

ISO general purpose metric screw threads — Tolerances —

Part 3: Deviations for constructional screw threads

ICS 21.040.10

National foreword

This British Standard is the UK implementation of ISO 965-3:1998, incorporating corrigendum July 2009.

The start and finish of text introduced or altered by corrigendum is indicated in the text by tags. Text altered by ISO corrigendum July 2009 is indicated in the text by **AC1** ~~AC1~~.

The UK participation in its preparation was entrusted by Technical Committee FME/9, Fasteners, to Subcommittee FME/9/3, Product standards for fasteners.

A list of organizations represented on this subcommittee can be obtained on request to its secretary.

This publication does not purport to include all the necessary provisions of a contract. Users are responsible for its correct application.

Compliance with a British Standard cannot confer immunity from legal obligations.

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**ISO general purpose metric screw
threads — Tolerances —**

Part 3:
Deviations for constructional screw threads

*Filetages métriques ISO pour usages généraux — Tolérances —
Partie 3: Écarts pour filetages de construction*



Reference number
ISO 965-3:1998(E)

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Descriptors: Screw threads, ISO metric threads, dimensions, dimensional tolerances, dimensional deviations.

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.

Draft International Standards adopted by the technical committees are circulated to the member bodies for voting. Publication as an International Standard requires approval by at least 75 % of the member bodies casting a vote.

ISO 965-3 was prepared by Technical Committee ISO/TC 1, *Screw threads*, Subcommittee 2, *Tolerances*.

This third edition cancels and replaces the second edition (ISO 965-3:1980), which has been technically revised.

ISO 965 consists of the following parts, under the general title *ISO general purpose metric screw threads — Tolerances*

- *Part 1: Principles and basic data;*
- *Part 2: Limits of sizes for general purpose bolt and nut threads — Medium quality;*
- *Part 3: Deviations for constructional screw threads;*
- *Part 4: Limits of sizes for hot-dip galvanized external threads to mate with internal threads tapped with tolerance position H or G after galvanizing;*
- *Part 5: Limits of sizes for internal screw threads to mate with hot-dip galvanized external screw threads with maximum size of tolerance position h before galvanizing.*

1 Scope

This part of ISO 965 specifies deviations for pitch and crest diameters for ISO general purpose metric screw threads (M) conforming to ISO 261 having basic profile $\boxed{\text{AC}_1}$ in accordance with $\boxed{\text{AC}_1}$ ISO 68-1.

The deviations specified are derived from the fundamental deviations and tolerances specified in ISO 965-1.

2 Normative references

The following standards contain provisions which, through reference in this text, constitute provisions of this part of ISO 965. At the time of publication, the editions indicated were valid. All standards are subject to revision, and parties to agreements based on this part of ISO 965 are encouraged to investigate the possibility of applying the most recent editions of the standards indicated below. Members of IEC and ISO maintain registers of currently valid International Standards.

$\boxed{\text{AC}_1}$ *References deleted* $\boxed{\text{AC}_1}$

$\boxed{\text{AC}_1}$ ISO 5408, *Screw threads — Vocabulary* $\boxed{\text{AC}_1}$

3 Definitions

For the purpose of this part of ISO 965 the definitions given in ISO 5408 apply.

4 Deviations

For internal threads as well as external threads, the actual root contour shall not in any point transgress the basic profile.

The tabulated deviation values for the minor diameter of the external thread are calculated on the basis of $\frac{H}{6}$ truncation and may be used for stress

calculations $\left[\text{deviation} = - \left(|es| + \frac{H}{6} \right) \right]$.

For coated threads, the tolerances apply to the parts before coating, unless otherwise stated. After coating the actual thread profile shall not in any point transgress the maximum material limits for position H or h respectively.

NOTE These provisions are intended for thin coatings, for example those obtained by electroplating.

Table 1

ES, es = upper deviation; EI, ei = lower deviation

Basic major diameter		Pitch	Internal thread				External thread							
over	up to		Tolerance class	Pitch diameter		Minor diameter		Tolerance class	Pitch diameter		Major diameter		Minor diameter	
				ES	EI	ES	EI		es	ei	es	ei		
mm	mm		mm	μm	μm	μm	μm	μm	μm	μm	μm	μm	Deviation $-\left(es + \frac{H}{6}\right)$ for stress calculation	
0,99	1,4	0,2	—	—	—	—	3h4h	0	-24	0	-36	-29		
			4H	+ 40	0	+ 38	0	4h	0	-30	0	-36	-29	
			5G	—	—	—	—	5g6g	-17	-55	-17	-73	-46	
			5H	—	—	—	—	5h4h	0	-38	0	-36	-29	
			—	—	—	—	—	5h6h	0	-38	0	-56	-29	
			—	—	—	—	—	6e	—	—	—	—	—	
			—	—	—	—	—	6f	—	—	—	—	—	
			6G	—	—	—	—	6g	-17	-65	-17	-73	-46	
			6H	—	—	—	—	6h	0	-48	0	-56	-29	
			—	—	—	—	—	7e6e	—	—	—	—	—	
		7G	—	—	—	—	7g6g	—	—	—	—	—		
		7H	—	—	—	—	7h6h	—	—	—	—	—		
		8G	—	—	—	—	8g	—	—	—	—	—		
		8H	—	—	—	—	9g8g	—	—	—	—	—		
		0,25	—	—	—	—	—	3h4h	0	-26	0	-42	-36	
			4H	+ 45	0	+ 45	0	4h	0	-34	0	-42	-36	
			5G	+ 74	+ 18	+ 74	+ 18	5g6g	-18	-60	-18	-85	-54	
			5H	+ 56	0	+ 56	0	5h4h	0	-42	0	-42	-36	
			—	—	—	—	—	5h6h	0	-42	0	-67	-36	
			—	—	—	—	—	6e	—	—	—	—	—	
			—	—	—	—	—	6f	—	—	—	—	—	
			6G	—	—	—	—	6g	-18	-71	-18	-85	-54	
			6H	—	—	—	—	6h	0	-53	0	-67	-36	
			—	—	—	—	—	7e6e	—	—	—	—	—	
		7G	—	—	—	—	7g6g	—	—	—	—	—		
		7H	—	—	—	—	7h6h	—	—	—	—	—		
		8G	—	—	—	—	8g	—	—	—	—	—		
		8H	—	—	—	—	9g8g	—	—	—	—	—		
		0,3	—	—	—	—	—	3h4h	0	-28	0	-48	-43	
			4H	+ 48	0	+ 53	0	4h	0	-36	0	-48	-43	
5G	+ 78		+ 18	+ 85	+ 18	5g6g	-18	-63	-18	-93	-61			
5H	+ 60		0	+ 67	0	5h4h	0	-45	0	-48	-43			
—	—		—	—	—	5h6h	0	-45	0	-75	-43			
—	—		—	—	—	6e	—	—	—	—	—			
—	—		—	—	—	6f	—	—	—	—	—			
6G	+ 93		+ 18	+ 103	+ 18	6g	-18	-74	-18	-93	-61			
6H	+ 75		0	+ 85	0	6h	0	-56	0	-75	-43			
—	—		—	—	—	7e6e	—	—	—	—	—			
7G	—	—	—	—	7g6g	—	—	—	—	—				
7H	—	—	—	—	7h6h	—	—	—	—	—				
8G	—	—	—	—	8g	—	—	—	—	—				
8H	—	—	—	—	9g8g	—	—	—	—	—				
1,4	2,8	0,2	—	—	—	—	3h4h	0	-25	0	-36	-29		
			4H	+ 42	0	+ 38	0	4h	0	-32	0	-36	-29	
			5G	—	—	—	—	5g6g	-17	-57	-17	-73	-46	
			5H	—	—	—	—	5h4h	0	-40	0	-36	-29	
			—	—	—	—	—	5h6h	0	-40	0	-56	-29	

Table 1

ES, es = upper deviation; *EI, ei* = lower deviation

Basic major diameter		Pitch mm	Internal thread				External thread						
over mm	up to mm		Tolerance class	Pitch diameter		Minor diameter		Tolerance class	Pitch diameter		Major diameter		Minor diameter
				<i>ES</i>	<i>EI</i>	<i>ES</i>	<i>EI</i>		<i>es</i>	<i>ei</i>	<i>es</i>	<i>ei</i>	Deviation $-\left(es + \frac{H}{6}\right)$ for stress calculation
			μm	μm	μm	μm	μm	μm	μm	μm	μm	μm	μm
1,4	2,8	0,2	—	—	—	—	6e	—	—	—	—	—	—
			—	—	—	—	6f	-32	-82	-32	-88	-61	
			6G	—	—	—	6g	-17	-67	-17	-73	-46	
			6H	—	—	—	6h	0	-50	0	-56	-29	
			—	—	—	—	7e6e	—	—	—	—	—	
			7G	—	—	—	7g6g	—	—	—	—	—	
			7H	—	—	—	7h6h	—	—	—	—	—	
			8G	—	—	—	8g	—	—	—	—	—	
			8H	—	—	—	9g8g	—	—	—	—	—	
		0,25	—	—	—	—	—	3h4h	0	-28	0	-42	-36
			4H	+48	0	+45	0	4h	0	-36	0	-42	-36
			5G	+78	+18	+74	+18	5g6g	-18	-63	-18	-85	-54
			5H	+60	0	+56	0	5h4h	0	-45	0	-42	-36
			—	—	—	—	5h6h	0	-45	0	-67	-36	
			—	—	—	—	6e	—	—	—	—	—	
			—	—	—	—	6f	-33	-89	-33	-100	-69	
			6G	—	—	—	6g	-18	-74	-18	-85	-54	
			6H	—	—	—	6h	0	-56	0	-67	-36	
			—	—	—	—	7e6e	—	—	—	—	—	
			7G	—	—	—	7g6g	—	—	—	—	—	
			7H	—	—	—	7h6h	—	—	—	—	—	
			8G	—	—	—	8g	—	—	—	—	—	
			8H	—	—	—	9g8g	—	—	—	—	—	
			0,35	—	—	—	—	—	3h4h	0	-32	0	-53
		4H		+53	0	+63	0	4h	0	-40	0	-53	-51
		5G		+86	+19	+99	+19	5g6g	-19	-69	-19	-104	-70
		5H		+67	0	+80	0	5h4h	0	-50	0	-53	-51
		—		—	—	—	5h6h	0	-50	0	-85	-51	
		—		—	—	—	6e	—	—	—	—	—	
		—		—	—	—	6f	-34	-97	-34	-119	-85	
		6G		+104	+19	+119	+19	6g	-19	-82	-19	-104	-70
		6H		+85	0	+100	0	6h	0	-63	0	-85	-51
		—		—	—	—	7e6e	—	—	—	—	—	
		7G		—	—	—	7g6g	-19	-99	-19	-104	-70	
		7H		—	—	—	7h6h	0	-80	0	-85	-51	
		8G		—	—	—	8g	—	—	—	—	—	
8H	—	—		—	9g8g	—	—	—	—	—			
0,4	—	—		—	—	—	3h4h	0	-34	0	-60	-58	
	4H	+56	0	+71	0	4h	0	-42	0	-60	-58		
	5G	+90	+19	+109	+19	5g6g	-19	-72	-19	-114	-77		
	5H	+71	0	+90	0	5h4h	0	-53	0	-60	-58		
	—	—	—	—	5h6h	0	-53	0	-95	-58			
	—	—	—	—	6e	—	—	—	—	—			
	—	—	—	—	6f	-34	-101	-34	-129	-92			
	6G	+109	+19	+131	+19	6g	-19	-86	-19	-114	-77		
	6H	+90	0	+112	0	6h	0	-67	0	-95	-58		
	—	—	—	—	7e6e	—	—	—	—	—			

Table 1

ES, es = upper deviation; EI, ei = lower deviation

Basic major diameter		Pitch mm	Internal thread				External thread						
over mm	up to mm		Tolerance class	Pitch diameter		Minor diameter		Tolerance class	Pitch diameter		Major diameter		Minor diameter Deviation $-\left(es + \frac{H}{6}\right)$ for stress calculation µm
				ES	EI	ES	EI		es	ei	es	ei	
			µm		µm		µm		µm		µm		
1,4	2,8	0,4	7G	—	—	—	—	7g6g	-19	-104	-19	-114	-77
			7H	—	—	—	—	7h6h	0	-85	0	-95	-58
			8G	—	—	—	—	8g	—	—	—	—	—
			8H	—	—	—	—	9g8g	—	—	—	—	—
		0,45	—	—	—	—	—	3h4h	0	-36	0	-63	-65
			4H	+60	0	+80	0	4h	0	-45	0	-63	-65
			5G	+95	+20	+120	+20	5g6g	-20	-76	-20	-120	-85
			5H	+75	0	+100	0	5h4h	0	-56	0	-63	-65
			—	—	—	—	—	5h6h	0	-56	0	-100	-65
			—	—	—	—	—	6e	—	—	—	—	—
			—	—	—	—	—	6f	-35	-106	-35	-135	-100
			6G	+115	+20	+145	+20	6g	-20	-91	-20	-120	-85
			6H	+95	0	+125	0	6h	0	-71	0	-100	-65
			—	—	—	—	—	7e6e	—	—	—	—	—
			7G	—	—	—	—	7g6g	-20	-110	-20	-120	-85
			7H	—	—	—	—	7h6h	0	-90	0	-100	-65
8G	—	—	—	—	8g	—	—	—	—	—			
8H	—	—	—	—	9g8g	—	—	—	—	—			
2,8	5,6	0,35	—	—	—	—	3h4h	0	-34	0	-53	-51	
			4H	+56	0	+63	0	4h	0	-42	0	-53	-51
			5G	+90	+19	+99	+19	5g6g	-19	-72	-19	-104	-70
			5H	+71	0	+80	0	5h4h	0	-53	0	-53	-51
			—	—	—	—	—	5h6h	0	-53	0	-85	-51
			—	—	—	—	—	6e	—	—	—	—	—
			—	—	—	—	—	6f	-34	-101	-34	-119	-85
			6G	+109	+19	+119	+19	6g	-19	-86	-19	-104	-70
			6H	+90	0	+100	0	6h	0	-67	0	-85	-51
			—	—	—	—	—	7e6e	—	—	—	—	—
			7G	—	—	—	—	7g6g	-19	-104	-19	-104	-70
			7H	—	—	—	—	7h6h	0	-85	0	-85	-51
		8G	—	—	—	—	8g	—	—	—	—	—	
		8H	—	—	—	—	9g8g	—	—	—	—	—	
		0,5	—	—	—	—	—	3h4h	0	-38	0	-67	-72
			4H	+63	0	+90	0	4h	0	-48	0	-67	-72
			5G	+100	+20	+132	+20	5g6g	-20	-80	-20	-126	-92
			5H	+80	0	+112	0	5h4h	0	-60	0	-67	-72
			—	—	—	—	—	5h6h	0	-60	0	-106	-72
			—	—	—	—	—	6e	-50	-125	-50	-156	-122
—	—		—	—	—	6f	-36	-111	-36	-142	-108		
6G	+120		+20	+160	+20	6g	-20	-95	-20	-126	-92		
6H	+100	0	+140	0	6h	0	-75	0	-106	-72			
—	—	—	—	—	7e6e	-50	-145	-50	-156	-122			
7G	+145	+20	+200	+20	7g6g	-20	-115	-20	-126	-92			
7H	+125	0	+180	0	7h6h	0	-95	0	-106	-72			
8G	—	—	—	—	8g	—	—	—	—	—			
8H	—	—	—	—	9g8g	—	—	—	—	—			

Table 1

ES, es = upper deviation; *EI, ei* = lower deviation

Basic major diameter		Pitch mm	Internal thread				External thread						
over	up to		Tolerance class	Pitch diameter		Minor diameter		Tolerance class	Pitch diameter		Major diameter		Minor diameter
				<i>ES</i>	<i>EI</i>	<i>ES</i>	<i>EI</i>		<i>es</i>	<i>ei</i>	<i>es</i>	<i>ei</i>	
mm	mm		μm	μm	μm	μm	μm	μm	μm	μm	μm	Deviation $-\left(es + \frac{H}{6}\right)$ for stress calculation μm	
2,8	5,6	0,6	—	—	—	—	3h4h	0	-42	0	-80	-87	
			4h	+ 71	0	+ 100	0	4h	0	-53	0	-80	-87
			5G	+ 111	+ 21	+ 146	+ 21	5g6g	-21	-88	-21	-146	-108
			5H	+ 90	0	+ 125	0	5h4h	0	-67	0	-80	-87
			—	—	—	—	—	5h6h	0	-67	0	-125	-87
			—	—	—	—	—	6e	-53	-138	-53	-178	-140
			—	—	—	—	—	6f	-36	-121	-36	-161	-123
			6G	+ 133	+ 21	+ 181	+ 21	6g	-21	-106	-21	-146	-108
			6H	+ 112	0	+ 160	0	6h	0	-85	0	-125	-87
			—	—	—	—	—	7e6e	-53	-159	-53	-178	-140
			7G	+ 161	+ 21	+ 221	+ 21	7g6g	-21	-127	-21	-146	-108
			7H	+ 140	0	+ 200	0	7h6h	0	-106	0	-125	-87
		8G	—	—	—	—	8g	—	—	—	—	—	
		8H	—	—	—	—	9g8g	—	—	—	—	—	
		0,7	—	—	—	—	—	3h4h	0	-45	0	-90	-101
			4H	+ 75	0	+ 112	0	4h	0	-56	0	-90	-101
			5G	+ 117	+ 22	+ 162	+ 22	5g6g	-22	-93	-22	-162	-123
			5H	+ 95	0	+ 140	0	5h4h	0	-71	0	-90	-101
			—	—	—	—	—	5h6h	0	-71	0	-140	-101
			—	—	—	—	—	6e	-56	-146	-56	-196	-157
			—	—	—	—	—	6f	-38	-128	-38	-178	-139
			6G	+ 140	+ 22	+ 202	+ 22	6g	-22	-112	-22	-162	-123
			6H	+ 118	0	+ 180	0	6h	0	-90	0	-140	-101
			—	—	—	—	—	7e6e	-56	-168	-56	-196	-157
			7G	+ 172	+ 22	+ 246	+ 22	7g6g	-22	-134	-22	-162	-123
			7H	+ 150	0	+ 224	0	7h6h	0	-112	0	-140	-101
		8G	—	—	—	—	8g	—	—	—	—	—	
		8H	—	—	—	—	9g8g	—	—	—	—	—	
		0,75	—	—	—	—	—	3h4h	0	-45	0	-90	-108
			4H	+ 75	0	+ 118	0	4h	0	-56	0	-90	-108
			5G	+ 117	+ 22	+ 172	+ 22	5g6g	-22	-93	-22	-162	-130
			5H	+ 95	0	+ 150	0	5h4h	0	-71	0	-90	-108
			—	—	—	—	—	5h6h	0	-71	0	-140	-108
			—	—	—	—	—	6e	-56	-146	-56	-196	-164
			—	—	—	—	—	6f	-38	-128	-38	-178	-146
			6G	+ 140	+ 22	+ 212	+ 22	6g	-22	-112	-22	-162	-130
6H	+ 118		0	+ 190	0	6h	0	-90	0	-140	-108		
—	—		—	—	—	7e6e	-56	-168	-56	-196	-164		
7G	+ 172		+ 22	+ 258	+ 22	7g6g	-22	-134	-22	-162	-130		
7H	+ 150		0	+ 236	0	7h6h	0	-112	0	-140	-108		
8G	—	—	—	—	8g	—	—	—	—	—			
8H	—	—	—	—	9g8g	—	—	—	—	—			
0,8	—	—	—	—	—	3h4h	0	-48	0	-95	-115		
	4H	+ 80	0	+ 125	0	4h	0	-60	0	-95	-115		
	5G	+ 124	+ 24	+ 184	+ 24	5g6g	-24	-99	-24	-174	-140		
	5H	+ 100	0	+ 160	0	5h4h	0	-75	0	-95	-115		
	—	—	—	—	—	5h6h	0	-75	0	-150	-115		

Table 1

ES, es = upper deviation; EI, ei = lower deviation

Basic major diameter		Pitch mm	Internal thread				External thread								
over mm	up to mm		Tolerance class	Pitch diameter		Minor diameter		Tolerance class	Pitch diameter		Major diameter		Minor diameter Deviation $-\left(es + \frac{H}{6}\right)$ for stress calculation µm		
				ES	EI	ES	EI		es	ei	es	ei			
				µm	µm	µm	µm		µm	µm	µm	µm			
2,8	5,6	0,8	—	—	—	—	6e	-60	-155	-60	-210	-176			
			—	—	—	—	6f	-38	-133	-38	-188	-153			
			6G	+149	+24	+224	+24	6g	-24	-119	-24	-174	-140		
			6H	+125	0	+200	0	6h	0	-95	0	-150	-115		
			—	—	—	—	—	7e6e	-60	-178	-60	-210	-176		
			7G	+184	+24	+274	+24	7g6g	-24	-142	-24	-174	-140		
			7H	+160	0	+250	0	7h6h	0	-118	0	-150	-115		
			8G	+224	+24	+339	+24	8g	-24	-174	-24	-260	-140		
			8H	+200	0	+315	0	9g8g	-24	-214	-24	-260	-140		
			5,6	11,2	0,75	—	—	—	—	3h4h	0	-50	0	-90	-108
4H	+85	0				+118	0	4h	0	-63	0	-90	-108		
5G	+128	+22				+172	+22	5g6g	-22	-102	-22	-162	-130		
5H	+106	0				+150	0	5h4h	0	-80	0	-90	-108		
—	—	—				—	—	5h6h	0	-80	0	-140	-108		
—	—	—				—	—	6e	-56	-156	-56	-196	-164		
—	—	—				—	—	6f	-38	-138	-38	-178	-146		
6G	+154	+22				+212	+22	6g	-22	-122	-22	-162	-130		
6H	+132	0				+190	0	6h	0	-100	0	-140	-108		
—	—	—				—	—	7e6e	-56	-181	-56	-196	-164		
7G	+192	+22			+258	+22	7g6g	-22	-147	-22	-162	-130			
7H	+170	0			+236	0	7h6h	0	-125	0	-140	-108			
8G	—	—			—	—	8g	—	—	—	—	—			
8H	—	—			—	—	9g8g	—	—	—	—	—			
1	—	—			—	—	—	—	3h4h	0	-56	0	-112	-144	
					4H	+95	0	+150	0	4h	0	-71	0	-112	-144
					5G	+144	+26	+216	+26	5g6g	-26	-116	-26	-206	-170
					5H	+118	0	+190	0	5h4h	0	-90	0	-112	-144
					—	—	—	—	—	5h6h	0	-90	0	-180	-144
					—	—	—	—	—	6e	-60	-172	-60	-240	-204
					—	—	—	—	—	6f	-40	-152	-40	-220	-184
					6G	+176	+26	+262	+26	6g	-26	-138	-26	-206	-170
					6H	+150	0	+236	0	6h	0	-112	0	-180	-144
					—	—	—	—	—	7e6e	-60	-200	-60	-240	-204
7G	+216	+26			+326	+26	7g6g	-26	-166	-26	-206	-170			
7H	+190	0			+300	0	7h6h	0	-140	0	-180	-144			
8G	+262	+26			+401	+26	8g	-26	-206	-26	-306	-170			
8H	+236	0			+375	0	9g8g	-26	-250	-26	-306	-170			
1,25	—	—			—	—	—	—	3h4h	0	-60	0	-132	-180	
					4H	+100	0	+170	0	4h	0	-75	0	-132	-180
			5G	+153	+28	+240	+28	5g6g	-28	-123	-28	-240	-208		
			5H	+125	0	+212	0	5h4h	0	-95	0	-132	-180		
			—	—	—	—	—	5h6h	0	-95	0	-212	-180		
			—	—	—	—	—	6e	-63	-181	-63	-275	-243		
			—	—	—	—	—	6f	-42	-160	-42	-254	-222		
			6G	+188	+28	+293	+28	6g	-28	-146	-28	-240	-208		
			6H	+160	0	+265	0	6h	0	-118	0	-212	-180		

Table 1

ES, es = upper deviation; *EI, ei* = lower deviation

Basic major diameter		Pitch mm	Internal thread					External thread					
over	up to		Tolerance class	Pitch diameter		Minor diameter		Tolerance class	Pitch diameter		Major diameter		Minor diameter
				<i>ES</i>	<i>EI</i>	<i>ES</i>	<i>EI</i>		<i>es</i>	<i>ei</i>	<i>es</i>	<i>ei</i>	Deviation $-\left(es + \frac{H}{6}\right)$ for stress calculation
mm	mm		μm	μm	μm	μm	μm	μm	μm	μm	μm	μm	
5,6	11,2	1,25	—	—	—	—	7e6e	-63	-213	-63	-275	-243	
			7G	+228	+28	+363	+28	7g6g	-28	-178	-28	-240	-208
			7H	+200	0	+335	0	7h6h	0	-150	0	-212	-180
			8G	+278	+28	+453	+28	8g	-28	-218	-28	-363	-208
		8H	+250	0	+425	0	9g8g	-28	-264	-28	-363	-208	
		1,5	—	—	—	—	3h4h	0	-67	0	-150	-217	
			4H	+112	0	+190	0	4h	0	-85	0	-150	-217
			5G	+172	+32	+268	+32	5g6g	-32	-138	-32	-268	-249
	5H		+140	0	+236	0	5h4h	0	-106	0	-150	-217	
	—		—	—	—	5h6h	0	-106	0	-236	-217		
	—		—	—	—	6e	-67	-199	-67	-303	-284		
	—		—	—	—	6f	-45	-177	-45	-281	-262		
	6G		+212	+32	+332	+32	6g	-32	-164	-32	-268	-249	
	6H	+180	0	+300	0	6h	0	-132	0	-236	-217		
	—	—	—	—	7e6e	-67	-237	-67	-303	-284			
	7G	+256	+32	+407	+32	7g6g	-32	-202	-32	-268	-249		
7H	+224	0	+375	0	7h6h	0	-170	0	-236	-217			
8G	+312	+32	+507	+32	8g	-32	-244	-32	-407	-249			
8H	+280	0	+475	0	9g8g	-32	-297	-32	-407	-249			
11,2	22,4	1	—	—	—	—	3h4h	0	-60	0	-112	-144	
			4H	+100	0	+150	0	4h	0	-75	0	-112	-144
			5G	+151	+26	+216	+26	5g6g	-26	-121	-26	-206	-170
			5H	+125	0	+190	0	5h4h	0	-95	0	-112	-144
			—	—	—	—	5h6h	0	-95	0	-180	-144	
			—	—	—	—	6e	-60	-178	-60	-240	-204	
			—	—	—	—	6f	-40	-158	-40	-220	-184	
			6G	+186	+26	+262	+26	6g	-26	-144	-26	-206	-170
			6H	+160	0	+236	0	6h	0	-118	0	-180	-144
			—	—	—	—	7e6e	-60	-210	-60	-240	-204	
	7G	+226	+26	+326	+26	7g6g	-26	-176	-26	-206	-170		
	7H	+200	0	+300	0	7h6h	0	-150	0	-180	-144		
	8G	+276	+26	+401	+26	8g	-26	-216	-26	-306	-170		
	8H	+250	0	+375	0	9g8g	-26	-262	-26	-306	-170		
	1,25	—	—	—	—	3h4h	0	-67	0	-132	-180		
		4H	+112	0	+170	0	4h	0	-85	0	-132	-180	
		5G	+168	+28	+240	+28	5g6g	-28	-134	-28	-240	-208	
		5H	+140	0	+212	0	5h4h	0	-106	0	-132	-180	
—		—	—	—	5h6h	0	-106	0	-212	-180			
—		—	—	—	6e	-63	-195	-63	-275	-243			
—		—	—	—	6f	-42	-174	-42	-254	-222			
6G		+208	+28	+293	+28	6g	-28	-160	-28	-240	-208		
6H	+180	0	+265	0	6h	0	-132	0	-212	-180			
—	—	—	—	7e6e	-63	-233	-63	-275	-243				
7G	+252	+28	+363	+28	7g6g	-28	-198	-28	-240	-208			
7H	+224	0	+335	0	7h6h	0	-170	0	-212	-180			
8G	+308	+28	+453	+28	8g	-28	-240	-28	-363	-208			

Table 1

ES, es = upper deviation; EI, ei = lower deviation

Basic major diameter		Pitch	Internal thread				External thread						
over	up to		Tolerance class	Pitch diameter		Minor diameter		Tolerance class	Pitch diameter		Major diameter		Minor diameter
				ES	EI	ES	EI		es	ei	es	ei	
				μm	μm	μm	μm		μm	μm	μm	μm	
mm	mm	mm											
11,2	22,4	1,25	8H	+ 280	0	+ 425	0	9g8g	- 28	- 293	- 28	- 363	- 208
		1,5	—	—	—	—	3h4h	0	- 71	0	- 150	- 217	
			4H	+ 118	0	+ 190	0	4h	0	- 90	0	- 150	- 217
			5G	+ 182	+ 32	+ 268	+ 32	5g6g	- 32	- 144	- 32	- 268	- 249
			5H	+ 150	0	+ 236	0	5h4h	0	- 112	0	- 150	- 217
			—	—	—	—	5h6h	0	- 112	0	- 236	- 217	
			—	—	—	—	6e	- 67	- 207	- 67	- 303	- 284	
			—	—	—	—	6f	- 45	- 185	- 45	- 281	- 262	
			6G	+ 222	+ 32	+ 332	+ 32	6g	- 32	- 172	- 32	- 268	- 249
			6H	+ 190	0	+ 300	0	6h	0	- 140	0	- 236	- 217
			—	—	—	—	7e6e	- 67	- 247	- 67	- 303	- 284	
			7G	+ 268	+ 32	+ 407	+ 32	7g6g	- 32	- 212	- 32	- 268	- 249
			7H	+ 236	0	+ 375	0	7h6h	0	- 180	0	- 236	- 217
		8G	+ 332	+ 32	+ 507	+ 32	8g	- 32	- 256	- 32	- 407	- 249	
		8H	+ 300	0	+ 475	0	9g8g	- 32	- 312	- 32	- 407	- 249	
		1,75	—	—	—	—	—	3h4h	0	- 75	0	- 170	- 253
			4H	+ 125	0	+ 212	0	4h	0	- 95	0	- 170	- 253
			5G	+ 194	+ 34	+ 299	+ 34	5g6g	- 34	- 152	- 34	- 299	- 287
			5H	+ 160	0	+ 265	0	5h4h	0	- 118	0	- 170	- 253
			—	—	—	—	5h6h	0	- 118	0	- 265	- 253	
			—	—	—	—	6e	- 71	- 221	- 71	- 336	- 324	
			—	—	—	—	6f	- 48	- 198	- 48	- 313	- 301	
			6G	+ 234	+ 34	+ 369	+ 34	6g	- 34	- 184	- 34	- 299	- 287
			6H	+ 200	0	+ 335	0	6h	0	- 150	0	- 265	- 253
			—	—	—	—	7e6e	- 71	- 261	- 71	- 336	- 324	
			7G	+ 284	+ 34	+ 459	+ 34	7g6g	- 34	- 224	- 34	- 299	- 287
			7H	+ 250	0	+ 425	0	7h6h	0	- 190	0	- 265	- 253
		8G	+ 349	+ 34	+ 564	+ 34	8g	- 34	- 270	- 34	- 459	- 287	
		8H	+ 315	0	+ 530	0	9g8g	- 34	- 334	- 34	- 459	- 287	
		2	—	—	—	—	—	3h4h	0	- 80	0	- 180	- 289
4H	+ 132		0	+ 236	0	4h	0	- 100	0	- 180	- 289		
5G	+ 208		+ 38	+ 338	+ 38	5g6g	- 38	- 163	- 38	- 318	- 327		
5H	+ 170		0	+ 300	0	5h4h	0	- 125	0	- 180	- 289		
—	—		—	—	5h6h	0	- 125	0	- 280	- 289			
—	—		—	—	6e	- 71	- 231	- 71	- 351	- 360			
—	—		—	—	6f	- 52	- 212	- 52	- 332	- 341			
6G	+ 250		+ 38	+ 413	+ 38	6g	- 38	- 198	- 38	- 318	- 327		
6H	+ 212		0	+ 375	0	6h	0	- 160	0	- 280	- 289		
—	—		—	—	7e6e	- 71	- 271	- 71	- 351	- 360			
7G	+ 303		+ 38	+ 513	+ 38	7g6g	- 38	- 238	- 38	- 318	- 327		
7H	+ 265		0	+ 475	0	7h6h	0	- 200	0	- 280	- 289		
8G	+ 373	+ 38	+ 638	+ 38	8g	- 38	- 288	- 38	- 488	- 327			

Table 1

ES, es = upper deviation; *EI, ei* = lower deviation

Basic major diameter		Pitch mm	Internal thread					External thread					
over mm	up to mm		Tolerance class	Pitch diameter		Minor diameter		Tolerance class	Pitch diameter		Major diameter		Minor diameter Deviation $-\left(es + \frac{H}{6}\right)$ for stress calculation µm
				<i>ES</i>	<i>EI</i>	<i>ES</i>	<i>EI</i>		<i>es</i>	<i>ei</i>	<i>es</i>	<i>ei</i>	
				µm	µm	µm	µm		µm	µm	µm	µm	
11,2	22,4	2	8H	+ 335	0	+ 600	0	9g8g	- 38	- 353	- 38	- 488	- 327
			2,5	—	—	—	—	3h4h	0	- 85	0	- 212	- 361
		4H		+ 140	0	+ 280	0	4h	0	- 106	0	- 212	- 361
		5G		+ 222	+ 42	+ 397	+ 42	5g6g	- 42	- 174	- 42	- 377	- 403
		5H		+ 180	0	+ 355	0	5h4h	0	- 132	0	- 212	- 361
		—		—	—	—	5h6h	0	- 132	0	- 335	- 361	
		—		—	—	—	6e	- 80	- 250	- 80	- 415	- 441	
		—		—	—	—	6f	- 58	- 228	- 58	- 393	- 419	
		6G		+ 266	+ 42	+ 492	+ 42	6g	- 42	- 212	- 42	- 377	- 403
		6H		+ 224	0	+ 450	0	6h	0	- 170	0	- 335	- 361
		—		—	—	—	7e6e	- 80	- 292	- 80	- 415	- 441	
		7G		+ 322	+ 42	+ 602	+ 42	7g6g	- 42	- 254	- 42	- 377	- 403
		7H		+ 280	0	+ 560	0	7h6h	0	- 212	0	- 335	- 361
		8G	+ 397	+ 42	+ 752	+ 42	8g	- 42	- 307	- 42	- 572	- 403	
8H	+ 355	0	+ 710	0	9g8g	- 42	- 377	- 42	- 572	- 403			
22,4	45	1	—	—	—	—	3h4h	0	- 63	0	- 112	- 144	
			4H	+ 106	0	+ 150	0	4h	0	- 80	0	- 112	- 144
			5G	+ 158	+ 26	+ 216	+ 26	5g6g	- 26	- 126	- 26	- 206	- 170
			5H	+ 132	0	+ 190	0	5h4h	0	- 100	0	- 112	- 144
			—	—	—	—	5h6h	0	- 100	0	- 180	- 144	
			—	—	—	—	6e	- 60	- 185	- 60	- 240	- 204	
			—	—	—	—	6f	- 40	- 165	- 40	- 220	- 184	
			6G	+ 196	+ 26	+ 262	+ 26	6g	- 26	- 151	- 26	- 206	- 170
			6H	+ 170	0	+ 236	0	6h	0	- 125	0	- 180	- 144
			—	—	—	—	7e6e	- 60	- 220	- 60	- 240	- 204	
			7G	+ 238	+ 26	+ 326	+ 26	7g6g	- 26	- 186	- 26	- 206	- 170
			7H	+ 212	0	+ 300	0	7h6h	0	- 160	0	- 180	- 144
			8G	—	—	—	—	8g	- 26	- 226	- 26	- 306	- 170
			8H	—	—	—	—	9g8g	- 26	- 276	- 26	- 306	- 170
		1,5	—	—	—	—	3h4h	0	- 75	0	- 150	- 217	
			4H	+ 125	0	+ 190	0	4h	0	- 95	0	- 150	- 217
			5G	+ 192	+ 32	+ 268	+ 32	5g6g	- 32	- 150	- 32	- 268	- 249
			5H	+ 160	0	+ 236	0	5h4h	0	- 118	0	- 150	- 217
			—	—	—	—	5h6h	0	- 118	0	- 236	- 217	
			—	—	—	—	6e	- 67	- 217	- 67	- 303	- 284	
			—	—	—	—	6f	- 45	- 195	- 45	- 281	- 262	
			6G	+ 232	+ 32	+ 332	+ 32	6g	- 32	- 182	- 32	- 268	- 249
			6H	+ 200	0	+ 300	0	6h	0	- 150	0	- 236	- 217
			—	—	—	—	7e6e	- 67	- 257	- 67	- 303	- 284	
			7G	+ 282	+ 32	+ 407	+ 32	7g6g	- 32	- 222	- 32	- 268	- 249
			7H	+ 250	0	+ 375	0	7h6h	0	- 190	0	- 236	- 217
			8G	+ 347	+ 32	+ 507	+ 32	8g	- 32	- 268	- 32	- 407	- 249
			8H	+ 315	0	+ 475	0	9g8g	- 32	- 332	- 32	- 407	- 249
2	—	—	—	—	3h4h	0	- 85	0	- 180	- 289			
	4H	+ 140	0	+ 236	0	4h	0	- 106	0	- 180	- 289		
	5G	+ 218	+ 38	+ 338	+ 38	5g6g	- 38	- 170	- 38	- 318	- 327		

Table 1

ES, es = upper deviation; EI, ei = lower deviation

Basic major diameter		Pitch mm	Internal thread					External thread							
over mm	up to mm		Tolerance class	Pitch diameter		Minor diameter		Tolerance class	Pitch diameter		Major diameter		Minor diameter Deviation $-\left(es + \frac{H}{6}\right)$ for stress calculation µm		
				ES	EI	ES	EI		es	ei	es	ei			
				µm	µm	µm	µm		µm	µm	µm	µm			
22,4	45	2	5H	+ 180	0	+ 300	0	5h4h	0	- 132	0	- 180	- 289		
			—	—	—	—	—	—	—	—	—	—	—	- 289	
			—	—	—	—	—	—	—	—	—	—	—	- 360	
			—	—	—	—	—	—	—	—	—	—	—	- 341	
			6G	+ 262	+ 38	+ 413	+ 38	6g	- 38	- 208	- 38	- 318	- 327	- 327	
			6H	+ 224	0	+ 375	0	6h	0	- 170	0	- 280	- 289	- 289	
			—	—	—	—	—	—	—	—	—	—	—	—	- 360
			7G	+ 318	+ 38	+ 513	+ 38	7g6g	- 38	- 250	- 38	- 318	- 327	- 327	
			7H	+ 280	0	+ 475	0	7h6h	0	- 212	0	- 280	- 289	- 289	
			8G	+ 393	+ 38	+ 638	+ 38	8g	- 38	- 303	- 38	- 488	- 327	- 327	
		8H	+ 355	0	+ 600	0	9g8g	- 38	- 373	- 38	- 488	- 327	- 327		
		3	—	—	—	—	—	—	3h4h	0	- 100	0	- 236	- 433	
			4H	+ 170	0	+ 315	0	4h	0	- 125	0	- 236	- 433	- 433	
			5G	+ 260	+ 48	+ 448	+ 48	5g6g	- 48	- 208	- 48	- 423	- 481	- 481	
			5H	+ 212	0	+ 400	0	5h4h	0	- 160	0	- 236	- 433	- 433	
			—	—	—	—	—	—	—	—	—	—	—	- 433	
			—	—	—	—	—	—	—	—	—	—	—	- 518	
			—	—	—	—	—	—	—	—	—	—	—	- 496	
			6G	+ 313	+ 48	+ 548	+ 48	6g	- 48	- 248	- 48	- 423	- 481	- 481	
			6H	+ 265	0	+ 500	0	6h	0	- 200	0	- 375	- 433	- 433	
			—	—	—	—	—	—	—	—	—	—	—	- 518	
		7G	+ 383	+ 48	+ 678	+ 48	7g6g	- 48	- 298	- 48	- 423	- 481	- 481		
		7H	+ 335	0	+ 630	0	7h6h	0	- 250	0	- 375	- 433	- 433		
		8G	+ 473	+ 48	+ 848	+ 48	8g	- 48	- 363	- 48	- 648	- 481	- 481		
		8H	+ 425	0	+ 800	0	9g8g	- 48	- 448	- 48	- 648	- 481	- 481		
		3,5	—	—	—	—	—	—	3h4h	0	- 106	0	- 265	- 505	
			4H	+ 180	0	+ 355	0	4h	0	- 132	0	- 265	- 505	- 505	
			5G	+ 277	+ 53	+ 503	+ 53	5g6g	- 53	- 223	- 53	- 478	- 558	- 558	
			5H	+ 224	0	+ 450	0	5h4h	0	- 170	0	- 265	- 505	- 505	
			—	—	—	—	—	—	—	—	—	—	—	- 505	
			—	—	—	—	—	—	—	—	—	—	—	- 595	
			—	—	—	—	—	—	—	—	—	—	—	- 575	
			6G	+ 333	+ 53	+ 613	+ 53	6g	- 53	- 265	- 53	- 478	- 558	- 558	
			6H	+ 280	0	+ 560	0	6h	0	- 212	0	- 425	- 505	- 505	
			—	—	—	—	—	—	—	—	—	—	—	- 595	
		7G	+ 408	+ 53	+ 763	+ 53	7g6g	- 53	- 318	- 53	- 478	- 558	- 558		
		7H	+ 355	0	+ 710	0	7h6h	0	- 265	0	- 425	- 505	- 505		
		8G	+ 503	+ 53	+ 953	+ 53	8g	- 53	- 388	- 53	- 723	- 558	- 558		
		8H	+ 450	0	+ 900	0	9g8g	- 53	- 478	- 53	- 723	- 558	- 558		
		4	—	—	—	—	—	—	3h4h	0	- 112	0	- 300	- 577	
			4H	+ 190	0	+ 375	0	4h	0	- 140	0	- 300	- 577	- 577	
			5G	+ 296	+ 60	+ 535	+ 60	5g6g	- 60	- 240	- 60	- 535	- 637	- 637	
5H	+ 236		0	+ 475	0	5h4h	0	- 180	0	- 300	- 577	- 577			
—	—		—	—	—	—	—	—	—	—	—	- 577			
—	—		—	—	—	—	—	—	—	—	—	- 672			
—	—	—	—	—	—	—	—	—	—	—	- 652				

Table 1

ES, es = upper deviation; *EI, ei* = lower deviation

Basic major diameter		Pitch	Internal thread					External thread						
over	up to		Tolerance class	Pitch diameter		Minor diameter		Tolerance class	Pitch diameter		Major diameter		Minor diameter	
				<i>ES</i>	<i>EI</i>	<i>ES</i>	<i>EI</i>		<i>es</i>	<i>ei</i>	<i>es</i>	<i>ei</i>	Deviation $-\left(es + \frac{H}{6}\right)$ for stress calculation	
μm	μm			μm	μm	μm	μm		μm	μm	μm	μm	μm	
22,4	45	4	6G	+ 360	+ 60	+ 660	+ 60	6g	- 60	- 284	- 60	- 535	- 637	
			6H	+ 300	0	+ 600	0	6h	0	- 224	0	- 475	- 577	
			—	—	—	—	7e6e	- 95	- 375	- 95	- 570	- 672		
			7G	+ 435	+ 60	+ 810	+ 60	7g6g	- 60	- 340	- 60	- 535	- 637	
			7H	+ 375	0	+ 750	0	7h6h	0	- 280	0	- 475	- 577	
			8G	+ 535	+ 60	+ 1 010	+ 60	8g	- 60	- 415	- 60	- 810	- 637	
			8H	+ 475	0	+ 950	0	9g8g	- 60	- 510	- 60	- 810	- 637	
			4,5	—	—	—	—	—	—	3h4h	0	- 118	0	- 315
		4H		+ 200	0	+ 425	0	4h	0	- 150	0	- 315	- 650	
		5G		+ 313	+ 63	+ 593	+ 63	5g6g	- 63	- 253	- 63	- 563	- 713	
		5H		+ 250	0	+ 530	0	5h4h	0	- 190	0	- 315	- 650	
		—		—	—	—	—	5h6h	0	- 190	0	- 500	- 650	
		—		—	—	—	—	6e	- 100	- 336	- 100	- 600	- 750	
		—		—	—	—	—	6f	- 80	- 316	- 80	- 580	- 730	
		6G		+ 378	+ 63	+ 733	+ 63	6g	- 63	- 299	- 63	- 563	- 713	
		6H		+ 315	0	+ 670	0	6h	0	- 236	0	- 500	- 650	
		—		—	—	—	—	7e6e	- 100	- 400	- 100	- 600	- 750	
		7G		+ 463	+ 63	+ 913	+ 63	7g6g	- 63	- 363	- 63	- 563	- 713	
		7H		+ 400	0	+ 850	0	7h6h	0	- 300	0	- 500	- 650	
		8G	+ 563	+ 63	+ 1 123	+ 63	8g	- 63	- 438	- 63	- 863	- 713		
8H	+ 500	0	+ 1 060	0	9g8g	- 63	- 538	- 63	- 863	- 713				
45	90	1,5	—	—	—	—	3h4h	0	- 80	0	- 150	- 217		
			4H	+ 132	0	+ 190	0	4h	0	- 100	0	- 150	- 217	
			5G	+ 202	+ 32	+ 268	+ 32	5g6g	- 32	- 157	- 32	- 268	- 249	
			5H	+ 170	0	+ 236	0	5h4h	0	- 125	0	- 150	- 217	
			—	—	—	—	5h6h	0	- 125	0	- 236	- 217		
			—	—	—	—	6e	- 67	- 227	- 67	- 303	- 284		
			—	—	—	—	6f	- 45	- 205	- 45	- 281	- 262		
			6G	+ 244	+ 32	+ 332	+ 32	6g	- 32	- 192	- 32	- 268	- 249	
			6H	+ 212	0	+ 300	0	6h	0	- 160	0	- 236	- 217	
			—	—	—	—	7e6e	- 67	- 267	- 67	- 303	- 284		
			7G	+ 297	+ 32	+ 407	+ 32	7g6g	- 32	- 232	- 32	- 268	- 249	
			7H	+ 265	0	+ 375	0	7h6h	0	- 200	0	- 236	- 217	
		8G	+ 367	+ 32	+ 507	+ 32	8g	- 32	- 282	- 32	- 407	- 249		
		8H	+ 335	0	+ 475	0	9g8g	- 32	- 347	- 32	- 407	- 249		
		2	—	—	—	—	—	3h4h	0	- 90	0	- 180	- 289	
			4H	+ 150	0	+ 236	0	4h	0	- 112	0	- 180	- 289	
			5G	+ 228	+ 38	+ 338	+ 38	5g6g	- 38	- 178	- 38	- 318	- 327	
			5H	+ 190	0	+ 300	0	5h4h	0	- 140	0	- 180	- 289	
			—	—	—	—	5h6h	0	- 140	0	- 280	- 289		
			—	—	—	—	6e	- 71	- 251	- 71	- 351	- 360		
—	—		—	—	6f	- 52	- 232	- 52	- 332	- 341				
6G	+ 274		+ 38	+ 413	+ 38	6g	- 38	- 218	- 38	- 318	- 327			
6H	+ 236	0	+ 375	0	6h	0	- 180	0	- 280	- 289				
—	—	—	—	7e6e	- 71	- 295	- 71	- 351	- 360					
7G	+ 338	+ 38	+ 513	+ 38	7g6g	- 38	- 262	- 38	- 318	- 327				

Table 1

ES, es = upper deviation; EI, ei = lower deviation

Basic major diameter		Pitch	Internal thread					External thread					
over	up to		Tolerance class	Pitch diameter		Minor diameter		Tolerance class	Pitch diameter		Major diameter		Minor diameter
				ES	EI	ES	EI		es	ei	es	ei	
				Deviation $-\left(es + \frac{H}{6}\right)$ for stress calculation									
mm	mm	mm	μm	μm	μm	μm	μm	μm	μm	μm	μm	μm	
45	90	2	7H	+ 300	0	+ 475	0	7h6h	0	- 224	0	- 280	- 289
			8G	+ 413	+ 38	+ 638	+ 38	8g	- 38	- 318	- 38	- 488	- 327
			8H	+ 375	0	+ 600	0	9g8g	- 38	- 393	- 38	- 488	- 327
45	90	3	—	—	—	—	3h4h	0	- 106	0	- 236	- 433	
			4H	+ 180	0	+ 315	0	4h	0	- 132	0	- 236	- 433
			5G	+ 272	+ 48	+ 448	+ 48	5g6g	- 48	- 218	- 48	- 423	- 481
			5H	+ 224	0	+ 400	0	5h4h	0	- 170	0	- 236	- 433
			—	—	—	—	5h6h	0	- 170	0	- 375	- 433	
			—	—	—	—	6e	- 85	- 297	- 85	- 460	- 518	
			—	—	—	—	6f	- 63	- 275	- 63	- 438	- 496	
			6G	+ 328	+ 48	+ 548	+ 48	6g	- 48	- 260	- 48	- 423	- 481
			6H	+ 280	0	+ 500	0	6h	0	- 212	0	- 375	- 433
			—	—	—	—	7e6e	- 85	- 350	- 85	- 460	- 518	
			7G	+ 403	+ 48	+ 678	+ 48	7g6g	- 48	- 313	- 48	- 423	- 481
			7H	+ 355	0	+ 630	0	7h6h	0	- 265	0	- 375	- 433
			8G	+ 498	+ 48	+ 848	+ 48	8g	- 48	- 383	- 48	- 648	- 481
			8H	+ 450	0	+ 800	0	9g8g	- 48	- 473	- 48	- 648	- 481
			45	90	4	—	—	—	—	3h4h	0	- 118	0
4H	+ 200	0				+ 375	0	4h	0	- 150	0	- 300	- 577
5G	+ 310	+ 60				+ 535	+ 60	5g6g	- 60	- 250	- 60	- 535	- 637
5H	+ 250	0				+ 475	0	5h4h	0	- 190	0	- 300	- 577
—	—	—				—	5h6h	0	- 190	0	- 475	- 577	
—	—	—				—	6e	- 95	- 331	- 95	- 570	- 672	
—	—	—				—	6f	- 75	- 311	- 75	- 550	- 652	
6G	+ 375	+ 60				+ 660	+ 60	6g	- 60	- 296	- 60	- 535	- 637
6H	+ 315	0				+ 600	0	6h	0	- 236	0	- 475	- 577
—	—	—				—	7e6e	- 95	- 395	- 95	- 570	- 672	
7G	+ 460	+ 60				+ 810	+ 60	7g6g	- 60	- 360	- 60	- 535	- 637
7H	+ 400	0				+ 750	0	7h6h	0	- 300	0	- 475	- 577
8G	+ 560	+ 60				+ 1 010	+ 60	8g	- 60	- 435	- 60	- 810	- 637
8H	+ 500	0				+ 950	0	9g8g	- 60	- 535	- 60	- 810	- 637
45	90	5				—	—	—	—	3h4h	0	- 125	0
			4H	+ 212	0	+ 450	0	4h	0	- 160	0	- 335	- 722
			5G	+ 336	+ 71	+ 631	+ 71	5g6g	- 71	- 271	- 71	- 601	- 793
			5H	+ 265	0	+ 560	0	5h4h	0	- 200	0	- 335	- 722
			—	—	—	—	5h6h	0	- 200	0	- 530	- 722	
			—	—	—	—	6e	- 106	- 356	- 106	- 636	- 828	
			—	—	—	—	6f	- 85	- 335	- 85	- 615	- 807	
			6G	+ 406	+ 71	+ 781	+ 71	6g	- 71	- 321	- 71	- 601	- 793
			6H	+ 335	0	+ 710	0	6h	0	- 250	0	- 530	- 722
			—	—	—	—	7e6e	- 106	- 421	- 106	- 636	- 828	
			7G	+ 496	+ 71	+ 971	+ 71	7g6g	- 71	- 386	- 71	- 601	- 793
			7H	+ 425	0	+ 900	0	7h6h	0	- 315	0	- 530	- 722
			8G	+ 601	+ 71	+ 1 191	+ 71	8g	- 71	- 471	- 71	- 921	- 793
			8H	+ 530	0	+ 1 120	0	9g8g	- 71	- 571	- 71	- 921	- 793
			45	90	5,5	—	—	—	—	3h4h	0	- 132	0

Table 1

ES, es = upper deviation; *EI, ei* = lower deviation

Basic major diameter		Pitch mm	Internal thread					External thread						
over mm	up to mm		Tolerance class	Pitch diameter		Minor diameter		Tolerance class	Pitch diameter		Major diameter		Minor diameter	
				<i>ES</i>	<i>EI</i>	<i>ES</i>	<i>EI</i>		<i>es</i>	<i>ei</i>	<i>es</i>	<i>ei</i>	Deviation $-\left(es + \frac{H}{6}\right)$ for stress calculation	
				μm	μm	μm	μm		μm	μm	μm	μm	μm	μm
45	90	5,5	4H	+ 224	0	+ 475	0	4h	0	- 170	0	- 355	- 794	
			5G	+ 355	+ 75	+ 675	+ 75	5g6g	- 75	- 287	- 75	- 635	- 869	
			5H	+ 280	0	+ 600	0	5h4h	0	- 212	0	- 355	- 794	
			—	—	—	—	5h6h	0	- 212	0	- 560	- 794		
			—	—	—	—	6e	- 112	- 377	- 112	- 672	- 906		
			—	—	—	—	6f	- 90	- 355	- 90	- 650	- 884		
			6G	+ 430	+ 75	+ 825	+ 75	6g	- 75	- 340	- 75	- 635	- 869	
			6H	+ 355	0	+ 750	0	6h	0	- 265	0	- 560	- 794	
			—	—	—	—	7e6e	- 112	- 447	- 112	- 672	- 906		
			7G	+ 525	+ 75	+ 1 025	+ 75	7g6g	- 75	- 410	- 75	- 635	- 869	
		7H	+ 450	0	+ 950	0	7h6h	0	- 335	0	- 560	- 794		
		8G	+ 635	+ 75	+ 1 255	+ 75	8g	- 75	- 500	- 75	- 975	- 869		
		8H	+ 560	0	+ 1 180	0	9g8g	- 75	- 605	- 75	- 975	- 869		
		6	—	—	—	—	—	—	3h4h	0	- 140	0	- 375	- 866
			4H	+ 236	0	+ 500	0	4h	0	- 180	0	- 375	- 866	
			5G	+ 380	+ 80	+ 710	+ 80	5g6g	- 80	- 304	- 80	- 680	- 946	
			5H	+ 300	0	+ 630	0	5h4h	0	- 224	0	- 375	- 866	
			—	—	—	—	5h6h	0	- 224	0	- 600	- 866		
	—		—	—	—	6e	- 118	- 398	- 118	- 718	- 984			
	—		—	—	—	6f	- 95	- 375	- 95	- 695	- 961			
	6G		+ 455	+ 80	+ 880	+ 80	6g	- 80	- 360	- 80	- 680	- 946		
	6H		+ 375	0	+ 800	0	6h	0	- 280	0	- 600	- 866		
	—		—	—	—	7e6e	- 118	- 473	- 118	- 718	- 984			
	7G	+ 555	+ 80	+ 1 080	+ 80	7g6g	- 80	- 435	- 80	- 680	- 946			
	7H	+ 475	0	+ 1 000	0	7h6h	0	- 355	0	- 600	- 866			
	8G	+ 680	+ 80	+ 1 330	+ 80	8g	- 80	- 530	- 80	- 1 030	- 946			
8H	+ 600	0	+ 1 250	0	9g8g	- 80	- 640	- 80	- 1 030	- 946				
90	180	2	—	—	—	—	—	3h4h	0	- 95	0	- 180	- 289	
			4H	+ 160	0	+ 236	0	4h	0	- 118	0	- 180	- 289	
			5G	+ 238	+ 38	+ 338	+ 38	5g6g	- 38	- 188	- 38	- 318	- 327	
			5H	+ 200	0	+ 300	0	5h4h	0	- 150	0	- 180	- 289	
			—	—	—	—	5h6h	0	- 150	0	- 280	- 289		
			—	—	—	—	6e	- 71	- 261	- 71	- 351	- 360		
			—	—	—	—	6f	- 52	- 242	- 52	- 332	- 341		
			6G	+ 288	+ 38	+ 413	+ 38	6g	- 38	- 228	- 38	- 318	- 327	
			6H	+ 250	0	+ 375	0	6h	0	- 190	0	- 280	- 289	
			—	—	—	—	7e6e	- 71	- 307	- 71	- 351	- 360		
		7G	+ 353	+ 38	+ 513	+ 38	7g6g	- 38	- 274	- 38	- 318	- 327		
		7H	+ 315	0	+ 475	0	7h6h	0	- 236	0	- 280	- 289		
		8G	+ 438	+ 38	+ 638	+ 38	8g	- 38	- 338	- 38	- 488	- 327		
		8H	+ 400	0	+ 600	0	9g8g	- 38	- 413	- 38	- 488	- 327		
		3	—	—	—	—	—	—	3h4h	0	- 112	0	- 236	- 433
			4H	+ 190	0	+ 315	0	4h	0	- 140	0	- 236	- 433	
			5G	+ 284	+ 48	+ 448	+ 48	5g6g	- 48	- 228	- 48	- 423	- 481	
			5H	+ 236	0	+ 400	0	5h4h	0	- 180	0	- 236	- 433	
	—		—	—	—	5h6h	0	- 180	0	- 375	- 433			
	—		—	—	—	6e	- 85	- 309	- 85	- 460	- 518			

Table 1

ES, es = upper deviation; EI, ei = lower deviation

Basic major diameter		Pitch	Internal thread				External thread							
over	up to		Tolerance class	Pitch diameter		Minor diameter		Tolerance class	Pitch diameter		Major diameter		Minor diameter	
mm	mm	mm		ES	EI	ES	EI		es	ei	es	ei		Deviation $-\left(es + \frac{H}{6}\right)$ for stress calculation
			μm	μm	μm	μm	μm	μm	μm	μm	μm	μm		
90	180	3	—	—	—	—	6f	-63	-287	-63	-438	-496		
			6G	+348	+48	+548	+48	6g	-48	-272	-48	-423	-481	
			6H	+300	0	+500	0	6h	0	-224	0	-375	-433	
			—	—	—	—	—	7e6e	-85	-365	-85	-460	-518	
			7G	+423	+48	+678	+48	7g6g	-48	-328	-48	-423	-481	
			7H	+375	0	+630	0	7h6h	0	-280	0	-375	-433	
			8G	+523	+48	+848	+48	8g	-48	-403	-48	-648	-481	
			8H	+475	0	+800	0	9g8g	-48	-498	-48	-648	-481	
		4	—	—	—	—	—	3h4h	0	-125	0	-300	-577	
			4H	+212	0	+375	0	4h	0	-160	0	-300	-577	
			5G	+325	+60	+535	+60	5g6g	-60	-260	-60	-535	-637	
			5H	+265	0	+475	0	5h4h	0	-200	0	-300	-577	
			—	—	—	—	—	5h6h	0	-200	0	-475	-577	
			—	—	—	—	—	6e	-95	-345	-95	-570	-672	
			—	—	—	—	—	6f	-75	-325	-75	-550	-652	
			6G	+395	+60	+660	+60	6g	-60	-310	-60	-535	-637	
			6H	+335	0	+600	0	6h	0	-250	0	-475	-577	
			—	—	—	—	—	7e6e	-95	-410	-95	-570	-672	
			7G	+485	+60	+810	+60	7g6g	-60	-375	-60	-535	-637	
			7H	+425	0	+750	0	7h6h	0	-315	0	-475	-577	
			8G	+590	+60	+1 010	+60	8g	-60	-460	-60	-810	-637	
			8H	+530	0	+950	0	9g8g	-60	-560	-60	-810	-637	
			6	—	—	—	—	—	3h4h	0	-150	0	-375	-866
				4H	+250	0	+500	0	4h	0	-190	0	-375	-866
		5G		+395	+80	+710	+80	5g6g	-80	-316	-80	-680	-946	
		5H		+315	0	+630	0	5h4h	0	-236	0	-375	-866	
		—		—	—	—	—	5h6h	0	-236	0	-600	-866	
		—		—	—	—	—	6e	-118	-418	-118	-718	-984	
		—		—	—	—	—	6f	-95	-395	-95	-695	-961	
		6G		+480	+80	+880	+80	6g	-80	-380	-80	-680	-946	
		6H		+400	0	+800	0	6h	0	-300	0	-600	-866	
		—		—	—	—	—	7e6e	-118	-493	-118	-718	-984	
		7G		+580	+80	+1 080	+80	7g6g	-80	-455	-80	-680	-946	
		7H		+500	0	+1 000	0	7h6h	0	-375	0	-600	-866	
		8G		+710	+80	+1 330	+80	8g	-80	-555	-80	-1 030	-946	
		8H		+630	0	+1 250	0	9g8g	-80	-680	-80	-1 030	-946	
8 ^a	—	—		—	—	—	3h4h	0	-170	0	-450	-1 155		
	4H	+280		0	+630	0	4h	0	-212	0	-450	-1 155		
	5G	+380	+100	+900	+100	5g6g	-100	-365	-100	-810	-1 255			
	5H	+355	0	+800	0	5h4h	0	-265	0	-450	-1 155			
	—	—	—	—	—	5h6h	0	-265	0	-710	-1 155			
	—	—	—	—	—	6e	-140	-475	-140	-850	-1 295			
	—	—	—	—	—	6f	-118	-453	-118	-828	-1 273			
	6G	+550	+100	+1 100	+100	6g	-100	-435	-100	-810	-1 255			
	6H	+450	0	+1 000	0	6h	0	-335	0	-710	-1 155			

Table 1

ES, es = upper deviation; *EI, ei* = lower deviation

Basic major diameter		Pitch	Internal thread					External thread					
over	up to		Tolerance class	Pitch diameter		Minor diameter		Tolerance class	Pitch diameter		Major diameter		Minor diameter
				<i>ES</i>	<i>EI</i>	<i>ES</i>	<i>EI</i>		<i>es</i>	<i>ei</i>	<i>es</i>	<i>ei</i>	
				μm	μm	μm	μm		μm	μm	μm	μm	
Deviation $-\left(es + \frac{H}{6}\right)$ for stress calculation													
90	180	8 ^a	—	—	—	—	7e6e	-140	-565	-140	-850	-1 295	
			7G	+ 660	+ 100	+ 1 350	+ 100	7g6g	-100	-525	-100	-810	-1 255
			7H	+ 560	0	+ 1 250	0	7h6h	0	-425	0	-710	-1 155
			8G	+ 810	+ 100	+ 1 700	+ 100	8g	-100	-630	-100	-1 280	-1 255
			8H	+ 710	0	+ 1 600	0	9g8g	-100	-770	-100	-1 280	-1 255
180	355	3	—	—	—	—	3h4h	0	-125	0	-236	-433	
			4H	+ 212	0	+ 315	0	4h	0	-160	0	-236	-433
			5G	+ 313	+ 48	+ 448	+ 48	5g6g	-48	-248	-48	-423	-481
			5H	+ 265	0	+ 400	0	5h4h	0	-200	0	-236	-433
			—	—	—	—	5h6h	0	-200	0	-375	-433	
			—	—	—	—	6e	-85	-335	-85	-460	-518	
			—	—	—	—	6f	-63	-313	-63	-438	-496	
			6G	+ 383	+ 48	+ 548	+ 48	6g	-48	-298	-48	-423	-481
			6H	+ 335	0	+ 500	0	6h	0	-250	0	-375	-433
			—	—	—	—	7e6e	-85	-400	-85	-460	-518	
			7G	+ 473	+ 48	+ 678	+ 48	7g6g	-48	-363	-48	-423	-481
			7H	+ 425	0	+ 630	0	7h6h	0	-315	0	-375	-433
		8G	+ 578	+ 48	+ 848	+ 48	8g	-48	-448	-48	-648	-481	
		8H	+ 530	0	+ 800	0	9g8g	-48	-548	-48	-648	-481	
		4	—	—	—	—	—	3h4h	0	-140	0	-300	-577
			4H	+ 236	0	+ 375	0	4h	0	-180	0	-300	-577
			5G	+ 360	+ 60	+ 535	+ 60	5g6g	-60	-284	-60	-535	-637
			5H	+ 300	0	+ 475	0	5h4h	0	-224	0	-300	-577
			—	—	—	—	5h6h	0	-224	0	-475	-577	
			—	—	—	—	6e	-95	-375	-95	-570	-672	
			—	—	—	—	6f	-75	-355	-75	-550	-652	
			6G	+ 435	+ 60	+ 660	+ 60	6g	-60	-340	-60	-535	-637
			6H	+ 375	0	+ 660	0	6h	0	-280	0	-475	-577
			—	—	—	—	7e6e	-95	-450	-95	-570	-672	
			7G	+ 535	+ 60	+ 810	+ 60	7g6g	-60	-415	-60	-535	-637
			7H	+ 475	0	+ 750	0	7h6h	0	-355	0	-475	-577
		8G	+ 660	+ 60	+ 1 010	+ 60	8g	-60	-510	-60	-810	-637	
		8H	+ 600	0	+ 950	0	9g8g	-60	-620	-60	-810	-637	
		6	—	—	—	—	—	3h4h	0	-160	0	-375	-866
			4H	+ 265	0	+ 500	0	4h	0	-200	0	-375	-866
			5G	+ 415	+ 80	+ 710	+ 80	5g6g	-80	-330	-80	-680	-946
			5H	+ 335	0	+ 630	0	5h4h	0	-250	0	-375	-866
			—	—	—	—	5h6h	0	-250	0	-600	-866	
			—	—	—	—	6e	-118	-433	-118	-718	-984	
			—	—	—	—	6f	-95	-410	-95	-695	-961	
			6G	+ 505	+ 80	+ 880	+ 80	6g	-80	-395	-80	-680	-946
6H	+ 425		0	+ 800	0	6h	0	-315	0	-600	-866		
—	—		—	—	7e6e	-118	-518	-118	-718	-984			
7G	+ 610		+ 80	+ 1 080	+ 80	7g6g	-80	-480	-80	-680	-946		
7H	+ 530		0	+ 1 000	0	7h6h	0	-400	0	-600	-866		
8G	+ 750	+ 80	+ 1 330	+ 80	8g	-80	-580	-80	-1 030	-946			

Table 1

ES, es = upper deviation; *EI, ei* = lower deviation

Basic major diameter		Pitch	Internal thread				External thread						
over	up to		Tolerance class	Pitch diameter		Minor diameter		Tolerance class	Pitch diameter		Major diameter		Minor diameter
mm	mm	mm		<i>ES</i>	<i>EI</i>	<i>ES</i>	<i>EI</i>		<i>es</i>	<i>ei</i>	<i>es</i>	<i>ei</i>	
			μm	μm	μm	μm	μm	μm	μm	μm	μm	μm	
180	355	6	8H	+ 670	0	+ 1 250	0	9g8g	- 80	- 710	- 80	- 1 030	- 946
		8	—	—	—	—	—	3h4h	0	- 180	0	- 450	- 1 155
			4H	+ 300	0	+ 630	0	4h	0	- 224	0	- 450	- 1 155
			5G	+ 475	+ 100	+ 900	+ 100	5g6g	- 100	- 380	- 100	- 810	- 1 255
			5H	+ 375	0	+ 800	0	5h4h	0	- 280	0	- 450	- 1 155
			—	—	—	—	—	5h6h	0	- 280	0	- 710	- 1 155
			—	—	—	—	—	6e	- 140	- 495	- 140	- 850	- 1 295
			—	—	—	—	—	6f	- 118	- 473	- 118	- 828	- 1 273
			6G	+ 575	+ 100	+ 1 100	+ 100	6g	- 100	- 455	- 100	- 810	- 1 255
			6H	+ 475	0	+ 1 000	0	6h	0	- 355	0	- 710	- 1 155
			—	—	—	—	—	7e6e	- 140	- 590	- 140	- 850	- 1 295
			7G	+ 700	+ 100	+ 1 350	+ 100	7g6g	- 100	- 550	- 100	- 810	- 1 255
			7H	+ 600	0	+ 1 250	0	7h6h	0	- 450	0	- 710	- 1 155
			8G	+ 850	+ 100	+ 1 700	+ 100	8g	- 100	- 660	- 100	- 1 280	- 1 255
			8H	+ 750	0	+ 1 600	0	9g8g	- 100	- 810	- 100	- 1 280	- 1 255

^a Pitch 8 mm applies only to basic major diameters M125 and larger.

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