

ICS 27.100
CCS F 29

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**INDUSTRY STANDARD OF THE
PEOPLE'S REPUBLIC OF CHINA**

DL/T 807-2019

**Technical guidelines of scrapping 201? strong base anion
exchange resins for water treatment in thermal power plant
(English Translation)**

Issued on: January 1, 1970

Implemented on: October 1, 2019

Issued by: National Energy Administration

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Foreword

This standard is a revision of DL/T 807-2002 "Scrap Standard of.201x7 Strong Basic Anion Exchange Resin for Water Treatment in Thermal Power Plants".

Compared with the DL/T 807-2002 version standard, this standard has undergone the following major changes.

--The term was deleted.

- Deleted the economic indicators for scrapping.201x7 strong basic anion exchange resin for water treatment.

--Deleted the calculation method of the recovery period.

- Deleted the rule of judging resin scrap based on the recycling period.

--The preparation of the chlorine type sample of the strong basic anion exchange resin used in Appendix A is deleted.

This standard was drafted in accordance with the rules given in GB/T 1.1-2009.

This standard was proposed by the China Electricity Council.

This standard is under the jurisdiction of the Electric Power Plant Chemical Standardization Technical Committee.

Drafting organizations of this standard. Xi'an Thermal Power Research Institute Co., Ltd., Jiangsu Suqing Water Treatment Engineering Group Co., Ltd.

1 Scope

This standard specifies the scrapping rules of 201x7 strongly basic anion exchange resin for single bed water treatment in thermal power plants.

This standard is applicable to the judgment of scrapping of 201x7 strongly basic anion exchange resin used for water treatment single bed in thermal power plant.

2 Normative references

The following documents are indispensable for the application of this document. For dated reference documents, only the dated version applies to this article. For undated references, the latest version (including all amendments) applies to this document.

GB/T 601 Preparation of standard solutions for chemical reagent titration analysis (volume analysis) Preparation of preparations and products used in GB/T 603 chemical reagent test method GB/T 5760-2000 Hydroxyl anion exchange resin exchange capacity determination method DL/T 502.22-2006 Thermal power plant water vapor analysis method Part 22: Determination of chemical oxygen consumption (potassium permanganate method) DL/T 519 Acceptance standard of ion exchange resin for water treatment in thermal power plant DL/T 673-2015 Waste standard for 001x7 strong acid cation exchange resin for water treatment in thermal power plants DL/T 772 Standard working exchange capacity determination method of ion exchange resin for water treatment in thermal power plant

3 Scrap index

When the performance of the 201x7 strongly basic anion exchange resin reaches the index value in Table 1, the resin should be judged as scrap.

4.1 Sampling

Sampling shall be carried out according to the method specified in Appendix A of DL/T 673-2015.

4.2 Determination of water content

4.2.1

The sample preparation shall be carried out according to the method specified in Appendix B of DL/T 673-2015.

4.2.2

The measurement shall be carried out according to the method specified in 4.3 of DL/T 673-2015.

4.3 Determination of strong group content

4.3.1

Sample preparation should be carried out according to the method specified in Appendix A.

4.3.2

The measurement shall be carried out according to the methods specified in 8.2 and 9.2 of GB/T 5760-2000.

4.4 Determination of organic content

It should be carried out according to the method specified in Appendix B.

4.5 Determination of iron content

It should be carried out according to the method specified in Appendix C of DL/T 673-2015.

4.6 Determination of sphericity

It should be carried out according to the method specified in 4.6 of DL/T 673-2015.

4.7 Calculation of the rate of decrease of working exchange capacity

4.7.1

When users have comparable work exchange capacity data, they can be used to calculate the rate of decrease in work exchange capacity.

4.7.2 Determination of working exchange capacity

4.7.2.1

The working exchange capacity shall be determined according to the equipment and requirements specified in DL/T 772 and the actual operating parameters;

4.7.2.2

The standard working exchange capacity shall be measured according to the method specified in DL/T 772, and the reduction rate of working exchange capacity shall be obtained by comparing the result of 4.7.2.1.

4.7.3 In view of the complexity of measuring the working exchange capacity of ion exchange resins, the physical and chemical properties and pollution conditions can also be measured by pressing the following regression formula is used to calculate the rate of decrease in work exchange capacity.

4.7.3.1 Use the decrease rate of the strong group capacity to calculate the decrease rate of the working exchange capacity.

4.7.3.2 Use water content to calculate the rate of decrease in working exchange capacity.

4.7.3.3 Use the iron content in the resin to calculate the rate of decrease in working exchange capacity.

4.7.3.4 Use the organic matter content in the resin to calculate the reduction rate of the working exchange capacity. see Appendix B.

5.1 Analysis of equipment operating conditions

5.1.1

When the water-making equipment has the following conditions during operation, sampling and analysis shall be carried out.

a) There is no significant change in equipment, regeneration and operating conditions, and the periodic water production capacity of continuous 3~5 periodic water production equipment is lower than that of the original system.

Reduce water volume by more than 10%;

b) After the recovery treatment, the water production volume still cannot be restored to more than 90% of the original water production volume;

c) The resistance of the equipment continues to increase for 3 to 5 consecutive cycles, and the operating flow drops by more than 30%. After the large backwash operation, the operating flow cannot be restored to more than 80% of the original flow.

5.2 Sampling

It shall be carried out according to the methods specified in 5.2~5.3 of DL/T 673-2015.

5.3 Test items

The testing shall be carried out according to the items specified in Table 1.

5.4 Retirement rules

5.4.1

When one of the decrease rate of working exchange capacity, the decrease rate of strong group capacity, and the water content reaches the index value in Table 1, it can be judged the resin should be scrapped.

5.4.2

After recovery, if the iron content or organic content in the resin is still greater than the index value in Table 1, the resin can be judged to be scrapped.