

ICS 77.140.01
CCS H 40



**NATIONAL STANDARD OF THE
PEOPLE'S REPUBLIC OF CHINA**

GB/T 34560.6-2017

**Structural steels -- Part 6: Technical delivery conditions for
seismic-improved structural steels for building**

结构钢 第6部分：抗震型建筑结构钢交货技术条件

(English Translation)

Issued on: October 14, 2017

Implemented on: July 1, 2018

**Issued by: General Administration of Quality Supervision, Inspection and
Quarantine of the PRC**

Table of Contents

Foreword...	3
1 Scope...	5
2 Normative references...	5
3 Terms and definitions...	7
4 Classification and designation representation...	8
5 Order content...	8
6 Dimension, shape, weight and tolerance...	9
7 Technical requirements...	9
8 Test methods...	13
9 Inspection rules...	14
10 Package, mark, and certification...	15

1 Scope

This Part of GB/T 34560 specifies the terms and definitions, classification and designation representation, order content, dimension, shape, weight and tolerance, technical requirements, test methods, inspection rules, package, mark, and certification of seismic-improved structural steels for building.

This Part applies to steel plates with a thickness of 6 mm~150 mm, wide flat steels, and hot-rolled section steels with flange thickness not more than 140 mm (hereinafter referred to as "steels").

2 Normative references

The following documents are indispensable for the application of this document.

For the dated references, only the editions with the dates indicated are applicable to this document. For the undated references, the latest edition (including all the amendments) are applicable to this document.

GB/T 222 Permissible Tolerances for Chemical Composition of Steel

Products

GB/T 223.3 Methods for chemical analysis of iron, steel and alloy - The diantipyrylmethane phosphomolybdate gravimetric method for the determination of phosphorus content

GB/T 223.10 Methods for chemical analysis of iron, steel and alloy - The cupferron

separation-chrome azurol S photometric method for the determination of aluminium content

GB/T 223.11 Iron, steel and alloy - Determination of chromium content -

Visual titration or potentiometric titration method

GB/T 223.14 Methods for Chemical Analysis of Iron, Steel and Alloy - The N-

Benzoyl-N-Phenylhydroxylamine Extraction Photometric Method for the

Determination of Vanadium Content

GB/T 223.17 Methods for chemical analysis of iron, steel and alloy - The dianitropyrimethane photometric method for the determination of titanium content

GB/T 223.18 Methods for Chemical Analysis of Iron, Steel and Alloy - The

Sodium Thiosulfate Separation Iodimetric Method for the Determination of Copper Content

GB/T 223.23 Iron, Steel and Alloy - Determination of Nickel Content - The

Dimethylglyoxime Spectrophotometric Method

GB/T 223.26 Iron, steel and alloy - Determination of molybdenum content -

The thiocyanate spectrophotometric method

GB/T 223.27 Methods for chemical analysis of iron, steel and alloy - The thiocyanate-butyl acetate extraction spectrophotometric method for the determination of molybdenum content

GB/T 223.40 Iron, Steel and Alloy - Determination of Niobium Content by the

Sulphochlorophenol S Spectrophotometric Method

GB/T 223.60 Methods for chemical analysis of iron, steel and alloy - The perchloric acid dehydration gravimetric method for the determination of silicon content

GB/T 223.63 Methods for chemical analysis of iron, steel and alloy - The sodium (potassium) periodate photometric method for the determination of manganese content

GB/T 223.68 Methods for Chemical Analysis of Iron, Steel and Alloy - The

Potassium Iodate Titration Method after Combustion in the Pipe Furnace for the Determination of Sulfur Content

GB/T 223.69 Iron, steel and alloy - Determination of carbon contents - Gas- volumetric method after combustion in the pipe furnace

GB/T 223.75 Iron steel and alloy - Determination of boron content - Methanol distillation-curcumin photometric method

GB/T 223.76 Methods for chemical analysis of iron, steel and alloy - The flame atomic

absorption spectrometric method for the determination of vanadium content

GB/T 228.1 Metallic materials - Tensile testing - Part 1: Method of test at room temperature (GB/T 228.1-2010, ISO 6892-1:2009 MOD)

GB/T 229 Metallic materials - Charpy pendulum impact test method (GB/T 229-2007, ISO 148-1:2006, MOD)

4 Classification and designation representation

4.1

According to GB/T 13304.1, the steel of this Part is classified into unalloyed steel and low-alloy steel.

4.2

The steel designation consists of four parts

The first letter Q of Chinese phonetic alphabet representing "Qu" of yield strength, specified minimum upper yield strength value, the initials "KZ" of Chinese phonetic alphabet for "seismic-improved", quality grade symbol (C, D, E, F).

Example: Q3450KZE

Where:

Q - The first letter of Chinese phonetic alphabet of "Qu" for yield strength of steel;

345 - The specified minimum upper yield strength value, in megapascals (MPa);

KZ - Represent "seismic-improved";

E - The quality grade is Grade E.

4.3

When the purchaser requires the steel plate to have the through-thickness (Z-direction) characteristics, after the above specified designation, ADD the through-thickness characteristics level of the steel plate, such as Q345KZEZ25.

5 Order content

5.1

Contracts or orders for ordering according to this Part shall include the following:

- a) Standard number;
- b) Product type;
- c) Steel grade + delivery condition + quality grade;

- d) Dimension, shape, and tolerance;
- e) Selected content of all requirements;
- f) Type of inspection document.

5.2 Through negotiation between the supplier and the purchaser, and indicated

in the contract, the following content may be selected as the order content of this Part. If the purchaser does not specify when providing the inquiry and order,

7.1.8 Through negotiation between the supplier and the purchaser, the

chemical composition inspection of steel products may be carried out.

Permissible tolerances for chemical composition of products shall meet the requirements of GB/T 222.

7.2 Smelting method

The steel shall be smelted by an oxygen converter or an electric furnace. Unless otherwise specified, the smelting method shall be selected by the supplier.

7.3 Delivery condition

The steels are generally delivered in the hot-rolled condition. Unless otherwise agreed, the hot-rolled condition, normalized rolled, normalized or quenched and tempered condition are allowed at the manufacturer's discretion. The thermo- mechanical rolling is not allowed at the manufacturer's discretion. Through negotiation between the supplier and the purchaser, thermo-mechanical rolling may be applied to any steel grade. The delivery condition shall be stated in the contract.

7.4.1 The tensile and processing properties of Q235KZ and Q345KZ steel

grades shall comply with the requirements of Table 6. The mechanical and processing properties of Q390KZ, Q420KZ, and Q460KZ steel grades shall comply with the requirements of Table C.3 of Annex C.

Table 6 -- Tensile and processing properties of Q235KZ and Q345KZ steel grades

7.4.2 The impact properties of the Q235KZ and Q345KZ steel grades shall comply with the requirements of Table 7.

7.4.3 The tensile, impact, and bend test requirements for steel shall comply with the relevant provisions of GB/T 34560.1.

Steel grade