

JIS

JAPANESE INDUSTRIAL STANDARD

Testing Methods of Floatation Equipments

JIS B 9943—1987

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In the event of any doubt arising,
the original Standard in Japanese is to be final authority.

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1. Scope

This Japanese Industrial Standard specifies the test items and testing methods required for grasping the performance in using state of floatation equipments to remove continuously with separating by floating the suspensoids (suspended matters) in the waste water according to the method to float the suspensoids having density less than that of water, generated from the process of waste water treatment or to float them by making the apparent density less than that of water by adhering micro air bubbles to the suspensoids, that is, of oil-water separation equipment, pressurizing floatation equipment, gas-diffuse type floatation equipment, electrolysis type floatation equipment, etc.

Remark: The units and numerical values given in { } in this Standard are based on the traditional units and are appended for informative reference.

2. Definitions

For the purposes of this Standard, the main definitions are in accordance with JIS B 8530 and JIS K 0102.

3. Test Items of Floatation Equipment

The items required for tests of floatation equipments shall be selected out of the following:

- (1) Temperatures of waste water at inlet and treated water at outlet of floatation equipment
- (2) Flow rates of waste water at inlet and treated water at outlet of floatation equipment
- (3) Water quality of waste water at inlet and treated water at outlet of floatation equipment
- (4) Water surface area load of floatation equipment
- (5) Composition, concentration and using amount of waste water treating chemicals of floatation equipment
- (6) Average speed of waste water in tank of floatation equipment
- (7) Power consumption amount of floatation equipment
- (8) Generated sludge amount of floatation equipment

Applicable Standards: See page 8.

- (9) Gas-solid ratio in pressurizing floatation equipment
- (10) Pressure and water amount of pressurizing water of pressurizing floatation equipment
- (11) Feed gas amount of gas diffuse type floatation equipment
- (12) Shape of electrode of electrolysis type floatation equipment
- (13) Electrolysis voltage and current density of electrolysis type floatation equipment

4. General Rules for Testing Methods of Floatation Equipments

The test on each item specified in 3. shall, as a rule, be carried out with selecting the time when the states of floatation equipment and its original waste water are stabilized.

Further, when there are periodic characteristics in these, the measurement shall be carried out over the period of time at least longer than its one period. In the case where the measurements are carried out at inlet and outlet as in 3. (1) to (3) among test items, the measurements shall be carried out at the same period respectively.

5. Testing Methods of Floatation Equipments

5.1 Measuring Method of Temperatures of Waste Water and Treated Water
Temperatures of waste water and treated water shall be measured at each measuring point mainly by using 50 degrees thermometer of JIS B 7411 according to the specifications of 7.2 Water Temperature of JIS K 0102.

5.2 Measuring Method of Flow Rates of Waste Water and Treated Water
The flow rates of waste water and treated water shall be measured according to the specifications of JIS Z 8761, JIS Z 8762, JIS Z 8763, JIS Z 8764 or JIS Z 8765.

5.3 Testing Methods of Water Quality of Waste Water and Treated Water
The water quality of waste water at inlet and treated water at outlet of floatation equipment shall be tested on the items considered to be necessary according to specifications of 12. pH, 7. Temperature, 14.1 Suspensoids, 17. Oxygen Consumed Amount by Potassium Permanganate at 100°C (COD_{Mn}), 24. Hexane Extract Substances or 25. Carbon Tetrachloride Extract Substances of JIS K 0102.

Concerning taking of sample, the waste water shall be sampled at near the flowing-in point, the treated water, at the position where each treated water is mixed sufficiently after the flow-meeting point of each treated water, and further in the case where water quality fluctuates, at suitable time and interval with taking into consideration the retaining time in the treating equipment, according to JIS K 0094.

5.4 Measuring Method of Water Surface Area Load The water surface area load shall be obtained from the ratio of flowing-in water amount to surface area of separation tank of floatation equipment.