

JIS

JAPANESE INDUSTRIAL STANDARD

Testing Methods of Filtration Equipments for Clarifying

JIS B 9942—1987

Translated and Published

by

Japanese Standards Association



Documents
Document Sharing Hub

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

JAPANESE INDUSTRIAL STANDARD

J I S

Testing Methods of Filtration
Equipments for Clarifying

B 9942-1987

1. Scope

This Japanese Industrial Standard specifies the testing items and testing methods required for grasping the performance in using condition of filtration equipments for obtaining clarified liquid by removing the suspensions of comparatively low concentration generated from process of waste water treatment.

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, main definitions are in accordance with JIS B 8530 and JIS K 0102.

3. Measuring Items for Performance of Filtration Equipment for Clarifying

The items required for measurement of performance of filtration equipment for clarifying shall be selected from among the following:

- (1) Temperature of waste water and filtration water of filtration equipment for clarifying
- (2) Water quality of waste water and filtration water of filtration equipment for clarifying
- (3) Flow rate of waste water and filtration water of filtration equipment for clarifying
- (4) Filtration speed of filtration equipment for clarifying
- (5) Filtration resistance of filtration equipment for clarifying
- (6) Reverse washing speed of filtration equipment for clarifying
- (7) Amount, pressure, feed time and water quality of reverse washing water of filtration equipment for clarifying
- (8) Amount of washing water, washing time, water quality of washing water of filtration equipment for clarifying

Applicable Standards: See page 10.

- (9) Quality and particle size distribution of filter material
- (10) Filling amount or use amount of filter material
- (11) Filtration time

4. General Rules for Testing Methods of Filtration Equipments for Clarifying

The test on each item specified in 3. shall, as a rule, be carried out by selecting the time when each composing device of filtration equipment for clarifying actuates ordinarily and the condition of waste water has been stabilized.

Further, when the waste water has periodic characteristic, the test shall be carried out over a period of time at least longer than its one period.

5. Testing Methods of Filtration Equipments for Clarifying

5.1 Measuring Method of Temperatures of Waste Water and Filtration Water
Temperatures of waste water and filtration water shall be measured at each measuring point according to the specifications of 7.2 Water Temperature of JIS K 0102.

5.2 Testing Method of Water Quality of Waste Water and Filtration Water
The water quality of waste water and filtration water shall be measured on the items recognized to be required according to the specifications of 14.1 Suspensoid and 9. Transparency of JIS K 0102, 9. Turbidity of JIS K 0101, and other specifications of JIS K 0102.

Further, the waste water shall be taken at a place near the flowing-in point, the filtration water, at immediately after the filtration water outlet of the equipment, in the case of plural number of filtration layers, at a position after the meeting point, as required at immediately after the filtration water outlet or the like of individual filtration layer, and in the case where there have been fluctuation in washing or filtration speed, fluctuation in waste water quality, and the like, at an adequate time and interval, taking into consideration the remaining time of water in the filtration layer, according to JIS K 0094.

5.3 Measuring Methods of Flow Rate of Waste Water and Filtration Water
The flow rate of waste water and filtration water shall be measured according to 8. Measurement of Flow Rate of JIS K 0094, JIS Z 8761, JIS Z 8762, JIS Z 8763 or JIS Z 8764.

5.4 Measuring Method of Filtration Speed The filtration speed shall be obtained from the ratio of the filtration water flow rate measured according to the flow-rate measuring method of 5.3 to the effective area of filtration layer obtained by the measurement by means of tape measures specified in JIS B 7512 or JIS B 7522, or from the design drawing according to the following formula:

$$L = Q_a / A$$

where L : filtration speed (m/h)

Q_a : flow-rate of filtration water (m³/h)

A : effective area of filtration layer (m²)