

Piston rings up to 200 mm diameter for reciprocating internal combustion engines —

**Part 7: Designs, dimensions and
designations for single piece rings —**

**Section 7.4 Specification for oil control
rings**

Committees responsible for this British Standard

The preparation of this British Standard was entrusted by the Machinery and Components Standards Policy Committee (MCE/-) to Technical Committee MCE/14, upon which the following bodies were represented:

- Association of Consulting Engineers
- British Railways Board
- Ministry of Defence
- Society of Motor Manufacturers and Traders Limited

This British Standard, having been prepared under the direction of the Machinery and Components Standards Policy Committee, was published under the authority of the Standards Board and comes into effect on 1 May 1992

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National foreword

This Section of BS 5341 has been prepared under the direction of the Machinery and Components Standards Policy Committee and is identical with ISO 6625:1986 “*Internal combustion engines — Piston rings — oil control rings*” published by the International Organization for Standardization (ISO).

Full requirements for piston rings for internal combustion engines are given in the following Parts and Sections of BS 5341 which are identical with ISO standards as indicated:

- *Part 6: Vocabulary, inspection methods and generic specifications;*
- *Section 6.1: Vocabulary;*
(Identical with ISO 6621-1)
- *Section 6.2: Inspection measuring principles;*
(Identical with ISO 6621-2)
- *Section 6.3: Material specifications;*
(Identical with ISO 6621-3)
- *Section 6.4: General specifications;*
(Identical with ISO 6621-4)
- *Section 6.5: Quality requirements.*
(Identical with ISO 6621-5)
- *Part 7: Designs, dimensions and designations for single piece rings;*
- *Section 7.1: Rectangular compression rings;*
- *Subsection 7.1.1: Specification for rectangular rings;*
(Identical with ISO 6622-1)
- *Subsection 7.1.2: Specification for rectangular rings with narrow ring width¹⁾;*
- *Section 7.2: Specification for scraper rings;*
(Identical with ISO 6623)
- *Section 7.3: Keystone and half keystone compression rings;*
- *Subsection 7.3.1: Specification for keystone rings;*
(Identical with ISO 6624-1)
- *Subsection 7.3.2: Specification for half keystone rings²⁾;*
- *Section 7.4: Specification for oil control rings.*
(Identical with ISO 6625)
- *Part 8: Designs, dimensions and designations for multi-piece oil control rings;*
- *Section 8.1: Specification for coil-spring-loaded oil control rings;*
(Identical with ISO 6626)
- *Section 8.2: Specification for expander/segment oil control rings³⁾.*

BS 5341-6 to BS 5341-8 supersede BS 5341-1:1976, BS 5341-2:1977, BS 5341-3:1976 and BS 5341-4:1976 which are withdrawn.

¹⁾ It is envisaged that this Subsection will be identical with ISO 6622-2 when the International Standard is published. The technical report ISO/TR 6622-2 is published in the UK as a Draft for Development, DD 208.

²⁾ It is envisaged that this Subsection will be identical with ISO 6624-2 when the International Standard is published. The technical report ISO/TR 6624-2 is published in the UK as a Draft for Development, DD 209.

³⁾ It is envisaged that this Section will be identical with ISO 6627 when the International Standard is published. ISO/TR 6627 will shortly be published in the UK as a Draft for Development.

Cross-reference (additional to those listed above)

The Technical Committee has reviewed the provisions of ISO 1101 to which normative reference is made in the text and has decided that they are acceptable for use in conjunction with this standard.

A British Standard does not purport to include all the necessary provisions of a contract. Users of British Standards are responsible for their correct application.

Compliance with a British Standard does not of itself confer immunity from legal obligations.

Summary of pages

This document comprises a front cover, an inside front cover, pages i to iv, pages 1 to 20, an inside back cover and a back cover.

This standard has been updated (see copyright date) and may have had amendments incorporated. This will be indicated in the amendment table on the inside front cover.

0 Introduction

ISO 6625 is one of a series of International Standards dealing with piston rings for reciprocating internal combustion engines:

ISO 6621, *Internal combustion engines — Piston rings —*

- *Part 1: Vocabulary;*
- *Part 2: Measuring principles;*
- *Part 3: Material specifications;*
- *Part 4: General specifications⁴⁾;*
- *Part 5: Quality requirements⁴⁾.*

ISO 6622, *Internal combustion engines — Piston rings —*

- *Part 1: Rectangular rings;*
- *Part 2: Rectangular rings with narrow ring width⁵⁾.*

ISO 6623, *Internal combustion engines — Piston rings — Scraper rings.*

ISO 6624, *Internal combustion engines — Piston rings —*

- *Part 1: Keystone rings;*
- *Part 2: Haft keystone rings⁶⁾.*

ISO 6625, *Internal combustion engines — Piston rings — Oil control rings.*

ISO 6626, *Internal combustion engines — Coil spring loaded oil control rings⁴⁾.*

The common features and dimensional tables presented in this International Standard constitute a broad range of variables, and the designer, in selecting a particular ring type, shall bear in mind the conditions under which it will be required to operate.

It is also essential that the designer refers to the specifications and requirements of ISO 6621-3 and ISO 6621-4, before completing his selection.

1 Scope and field of application

This International Standard specifies the essential dimensional features of S-, G-, D- and DV-oil control piston ring types.

The normal range for the axial width of oil control rings (2,5 to 8 mm inclusive) is divided into 0,5 or 1,0 mm increments. In Table 7, dimensions in inch units are given for oil control rings with axial width 4,75 mm (equal to 3/16 in) for existing applications.

The requirements of this International Standard apply to oil control rings for reciprocating internal combustion piston engines, up to and including 200 mm diameter. It may also be used for piston rings of compressors working under similar conditions.

2 References

ISO 1101, *Technical drawings — Geometrical tolerancing — Tolerancing of form, orientation, location and run-out — Generalities, definitions, symbols, indications on drawings.*

ISO 6621, *Internal combustion engines — Piston rings —*

- *Part 3: Material specifications;*
- *Part 4: General specifications⁴⁾.*

⁴⁾ At present at the stage of draft.

⁵⁾ At present at the stage of draft (will be published as a Technical Report).

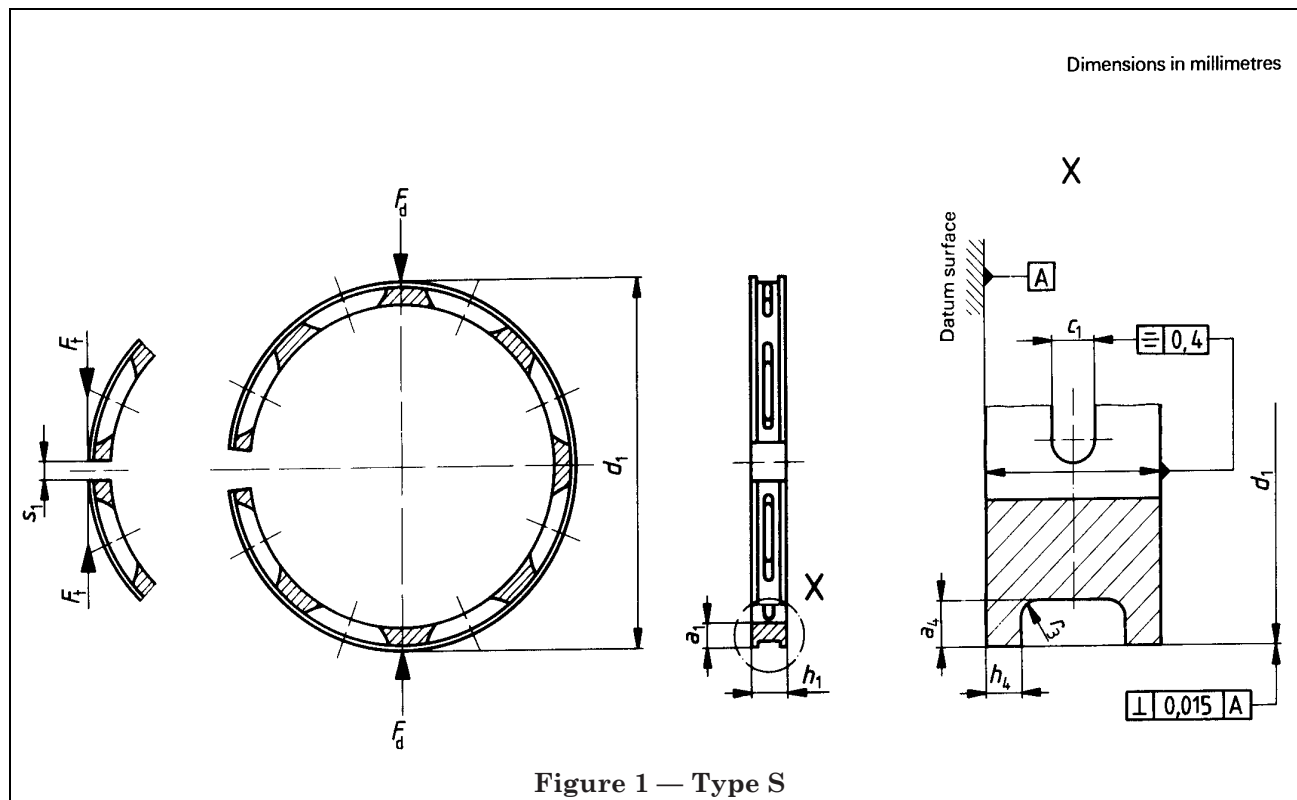
⁶⁾ In preparation (will be published as a Technical Report).

3 Ring types and designation examples

3.1 Type S — Slotted oil control ring

3.1.1 General features

NOTE See Table 5 or Table 7 for dimensions and forces.



3.1.2 Designation example

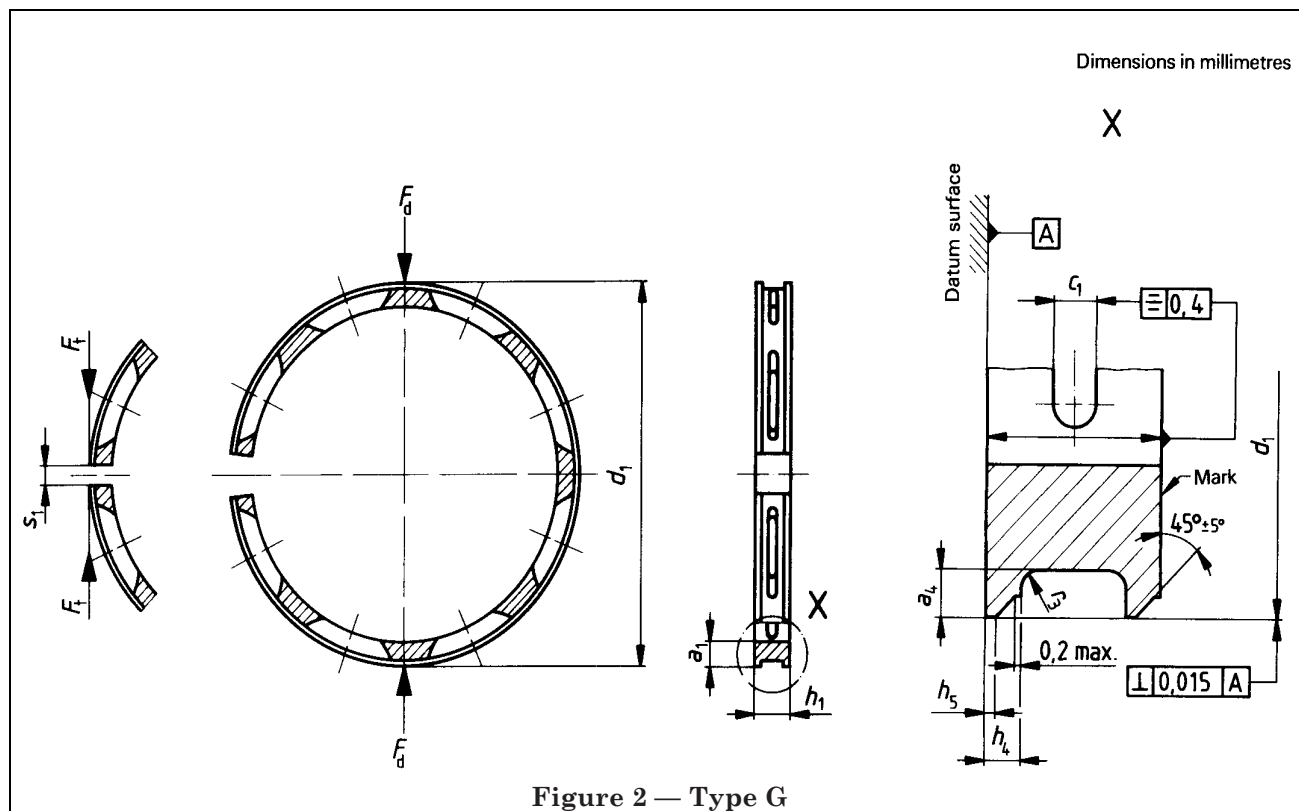
Designation of a slotted oil control ring of $d_1 = 90$ mm nominal diameter, $h_1 = 4$ mm ring width, made of grey cast iron, non-heat-treated (material subclass 12), general features as shown in Figure 1, and inside chamfered edges:

Piston ring ISO 6625 - S - 90 × 4 - MC12 KI

3.2 Type G — Double-bevelled oil control ring

3.2.1 General features

NOTE See Table 6 or Table 7 for dimensions and forces.



3.2.2 Designation example

Designation of a double-bevelled oil control ring of $d_1 = 90$ mm nominal diameter, $h_1 = 4$ mm ring width, made of grey cast iron, non-heat-treated (material subclass 12), general features as shown in Figure 2, and phosphated all over:

Piston ring ISO 6625 - G - 90 × 4 - MC12 PO