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

GB/T 1149.8-2022

Replacing GB/T 1149.8-2008

**Internal combustion engines - Piston rings - Part 8: Rectangular
rings made of steel**

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foreword

This document is in accordance with the provisions of GB/T 1.1-2020 "Guidelines for Standardization Work Part 1. Structure and Drafting Rules of Standardization Documents" drafted.

This document is Part 8 of GB/T 1149 "Piston Rings for Internal Combustion Engines". GB/T 1149 has published the following parts.

- Part 1. General rules;
- Part 2. Terminology;
- Part 3. Material Specifications;
- Part 4. Quality requirements;
- Part 5. Inspection methods;
- Part 6. Cast iron scrapers;
- Part 7. Rectangular cast iron rings;
- Part 8. Rectangular steel ring;
- Part 9. Trapezoidal cast iron rings;
- Part 10. Trapezoidal steel rings;
- Part 11. Wedge-shaped cast iron rings;
- Part 12. Wedge-shaped steel rings;
- Part 13. Oil rings;

- Part 14. Helical spring oil ring;
- Part 15. Thin cast iron coil spring oil ring;
- Part 16. Steel belt combination oil ring.

This document replaces GB/T 1149.8-2008 "Piston Rings for Internal Combustion Engines - Part 8. Rectangular Steel Rings", and GB/T 1149.8-2008

In contrast, except for structural adjustments and editorial changes, the main technical changes are as follows.

- Increased the specifications of the rectangular steel ring with a ring height of 0.8mm and related dimensional parameters (see 5.2.1, 6.7 and Chapter 8);
- Added PVD surface treatment and related content (see 6.1.1, 6.2.1, 6.3.1, 6.4.1.1, 6.8 and Chapter 7);
- Standardized the expression in the chart (see the full text chart).

This document is equivalent to ISO 6622-2:2013 "Piston Rings for Internal Combustion Engines - Part 2. Rectangular Steel Rings".

A chapter "Terms and Definitions" has been added to this document.

The following minimal editorial changes have been made to this document.

- In order to harmonize with the current standard, the standard name is changed to "Piston Rings for Internal Combustion Engines - Part 8. Rectangular Steel Rings".

Please note that some content of this document may be patented. The issuing agency of this document assumes no responsibility for identifying patents.

Introduction

GB/T 1149 "Piston Rings for Internal Combustion Engines" is a national standard that guides the design, inspection and use of piston rings for internal combustion engines in my country.

Seventeen parts consist of.

- Part 1. General rules;
- Part 2. Terminology;
- Part 3. Material Specifications;
- Part 4. Quality requirements;
- Part 5. Inspection methods;
- Part 6. Cast iron scrapers;

- Part 7.Rectangular cast iron rings;
- Part 8.Rectangular steel ring;
- Part 9.Trapezoidal cast iron rings;
- Part 10.Trapezoidal steel rings;
- Part 11.Wedge-shaped cast iron rings;
- Part 12.Wedge-shaped steel rings;
- Part 13.Oil rings;
- Part 14.Helical spring oil ring;
- Part 15.Thin cast iron coil spring oil ring;
- Part 16.Steel belt combination oil ring;
- Part 17.Steel coil spring oil ring.

Part 1~Part 5 of GB/T 1149 stipulates the common content of all piston ring products, and Part 6~Part 17 stipulates

The characteristics of different types of piston rings of different materials are presented.

This document gives a wide range of general characteristics of piston rings and parameters in the specification table. When designing, the designer should

Select specific working conditions.

Before designing and selecting piston rings, designers should refer to other parts of GB/T 1149.

Internal combustion engine piston rings

Part 8.Rectangular steel rings

1 Scope

This document specifies the basic dimensions of rectangular steel piston rings with piston ring types R, B, BA and M (hereinafter referred to as "rectangular steel rings")

feature.

This document applies to rectangular steel rings for reciprocating internal combustion engines for road vehicles and other applications with cylinder diameters from 30mm to 160mm.

2 Normative references

There are no normative references in this document.

3 Terms and Definitions

There are no terms and definitions that need to be defined in this document.

4 Overview

The type of rectangular steel ring is shown in Table 1~Table 3 and Figure 1~Figure 4, and the general features and dimensions are shown in Table 4~Table 10 and Figure 5~Figure 22.different type

The elastic coefficient of the steel ring is shown in Table 11 and Table 12, and the dimensions and elastic force of the rectangular steel ring are shown in Table 13.

5.1.1 General characteristics

The general characteristics of the R-ring are shown in Figure 1.

See Table 13 for dimensions and spring force.