

ICS 77.140.85

CCS J 32



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

GB/T 21469-2008

**Machining allowances and tolerances for steel open die
forgings on hammer -- General requirement**
(English Translation)

Issued on: February 28, 2008

Implemented on: August 1, 2008

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

Table of Contents

Foreword...	3
1 Scope...	4
2 Normative references...	4
3 Terminology...	4
4 Technical requirements...	5

Foreword

This standard is a revision of GB/T 15826.1-1995 Machining allowances and tolerances for steel open die forgings on hammer - General requirement.

Compared with GB/T 15826.1-1995, the main changes of this standard are as follows.

- The foreword is added.
- English annotations for terms are added.

This standard was proposed by the China Machinery Industry Federation.

This standard is under the jurisdiction of the National Technical Committee on Forging and Stamping of Standardization Administration of China.

Drafting organizations of this standard are Shanghai Hudong Forging Factory and Pinghu Chenren Meter Co., Ltd.

1 Scope

This standard specifies the general requirements for the machining allowances and tolerances of steel open die forgings on hammer and their use.

This standard applies to open die forgings of carbon steel and alloy steel with a carbon content not exceeding 0.9% and a total content of other alloy components not exceeding 4%.

For open die forgings that exceed the scope specified in this standard, the machining allowance and tolerance shall be determined by the supplier and the buyer through separate negotiation.

2 Normative references

The clauses in the following documents become the clauses of this standard through reference in this standard. For all the referenced documents with dates, all the subsequent amendments (excluding errata) or revisions are not applicable to this standard. However, the parties who reach an agreement based on this standard are encouraged to study whether the latest versions of these documents can be used. For all the referenced documents without dates, the latest versions are applicable to this standard.

GB/T 8541 Terminology of forging and stamping

3.1 Basic terms

The definitions of nominal dimensions of forgings, forging tolerances, steps, hubs, forgings without machining and forging drawings shall be in accordance with the provisions of GB/T 8541.

3.2.1 machining allowance

In order to make the parts have a certain processing size and surface roughness, on the forging, a layer of metal for machining is left on the part surface that needs to be machined, which is called machining allowance (see Figure 1).

3.2.2 excess metal

In order to simplify the shape of forgings and the forging process, some metal larger than the machining allowance is added to certain parts of the forgings. This added metal is called excess metal (see Figure 1).

3.2.3 flange

A step on a forging whose length is less than 0.5 times its own diameter and whose diameter is greater than 1.5 times the diameter of the adjacent two ends is called a flange (see Figure 1).

4 Technical requirements

4.1

The machining allowances and tolerances specified in this standard are divided into two grades.

Grade F is used for forgings with general precision; Grade E is used for forgings with higher precision.

NOTE: Grade E often requires special tooling and increased forging processing costs and is therefore

used for larger production runs.

4.2 Unless otherwise specified, the shape and position tolerances of open die forgings

Machining allowance

4.3 The machining allowances and tolerances specified in this standard are applicable

to forgings made from rolled products. When forging with steel ingots, the allowances and upper deviations (lower deviations for inner holes and recesses) are allowed to be increased by 50% according to the values in this standard (not applicable to the determination of machining allowances and tolerances for the outer diameter of shaft parts).

4.4 The allowances specified in this standard do not include the allowances for rough

machining of machining chucks, heat treatment chucks, materials for physical and chemical testing, and final heat treatment (quenching and tempering, etc.). These allowances shall be added according to the requirements of the purchaser.

4.5 For shaft parts (including smooth shafts, stepped shafts and crank shafts), the length

of the forging can be rounded to the nearest 0 or 5 mm, according to the principle "when the last digit (n) of the integer is $0 < n < 3$ or $n \geq 8$, the length value is rounded to the nearest

0 mm, and when the last digit (n) is $3 \leq n < 5$ or $5 < n < 8$, rounded to the nearest 5 mm".

.....