INTERNATIONAL STANDARD

ISO 5718

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Harvesting equipment — Blades for agricultural rotary mowers — Requirements

Matériel de récolte — Lames pour faucheuses rotatives agricoles — Prescriptions

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Foreword

ISO (the International Organization for Standardization) is a worldwide federation of national standards bodies (ISO member bodies). The work of preparing International Standards is normally carried out through ISO technical committees. Each member body interested in a subject for which a technical committee has been established has the right to be represented on that committee. International organizations, governmental and non-governmental, in liaison with ISO, also take part in the work. ISO collaborates closely with the International Electrotechnical Commission (IEC) on all matters of electrotechnical standardization.

International Standards are drafted in accordance with the rules given in the ISO/IEC Directives, Part 3.

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 International Standard may be the subject of patent rights. ISO shall not be held responsible for identifying any or all such patent rights.

ISO 5718 was prepared by Technical Committee ISO/TC 23, *Tractors and machinery for agriculture and forestry,* Subcommittee SC 7, *Equipment for harvesting and conservation*.

This first edition of ISO 5718 cancels and replaces ISO 5718-1:1989 and ISO 5718-2:1991, which have been technically revised.

Harvesting equipment — Blades for agricultural rotary mowers — Requirements

1 Scope

This International Standard specifies the material characteristics of, and marking requirements for, blades on agricultural rotary mowers used for harvesting. In addition, because the blades on agricultural rotary mowers are exposed to considerable centrifugal forces and impact with foreign objects, it includes a simple bend test for checking the brittleness of the material. It does not specify dimensions.

2 Normative reference

The following normative document contains provisions which, through reference in this text, constitute provisions of this International Standard. For dated references, subsequent amendments to, or revisions of, any of these publications do not apply. However, parties to agreements based on this International Standard are encouraged to investigate the possibility of applying the most recent edition of the normative document indicated below. For undated references, the latest edition of the normative document referred to applies. Members of ISO and IEC maintain registers of currently valid International Standards.

ISO 6508 (all parts), *Metallic materials — Rockwell hardness test*

3 Terms and definitions

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

3.1
agricultural rotary mower
mower used in agriculture in which one or more functional components cut or shear by impact and rotate about a vertical axis

3.2
drum mower
agricultural rotary mower in which the blades are fastened to the lower part of a drum-shaped body, where the drums are driven from above

See Figure 1.

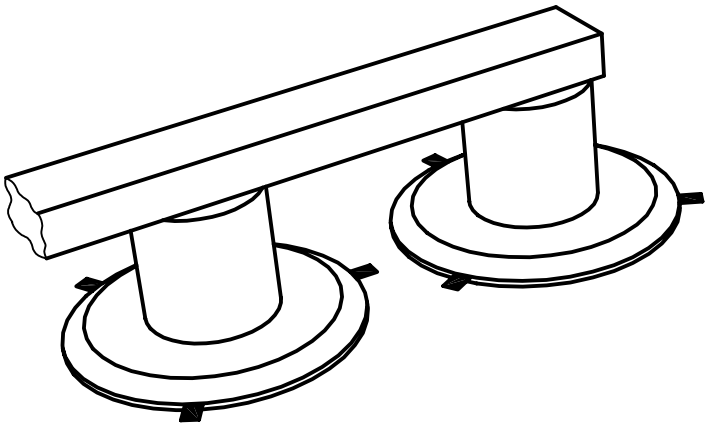


Figure 1 — Drum mower

3.3
disc mower
agricultural rotary mower in which blades are fastened to a discoid body, where the discs are driven from below

See Figure 2.

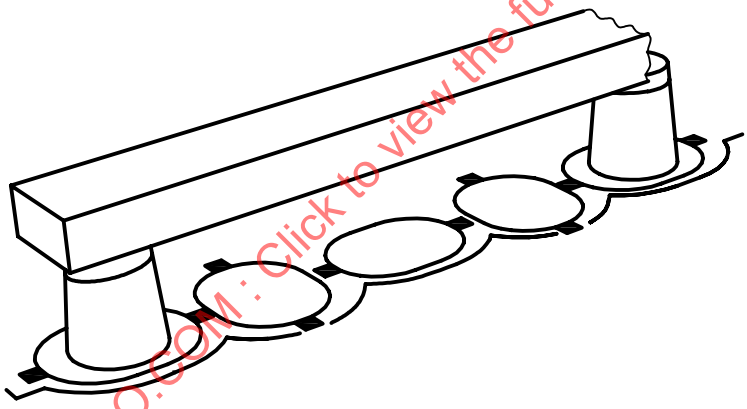


Figure 2 — Disc mower

3.4
blades
pivoting element, which can be flat, twisted, wrenched or deformed, performing the cutting of the crop

3.5
bending zone
area in which the blade can be deformed by the bend test

4 Material characteristics

4.1 Requirements

Blades shall be made of a steel chosen by the manufacturer. The values of Rockwell hardness shall be at least 45 HRC, in accordance with ISO 6508. The degree of brittleness shall be in accordance with 4.2.

4.2 Bend test (see Figure 3)

Bend a blade progressively, within the bending zone, to an inside radius of 16 mm and through an angle, α, at a minimum ram test speed of 20 mm/s. The width of the ram and of the bearings shall be greater than or equal to the width, s, of the blade under test. See Table 1 for the angle corresponding to a blade width range.

Table 1

s mm	α degrees
$< 3{,}5$	75
$\geqslant 3{,}5$ to $< 4{,}5$	45
$\geqslant 4{,}5$	30

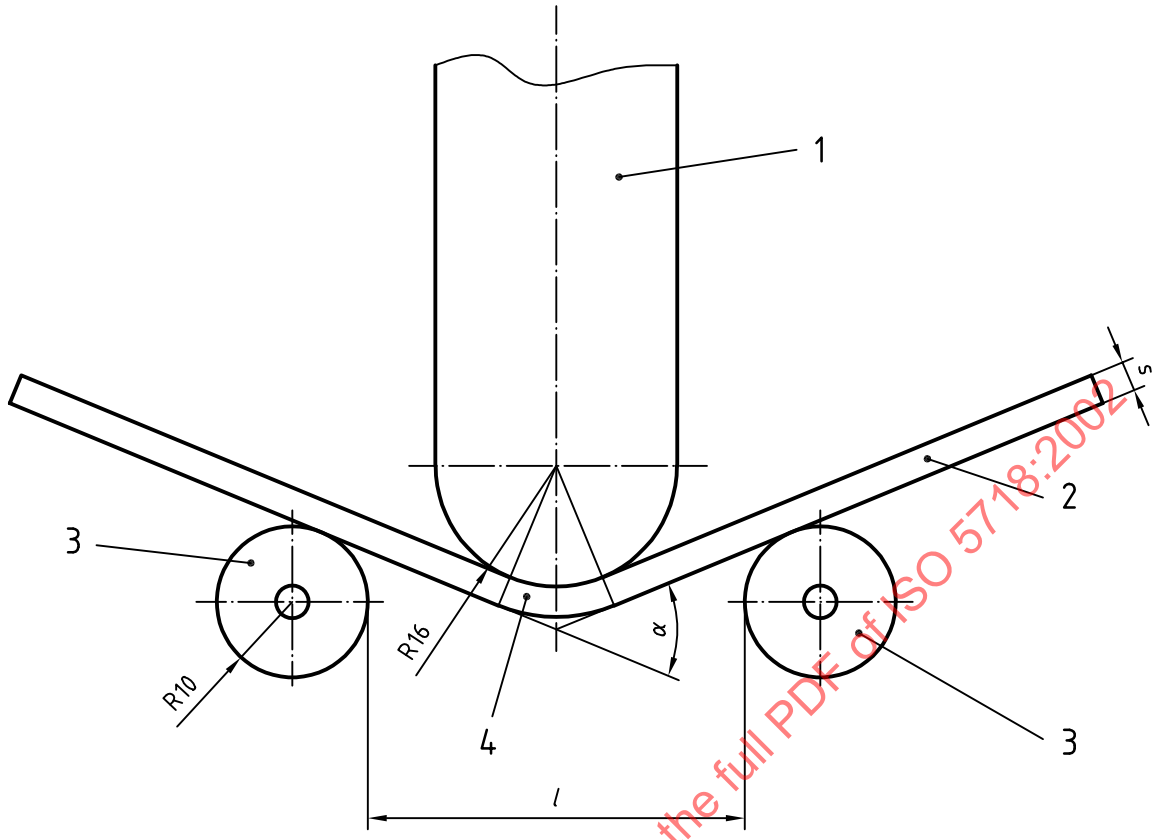
Blades that are not flat shall be tested in the most unfavourable position. The middle of the bending zone shall correspond to the middle of the total length of the blade. The distance, l, between the bearings shall be calculated as

$$l = (32 + 3\,s) \pm s/2$$

and shall be constant during the bend test. The outside radius of each bearing shall be 10 mm; the bearings shall be mounted rotatable bearings.

A spring-back rate is not to be taken into account.

After the bend test, the blade shall not present any visible cracks.



Key

1 Ram
2 Blade
3 Bearing
4 Bending zone

NOTE 1 The rollers illustrated are an example of a type of bearing that can be used.

NOTE 2 The flat blade illustrated is an example of the types of blade covered by this International Standard.

Figure 3 — Bend test set-up

5 Marking

For identification purposes, the following shall be marked on each blade:

— name of manufacturer or trademark;

— date or lot number, or production run number, or other production marking;

— if necessary, the direction of movement.

Additional markings such as the dimensions of the blade are allowed.

These indications, as appropriate, shall be labelled on the outside of the packing in addition to the identification of conformance with this International Standard (i.e. “ISO 5718”).