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Methods for determination of carbon in nickel and nickel alloys

ICS 77.120.40

Descriptors : nickel, nickel alloys, castings, carbon, quantitative analysis, chemical analysis and testing

Reference number : JIS H 1275 : 1998 (E)

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Foreword

This translation has been made based on the original Japanese Industrial Standard revised by the Minister of International Trade and Industry through deliberations at Japanese Industrial Standards Committee in accordance with the Industrial Standardization Law. Consequently **JIS H 1275 : 1988** is replaced with **JIS H 1275 : 1998**.

In this revision, in order to make comparison of JIS with ISO, prepare JIS corresponding with ISO, and make it easy to propose the draft for International Standard based on the JIS, **ISO 7524 : 1985**, *Nickel, ferronickel and nickel alloys—Determination of carbon content—Infrared absorption method after induction furnace combustion* is adopted as part of this Standard.

Attention is drawn to the possibility that some parts of this Standard may conflict with a patent right, application for a patent after opening to the public, utility model right or application for registration of utility model after opening to the public which have technical properties. The relevant Minister and the Japanese Industrial Standards Committee are not responsible for identifying the patent right, application for a patent after opening to the public, utility model right or application for registration of utility model after opening to the public which have the said technical properties.

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Methods for determination of carbon in nickel and nickel alloys

Introduction This Standard is prepared so that its technical contents conform to those of the corresponding International Standard **ISO 7524 : 1985, Nickel, ferronickel and nickel alloys—Determination of carbon content—Infra-red absorption method after induction furnace combustion.**

Further, five determination methods having not any corresponding International Standard are specified as Japanese Industrial Standard.

1 Scope This Japanese Industrial Standard specifies the determination of carbon in nickel and nickel alloys.

Remarks : The corresponding International Standard to this Standard is shown as follows.

ISO 7524 : 1985 *Nickel, ferronickel and nickel alloys—Determination of carbon content—Infra-red absorption method after induction furnace combustion*

2 Normative references The following standards contain provisions which, through reference in this Standard, constitute provisions of this Standard. The most recent editions of the standards indicated below shall be applied.

JIS H 1270 *General rules for chemical analysis of nickel and nickel alloys*

JIS Z 2615 *General rules for determination of carbon in metallic materials*

3 General matters General matters common to the methods of chemical analysis shall be as specified in **JIS H 1270** and **JIS Z 2615**.

4 Classification of determination methods The method for determination of carbon shall be in accordance with any one of the following methods. The sample to which each determination method apply shall be as given in Table 1.

- a) **Combustion—sulfuric acid titrimetric method** This method applies to the sample of 0.005 % (m/m) or over up to and including 0.2 % (m/m) in carbon content.
- b) **Combustion—conductometric method** This method applies to the sample of 0.001 % (m/m) or over up to and including 2.0 % (m/m) in carbon content.
- c) **Combustion—coulometric method** This method applies to the sample of 0.001 % (m/m) or over up to and including 2.0 % (m/m) in carbon content.
- d) **Combustion—thermal conductivity method** This method applies to the sample of 0.001 % (m/m) or over up to and including 2.0 % (m/m) in carbon content.
- e) **Combustion—infrared absorption method (integral method)** This method applies to the sample of 0.001 % (m/m) or over up to and including 2.0 % (m/m) in carbon content.
- f) **Combustion—infrared absorption method (circulating method)** This method applies to the sample of 0.001 % (m/m) or over up to and including 2.0 % (m/m) in carbon content.