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

GB/T 1149.3-2010

Replacing GB/T 1149.4-1994

**Internal combustion engines -- Piston rings -- Part 3: Material
specifications**

内燃机 活塞环 第3部分：材料规范

(English Translation)

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Foreword

GB/T 1149 "Piston Ring" is divided into 16 parts.

- Part 1. General rules;
- Part 2. Terminology;
- Part 3. Material specifications;
- Part 4. Quality requirements;
- Part 5. Test methods;
- Part 6. Cast wiper;
- Part 7. rectangular cast iron ring;
- Part 8. rectangular steel ring;
- Part 9. trapezoidal cast iron ring;
- Part 10. trapezoidal steel ring;
- Part 11. Cast iron wedge ring;
- Part 12. wedge-shaped steel ring;
- Part 13. Oil ring;
- Part 14. Spiral spring supporting oil ring;
- Part 15. Cast iron spiral stays reed thin oil ring;
- Part 16. strip combination oil ring.

This section GB/T 1149 Part 3.

This part identical with ISO 6621-3:2000 "Piston Ring Part 3. Material specifications" (in English).

This section is equivalent translation ISO 6621-3:2000.

For ease of use, this section made the following editorial changes.

--- "ISO 6621 this part" to "this Part";

--- Remove the foreword and introduction of international standards.

This part of ISO 6621-3:2000 and other international standards adopted by our country who have been adopted as a standard by our standards instead of phase Corresponding to international standards.

This Part replaces GB/T 1149.4-1994 material specifications section "Piston Ring technical requirements" in this section and GB/T 1149.4-1994 material specifications section compared to the main technical content changes are as follows.

--- Hardness tests according to Vickers hardness test method provides that the value represented by HV30, and Rockwell hardness HRB, HRC reference only;

--- Increasing the level of fine material.

This part is proposed by China Machinery Industry Federation.

This part of the internal combustion engine by the National Standardization Technical Committee (SAC/TC177) centralized.

1 Scope

This section GB/T 1149 and by the mechanical properties of the material allowable stress of piston ring materials used are classified.

This section applies to a cylinder diameter of less than or equal to 200mm reciprocating piston internal combustion engine piston rings. Pressure working under similar conditions Compressor piston ring can also refer to use.

2 Normative references

The following documents contain provisions which, through reference to GB/T 1149 to the present, constitute provisions of this section. For dated reference documents Member, all subsequent amendments (not including errata content) or revisions do not apply to this section, however, encouraged to reach under this section Parties to research agreement to use the latest versions of these documents. For undated reference documents, the latest versions apply to this section.

Test Method. GB/T 4340.1-2009 metal materials - Vickers hardness test - Part 1 (ISO 6507-1:2005, MOD)

3 Mechanical properties

When selecting material, in accordance with Table 1 shows the mechanical performance, taking into account also the final coating piston rings, engine performance (calibration work) And microstructural features condition, cylinder surface treatment, such as graphite, cementite and ferrite.