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**Heat treatment furnaces of metals —
Test methods of effective working
zone and effective treating zone**

ICS 25.200

Descriptors : heating equipment, heat treatment, metalworking, thermal efficiency,
testing

Reference number : JIS B 6901 : 1998 (E)

Foreword

- 1 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 B 6901:1987 is replaced with JIS B 6901:1998.
In this revision, test method for effective working zone, holding temperature tolerances of heating equipment, etc. have been amended; and test method for effective treating zone of plasma heat treatment equipment, and holding temperature tolerances and judging methods for effective working zone and effective treating zone of heating equipment are added.
- 2 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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Heat treatment furnaces of metals—Test methods of effective working zone and effective treating zone

1 Scope This Japanese Industrial Standard specifies the test methods for the effective working zone of the heat treatment furnaces of metals (hereafter referred to as “heat treatment furnaces”). As to the test methods for the effective treating zone of plasma heat treatment heating equipment, refer to the Annex 1. As to the holding temperature tolerances of heating equipment, refer to the Annex 2, and as to the judging methods on the effective working zone and effective treating zone, refer to the Annex. 3.

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 B 6905	<i>Heat treatment for metal products—Vocabulary</i>
JIS C 1602	<i>Thermocouples</i>
JIS C 1605	<i>Mineral insulated thermocouples</i>
JIS C 1610	<i>Extension and compensating cables for thermocouples</i>
JIS Z 8704	<i>Temperature measurement—Electrical methods</i>

3 Definitions For the purposes of this Standard, the definitions given in **JIS B 6905** and the following definitions apply.

- a) **materials to be processed** The parts or materials to be subjected to processing. The parts mean the metallic products of mechanical parts, jigs, tools, moulds, etc. made of iron and steel and nonferrous metal. The materials mean the metallic material and semi-products by rolling, casting and forging.
- b) **target temperature** That temperature to be determined according to the types of heat treatment and material to be processed, as the heating target of the material to be processed.
- c) **holding temperature** When the material to be processed is to be heated, the temperature of the material to be processed or either of heating atmosphere or hot bath, during a necessary duration is being maintained, often the target temperature has been attained.
- d) **effective working zone of heating equipment** That charging region in a heating equipment capable of holding the materials to be processed within a permissible range of temperature.
- e) **effective treating zone of plasma equipment** In a heating equipment of plasma heat treatment, that charging region which has been established by the temperature measurement of similar shaped article in advance, in order to be capable of holding within a permissible range of temperature required for the heating temperature, according to the purposes of the heat treatment, allowing the material to be processed to generate uniform discharge.