

SAE Numbering System for Wrought or Rolled Steel – SAE J402 JUN81

SAE Standard
Third Revision June 1981

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φ SAE NUMBERING SYSTEM FOR WROUGHT OR ROLLED
STEEL—SAE J402 JUN81

SAE Standard

Report of the Iron and Steel Division, approved January 1912, third revision June 1981.

This SAE Standard is intended to supply a uniform means of designating wrought ferrous materials reported in SAE Standards and Recommended Practices.

A numeral index system is used to identify the compositions of the SAE steels. This system makes it possible to use numbers on shop drawings and blueprints to describe partially the composition of the material. A four-numeral series is usually used to designate standard alloy and carbon steels specified to chemical composition ranges. There are certain types of alloy steels which are designated by five numerals. The prefix E is used to designate steels which are made by the basic electric furnace process with special practices. The suffix H is used to designate standard hardenability steels. The last two digits of the four-numeral series and the last three digits of the

five-numeral series are intended to indicate the approximate mean of the carbon range. For example, in the Grade 1035, 35 represents a carbon range of 0.32 to 0.38% and in Grade E52100, 100 represents a carbon range of 0.98 to 1.10%. It is necessary, however, to deviate from this system and to interpolate numbers in the case of some carbon ranges, and for variations in manganese, sulfur or other elements with the same carbon range. The first two digits of the SAE numeral series for the various grades of alloy and carbon steel are given in Table 1.

The Unified Numbering System (UNS) is described in greater detail in SAE J1086 and ASTM E527.

The basic numerals of the various types of standard and formerly standard SAE steels are given in the table.

TABLE 1

Numerals and Digits		Type of Identifying Elements	Refer to SAE Standard or Information Report – Jxxx for Composition Limits
UNS	SAE		
CARBON STEELS			
G10XX0	10XX ^a	Nonresulfurized, Manganese 1.00% maximum	403 and 118
G11XX0	11XX	Resulfurized	403 and 118
G12XX0	12XX	Rephosphorized and Resulfurized	403
ALLOY STEELS			
G13XX0	13XX	Manganese Steels	404 and 778
G23XX0	23XX	Nickel Steels	778
G25XX0	25XX	Nickel Steels	778
G31XX0	31XX	Nickel-Chromium Steels	778
G32XX0	32XX	Nickel-Chromium Steels	778
G33XX0	33XX	Nickel-Chromium Steels	778
G34XX0	34XX	Nickel-Chromium Steels	778
G40XX0	40XX	Molybdenum Steels	404 and 778
G41XX0	41XX	Chromium-Molybdenum Steels	404 and 778
G43XX0	43XX	Nickel-Chromium-Molybdenum Steels	404 and 778
G44XX0	44XX	Molybdenum Steels	404 and 778
G46XX0	46XX	Nickel-Molybdenum Steels	404 and 778
G47XX0	47XX	Nickel-Chromium-Molybdenum Steels	404
G48XX0	48XX	Nickel-Molybdenum Steels	404 and 778
G50XX0	50XX	Chromium Steels	404 and 778
G51XX0	51XX	Chromium Steels	404 and 778
G50XX6	50XXX	Chromium Steels	404
G51XX6	51XXX	Chromium Steels	404
G52XX6	52XXX	Chromium Steels	404
G61XX0	61XX	Chromium-Vanadium Steels	404 and 778
G71XX0	71XXX	Tungsten-Chromium Steels	778
G72XX0	72XX	Tungsten-Chromium Steels	778
G81XX0	81XX	Nickel-Chromium-Molybdenum Steels	404
G86XX0	86XX	Nickel-Chromium-Molybdenum Steels	404 and 778
G87XX0	87XX	Nickel-Chromium-Molybdenum Steels	404 and 778
G88XX0	88XX	Nickel-Chromium-Molybdenum Steels	404
G92XX0	92XX	Silicon-Manganese Steels	404 and 778
G93XX0	93XX	Nickel-Chromium-Molybdenum Steels	404 and 778
G94XX0	94XX	Nickel-Chromium-Molybdenum Steels	404 and 778
G97XX0	97XX	Nickel-Chromium-Molybdenum Steels	778
G98XX0	98XX	Nickel-Chromium-Molybdenum Steels	778

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