

JIS

JAPANESE INDUSTRIAL STANDARD

**Methods for Determination
of Cadmium in Zirconium
and Zirconium Alloys**

JIS H 1671—1982

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by

Japanese Standards Association

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

JAPANESE INDUSTRIAL STANDARD

Methods for Determination of Cadmium H 1671-1982
in Zirconium and Zirconium Alloys (Reaffirmed: 1988)

1. Scope

This Japanese Industrial Standard specifies methods for determination of cadmium in zirconium and zirconium alloys.

2. General Matters

General matters common to methods for analysis shall be in accordance with JIS H 1650.

3. Division of Methods

The determination of cadmium shall be conducted according to either one of the following methods:

- (1) Ion Exchange Separation Atomic Absorption Spectrometry This method applies to a sample containing 0.00001 % and over of cadmium.
- (2) Extractive Separation Atomic Absorption Spectrometry This method applies to a sample containing 0.00001 % and over of cadmium.

4. Ion Exchange Separation Atomic Absorption Spectrometry

4.1 Summary Dissolve a sample with hydrofluoric acid and nitric acid, cause cadmium to be adsorbed by passing through an ion exchange column, and effuse zirconium. Elute cadmium with hydrochloric acid, and after evaporating to dryness, dilute with nitric acid to a predetermined volume and measure the absorbance of cadmium by using an atomic absorption photometer.

4.2 Reagents The reagents shall be as follows:

- (1) Hydrochloric acid (1 + 2, 1 + 22)
- (2) Nitric acid
- (3) Nitric acid (1 + 14)

Applicable Standard:

JIS H 1650-General Rules for Chemical Analysis of Zirconium and Zirconium Alloys