

JIS

JAPANESE INDUSTRIAL STANDARD

Methods for Determination of Carbon in Zirconium and Zirconium Alloys

JIS H 1663—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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Methods for Determination of Carbon
in Zirconium and Zirconium Alloys

H 1663-1988

1. Scope

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

2. General Matters

General matters common to the methods for chemical analysis shall be in accordance with JIS H 1650 and JIS Z 2615.

3. Classification of Methods for Determination

The methods for determination of carbon shall be in accordance with one of the following methods:

- (1) Combustion - Coulometric Method This method applies to the sample of not less than 0.002 wt % in carbon content.
- (2) Combustion - Infrared Absorption Method (Integral Method) This method applies to the sample of not less than 0.002 wt % in carbon content.
- (3) Combustion - Infrared Absorption Method (Circulating Method) This method applies to the sample of not less than 0.002 wt % in carbon content.
- (4) Combustion - Thermal Conductivity Method This method applies to the sample of not less than 0.002 wt % in carbon content.
- (5) Combustion - Electric Conductivity Method This method applies to the sample of not less than 0.002 wt % in carbon content.

4. Combustion - Coulometric Method

4.1 Summary A sample is heated in the gas current of oxygen and carbon is oxidized to carbon dioxide. It is absorbed in weak alkaline barium salt solution adjusted at specific pH and the quantity of electricity required for returning pH decreased by absorption to the original pH by electrolysis of barium salt solution, is measured.

Applicable Standards:

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

JIS Z 2615-General Rules for Determination of Carbon in Metallic Materials