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**Process of nitriding
and nitrocarburizing
of iron and steel**

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Descriptors: steels, nitriding ferrous metals, nitriding steels

Reference number: JIS B 6915: 1999 (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 B 6915 : 1993** is replaced with **JIS B 6915 : 1999**.

Scope, definitions, classification of processing and symbol, material to be processed, processing equipment, processing method, quality of processed product, etc. are altered in this revision.

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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In the event of any doubts arising as to the contents,
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Process of nitriding and nitrocarburizing of iron and steel

1 Scope This Japanese Industrial Standard specifies the process of nitriding, nitrocarburizing and acid nitrocarburizing of iron and steel (hereafter referred to as "processing").

2 Normative references The standards listed in **Attached Table 1** contain provisions which, through reference in this Standard, constitute provisions of this Standard. The most recent editions of the standards listed shall be applied.

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

- a) **material to be processed** The parts which are subjected to the processing, including mechanical apparatus, jigs, equipment or any of their components, and these parts are finished or almost finished iron and steel products.
- b) **processed product** In materials to be processed, those which have undergone the processing as defined in this Standard.
- c) **single body** A piece or set of processed products.
- d) **heating equipment** In heating equipment for metals heat treatment use, the device to heat materials to be processed for the purpose of heat treatment.
- e) **gas nitriding equipment** The equipment to perform nitriding by heating the material to be processed in an atmosphere consisting mainly of gaseous ammonia.
- f) **plasma nitriding equipment** The equipment to perform nitriding using the plasma generated by glow discharge taking place between the material to be processed acting as a cathode and an anode in a nitriding atmosphere under reduced pressure.
- g) **gas nitrocarburizing equipment** The equipment to perform nitrocarburizing by heating the material to be processed in a nitrocarburizing atmosphere.
- h) **plasma nitrocarburizing equipment** The equipment to perform nitrocarburizing using the plasma generated by glow discharge taking place between the material to be processed acting as a cathode and an anode in a nitrocarburizing atmosphere under reduced pressure.
- i) **salt-bath nitrocarburizing equipment** The equipment to perform nitrocarburizing by heating the material to be processed in a nitrocarburizing salt bath.
- j) **gas acid nitrocarburizing equipment** The equipment to perform acid nitrocarburizing by heating the material to be processed in an acid nitrocarburizing atmosphere.
- k) **plasma acid nitrocarburizing equipment** The equipment to perform acid nitrocarburizing using the plasma generated by glow discharge taking place between the material to be processed acting as a cathode and an anode in an acid nitrocarburizing atmosphere under reduced pressure.
- l) **gas ratio** The volumetric ratio of the gas which constitutes the atmosphere in such processes as nitriding and nitrocarburizing.
- m) **glow discharge** Sustaining discharge taking place on the surface of the material to be processed which comes in contact with the cathode in plasma nitriding, plasma nitrocarburizing and other equipment.