

JIS

JAPANESE INDUSTRIAL STANDARD

**Carbon Steel Forgings
for General Use**

JIS G 3201—1988

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In the event of any doubt arising,
the original Standard in Japanese is to be final authority.

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1. Scope

This Japanese Industrial Standard specifies the carbon steel forgings, hereinafter referred to as the "forgings", for general use.

Remark: The units and numerical values given in { } in this Standard are based on the International System of Units (SI) and are appended for informative reference.

Further, the traditional units accompanied by numerical value in this Standard shall be converted to the SI units and numerical values on Jan. 1, 1991.

2. Classification Symbols

The classification symbols of the forgings shall be as given in Table 1-1 or Table 1-2.

The distinction between the symbols A and B is based on the varieties of heat treatment.

Table 1-1. Symbol of Class
(Applicable to Dec. 31, 1990)

Symbol of class	Types of heat treatment
SF 35 A	Annealing, normalizing, or normalizing and tempering
SF 40 A	Annealing, normalizing, or normalizing and tempering
SF 45 A	Annealing, normalizing, or normalizing and tempering
SF 50 A	Annealing, normalizing, or normalizing and tempering
SF 55 A	Annealing, normalizing, or normalizing and tempering
SF 60 A	Annealing, normalizing, or normalizing and tempering
SF 55 B	Quenching and tempering
SF 60 B	Quenching and tempering
SF 65 B	Quenching and tempering

Applicable Standards: See page 9.

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Table 1-2. Symbol of Class
(Applicable on Jan. 1, 1991)

Symbol of class		Types of heat treatment
SI unit	(Reference) Traditional unit	
SF 340 A	SF 35 A	Annealing, normalizing or normalizing and tempering
SF 390 A	SF 40 A	Annealing, normalizing or normalizing and tempering
SF 440 A	SF 45 A	Annealing, normalizing or normalizing and tempering
SF 490 A	SF 50 A	Annealing, normalizing or normalizing and tempering
SF 540 A	SF 55 A	Annealing, normalizing or normalizing and tempering
SF 590 A	SF 60 A	Annealing, normalizing or normalizing and tempering
SF 540 B	SF 55 B	Quenching and tempering
SF 590 B	SF 60 B	Quenching and tempering
SF 640 B	SF 65 B	Quenching and tempering

3. Chemical Composition

The forgings shall be subjected to the test of 9.2 and the cast analysis thereof shall be as given in Table 2.

Table 2. Chemical Composition

Unit: %

C	Si	Mn	P	S
0.60 max.	0.15 to 0.50	0.30 to 1.20	0.030 max.	0.035 max.

- Remarks 1. Carbon equivalent may be predetermined by an agreement between the delivery parties concerned.
2. Any chemical composition within the range given in Table 2 may be predetermined by an agreement between the delivery parties concerned.