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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: Écart pour filetages de construction*  
**(standards.iteh.ai)**

ISO 965-3:1998

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## 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.

International Standard ISO 965-1 was prepared by Technical Committee ISO/TC 1, *Screw threads*, Subcommittee SC 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

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# ISO general purpose metric screw threads — Tolerances —

## Part 3: Deviations for constructional screw threads

### 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 according to 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.

ISO 68-1:1998, *ISO general purpose screw threads — Basic profile — Part 1: Metric screw threads*.

ISO 261:1998, *ISO general purpose metric screw threads — General plan*.

ISO 965-1:1998, *ISO general purpose metric screw threads — Tolerances — Part 1: Principles and basic data*.

ISO 5408:1983, *Cylindrical screw threads — Vocabulary*.

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

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	μm		
0,99	1,4	0,2	—	—	—	—	3h4h	0	-24	0	-36	-29		
			4H	+40	0	+38	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	0,25	—	—	—	—	3h4h	0	-26	0	-42	-36	
				4H	+45	0	+45	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	0,3	—	—	—	—	3h4h	0	-28	0	-48	-43	
				4H	+48	0	+53	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	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		

(continued)

Table 1 (continued)

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>			
mm	mm	mm	$\mu\text{m}$	$\mu\text{m}$	$\mu\text{m}$	$\mu\text{m}$		$\mu\text{m}$	$\mu\text{m}$	$\mu\text{m}$	$\mu\text{m}$	$\mu\text{m}$			
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	—	—	—	—	—	
		—	—		6G	—	—	—	6f	-33	-89	-33	-100	-69	
		—	—		6H	—	—	—	6g	-18	-74	-18	-85	-54	
		—	—		—	—	—	—	6h	0	-56	0	-67	-36	
		—	—		7G	—	—	—	7e6e	—	—	—	—	—	
		—	—		7H	—	—	—	7g6g	—	—	—	—	—	
		—	—	8G	—	—	—	7h6h	—	—	—	—	—		
		—	—	8H	—	—	—	8g	—	—	—	—	—		
		—	—	—	—	—	—	9g8g	—	—	—	—	—		
		—	—	0,35	—	—	—	—	3h4h	0	-32	0	-53	-51	
		—	—		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	—	—	—	—	—	
		—	—		6G	+104	+19	+119	+19	6f	-34	-97	-34	-119	-85
		—	—		6H	+85	0	+100	0	6g	-19	-82	-19	-104	-70
		—	—		—	—	—	—	6h	0	-63	0	-85	-51	
		—	—		7G	—	—	—	7e6e	—	—	—	—	—	
		—	—		7H	—	—	—	7g6g	-19	-99	-19	-104	-70	
		—	—	8G	—	—	—	7h6h	0	-80	0	-85	-51		
		—	—	8H	—	—	—	8g	—	—	—	—	—		
		—	—	—	—	—	—	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	—	—	—	—	—			
—	—	6G	+109		+19	+131	+19	6f	-34	-101	-34	-129	-92		
—	—	6H	+90		0	+112	0	6g	-19	-86	-19	-114	-77		
—	—	—	—		—	—	6h	0	-67	0	-95	-58			
—	—	—	—		—	—	7e6e	—	—	—	—	—			

(continued)

Table 1 (continued)

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		$\mu\text{m}$	$\mu\text{m}$	$\mu\text{m}$	$\mu\text{m}$	$\mu\text{m}$	$\mu\text{m}$	$\mu\text{m}$	$\mu\text{m}$	$\mu\text{m}$	$\mu\text{m}$		
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	—	—	—	—	—				

(continued)

Table 1 (continued)

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		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	—	—	—	—	—							
		2,8	5,6	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	—	—	—	—	—					
				2,8	5,6	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	—	—	—	—	—			
						2,8	5,6	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

(continued)

Table 1 (continued)

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	mm	$\mu\text{m}$	$\mu\text{m}$	$\mu\text{m}$	$\mu\text{m}$	$\mu\text{m}$	$\mu\text{m}$	$\mu\text{m}$	$\mu\text{m}$	$\mu\text{m}$	$\mu\text{m}$			
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	1,25	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	1,25	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		

(continued)



Table 1 (continued)

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>			
mm	mm	mm	$\mu\text{m}$	$\mu\text{m}$	$\mu\text{m}$	$\mu\text{m}$		$\mu\text{m}$	$\mu\text{m}$	$\mu\text{m}$	$\mu\text{m}$	$\mu\text{m}$			
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	4H	+100	0	+150	0	3h4h	0	-60	0	-112
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					

(continued)

Table 1 (continued)

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	
mm	mm	mm	$\mu\text{m}$	$\mu\text{m}$	$\mu\text{m}$	$\mu\text{m}$		$\mu\text{m}$	$\mu\text{m}$	$\mu\text{m}$	$\mu\text{m}$	$\mu\text{m}$		
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	9g9g	- 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				

(continued)

Table 1 (continued)

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>			
mm	mm	mm	$\mu\text{m}$	$\mu\text{m}$	$\mu\text{m}$	$\mu\text{m}$		$\mu\text{m}$	$\mu\text{m}$	$\mu\text{m}$	$\mu\text{m}$	$\mu\text{m}$		
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			

(continued)