

DRAFT INTERNATIONAL STANDARD

ISO/DIS 19407

ISO/TC 137

Secretariat: **SABS**

Voting begins on:
2022-04-26

Voting terminates on:
2022-07-19

Footwear — Sizing — Conversion of sizing systems

Chaussures — Pointures — Conversion des systèmes de pointures

ICS: 61.060

iTeh STANDARD PREVIEW
(standards.iteh.ai)

[ISO/FDIS 19407](https://standards.iteh.ai/catalog/standards/sist/ac8767eb-dc46-4cec-bd13-a041c0268a09/iso-fdis-19407)

<https://standards.iteh.ai/catalog/standards/sist/ac8767eb-dc46-4cec-bd13-a041c0268a09/iso-fdis-19407>

THIS DOCUMENT IS A DRAFT CIRCULATED FOR COMMENT AND APPROVAL. IT IS THEREFORE SUBJECT TO CHANGE AND MAY NOT BE REFERRED TO AS AN INTERNATIONAL STANDARD UNTIL PUBLISHED AS SUCH.

IN ADDITION TO THEIR EVALUATION AS BEING ACCEPTABLE FOR INDUSTRIAL, TECHNOLOGICAL, COMMERCIAL AND USER PURPOSES, DRAFT INTERNATIONAL STANDARDS MAY ON OCCASION HAVE TO BE CONSIDERED IN THE LIGHT OF THEIR POTENTIAL TO BECOME STANDARDS TO WHICH REFERENCE MAY BE MADE IN NATIONAL REGULATIONS.

RECIPIENTS OF THIS DRAFT ARE INVITED TO SUBMIT, WITH THEIR COMMENTS, NOTIFICATION OF ANY RELEVANT PATENT RIGHTS OF WHICH THEY ARE AWARE AND TO PROVIDE SUPPORTING DOCUMENTATION.

This document is circulated as received from the committee secretariat.



Reference number
ISO/DIS 19407:2022(E)

© ISO 2022

iTeh STANDARD PREVIEW (standards.iteh.ai)

ISO/FDIS 19407

<https://standards.iteh.ai/catalog/standards/sist/ac8767eb-dc46-4cec-bd13-a041c0268a09/iso-fdis-19407>



COPYRIGHT PROTECTED DOCUMENT

© ISO 2022

All rights reserved. Unless otherwise specified, or required in the context of its implementation, no part of this publication may be reproduced or utilized otherwise in any form or by any means, electronic or mechanical, including photocopying, or posting on the internet or an intranet, without prior written permission. Permission can be requested from either ISO at the address below or ISO's member body in the country of the requester.

ISO copyright office
CP 401 • Ch. de Blandonnet 8
CH-1214 Vernier, Geneva
Phone: +41 22 749 01 11
Email: copyright@iso.org
Website: www.iso.org

Published in Switzerland

Contents

	Page
Foreword.....	iv
1 Scope	1
2 Normative references	1
3 Explanatory notes	1
3.1 General.....	1
3.2 Table 1 — Adults' technical shoe size conversion.....	1
3.3 Table 2 — Adults' recommended shoe size marking (simplified).....	3
3.4 Table 3 — Children's recommended shoe size marking.....	3
4 Conversion tables	3
Bibliography	9

iTeh STANDARD PREVIEW
(standards.iteh.ai)

ISO/FDIS 19407

<https://standards.iteh.ai/catalog/standards/sist/ac8767eb-dc46-4cec-bd13-a041c0268a09/iso-fdis-19407>

Foreword

ISO (the International Organization for Standardization) is a worldwide federation of national standards bodies (ISO member bodies). The work of preparing International Standards is normally carried out through ISO technical committees. Each member body interested in a subject for which a technical committee has been established has the right to be represented on that committee. International organizations, governmental and non-governmental, in liaison with ISO, also take part in the work. ISO collaborates closely with the International Electrotechnical Commission (IEC) on all matters of electrotechnical standardization.

The procedures used to develop this document and those intended for its further maintenance are described in the ISO/IEC Directives, Part 1. In particular the different approval criteria needed for the different types of ISO documents should be noted. This document was drafted in accordance with the editorial rules of the ISO/IEC Directives, Part 2 (see www.iso.org/directives).

Attention is drawn to the possibility that some of the elements of this document may be the subject of patent rights. ISO shall not be held responsible for identifying any or all such patent rights. Details of any patent rights identified during the development of the document will be in the Introduction and/or on the ISO list of patent declarations received (see www.iso.org/patents).

Any trade name used in this document is information given for the convenience of users and does not constitute an endorsement.

For an explanation on the meaning of ISO specific terms and expressions related to conformity assessment, as well as information about ISO's adherence to the WTO principles in the Technical Barriers to Trade (TBT), see the following URL: [Foreword — Supplementary information](#).

The committee responsible for this document is ISO/TC 137, *Footwear sizing designations and marking systems*.

Users are encouraged to share their views on ISO/TS 19407:2015 and their priorities for changes to future editions. Click on the link below to take part in the online survey: [ISO/TS 19407 online survey](#)

Footwear — Sizing — Conversion of sizing systems

1 Scope

This standard comprises three shoe size conversion tables covering the major shoe sizing systems (Mondopoint, European and United Kingdom, as well as China, Japan, Korea and United States). The tables are based on measurement of foot length, this being the logical starting point for any shoe size marking system. The tables contain the following information:

[Table 1](#) — Adults' technical shoe size conversion;

[Table 2](#) — Adults' recommended shoe size marking (simplified);

[Table 3](#) — Children's size conversion.

Explanatory notes are given in [Clause 3](#).

NOTE It is acknowledged that, due to the different ways in which each system has been developed and interpreted over many years without being formalized and there is no exact solution to the problem of accurate shoe size conversions. [Tables 1](#) and [2](#) offer a good compromise solution which will, if adopted, benefit the consumer.

2 Normative references

The following documents, in whole or in part, are normatively referenced in this document and are indispensable for its application. For dated references, only the edition cited applies. For undated references, the latest edition of the referenced document (including any amendments) applies.

ISO 9407, *Footwear sizing — Mondopoint system of sizing and marking*

ISO 19408, *Footwear — Sizing — Vocabulary and terminology*

3 Explanatory notes

3.1 General

There are three main sizing systems (Mondopoint, European and UK). As there are fundamental differences between them, they have been aligned to a common denominator: foot length. Foot length is deemed to be the key reference point when fitting footwear. Customers' foot length can be readily measured and shoes marked with a designation that indicates the appropriate shoe size that will accommodate their foot length. Customers expect to buy the same size of footwear irrespective of the footwear type or style.

NOTE To check that size marking is correct requires a practical fit assessment of footwear whereby subjects having appropriate foot lengths for the marked size don the footwear and the available toe allowance is assessed for satisfactory fit. Some allowance for foot width may also have to be made. This standard, however, does not attempt to assess the overall fitting properties of footwear i.e. it does not cover width, volume, toe depth, etc.

3.2 [Table 1](#) — Adults' technical shoe size conversion

- a) The Mondopoint system is defined in ISO 9407 and is based on foot length. The size grading intervals used with Mondopoint are given in DIN 66074-2:1975 as 5 mm (Range 1) or 7,5 mm (Range 2), both starting at zero. In practice, 10 mm intervals are commonly referred to as whole sizes and 5 mm intervals as half sizes. Intervals of 7,5 mm are used mainly for specialized footwear. China, Japan

and Korea use the Mondopoint system for length designation; Japan sometimes expresses size in centimetres rather than millimetres.

NOTE 1 Some footwear is marked with a 'CM' or 'CMS' size marking; this usually indicates a Mondopoint size in centimetres rather than millimetres though sometimes appears to indicate last length.

- b) The European system (EUR) (previously known as Paris Points, French or Continental) is based on a size grading interval of 6,67 mm, starting at zero. This system may be interpreted as being based on last length or foot length depending on the country of origin, resulting in differences in shoe size markings (see Note 2).
- c) The United Kingdom system (UK) is based on a size grading interval of 8,47 mm, starting at 101,6 mm (4 inches or equivalent to 12 size grading intervals). The first 13 sizes are referred to as children's sizes; the scale then re-starts at size 1 for larger sizes. This system was originally developed with regard to shoe or last length but subsequently redefined in terms of foot length.
- d) The United States system (US) is based on a size grading interval of 8,47 mm, starting at 99,5 mm (3 $\frac{11}{12}$ inches). The first 13 sizes are referred to as children's sizes; the scale then re-starts at size 1 for larger sizes. In practice, however, the US system corresponds directly to the UK system but with the addition of an arbitrary off-set of one size difference for men's footwear and usually two sizes difference for women's footwear.

Table 1 gives precise conversion data utilizing mathematical relationships between the different scales based on an understanding of how the systems are generally implemented in practice.

A UK adult size is calculated from the foot length as:

$$\frac{l_f + (2 \times 8,47)}{8,47} - 25$$

where

l_f is foot length;

25 \equiv 12 sizes plus 13 children sizes, and 12 sizes \equiv 101,6 mm or 4 inches.

An EUR size is calculated from foot length as:

$$\frac{l_f + (2 \times 6,67)}{6,67}$$

In both cases the difference between foot length and shoe or last length is taken as being empirically equivalent to two sizes (two UK sizes or two EUR sizes respectively).

NOTE 2 An alternative approach to the European system, which is in use but not adopted here, is based on a 5 % difference between foot length and last length as opposed to a two grade interval difference. The two approaches give very similar size conversions to the Mondopoint and UK systems for sizes 38 to 46, but differ by approximately half a European size at the smallest and largest sizes.

Column 1 gives the exact foot length values for EUR and UK whole and half sizes, plus Mondopoint standard values (Ranges 1 and 2) where no EUR or UK foot length value lies within $\pm 0,5$ mm. Columns 6 and 7 are for information only and indicate the effective last lengths that might be associated with each foot length. The actual last length will usually be greater than the effective last length due to toe shape/fashion design (see ISO 19408).

NOTE 3 Some customers might be surprised to see the EUR/UK size conversions given here and believe that the EUR size markings should be increased by half a size against the UK scale. For example, Table 2 shows 4 UK \equiv 36,5 EUR and 8 UK \equiv 41,5 EUR, while footwear is often labelled 4 UK/37 EUR and 8 UK/42 EUR. However, Tables 1 and 2 are considered more technically correct.

3.3 Table 2 — Adults' recommended shoe size marking (simplified)

To simplify Table 1 for the practical requirement of shoe labelling, while retaining the highest degree of accuracy with respect to foot length, requires a knowledge of which system was used to manufacture and grade the footwear.

Table 2 therefore gives the most accurate size conversions possible based on each of the three main sizing systems (Mondopoint, EUR or UK). The size conversions can differ from the sizes given in Table 2 as per specific foot size data, target market and purchasers requirements. It should be noted however, that even in this table, approximate size conversions have had to be used because the fundamental difference in size grading interval means that exact size conversions cannot be given to whole or half sizes. It is suggested that shoe labels might also reflect this information, for example, by use of bold font to indicate the size grading system used to manufacture the footwear, with the converted sizes following in plain font:

Women's	Mondo	EUR	UK	US
	240	38	5,5	7,5

Men's	EUR	Mondo	UK	US
	41	260	7,5	8,5

NOTE As a general rule, it is desirable to mark a shoe size down slightly as oppose to up so that it will encourage wearers to try a slightly generous fitting shoe rather than slightly tight fitting shoe. This will tend to benefit foot comfort and health. However, in practice, the wearer will chose whichever size suits their personal preference.

3.4 Table 3 — Children's recommended shoe size marking

Shoe size and effective last length are based on foot length plus a toe allowance of 8 % of foot length.

The US system is based on the UK system but with the addition of an arbitrary offset of usually half a size difference for children's footwear.

4 Conversion tables

Table 1 — Adults' technical shoe size conversion

Foot length (mm) ^a	Mondopoint, China, Korea and Japan		EUR	UK	Effective last length (mm) ^{b c}	
	Range 1 (5 mm)	Range 2 (7,5 mm)	(6,67 mm) ^d	(8,47 mm) ^d	Min.	Max.
210,0	210					
211,7				2	219	231
213,4			34		220	232
215,0	215				222	234

NOTE See Clause 3 for further explanation.

^a Footwear is generally expected to accommodate a range of foot lengths equal to $l_f \pm \frac{i_{sg}}{2}$ where l_f is foot length and i_{sg} is size grading interval (see 3.2). Grade intervals are given in 3.2 a), b), c) and d).

^b Effective last length as defined in ISO 19408.

^c Specialized footwear might fall outside this range.

^d Size grading interval for whole sizes.

Table 1 (continued)

Foot length (mm) ^a	Mondopoint, China, Korea and Japan		EUR	UK	Effective last length (mm) ^{b,c}	
	Range 1 (5 mm)	Range 2 (7,5 mm)	(6,67 mm) ^d	(8,47 mm) ^d	Min.	Max.
215,9				2,5	223	237
216,8			34,5		224	236
217,5		217,5			225	237
220,1	220		35		227	239
220,2				3	227	239
223,4			35,5		230	242
224,4				3,5	231	243
225,0	225	225			232	244
226,8			36		234	246
228,7				4	236	248
230,1	230		36,5		237	249
232,5		232,5			240	252
232,9				4,5	240	252
233,5			37		240	252
235,0	235				242	254
236,8			37,5		244	256
237,1				5	244	256
240,1	240	240	38		247	259
241,4				5,5	248	260
243,5			38,5		250	262
245,0	245				252	264
245,6				6	253	265
246,8			39		254	266
247,5		247,5			255	267
249,8	250			6,5	257	269
250,1			39,5		257	269
253,5			40		260	272
254,1				7	261	273
255,0	255	255			262	274
256,8			40,5		264	276
258,3				7,5	265	276
260,1	260		41		267	279
262,5		262,5		8	270	282
263,5			41,5		270	282

NOTE See [Clause 3](#) for further explanation.

^a Footwear is generally expected to accommodate a range of foot lengths equal to $l_f \pm \frac{i_{sg}}{2}$ where l_f is foot length and i_{sg} is size grading interval (see [3.2](#)). Grade intervals are given in [3.2](#) a), b), c) and d).

^b Effective last length as defined in ISO 19408.

^c Specialized footwear might fall outside this range.

^d Size grading interval for whole sizes.

Table 1 (continued)

Foot length (mm) ^a	Mondopoint, China, Korea and Japan		EUR	UK	Effective last length (mm) ^{b c}	
	Range 1 (5 mm)	Range 2 (7,5 mm)	(6,67 mm) ^d	(8,47 mm) ^d	Min.	Max.
265,0	265				272	284
266,8			42	8,5	274	286
270,1	270	270	42,5		277	289
271,0				9	278	290
273,5			43		280	292
275,2	275			9,5	282	294
276,8			43,5		284	296
277,5		277,5			285	297
279,5				10	286	298
280,1	280		44		287	299
283,5			44,5		290	302
283,7				10,5	291	303
285,0	285	285			292	304
286,8			45		294	306
287,9				11	295	307
290,1	290		45,5		297	309
292,2		292,5		11,5	299	311
293,5			46		300	312
295,0	295				302	314
296,4				12	303	315
296,8			46,5		304	316
300,2	300	300	47		307	319
300,6				12,5	308	320
303,5			47,5		310	322
304,9	305			13	312	324
306,8			48		314	326
307,5		307,5			315	327
309,1				13,5	316	328
310,2	310		48,5		317	329
313,4				14	320	332
313,5			49		320	332
315,0	315	315			322	334
316,8			49,5		324	336
317,6				14,5	325	337

NOTE See [Clause 3](#) for further explanation.

^a Footwear is generally expected to accommodate a range of foot lengths equal to $l_f \pm \frac{i_{sg}}{2}$ where l_f is foot length and i_{sg} is size grading interval (see [3.2](#)). Grade intervals are given in [3.2](#) a), b), c) and d).

^b Effective last length as defined in ISO 19408.

^c Specialized footwear might fall outside this range.

^d Size grading interval for whole sizes.

Table 1 (continued)

Foot length (mm) ^a	Mondopoint, China, Korea and Japan		EUR	UK	Effective last length (mm) ^{b,c}	
	Range 1 (5 mm)	Range 2 (7,5 mm)	(6,67 mm) ^d	(8,47 mm) ^d	Min.	Max.
320,2	320		50		327	339
321,8				15	329	341

NOTE See [Clause 3](#) for further explanation.

^a Footwear is generally expected to accommodate a range of foot lengths equal to $l_f \pm \frac{i_{sg}}{2}$ where l_f is foot length and i_{sg} is size grading interval (see [3.2](#)). Grade intervals are given in [3.2](#) a), b), c) and d).

^b Effective last length as defined in ISO 19408.

^c Specialized footwear might fall outside this range.

^d Size grading interval for whole sizes.

Table 2 — Adults' recommended shoe size marking

Mondopoint grading				European grading					UK grading					
Mondo	EUR	UK	US	US	EUR	Mondo	UK	US	US	UK	Mondo	EUR	US	US
Men and women			Men	Women	Men and women			Men	Women	Men and women			Men	Women
215	34	2,5	3,5	4,5	34	215	2	3	4	2	210	34	3	4
220	35	3	4	5	34,5	215	2,5	3,5	4,5	2,5	215	34,5	3,5	4,5
225	35,5	3,5	4,5	5,5	35	220	3	4	5	3	220	35	4	5
230	36,5	4	5	6	35,5	225	3,5	4,5	5,5	3,5	225	35,5	4,5	5,5
235	37	4,5	5,5	6,5	36	225	4	5	6	4	230	36,5	5	6
240	38	5,5	6,5	7,5	36,5	230	4	5	6	4,5	235	37	5,5	6,5
245	38,5	6	7	8	37	235	4,5	5,5	6,5	5	235	37,5	6	7
250	39,5	6,5	7,5	8,5	37,5	235	5	6	7	5,5	240	38	6,5	7,5
255	40	7	8	9	38	240	5,5	6,5	7,5	6	245	39	7	8
260	41	7,5	8,5	9,5	38,5	245	5,5	6,5	7,5	6,5	250	39,5	7,5	8,5
265	41,5	8,5	9,5	10,5	39	245	6	7	8	7	255	40	8	9
270	42,5	9	10	11	39,5	250	6,5	7,5	8,5	7,5	260	40,5	8,5	9,5
275	43	9,5	10,5	11,5	40	255	7	8	9	8	260	41,5	9	10
280	44	10	11	12	40,5	255	7,5	8,5	9,5	8,5	265	42	9,5	10,5
285	44,5	10,5	11,5	12,5	41	260	7,5	8,5	9,5	9	270	42,5	10	11
290	45,5	11	12	13	41,5	265	8	9	10	9,5	275	43,5	10,5	11,5
295	46	12	13	14	42	265	8,5	9,5	10,5	10	280	44	11	12
300	47	12,5	13,5	14,5	42,5	270	9	10	11	10,5	285	44,5	11,5	12,5
305	47,5	13	14	15	43	275	9,5	10,5	11,5	11	290	45	12	13
310	48,5	13,5	14,5	15,5	43,5	275	9,5	10,5	11,5	11,5	290	46	12,5	13,5
315	49	14	15	16	44	280	10	11	12	12	295	46,5	13	14
320	50	15	16	17	44,5	285	10,5	11,5	12,5	12,5	300	47	13,5	14,5
					45	285	11	12	13	13	305	47,5	14	15
					45,5	290	11,5	12,5	13,5	13,5	310	48,5	14,5	15,5
					46	295	11,5	12,5	13,5	14	315	49	15	16
					46,5	295	12	13	14	14,5	320	49,5	15,5	16,5
					47	300	12,5	13,5	14,5	15	320	50	16	17
					47,5	305	13	14	15					
					48	305	13	14	15					