 | Measurement and control technology | 28 |
| 12.2.1 | General | 28 |
| 12.2.2 | Water meter | 28 |
| 12.2.3 | Differential pressure measurement | 28 |
| 12.2.4 | Conductivity measurement | 28 |
| 12.2.5 | Chlorine measurement | 28 |
| 12.2.6 | Sampling valves | 28 |
| 13 | Operation and maintenance of membrane systems | 29 |
| 13.1 | Ultrafiltration and microfiltration system operation | 29 |
| 13.1.1 | Filtration | 29 |
| 13.1.2 | Backwashing to restore permeability | 29 |
| 13.1.3 | Chemical cleaning | 30 |
| 13.2 | Operation of nanofiltration and reverse osmosis systems | 31 |
| 13.2.1 | Filtration | 31 |
| 13.2.2 | Cleaning and flushing | 31 |
| 13.3 | Monitoring and documentation | 32 |
| 13.4 | Interruptions in operation | 32 |
| 13.5 | Maintenance | 33 |
| Annex A (normative) Operations log | | 34 |
| Annex B (informative) Process stages | | 35 |