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INTERNATIONAL ORGANIZATION FOR STANDARDIZATION

ISO RECOMMENDATION
R 300

PART II

ISO IDENTIFICATION CODE FOR ROLLING BEARINGS

GROUP IV: TAPERED ROLLER BEARINGS, INCH SERIES

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BRIEF HISTORY

The ISO Recommendation R 300/Part II, *ISO Identification Code for Rolling Bearings. Group IV. Tapered Roller Bearings, Inch Series*, was drawn up by Technical Committee ISO/TC 4, *Rolling Bearings*, the Secretariat of which is held by the Sveriges Standardiseringskommission (SIS).

Work on this question by the Technical Committee began in 1956 and led, in 1959, to the adoption of a Draft ISO Recommendation.

In June 1963, this Draft ISO Recommendation (No. 416) was circulated to all the ISO Member Bodies for enquiry. It was approved by the following Member Bodies:

Australia	Greece	Romania
Austria	Hungary	Spain
Belgium	India	Sweden
Canada	Italy	Switzerland
Chile	Japan	United Kingdom
Czechoslovakia	Netherlands	U.S.A.
France	New Zealand	Yugoslavia
Germany	Poland	

One Member Body opposed the approval of the Draft: U.S.S.R.

The Draft ISO Recommendation was then submitted by correspondence to the ISO Council which decided, in December 1965, to accept it as an ISO RECOMMENDATION.

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ISO Recommendation R 300/Part II December 1965

ISO IDENTIFICATION CODE FOR ROLLING BEARINGS

GROUP IV: TAPERED ROLLER BEARINGS, INCH SERIES

INTRODUCTION

A bearing number in Group IV is divided into five sections, of which Section 1 constitutes the *Basic Number* and should always be shown. Sections 2 to 5 constitute the *Supplementary Number*.

No symbol in Section 1 should be omitted.

When Sections 2 to 5 are not needed, no symbol is shown in any of these sections.

When one or more intermediate sections are not needed, the cage symbol or the letter X is used for Section 2, the figure 0 for Section 3 and the letter X for Section 4, to space the other sections apart. Unused sections that otherwise would end a number are not shown.

TABLE 1. — **Schematic arrangement of Group IV**

Group IV: Tapered roller bearings, Inch Series								
Basic Number			**Suplementary Number**					
Section 1			Section 2		Section 3		Section 4	Section 5
Type and boundary dimensions			**Modification of design**		**Internal fit and tolerances**		Lubricants and preser-vatives	Special require-ments
Bore	Type	Dimension series (line)	Cage	Bearing ring modification	Internal fit	Tolerances		
00	AAA	0	A	A	0	0	A	000

Section 1 (Basic Number) comprises symbols indicating bearing type and main boundary dimensions: bore, outside diameter, inner ring width and bearing width, as shown on page 6.

Section 2 (Modification of design) establishes suffix letters indicating cage type, tapered bore and other modifications of regular design as shown on pages 7 and 8.

Section 3 (Internal fit and tolerances) establishes suffix figures indicating data as shown on page 9.

Section 4 (Lubricants and preservatives) establishes suffix letters to identify types of lubricants and preservatives as shown on page 10.

Section 5 (Special requirements) establishes suffix figures for specification items as show on page 11 and in Appendix 1 of ISO Recommendation R 300/I, *ISO Identification Code for Rolling Bearings.*

1. SECTION 1: BASIC NUMBER

TABLE 2. — **Schematic arrangement of Section 1**

Section 1: Basic Number		
Bore	Type	Dimension series (line)
00	AAA	0

1.1 Bore

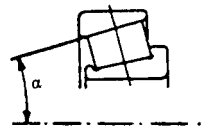
The bearing bore is identified by code figures expressing the bore diameter in $^1/_{16}$ in units. Example: 1 in bore is 16 × $^1/_{16}$ in units, thus bore number is 16.

1.2 Type

Tapered roller bearing types, Inch Series, are identified by three letters, of which the first two letters are KI, indicating that the bearing belongs to Group IV for inch series tapered roller bearings. A third letter identifies the approximate contact angle of the bearing, as shown in the type symbol table below.

1.2.1 *Bearing type symbols*

Tapered roller bearings, Inch Series, single row

Symbol	Description	
KIA	Contact angle α from above 7° to and including 10°	
KIB	Contact angle α from above 10° to and including 17°	
KIC	Contact angle α from above 17° to and including 24°	
KID	Contact angle α from above 24° to and including 32°	
KIE	Contact angle α from above 32° to and including 45°	

1.3 Dimension series (line)

Outside diameter and width, combined with certain bores, are identified by the number of the dimension series (line) to which the bearing belongs.

1.4 EXAMPLE

48KIB2

48 = 48 × $^1/_{16}$ in units = 3 in diameter bore

KIB = Tapered roller bearing, inch series, single row, contact angle from above 10° to and including 17°.

2 = Line 2 bearing having, with a bore diameter of 3 in, an outside diameter of 5.5115 in, an inner ring width of 1.4212 in and a bearing width of 1.4375 in.

2. SECTION 2: MODIFICATION OF DESIGN

When required to supplement the Basic Number of an inch series tapered roller bearing, Section 2 expresses the data shown below by means of a letter code arranged in two columns.

When this section is used, column 1 should always be shown, but column 2 can be omitted when not otherwise needed.

When this section is not needed, but Sections 3, 4 or 5 are required, a bearing manufacturer should show the actual cage symbol, whereas a bearing user may replace the section by a single X, if type of cage is not mandatory.

TABLE 3. — **Schematic arrangement of Section 2**

Section 2: Modification of design	
Column 1	Column 2
Cage	Bearing ring modification
A	A

2.1 Cage

The cage symbol is placed in column 1.

When no Supplementary Number is shown, the bearing is provided with manufacturer's regular cage.

When a Supplementary Number is needed, a bearing manufacturer should show the actual cage symbol, whereas a bearing user may specify X, if type of cage is not mandatory.

When X is specified, any type of cage may be furnished, unless Section 5, " Special requirements", calls for a particular type or execution of the cage. In the latter case, the letter X in column 1 of this section is used only as a spacer.

Cage symbols

Symbol		Description
Columns		
1	2	
X		Cage, any type acceptable This symbol is used as a spacer, when a bearing requires supplementary coding of special cage in Section 5
J		Cage, steel, sheet or strip form
F		Cage, steel, not in sheet or strip form
Y		Cage, non-ferrous metal, sheet or strip form
M		Cage, bronze or brass, not in sheet or strip form
H		Cage, light metal, not in sheet or strip form
P		Cage, porous metal, not in sheet or strip form
T		Cage, non-metallic
V		No cage

2.2 Bearing ring modification

A bearing ring modification symbol is placed in column 2. When two of the symbols indicated in clauses 2.2.1 and 2.2.2 below are used simultaneously, the tapered bore symbol should be written in column 2 and a miscellaneous modification symbol in an extra column 3.

2.2.1 *Tapered bore*

Different symbols are used for indicating normal or reverse (opposite the normal) position of a tapered bore.

The *normal* position of a tapered bore is defined as having the small bore side on the front face side of the inner ring.

Tapered bore symbols

Symbol		Description
Columns		
1	2	
	K	Tapered bore 1:12 in normal position
	U	Tapered bore 1:12 in reverse (opposite the normal) position

2.2.2 *Miscellaneous modifications*

When additional modifications are necessary, a letter code symbol, accepted by ISO, is placed in column 2 (or an extra column 3, if column 2 is used for tapered bore).

3. SECTION 3: INTERNAL FIT AND TOLERANCES

When required to supplement the Basic Number of a tapered roller bearing, Section 3 expresses the data shown below by means of a figure code arranged in two columns.

When this section is not needed, but Sections 4 or 5 are required, it is replaced by a single 0.

For single-row tapered roller bearings, the internal fit symbol is always 0.

TABLE 4. — **Schematic arrangement of Section 3**

Section 3: Internal fit and tolerances	
Column 1	Column 1
Internal fit	Tolerances
0	0

Internal fit and tolerance symbols

Symbol		**Description**
Columns		
1	2	
0		Normal internal clearance
	0	Normal tolerances