

JIS

JAPANESE INDUSTRIAL STANDARD

General Rules for Chemical Analysis of Zirconium and Zirconium Alloys

JIS H 1650—1988

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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.



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General Rules for Chemical Analysis of
Zirconium and Zirconium Alloys

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1. Scope

This Japanese Industrial Standard specifies general rules common to the chemical analysis of zirconium and zirconium alloys.

2. Definitions

The definitions of principal terms used in this Standard shall be in accordance with JIS K 0211 and JIS Z 8402.

3. General Matters

General matters common to the methods for chemical analysis shall be in accordance with JIS K 0050, JIS K 0115, JIS K 0116, JIS K 0119 and JIS K 0121.

4. Sampling and Treating of Analytical Sample4.1 Sampling

4.1.1 Preparation Method for Chlorine Analysis Sample of Sponge Zirconium
The preparation method of chlorine analysis sample of sponge zirconium shall be as follows:

- (1) Take a sample representing a lot from the lot and reduce it to about 1 kg. Then, put the reduced sample into a clean die taking care for particle size not to be biased, insert a punch thereinto from the upper side and execute compressing forming with a compressor. Make a pressure as little as possible to an extent that a compressed lump does not collapse.
- (2) Take the compressed lump out from the die, attach it to the chuck of drilling machine, use a clean drill (25 mm in diameter) and drill it at a number of revolutions and a cutting speed to an extent that the sample is not overheated to be oxidized. Allow the number of increment to be sampled from the compressed lump to be three pieces. Do not use fats and oils and other lubricants in drilling operation and do not pour water to cool it.
- (3) Discard chips of 5 to 10 mm in surface part of the compressed lump and collect chips obtained until the drill reaches a depth of 5 to 10 mm from the surface of the compressed lump.
- (4) Transfer the chips into a container made of zirconium or stainless steel and stamp it with a rod made of zirconium or stainless steel to granulated pieces of not more than 4760 μm specified in JIS Z 8801. Thereafter, remove mixed iron content by using a magnet. When the quantity of chips is much, reduce it to about 20 g by using a riffle sampler or other method to prepare a test sample.

Applicable Standards and Reference Standards: See pages 3, 4 and 5.