

KS

KOREAN INDUSTRIAL STANDARD

Valves for automobile engines

KS R 3005 : 1997

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Valves for automobile engines

1. Applicable Scope : This standard defines intake/exhaust valve (hereafter referred to as "valve") for automobile engines.

Remarks In this standard, the units and dimensions inside of { } observe conventional units, and are denoted as references.

2. Referred standards The standards listed below are referred to, and incorporated in this standard. The referred standards should be the latest version.

KS B 0161 Surface roughness - Definitions and designation

KS B 0412 General tolerances - **Part 1** : Tolerances for linear and angular dimensions without individual tolerance indications

KS D 3731 Heat-resisting steel bars

3. Name for each part Names for each part of valve are shown in Fig. 1.

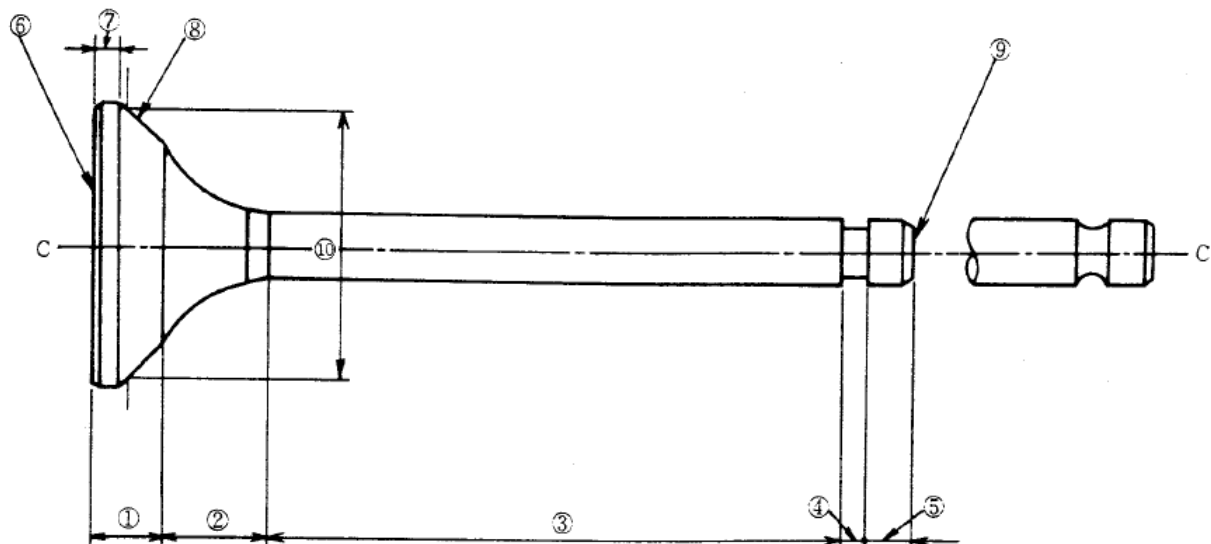


Fig. 1

No.	Name	Description
1	Head	Section from head plane to valve plane
2	Neck	Section of jointing the head with the stem
3	Stem	Cylindrical section including the valve guide and the slide
4	Groove	Section for inserting the cotter
5	Stem end	Section between the groove and the stem end
6	Head plane	Plane of the head opposite to the stem
7	Margin	Section between the valve plane and the head plane
8	Valve plane	Conical section contacting with the valve seat
9	Stem end plane	Plane where contact is made with the lock arm or the tappet
10	Gauge diameter	Diameter of a geometrical contacting circle with the valve plane and the valve seat

Fig. 1 (continued)

4. Definition : The terms in this standard are defined as follows:

- a) **Valve plane angle** : Angle α between the ideal axial core C-C and the hairlines of the conical plane on the valve plane as **Fig 2**.
- b) **Run-out of valve plane** : Amount of deviation of centerline on the valve plane from the axial core of a valve
- c) **Roundness** : Amount of deviation of round section on an axle from roundness
- d) **Straightness** : Amount of deviation from the ideal axial core C-C
- e) **Cylindricity** : Amount of unevenness of diameter of an axial section
- f) **Coaxiality of groove section** : Amount of deviation of axial core of groove section from the axial core of a valve
- g) **Perpendicularity of axial cross-section** : Amount of deviation from perpendicularity of axial cross-section from the axial core of a valve
- h) **Perpendicularity of head plane** : Amount of deviation from perpendicularity of a head plane from the axial core of a valve
- i) **Dimensions of valve plane** : Height (t_2 in **fig. 2 and 3**) or width (B in **fig. 2 and 3**) of a conical section consisting valve plane

5. Materials

5.1 Chemical components : Refer to **table 1** for chemical components of the materials.

5.2 Mechanical properties : Refer to **table 2** for the mechanical properties and heat-treatment conditions of the materials.