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Cutting tools — Designation of high-speed steel groups

Outils coupants — Désignation des groupes d'aciers rapides

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Foreword

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The main task of technical committees is to prepare International Standards. Draft International Standards adopted by the technical committees are circulated to the member bodies for voting. Publication as an International Standard requires approval by at least 75 % of the member bodies casting a vote.

Attention is drawn to the possibility that some of the elements of this document may be the subject of patent rights. ISO shall not be held responsible for identifying any or all such patent rights.

ISO 11054 was prepared by Technical Committee ISO/TC 29, *Small tools*.

This second edition cancels and replaces the first edition (ISO 11054:1993), which has been technically revised.

Cutting tools — Designation of high-speed steel groups

1 Scope

This International Standard specifies the designation of groups of high-speed steels used for manufacturing high-speed steel (HSS) cutting tools such as taps, drills, end mills, etc. It is not intended to specify the composition of high-speed steels, which is the subject of ISO 4957.

2 Terms and definitions

For the purposes of this document, the following terms and definitions apply.

2.1
conventional high-speed steel
high-speed steel produced by the traditional ingot metallurgy process

2.2
powder metallurgy high-speed steel
high-speed steel produced by the powder metallurgy process

3 Designation

Table 1 gives the code designation of high-speed steels used for cutting tools.

In addition to the standardized code, a supplementary symbol may be added by the manufacturer for a fuller description of his products.

Table 1 — High-speed steel groups

Production process	Designation code	Chemical composition class
Conventional high-speed steels	HSS	High-speed steel containing less than 4,5 % cobalt and less than 2,6 % vanadium
	HSS-E	High-speed steel containing at least 4,5 % cobalt or at least 2,6 % vanadium
Powder metallurgy high-speed steels	HSS-PM	High-speed steel containing less than 4,5 % cobalt and less than 2,6 % vanadium
	HSS-E-PM	High-speed steel containing at least 4,5 % cobalt or at least 2,6 % vanadium

4 Examples

EXAMPLE 1 High-speed steel HS6-5-2, according to ISO 4957, containing 0 % cobalt and 1,8 % vanadium produced by a conventional process is designated as follows:

HSS

EXAMPLE 2 High-speed steel HS6-5-2-5, according to ISO 4957, containing 5 % cobalt and 1,8 % vanadium produced by a conventional process is designated as follows:

HSS-E

EXAMPLE 3 High-speed steel HS6-5-2, according to ISO 4957, containing 0 % cobalt and 1,8 % vanadium produced by the powder metallurgy process is designated as follows:

HSS-PM

EXAMPLE 4 High-speed steel HS6-5-3-8, according to ISO 4957, containing 8 % cobalt and 3 % vanadium produced by the powder metallurgy process is designated as follows:

HSS-E-PM

Bibliography

[1] ISO 4957:1999, *Tool steels*

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