WÜRTH

WÜRTH Industrie Service

DE | EN

FASTENERS

Differences between DIN – EN – ISO standards

CONTENT

Introduction

Normally standards are reviewed every five years to check if they are still state of the art. This is an important measure, even from the legal point of view. Complaints or even claims often arise due to the ignorance or non-compliance with current standards and the included cross references.

In recent years, a large number of DIN standards have been replaced by international DIN EN ISO standards. For export-oriented companies it is indispensable to know which standards are valid and which are withdrawn. If repairing is necessary, the customer or the service mechanic should be able to obtain appropriate fasteners being state of the art. In case of warranty, the manufacturer has to prove the observance of and compliance with all rules valid at the time of commissioning.

In practice, it is still the case that a large number of users utilizes products that are withdrawn and replaced by successors or continues to use products according to standards withdrawn without replacement. For trading companies of fasteners, this means that more effort for storage and disposition is needed. The processing companies rarely demand for current standards, so this can have a negative effect on the procurement prices, as the manufacturers only produce small quantities.

Products according to withdrawn standards should only be used, when spare parts are requested. In cases the standards have been withdrawn without replacement, because there is no functional guarantee or in cases the standards are revised due to safety reasons, it is indispensable to observe the state of the art.

This brochure is intended to assist you in the changeover from withdrawn DIN standards to current EN and/or ISO standards. Information is given on which changes of the respective product standard are relevant for application.

1. Product descriptions and product changes

Many DIN standards have been the basis for ISO standards. There have often been minor adjustments when the previous DIN standards have been changed to current ISO standards.

If an ISO standard is implemented on national level without any changes, the same designation as the corresponding ISO standard is given to the national standard. Only the abbreviations DIN EN are added to the designation. This means that an ISO nut is ISO 4032-M12-8 all over the world. Thus, the German version of the standard is called DIN EN ISO 4032-M12-8.

There is often a lot of work to do to change designations in the materials management system, in drawings and parts lists. However, these adaptations are inavoidable, if a company wants to continue to be successful. In case you do not comply with the state of the art (Product Safety Act), even one claim can exceed the supposed cost savings by far.

2. Standardization

In the past, standardization activities at national level have been realized by the German Institute for Standardization (Deutsches Institut für Normung e. V. = DIN) in Germany. Furthermore, there are EN standards at European level and ISO standards at international level which are published by the International Organization for Standardization.

2.1 DIN

National standards (DIN) will be/have been largely replaced by international/European standards.
DIN standards are still valid for products having no ISO or EN standards.

2.2 ISO

According to the task and aim of the ISO founded in 1946, international standards (ISO) are supposed to standardize technical regulations worldwide and make it easier to exchange goods and reduce trade barriers.

2.3 EN

The purpose of European standards (EN) is the harmonization of technical regulations and laws within the single market of the European Union (EU/EWG) that was jointly created on 1st January 1993. As far as possible, existing ISO standards should generally be adopted as EN standards without any changes. The difference between ISO and EN standards is that EN standards following the decision of the European Council have to be adopted and implemented in the member states as national standards without any changes and without delay – and the corresponding national standards have to be withdrawn at the same time.

3. Small slotted or cross recessed screws

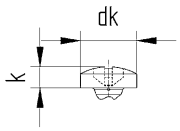
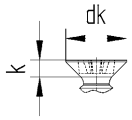
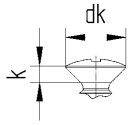
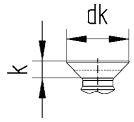
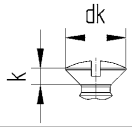
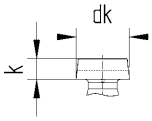
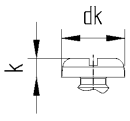
When introducing the ISO standards for small screws, some of the head heights and head diameters have been changed. These changes may not have any effects on most of the applications. Only in cases with very little space for installation, it is necessary to observe the changes in details. In table 1 the general changes as well as the successor ISO standard are given. Table 2 shows the head dimensions of the DIN standard and the successor ISO standard.

Table 1

Designation	DIN	DIN standard withdrawn	ISO	Interchangeability			Comments / Changes
				yes	limited	no	
Slotted cheese head screws	84	**yes**	1207	–	x	–	• Nominal Ø <M1.8 omitted • Some head heights and head diameters changed • Thread lengths changed • Slot dimensions changed • Some nominal lengths deleted • Property class 8.8 omitted
Slotted pan head screws	85	**yes**	1580	x	–	–	• Nominal Ø M1.2, M2, M2.5 included • Some head heights and head diameters changed • Property class 8.8 omitted
Slotted countersunk head screws	963	**yes**	2009	–	x	–	• Some head heights and head diameters changed • Thread lengths changed • Property class 8.8 omitted • Nominal Ø <M1.6 and >M10 omitted
Slotted raised countersunk head screws	964	**yes**	2010	–	x	–	• Some head heights and head diameters changed • Thread lengths changed • Property class 8.8 omitted • Nominal Ø <M1.6 and >M10 omitted
Cross recessed countersunk flat head screws	965	**yes**	7046-Part 1	–	x	–	• Some head heights and head diameters changed • Thread lengths changed • Penetration depths of the slots changed
Cross recessed countersunk flat head screws	965	**yes**	7046-Part 2	–	x	–	• Some head heights and head diameters changed • Nominal Ø M1.6 omitted • Property classes 5.8 and A4-70 omitted • Thread lengths changed • Penetration depths of the slots changed
Cross recessed raised countersunk head screws	966	**yes**	7047	–	x	–	• Some head heights and head diameters changed • Thread lengths changed • Property classes 5.8 and 8.8 omitted • Penetration depths of the slots changed
Cross recessed pan head screws	7985	**yes**	7045	x	–	–	• Some head heights and head diameters changed • Thread lengths changed • Penetration depth of the slots changed

3.1 DIN – ISO comparison of the dimensions of small screws

Table 2

Thread		M1.6	M2	M2.5	M3	M3.5	M4	M5	M6	M8	M10	
$d_{k\,max.}$	ISO 7045	3.2	4	5	5.6	7	8	9.5	12	16	20	
	DIN 7985	3.2	4	5	6	7	8	10	12	16	20	
$k_{max.}$	ISO 7045	1.3	1.6	2.1	2.4	2.6	3.1	3.7	4.6	6	7.5	
	DIN 7985	1.3	1.6	2	2.4	2.7	3.1	3.8	4.6	6	7.5	
$d_{k\,max.}$	ISO 7046-Part 1 + 2*	3	3.8	4.7	5.5	7.3	8.4	9.3	11.3	15.8	18.3	
	DIN 965	3	3.8	4.7	5.6	6.5	7.5	9.2	11	14.5	18	
$k_{max.}$	ISO 7046-Part 1 + 2*	1	1.2	1.5	1.65	2.35	2.7	2.7	3.3	4.65	5	
	DIN 965	0.96	1.2	1.5	1.65	1.93	2.2	2.5	3	4	5	
$d_{k\,max.}$	ISO 7047	3	3.8	4.7	5.5	7.3	8.4	9.3	11.3	15.8	18.3	
	DIN 966	3	3.8	4.7	5.6	6.5	7.5	9.2	11	14.5	18	
$k_{max.}$	ISO 7047	1	1.2	1.5	1.65	2.35	2.7	2.7	3.3	4.65	5	
	DIN 966	0.96	1.2	1.5	1.65	1.93	2.2	2.5	3	4	5	
$d_{k\,max.}$	ISO 2009	3	3.8	4.7	5.5	7.3	8.4	9.3	11.3	15.8	18.3	
	DIN 963	3	3.8	4.7	5.6	6.5	7.5	9.2	11	14.5	18	
$k_{max.}$	ISO 2009	1	1.2	1.5	1.65	2.35	2.7	2.7	3.3	4.65	5	
	DIN 963	0.96	1.2	1.5	1.65	1.93	2.2	2.5	3	4	5	
$d_{k\,max.}$	ISO 2010	3	3.8	4.7	5.5	7.3	8.4	9.3	11.3	15.8	18.3	
	DIN 964	3	3.8	4.7	5.6	6.5	7.5	9.2	11	14.5	18	
$k_{max.}$	ISO 2010	1	1.2	1.5	1.65	2.35	2.7	2.7	3.3	4.65	5	
	DIN 964	0.96	1.2	1.5	1.65	1.93	2.2	2.5	3	4	5	
$d_{k\,max.}$	ISO 1207	1.1	1.4	1.8	2.0	2.4	2.6	3.3	3.9	5.0	6.0	
	DIN 84	1.0	1.3	1.6	2.0	2.4	2.6	3.3	3.9	5.0	6.0	
$k_{max.}$	ISO 1207	0.4	0.5	0.7	0.75	1.0	1.1	1.3	1.6	2.0	2.4	
	DIN 84	0.26	0.36	0.56	0.76	0.96	1.06	1.52	1.6	2.2	2.7	
$d_{k\,max.}$	ISO 1580	3.2	4	5	5.6	7	8	9.5	12	16	20	
	DIN 85	–	–	–	6	7	8	10	12	16	20	
$k_{max.}$	ISO 1580	1	1.3	1.5	1.8	2.1	2.4	3	3.6	4.8	6	
	DIN 85	–	–	–	1.8	2.1	2.4	3	3.6	4.8	6	
$w_{min.}$	ISO 1580	0.3	0.4	0.5	0.7	0.8	1	1.2	1.4	1.9	2.4	
	DIN 85	–	–	–	0.7	0.9	1	1.3	1.4	2.1	2.7	

* The dimensions of ISO 7046 Part 1 and Part 2 are identical, but nominal Ø 1.6 was deleted in Part 2

4. Small hexagon or hexalobular screws

In Germany, established product standards such as DIN 6912 or DIN 7984 are still valid. There are no successor ISO standards up to now. However, DIN 7991 has been replaced by the ISO standard 10642. Please observe that according to DIN 74 these countersunk head screws have got F-type countersinks. In recent years, hexalobular screws (TX) have been introduced additionally. There are no DIN standards for these screws.
The head geometry corresponds to cross recessed screws as the head type is identical.

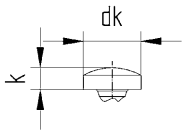
Table 3

Designation	DIN	DIN standard withdrawn	ISO	Interchangeability			Comments / Changes
				yes	limited	no	
Hexagon socket head cap screws with centre, with low head	6912	**no**	–	–	–	–	• DIN is still valid • Minimum breaking loads for stainless steel included • Non-ferrous metals omitted
Hexagon socket head cap screws with low head	7984	**no**	–	–	–	–	• DIN is still valid • Minimum breaking loads for stainless steel included • Non-ferrous metals omitted
Hexagon socket button head screws	–	**–**	7380 Part 1	–	--	–	• There was no predecessor DIN standard
Hexagon socket button head screws with collar	–	**–**	7380 Part 2	–	--	–	• There was no predecessor DIN standard
Hexagon socket countersunk head screws	7991	**yes**	10642	–	x	–	• Some head heights and head diameters changed (see table 5) • Nominal Ø M18, M22, M24 omitted • Property classes 10.9 and 12.9 included
Hexlobular socket cheese head screws, low head	–	**–**	14580	–	–	–	• There was no predecessor DIN standard
Hexalobular socket countersunk flat head screws	–	**–**	14581	–	–	–	• There was no predecessor DIN standard • The head dimensions comply with ISO 7046 (see table 4)
Hexalobular socket pan head screws	–	**–**	14583	–	–	–	• There was no predecessor DIN standard • The head dimensions comply with ISO 7045 (see table 4)
Hexalobular socket raised countersunk head screws	–	**–**	14584	–	–	–	• There was no predecessor DIN standard • The head dimensions comply with ISO 7045 (see table 4)

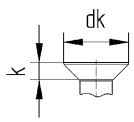
4.1 Comparison of the dimensions of small hexalobular screws

Table 4

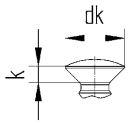
Thread		M1.6	M2	M2.5	M3	M3.5	M4	M5	M6	M8	M10
$d_{k\,max.}$	ISO 7045	3.2	4	5	5.6	7	8	9.5	12	16	20
	ISO 14583	–	4	5	5.6	7	8	9.5	12	16	20
	ISO 14580	–	3.8	4.5	5.5	6	7	8.5	10	13	16
$k_{max.}$	ISO 7045	1.3	1.6	2.1	2.4	2.6	3.1	3.7	4.6	6	7.5
	DIN 14583	–	1.6	2.1	2.4	2.6	3.1	3.7	4.6	6	7.5
	ISO 14580	–	1.55	1.85	2.4	2.6	3.1	3.65	4.4	5.8	6.9



$d_{k\,max.}$	ISO 7046-Part 1 + 2*	3	3.8	4.7	5.5	7.3	8.4	9.3	11.3	15.8	18.3
	ISO 14581	–	3.8	4.7	5.5	7.3	8.4	9.3	11.3	15.8	18.3
$k_{max.}$	ISO 7046-Part 1 + 2*	1	1.2	1.5	1.65	2.35	2.7	2.7	3.3	4.65	5
	DIN 14581	–	1.2	1.5	1.65	2.35	2.7	2.7	3.3	4.65	5



$d_{k\,max.}$	ISO 7047	3	3.8	4.7	5.5	7.3	8.4	9.3	11.3	15.8	18.3
	ISO 14584	–	3.8	4.7	5.5	7.3	8.4	9.3	11.3	15.8	18.3
$k_{max.}$	ISO 7047	1	1.2	1.5	1.65	2.35	2.7	2.7	3.3	4.65	5
	ISO 14584	–	1.2	1.5	1.65	2.35	2.7	2.7	3.3	4.65	5



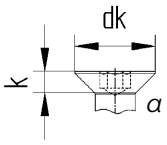
* The dimensions of ISO 7046 Part 1 and Part 2 are identical, but nominal Ø 1.6 was deleted in Part 2

4.2 DIN – ISO comparison of the dimensions of hexagon socket countersunk head screws

Table 5

Thread		M1.6	M2	M2.5	M3	M3.5	M4	M5	M6	M8
$d_{k\,max.}$	ISO 10642	–	–	–	6.72	–	8.96	11.2	13.44	17.92
	DIN7991	–	–	–	6	–	8	10	12	16
$k_{max.}$	ISO 10642	–	–	–	1.86	–	2.48	3.1	3.72	4.96
	DIN 7991	–	–	–	1.7	–	2.3	2.8	3.3	4.4
α (angle of countersink)	ISO 10642	-	-	-	90°	-	90°	90°	90°	90°
	DIN 7991	-	-	-	90°	-	90°	90°	90°	90°

Thread		M10	M12	M14	M16	M18	M20	M22	M24
$d_{k\,max.}$	ISO 10642	22.4	26.88	30.8	33.6	–	40.32	–	–
	DIN 7991	20	24	27	30	33	36	36	39
$k_{max.}$	ISO 10642	6.2	7.44	8.4	8.8	–	10.16	–	–
	DIN 7991	5.5	6.5	7	7.5	8	8.5	13.1	14
α (angle of countersink)	ISO 10642	90°	90°	90°	90°	-	90°	-	-
	DIN 7991	90°	90°	90°	90°	90°	90°	60°	60°



Please note:

ISO 10642: In according with DIN 74:2003-04 the countersinks of these screw heads have to be designed in type F

DIN 7991: In according with DIN 74:1980-12 the countersinks of these screw heads have to be designed in type B

5. Hexagon head bolts

Most DIN standards for these bolt types have been withdrawn years ago. The successor ISO standards largely comply with the DIN standards withdrawn. Therefore, there are normally no restrictions on use. You only have to note that different sizes of fastening tools have to be used for the dimensions M10, M12, M14 and M22. The dimensions for the widths across flats are shown in table 7.

Table 6

Designation	DIN	DIN standard withdrawn	ISO	Interchangeability			Comments / Changes
				yes	limited	no	
Hexagon head screws with thread up to the head Product grade C	558	**yes**	4018	x	–	–	• Nominal size extended • Width across flats for M10, M12, M14 and M22 changed • Property class 4.8 included
Hexagon head bolts with shank – Product grade C	601	**yes**	4016	x	–	–	• Nominal size extended • Width across flats for M10, M12, M14 and M22 changed • Property class 4.8 included
Hexagon head bolts with shank	931	**yes**	4014	x	–	–	• Nominal size extended • Width across flats for M10, M12, M14 and M22 changed
Hexagon head screws with full thread	933	**yes**	4017	x	–	–	• Nominal size extended • Width across flats for M10, M12, M14 and M22 changed
Hexagon head bolts with shank Metric fine pitch thread	960	**yes**	8765	x	–	–	• Nominal size extended • Width across flats for M10, M12, M14 and M22 changed
Hexagon head screws with full metric fine pitch thread	961	**yes**	8676	x	–	–	• Nominal size extended • Width across flats for M10, M12, M14 and M22 changed
Hexagon bolts with flange	6921	**yes**	EN 1665	–	x	–	• Some head heights changed • Flange diameter not changed • Width across flats for M10, M12, M14 and M16, M20 changed • Property class 12.9 omitted • Fine pitch thread omitted
Hexagon head bolts with hexagon nut for steel structures	7990	**no**	–	–	–	–	• Only available in a set containing a hexagon nut according to ISO 4032

5.1 Widths across flats for DIN and ISO hexagon head bolts

Table 7

	Hexagon head bolts with metric pitch thread		Hexagon head bolts with metric pitch thread and flange	
	Widths across flats in mm for hexagon head bolts (normal series according to ISO 272)		Widths across flats in mm for hexagon head bolts	
Nominal Ø	**DIN 558 DIN 601 DIN 931 DIN 933 DIN 960 DIN 961**	**ISO 4018 ISO 4016 ISO 4014 ISO 4017 ISO 8765 ISO 8676**	**DIN 6921**	**EN 1665**
M1.6	3.2	3.2	–	–
M2	4	4	–	–
M2.5	5	5	–	–
M3	5.5	5.5	–	–
M4	7	7	–	–
M5	8	8	8	8
M6	10	10	10	10
M8	13	13	13	13
M10	17	**16**	15	**16**
M12	19	**18**	16	**18**
M14	22	**21**	18	**21**
M16	24	24	21	**24**
M18	27	27	–	–
M20	30	30	27	**30**
M22	32	**34**	–	–
M24	36	36	–	–
M30	46	46	–	–
M36	55	55	–	–
M42	65	65	–	–
M48	75	75	–	–
M56	85	85	–	–

6. Screws with normal cylindrical head

DIN 912 has been replaced by ISO 4762. Some nominal Ø known from the DIN standards are no longer included in the successor ISO standard. Furthermore, an additional standard for screws with metric fine pitch thread has been published. The geometric design of ISO 4762 corresponds to DIN 912, so there are no restrictions on use expected. In addition, there is a new standard for hexalobular socket head cap screws (TX). In comparison to the hexagon drive, the hexalobular drive ensures a better load transmission and less wear of the drive.

Table 8

Designation	DIN	DIN standard withdrawn	ISO	Interchangeability			Comments / Changes
				yes	limited	no	
Hexagon socket head cap screws	912	**yes**	4762	x	–	–	• Nominal size range changed • Fine pitch thread specified in ISO 12474
Hexagon socket head cap screws with metric fine pitch thread	912	**yes**	12474	x	–	–	• Nominal dimension size changed
Hexalobular socket head cap screws	–	**–**	14579	–	–	–	• There was no predecessor DIN standard • The head dimensions are identical to ISO 4762

7. Tapping screws

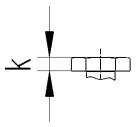
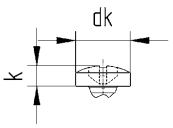
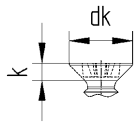
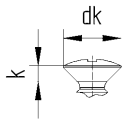
When changing the DIN standards for tapping screws to ISO standards, some head heights and head diameters have been changed. Furthermore, the head angle of countersunk head tapping screws has been changed from 80° to 90°. When manufacturing the countersinks, the applicable specifications of ISO 15065 have to be observed.

Table 9

Designation	DIN	DIN standard withdrawn	ISO	Interchangeability			Comments / Changes
				yes	limited	no	
Hexagon head tapping screws	7976	**yes**	1479	–	x	–	• Some head heights changed (see table 10)
Cross recessed pan head tapping screws	7981	**yes**	7049	–	x	–	• Some head heights and head diameters changed (see table 10)
Cross recessed countersunk head tapping screws	7982	**yes**	7050	–	x	–	• Some head heights and head diameters changed (see table 10) • Countersunk angle according to ISO 90° (DIN 80°)
Cross recessed raised countersunk head tapping screws	7983	**yes**	7051	–	x	–	• Some head heights and head diameters changed (see Table 10) • Countersunk angle according to ISO 90° (DIN 80°)

7.1 DIN – ISO comparison of the dimensions of tapping screws

Table 10

Thread		ST 2.2	ST 2.9	ST 3.5	ST 3.9	ST 4.2	ST 4.8	ST 5.5	ST 6.3	ST 8	ST 9.5	
$k_{max.}$	ISO 1479	1.6	2.3	2.6	–	3	3.8	4.1	4.7	6	7.5	
	DIN 7976	1.42	1.62	2.42	2.42	2.92	3.12	4.15	4.95	5.95	–	
$d_{k\,max.}$	ISO 7049	4	5.6	7	–	8	9.5	11	12	16	20	
	DIN 7981	4.2	5.6	6.9	7.5	8.2	9.5	10.8	12.5	–	–	
$k_{max.}$	ISO 7049	1.6	2.4	2.6	–	3.1	3.7	4	4.6	6	7.5	
	DIN 7981	1.8	2.2	2.6	2.8	3.05	3.55	3.95	4.55	–	–	
$d_{k\,max.}$	ISO 7050	3.8	5.5	7.3	–	8.4	9.3	10.3	11.3	15.8	18.3	
	DIN 7982	4.3	5.5	6.8	7.5	8.1	9.5	10.8	12.4	–	–	
$k_{max.}$	ISO 7050	1.1	1.7	2.35	–	2.6	2.8	3	3.15	4.65	5.25	
	DIN 7982	1.3	1.7	2.1	2.3	2.5	3	3.4	3.8	–	–	
$d_{k\,max.}$	ISO 7051	3.8	5.5	7.3	–	8.4	9.3	10.3	11.3	15.8	18.3	
	DIN 7983	4.3	5.5	6.8	7.5	8.1	9.5	10.8	12.4	–	–	
$k_{max.}$	ISO 7051	1.1	1.7	2.35	–	2.6	2.8	3	3.15	4.65	5.25	
	DIN 7983	1.3	1.7	2.1	2.3	2.5	3	3.4	3.8	–	–	

8. Slotted set screws

The DIN standards for slotted set screws are replaced by successor ISO or EN standards.
There are only slight changes in application.

Table 11

Designation	DIN	DIN standard withdrawn	ISO	Interchangeability			Comments / Changes
				yes	limited	no	
Slotted set screws with long dog point	417	**yes**	EN 27435	x	–	–	• No changes relevant to the application
Slotted headless screws with shank	427	**yes**	2342	x	–	–	• Nominal size M1.4 omitted • Nominal sizes larger than M10 omitted • Steel grade 45 included • Introduction of stainless steel grades
Slotted set screws with cup point	438	**yes**	EN 27436	x	–	–	• No changes relevant to the application
Slotted set screws with flat point	551	**yes**	4766	x	–	–	• Nominal Ø M1, M1.4 omitted
Slotted set screws with cone point	553	**yes**	7434	x	–	–	• Nominal Ø M1, M1.4 omitted

9. Hexagon and hexalobular socket set screws

The DIN standards for hexagon socket set screws have been replaced by successor ISO standards.
There are only slight changes in application.

Table 12

Designation	DIN	DIN standard withdrawn	ISO	Interchangeability			Comments / Changes
				yes	limited	no	
Hexagon socket set screws with flat point	913	**yes**	4026	x	–	–	• Nominal Ø M1.4, M1.8, M14, M18, M22 omitted • Introduction of stainless steel grades
Hexagon socket set screws with cone point	914	**yes**	4027	x	–	–	• Nominal Ø M1.4, M1.8, M14, M18, M22 omitted • Introduction of stainless steel grades
Hexagon socket set screws with dog point	915	**yes**	4028	x	–	–	• Nominal Ø M1.4, M1.8, M14, M18, M22 omitted • Introduction of stainless steel grades
Hexagon socket set screws with cup point	916	**yes**	4029	x	–	–	• Nominal Ø M1.4, M1.8, M14, M18, M22 omitted • Introduction of stainless steel grades
Grub screws with thrust point	6332	**no**	–	–	–	–	• DIN standard is still valid
Hexalobular socket set screws	34827	**no**	–	–	–	–	• DIN standard is still valid

10. Studs

The DIN standards for studs are entirely applicable. Currently, there are no successor ISO standards defined.

Table 13

Designation	DIN	DIN standard withdrawn	ISO	Interchangeability			Comments / Changes
				yes	limited	no	
Studs – Metal end ≈ 2 d	835	**no**	–	–	–	–	• DIN standard is still valid
Studs – Metal end ≈ 1 d	938	**no**	–	–	–	–	• DIN standard is still valid
Studs – Metal end ≈ 1.25 d	939	**no**	–	–	–	–	• DIN standard is still valid
Studs – Metal end ≈ 2.5 d	940	**no**	–	–	–	–	• DIN standard is still valid

11. Screw plugs

The DIN standards for screw plugs are entirely applicable. Currently, there are no successor ISO standards defined.

Table 14

Designation	DIN	DIN standard withdrawn	ISO	Interchangeability			Comments / Changes
				yes	limited	no	
Internal drive pipe plugs – conical thread	906	**no**	–	–	–	–	• DIN standard is still valid
Internal drive pipe plugs with collar – cylindrical thread	908	**no**	–	–	–	–	• DIN standard is still valid
Hexagon head pipe plugs – conical thread	909	**no**	–	–	–	–	• DIN standard is still valid
Hexagon head screw plugs with collar – cylindrical thread	910	**no**	–	–	–	–	• DIN standard is still valid
Hexagon head screw plugs – light type – cylindrical thread	7604	**no**	–	–	–	–	• DIN standard is still valid

12. Other screw and bolt types

Table 15

Designation	DIN	DIN standard withdrawn	ISO	Interchangeability			Comments / Changes
				yes	limited	no	
Wing screws, rounded wings	316	**no**	–	–	–	–	• DIN standard is still valid
Eyebolts	444	**no**	–	–	–	–	• DIN standard is still valid
Lifting eye bolts	580	**no**	–	–	–	–	• DIN standard is still valid
Cup head square neck bolts	603	**no**	–	–	–	–	• DIN standard is still valid
Flat countersunk head nib bolts	604	**no**	–	–	–	–	• DIN standard is still valid
Flat countersunk head square neck bolts with long square	605	**no**	–	–	–	–	• DIN standard is still valid
Cup head nib bolts	607	**no**	–	–	–	–	• DIN standard is still valid
Flat countersunk head square neck bolts with short square	608	**no**	–	–	–	–	• DIN standard is still valid
Thread rolling screws	7500	**no**	–	–	–	–	• DIN standard is still valid
Thread cutting screws – Hexagon screws and slotted head screws	7513	**no**	–	–	–	–	• DIN standard is still valid
Thread cutting screws – Cross recessed head screws	7516	**no**	–	–	–	–	• DIN standard is still valid

13. Wood screws

Table 16

Designation	DIN	DIN standard withdrawn	ISO	Interchangeability			Comments / Changes
				yes	limited	no	
Slotted raised countersunk oval head wood screws	95	**no**	–	–	–	–	• DIN standard is still valid
Slotted round head wood screws	96	**no**	–	–	–	–	• DIN standard is still valid
Slotted countersunk flat head wood screws	97	**no**	–	–	–	–	• DIN standard is still valid
Hexagon head wood screws	571	**no**	–	–	–	–	• DIN standard is still valid

14. Hexagon regular nuts

When changing from DIN to ISO standards, some nut heights have been increased and the widths across flats for the dimensions M10, M12, M14 and M22 have been changed. The proof loads have also been increased. The coarse pitch threads have to comply with ISO 898-2, the fine pitch threads with ISO 898-6. Nuts according to DIN 934 only have to withstand lower proof loads according to DIN 267-4. You can identify nuts with reduced loadability according to ISO 898 Part 2 or Part 6, because they have bars next to the marking of the property class, e.g. **I8I**.

Tabelle 17

Designation	DIN	DIN standard withdrawn	ISO	Interchangeability			Comments / Changes
				yes	limited	no	
Hexagon nuts with metric coarse pitch thread	934	**yes**	4032	–	–	x	• Nominal Ø changed • Height of the nut partially changed • Width across flats for M10, M12, M14, M22 changed • Only for coarse pitch thread
Hexagon nuts with metric fine pitch thread	934	**yes**	8673	–	–	x	• Nominal Ø changed • Height of the nut partially changed • Widths across flats for M10, M12, M14, M22 changed
Hexagon nuts Style 2	–	**–**	4033	–	–	–	• No predecessor DIN standard • For property classes 8, 10, 12
Hexagon nuts Product grade C	555	**–**	4034	–	–	x	• For property class 5

15. Hexagon thin nuts

The DIN standards for hexagon thin nuts have been withdrawn in favour of the successor ISO standards. Except the widths across flats, DIN 439 Part 2 already mostly complied with ISO 4035. Thus they are interchangeable.

DIN 936 has been withdrawn without replacement, as it is only rarely used. Nuts according to this standard do not have defined proof loads for threads. It is recommended to test the usability of these nuts according to ISO 4035.

Table 18

Designation	DIN	DIN standard withdrawn	ISO	Interchangeability			Comments / Changes
				yes	limited	no	
Hexagon thin nuts (unchamfered)	439 Part 1	**yes**	4036	–	x	–	• Width across flats for M10 changed • Recommendation: Use nuts according to ISO 4035
Hexagon thin nuts (chamfered)	439 Part 2	**yes**	4035	x	–	–	• Property class for stainless steels changed from 50 to 025 and from 70 to 035 • Width across flats for M10, M12, M14, M22 changed • Nominal Ø M1.8 omitted • Only for coarse pitch thread
Hexagon thin nuts (chamfered) with metric fine pitch thread	439	**yes**	8675	x	–	–	• Property class for stainless steels changed from 50 to 025 and from 70 to 035 • Width across flats for M10, M12, M14, M22 changed • Nominal-Ø M1.8 omitted
Hexagon thin nuts	936	**yes**	–	–	x	–	• Withdrawn without replacement • Recommendation: Use nuts according to ISO 4035, as they are nearly identical

15.1 Dimensional comparison of hexagon nuts according to DIN and ISO standards

Table 19

Standard	DIN 934		ISO 4032		DIN 439		ISO 4035	
Nominal Ø	Height (mm) $m_{max.}$	WAF (mm)	Height (mm) $m_{max.}$	WAF (mm)	Height (mm) $m_{max.}$	WAF (mm)	Height (mm) $m_{max.}$	WAF (mm)
M1	0.8	2.5	–	–	–	–	–	–
M1.2	1	3	–	–	–	–	–	–
M1.4	1.2	3	–	–	–	–	–	–
M1.6	1.3	3.2	1.3	3.2	1	3.2	1	3.2
M2	1.6	4	1.6	4	1.2	4	1.2	4
M2.5	2	5	2	5	1.6	5	1.6	5
M3	2.4	5.5	2.4	5.5	1.8	5.5	1.8	5.5
M3.5	2.8	6	2.8	6	2	6	2	6
M4	3.2	7	3.2	7	2.2	7	2.2	7
M5	4	8	4.7	8	2.7	8	2.7	8
M6	5	10	5.2	10	3.2	10	3.2	10
M8	6.5	13	6.8	13	4	13	4	13
M10	8	17	8.4	**16**	5	17	5	**16**
M12	10	19	10.8	**18**	6	19	6	**18**
M14	11	22	12.8	**21**	7	22	7	**21**
M16	13	24	14.8	24	8	24	8	24
M18	15	27	15.8	27	9	27	9	27
M20	16	30	18	30	10	30	10	30
M22	18	32	19.4	**34**	11	32	11	**34**
M24	19	36	21.5	36	12	36	12	36
M27	22	41	23.8	41	13.5	41	13.5	41
M30	24	46	25.6	46	15	46	15	46
M33	26	50	28.7	50	16.5	50	16.5	50
M36	29	55	31	55	18	55	18	55
M39	31	60	33.4	60	19.5	60	19.5	60
M42	34	65	34	65	21	65	21	65
M45	36	70	36	70	22.5	70	22.5	70
M48	38	75	38	75	24	75	24	75
M52	42	80	42	80	26	80	26	80
M56	45	85	45	85	–	–	28	85
M60	48	90	48	90	–	–	30	90
M64	51	95	51	95	–	–	32	95

Nuts according to ISO 4032, ISO 4033, ISO 4034 and ISO 8673 as well as nuts for high-strength structural boltings according to ISO 898 Part 2 or Part 6 (marking of the property class without bar on top of the part, e.g. „**8**“) may not be replaced by nuts according to DIN standards which only have got a reduced loadability according to DIN 267 Part 4 (e.g. **I8I**), such as DIN 934.

Table 20

Standard	DIN 934		ISO 4033		ISO 4034		ISO 4036	
Nominal Ø	Height (mm) $m_{max.}$	WAF (mm)	Height (mm) $m_{max.}$	WAF (mm)	Height (mm) $m_{max.}$	WAF (mm)	Height (mm) $m_{max.}$	WAF (mm)
M1	0.8	2.5	–	–	–	–	-	-
M1.2	1	3	–	–	–	–	-	-
M1.4	1.2	3	–	–	–	–	-	-
M1.6	1.3	3.2	–	–	–	–	1	3.2
M2	1.6	4	–	–	–	–	1.2	4
M2.5	2	5	–	–	–	–	1.6	5
M3	2.4	5.5	–	–	–	–	1.8	5.5
M3.5	2.8	6	–	–	–	–	2	6
M4	3.2	7	–	–	–	–	2.2	7
M5	4	8	5.1	8	5.6	8	2.7	8
M6	5	10	5.7	10	6.4	10	3.2	10
M8	6.5	13	7.5	13	7.9	13	4	13
M10	8	17	9.3	16	9.5	16	5	16
M12	10	19	12	**18**	12.2	**18**	–	–
M14	11	22	14.1	**21**	13.9	**21**	–	–
M16	13	24	16.4	**24**	15.9	**24**	–	–
M18	15	27	–	–	16.9	27	–	–
M20	16	30	20.3	30	19	30	–	–
M22	18	32	–	–	20.2	**34**	–	–
M24	19	36	23.9	36	22.3	36	–	–
M27	22	41	–	–	24.7	41	–	–
M30	24	46	28.6	46	26.4	46	–	–
M33	26	50	–	–	29.5	50	–	–
M36	29	55	34.7	55	31.9	55	–	–
M39	31	60	–	–	34.3	60	–	–
M42	34	65	–	–	34.9	65	–	–
M45	36	70	–	–	36.9	70	–	–
M48	38	75	–	–	38.9	75	–	–
M52	42	80	–	–	42.9	80	–	–
M56	45	85	–	–	45.9	85	–	–
M60	48	90	–	–	48.9	90	–	–
M64	51	95	–	–	52.4	95	–	–

Nuts according to ISO 4032, ISO 4033, ISO 4034 and ISO 8673 as well as nuts for high-strength structural boltings according to ISO 898 Part 2 or Part 6 (marking of the property class without bar on top of the part, e.g. „**8**“) may not be replaced by nuts according to DIN standards which only have got a reduced loadability according to DIN 267 Part 4 (e.g. **I8I**), such as DIN 934.

16. Hexagon nuts with flange

The DIN standards for hexagon nuts with flange have been almost completely withdrawn and replaced by successor EN standards. The nut heights and some widths across flats have been changed.

Special attention should be paid not to replace nuts according to EN standards by nuts according to withdrawn DIN standards.

Table 21

Designation	DIN	DIN standard withdrawn	ISO	Interchangeability			Comments / Changes
				yes	limited	no	
Hexagon nuts with flange	6923	**yes**	EN 1661	x	–	–	• Fine pitch thread omitted • Width across flats for dimension M10 changed from 15 mm to 16 mm
Prevailing torque type all-metal hexagon high nuts with non-metallic insert	6926	**yes**	EN 1663	–	x	–	• Nuts with fine pitch thread included in DIN EN 1666 • Nut height h_{min} changed • Width across flats for dimension M10 changed from 15 mm to 16 mm • Property class 12 omitted
Prevailing torque type hexagon nuts with flange with non-metallic insert	6926	**yes**	EN 1666	–	x	–	• Nuts with regular pitch thread included in DIN EN 1663 • Nut height h_{min} changed • Width across flats for dimension M10 changed from 15 mm to 16 mm • Property class 12 omitted • Property class 6 included
Prevailing torque type all-metal hexagon nuts with flange	6927	**yes**	EN 1664	–	x	–	• Nuts with fine pitch thread included in DIN EN 1667 • Nut height h_{min} changed • Width across flats for dimension M10 changed from 15 mm to 16 mm
Prevailing torque type all-metal nuts with flange	6927	**yes**	EN 1667	–	x	–	• Nuts with regular pitch thread included in DIN EN 1664 • Nut height h_{min} changed • Width across flats for dimension M10 changed from 15 mm to 16 mm
Hexagon collar nuts with a height of 1.5 d	6331	**no**	–	–	–	–	• DIN standard is still valid

17. Prevailing torque type hexagon nuts

All DIN standards for prevailing torque type hexagon nuts (locknuts) have been withdrawn and replaced by successor ISO standards. There have been many changes when introducing the ISO standards.
Please note that in the successor ISO standard 10511 of DIN 985, which is still often used, the property classes have been changed, as these are nuts with reduced loadability.

Special attention should be paid not to replace nuts according to ISO standards by nuts according to withdrawn DIN standards.

Table 22

Designation	DIN	DIN standard withdrawn	ISO	Interchangeability			Comments / Changes
				yes	limited	no	
Prevailing torque type all-metal hexagon nuts	980 6925	**yes**	7042	–	x	–	• Threads M3, M4, M7, M18, M22, M27, M33 and M39 omitted • Height of nut changed • Width across flats for threads M10, M12 and M14 changed to 16, 18 and 21 mm (between DIN 980 and ISO 7042) • Coarse pitch thread included in ISO 10513 • ISO standard only applicable for property classes 5, 8, 10, 12
Prevailing torque type all-metal high nuts	980	**yes**	10513	–	x	–	• Threads M18×2, M18×1.5, M20×2, M22×2, M22×1.5, M27×2, M33×2 and M39×3 omitted • Height of nut changed • Width across flats for threads M10, M12 and M14 changed to 16, 18 and 21 mm • Coarse pitch thread included in ISO 7042 • For property classes 8, 10, 12
Prevailing torque type hexagon nuts with non-metallic insert, heavy type	982 6924	**yes**	7040	–	x	–	• Threads M7, M18, M22 omitted • Threads M3, M4, M30 and M36 included • Height of nut changed • Width across flats for threads M10, M12 and M14 changed to 16, 18 and 21 mm (between DIN 982 and ISO 7040) • Coarse pitch thread included in ISO 10512 • Property class 12 omitted • For property classes 5, 8, 10
Prevailing torque type hexagon regular nuts with non-metallic insert and metric fine pitch thread	982	**yes**	10512	–	x	–	• Threads M18×2, M18×1.5, M20×2, M22×2, M22×1.5, M27×2, M33×2 and M39×3 omitted • Height of nut changed • Width across flats for threads M10, M12 and M14 changed to 16, 18 and 21 mm • Coarse pitch thread included in ISO 7040 • For property classes 6, 8, 10 • Property classes 5 and 12 omitted
Prevailing torque type hexagon thin nuts with non-metallic insert	985	**yes**	10511	–	x	–	• Threads M7, M18, M22, M27, M33 and M36 omitted • Fine pitch thread omitted • Height of nut changed • Width across flats for threads M10, M12 and M14 changed to 16, 18 and 21 mm • Property classes changed

18. Weld nuts

Until now only DIN 977 hexagon weld nut with flange, has been withdrawn. When changing this standard to ISO 21670, there have not been any changes relevant to the application.

Table 23

Designation	DIN	DIN standard withdrawn	ISO	Interchangeability			Comments / Changes
				yes	limited	no	
Square weld nuts	928	**no**	–	–	–	–	• DIN standard is still valid
Square weld nuts	929	**no**	–	–	–	–	• DIN standard is still valid
Hexagon weld nuts with flange	977	**yes**	21670	x	–	–	• No changes relevant to the application

19. Cap nuts

The DIN standards for cap nuts are still valid and are not replaced by successor ISO standards. Only DIN 986, prevailing torque type hexagon dome cap nut, has been withdrawn without replacement.

Table 24

Designation	DIN	DIN standard withdrawn	ISO	Interchangeability			Comments / Changes
				yes	limited	no	
Hexagon cap nuts, low type	917	**no**	–	–	–	–	• DIN standard is still valid
Hexagon dome cap nuts, high type	1587	**no**	–	–	–	–	• DIN standard is still valid
Prevailing torque type hexagon dome cap nuts with non-metallic insert	986	**yes**	–	–	–	–	• DIN standard has been withdrawn without replacement

20. Hexagon castle nuts

The DIN standards for hexagon castle nuts are still valid and have not been replaced by successor ISO standards yet. Only DIN 937, hexagon thin castle nut (previous design), has been withdrawn in favour of the similar castle nut according to DIN 979.

Table 25

Designation	DIN	DIN standard withdrawn	ISO	Interchangeability			Comments / Changes
				yes	limited	no	
Hexagon slotted and castle nuts	935	**no**	–	–	–	–	• DIN standard is still valid
Hexagon thin castle nuts (previous design)	937	**yes**	–	–	–	–	• DIN standard has been withdrawn without replacement
Hexagon thin slotted and castle nuts	979	**no**	–	–	–	–	• DIN standard is still valid

21. Other nuts

Table 26

Designation	DIN	DIN standard withdrawn	ISO	Interchangeability			Comments / Changes
				yes	limited	no	
Wing nuts, rounded wings	315	**no**	–	–	–	–	• DIN standard is still valid
Knurled nuts, high type	466	**no**	–	–	–	–	• DIN standard is still valid
Knurled nuts, low type	467	**no**	–	–	–	–	• DIN standard is still valid
Eye nuts	582	**no**	–	–	–	–	• DIN standard is still valid
Forged turnbuckles (open type)	1480	**no**	–	–	–	–	• DIN standard is still valid
Slotted round nuts for hook spanner; ISO metric fine thread	1804	**no**	–	–	–	–	• DIN standard is still valid
Hexagon nuts with a height of 1.5 d	6330	**no**	–	–	–	–	• DIN standard is still valid
Self locking counter nuts (PAL)	7967	**yes**	–	–	–	–	• Withdrawn without replacement

22. Washers

Some DIN standards often used, such as DIN 125, have been withdrawn and replaced by the ISO standards 7089 and 7090. Hardness class 140 HV, which has often been used, is no longer included in the successor standards. In any case, it is absolutely necessary to use at least hardness class 200 HV for high-strength screws and bolts of property class 8.8 and higher. This is often ignored in practice.

Table 27

Designation	DIN	DIN standard withdrawn	ISO	Interchangeability			Comments / Changes
				yes	limited	no	
Plain washers – up to 250 HV Product grade A	125 Part 1	**yes**	7089 7090	x	–	–	• ISO 7089 = Washers without chamfer • Limited to hardness class 200 HV and 300 HV • Dimensions partially changed
Plain washers – from 300 HV Product grade A	125 Part 2	**yes**	7089 7090	x	–	–	• ISO 7090 = Washers, chamfered • Limited to hardness class 200 HV and 300 HV • Dimensions partially changed
Plain washers – Small series – Product grade A	433	**yes**	7092	x	–	–	• Limited to hardness class 200 HV and 300 HV • Nominal sizes 1; 1.3; 1.5 omitted
Square taper washers for U-sections	434	**no**	–	–	–	–	• DIN standard is still valid
Square taper washers – especially for timber constructions	436	**no**	–	–	–	–	• DIN standard is still valid
Square taper washers – especially for timber constructions	440	**no**	–	–	–	–	• DIN standard is still valid
Shim rings and supporting rings	988	**no**	–	–	–	–	• DIN standard is still valid
Washers for clamping devices	6340	**no**	–	–	–	–	• DIN standard is still valid
Plain washers for bolts with heavy clamping sleeves	7349	**no**	–	–	–	–	• DIN standard is still valid
Washers for steel structures – Produc grade A	7989-2	**no**	–	–	–	–	• DIN standard is still valid
Plain washers – Large series – Product grade A	9021	**yes**	7093-Part 1	x	–	–	• Limited to hardness class 200 HV and 300 HV • Dimensions partiallly changed • ISO 7093 Part 1 = Product grade A • ISO 7093 Part 2 = Product grade C

23. Spring washers, conical spring washers and serrated lock washers

DIN 6796 is the only DIN standard for locking washers which is still valid. All other DIN standards have already been withdrawn a long time ago. Tests have shown that these products are ineffective in combination with screws or bolts of property class 8.8 or higher.

In combination with screws or bolts up to property class 10.9, DIN standard 6796 can be used to reduce settling.

Table 28

Designation	DIN	DIN standard withdrawn	ISO	Interchangeability			Comments / Changes
				yes	limited	no	
Spring lock washers, barbed or plain	127	**yes**	–	–	–	–	• Withdrawn without replacement, as there is no functional guarantee in combination with high-strength screws and bolts
Curved spring lock washers	128	**yes**	–	–	–	–	• Withdrawn without replacement, as there is no functional guarantee in combination with high-strength screws and bolts
Spring washers, crinkled	137	**yes**	–	–	–	–	• Withdrawn without replacement, as there is no functional guarantee in combination with high-strength screws and bolts
Toothed lock washers	6797	**yes**	–	–	–	–	• Withdrawn without replacement, as there is no functional guarantee in combination with high-strength screws and bolts
Serrated lock washers	6798	**yes**	–	–	–	–	• Withdrawn without replacement, as there is no functional guarantee in combination with high-strength screws and bolts
Conical spring washers for bolted connections	6796	**no**	–	–	–	–	• DIN standard is still valid
Single coil spring lock washers for cheese head screws	7980	**yes**	–	–	–	–	• Withdrawn without replacement, as there is no functional guarantee in combination with high-strength screws and bolts

24. Taper and parallel pins

All DIN standards for taper and parallel pins have been withdrawn and replaced by EN or ISO standards. The successor standards sometimes have different length definitions in comparison to the withdrawn DIN standards. Nevertheless, in most cases it is possible to substitute DIN parts without major design changes. For example, the specification of the nominal lengths of taper pins according to DIN 1 and parallel pins according to DIN 7 is without round ends. In the successor standards EN 22339 and ISO 2338 the whole length of the pin is used to define the nominal length, that means round ends and chamfers are included.

Table 29

Designation	DIN	DIN standard withdrawn	ISO	Interchangeability			Comments / Changes
				yes	limited	no	
Taper pins, unhardened	1	**yes**	EN 22339	–	x	–	• Nominal length redefined • Heights of the ends changed • Hardness range for steel defined
Parallel pins, unhardened	7	**yes**	2338	–	x	–	• Nominal length redefined • Heights of the ends changed • Hardness range for steel defined
Parallel pins, hardened	6325	**yes**	8734	–	x	–	• Some nominal lengths changed • Distinction between the pin ends omitted • Corrosion-resistant material included
Taper pins with external thread, unhardened	7977	**yes**	EN 28737	–	x	–	• Some lengths of the half-dog points shortened • Nominal Ø omitted • Hardness range for steel defined
Taper pins with internal thread, unhardened	7978	**yes**	8736	–	x	–	• Hardness range for steel defined • Some other nominal lengths defined • Some thread depths changed • Nominal Ø omitted
Parallel pins with internal thread, hardened	7979	**yes**	8735	–	x	–	• Some other nominal lengths defined • Some thread depths changed • Corrosion-resistant material included
Parallel pins with internal thread, unhardened	7979	**yes**	8733	–	x	–	• Some other nominal lengths defined • Some thread depths changed • Corrosion-resistant material included

25. Spiral pins

All DIN standards for spiral pins/roll pins have been withdrawn and replaced by successor ISO standards. In this context, the possible use of spring pins/roll pins in bolted connections, which was allowed according to some DIN standards, has been deleted. In most cases, it is possible to substitute spiral pins according to DIN standard by spiral pins according to ISO standard.

Table 30

Desingation	DIN	DIN standard withdrawn	ISO	Interchangeability			Comments / Changes
				yes	limited	no	
Spring pins/roll pins – slotted, heavy duty	1481	**yes**	8752	x	–	–	• Specification "non-jamming" included • Application in bolted connections omitted • Single shear omitted
Coiled spring pins – standard duty	7343	**yes**	8750	x	–	–	• Material stainless steel included
Coiled spring pins – heavy duty	7344	**yes**	8748	x	–	–	• Material stainless steel included
Spring pins/roll pins – slotted, light duty	7346	**yes**	13337	–	x	–	• Specification "non-jamming" included • Single shear omitted • Nominal Ø 7, 11 and 23 deleted • Dimension d1 changed for spiral pins with nominal Ø 4.5 • Dimension s changed for spring pins with nominal Ø 13 and 18 • Paragraph „Application in bolted connections" deleted

26. Clevis pins

The DIN standards for clevis pins have been withdrawn and replaced by EN standards. As they only show minor changes in comparison to the successor EN standards, they are interchangeable.

Table 31

Designation	DIN	DIN standard withdrawn	ISO	Interchangeability			Comments / Changes
				yes	limited	no	
Clevis pins with small head	1434	**yes**	–	–	–	–	• Standard withdrawn without replacement
Clevis pins without head	1443	**yes**	EN 22340	x	–	–	• Some other nominal lengths defined • Definition of the hardness range of steel
Clevis pins with head	1444	**yes**	EN 22341	x	–	–	• Some other nominal lengths defined • Definition of the hardness range of steel

27. Other fasteners

Table 32

Designation	DIN	DIN standard withdrawn	ISO	Interchangeability			Comments / Changes
				yes	limited	no	
Split pins	94	yes	1234	x	–	–	• Material stainless steel included
Ball knobs	319	no	–	–	–	–	• DIN standard is still valid
Retaining rings for shafts	471	no	–	–	–	–	• DIN standard is still valid
Retaining rings for bores	472	no	–	–	–	–	• DIN standard is still valid
Adjusting rings	705	no	–	–	–	–	• DIN standard is still valid
Stud bolts metric thread	976	no	–	–	–	–	• DIN standard is still valid
Disc springs	2093	no	–	–	–	–	• DIN standard is still valid
Snap hooks of half-round wire	5299	no	–	–	–	–	• DIN standard is still valid
Machine knobs	6336	no	–	–	–	–	• DIN standard is still valid
Parallel keys deep pattern	6885	no	–	–	–	–	• DIN standard is still valid
Steel thimbles for fibre ropes	6899	no	–	–	–	–	• DIN standard is still valid
Sealing rings	7603	no	–	–	–	–	• DIN standard is still valid
Conical head lubricating nipples	71412	no	–	–	–	–	• DIN standard is still valid
Fork joints	71751	no	–	–	–	–	• DIN standard is still valid
Angle joints with or without circlips	71802	no	–	–	–	–	• DIN standard is still valid
Shackles – standard type	82101	no	–	–	–	–	• DIN standard is still valid

28. Technical delivery conditions and basic standards

Table 33

Title	DIN	DIN standard withdrawn	ISO
Fasteners, Surface disconuities, Nuts	267 Part 20	yes	6157 Part 2
Fasteners, Surface disconuities, Nuts	267 Part 21	yes	10484 10485
Fasteners - Bolts, screws, studs and nuts – Symbols and descriptions of dimensions	EN 20225	yes	225
Fasteners – Clearance holes for bolts and screws	EN 20273	yes	273
Mechanical properties of fasteners – Bolts, screws and studs	267 Part 3	yes	898 Part 1
Mechanical properties of fasteners – Nuts with specified proof load values	267 Part 4	yes	898 Part 2
Mechanical properties of fasteners – Nuts with specified proof load values, fine pitch thread	267 Part 4	yes	898 Part 6
Fasteners; Surface disconuities; Bolts, screws and studs subject to general requirements	267 Part 19	yes	EN 26157 Part 1
Fasteners - Surface disconuities – Part 2: Nuts	267 Part 19	yes	6157 Part 2
Fasteners; Surface disconuities; Bolts, screws and studs subject to special requirements, as well as property classs 12.9	267 Part 19	yes	EN 26157 Part 3
Countersunk head screws – Part 2: Penetration depth of cross recesses	DIN ISO 7721	yes	EN 27721 Part 2
Fasteners – Electroplated coatings	267 Part 9	yes	4042
Fasteners – General requirements for bolts, screws, studs and nuts	267 Part 1	yes	8992
Fasteners – Acceptance inspection	267 Part 5	yes	3269
Mechanical properties of corrosion-resistant stainless steel fasteners – Part 1: Bolts, screws and studs	267 Part 11	yes	3506 Part 1
Mechanical properties of corrosion-resistant stainless steel fasteners – Part 2: Nuts	267 Part 11	yes	3506 Part 2
Mechanical properties of corrosion-resistant stainless steel fasteners – Part 3: Set screws and similar fasteners not under tensile stress	267 Part 11	yes	3506 Part 3
Mechanical properties of corrosion-resistant stainless steel fasteners – Part 4: Tapping screws	267 Part 11	yes	3506 Part 4
Heat-treated steel tapping screws – Mechanical properties	267 Part 12	yes	2702
Mechanical properties of fasteners; non-ferrous metal bolts, screws, studs and nuts (ISO 8839: 1986)	267 Part 18	yes	EN 28839
Tolerances for fasteners – Part 1: Bolts, screws, studs and nuts	267 Part 2	yes	4759 Part 1
Tolerances for fasteners – Part 3: Plain washers for bolts, screws and nuts	522	yes	4759 Part 3
Fasteners – Ends of parts with external ISO metric thread	78	yes	4753

29. General survey of successor DIN-ISO standards / predecessor ISO-DIN standards

Table 34

DIN	ISO
1	EN22339
7	EN22338
84	1207
85	1580
94	1234
125	7089
125	7090
126	7091
417	EN 27435
427	2342
433	7092
438	7436
439	4035
439	4036
440	7094*
551	4766
553	7434
555	4034
558	4018
601	4016
660	1051
661	1051
911	2936
912	4762
913	4026
914	4027
915	4028
916	4029

DIN	ISO
931	4014
933	4017
934	4032
934	8673
960	8765
961	8676
963	2009
964	2010
965	7046
966	7047
971-1	8673
971-2	8674
977	21670
980	7042
980	10513
982	7040
982	10512
985	10511
1440	8738
1444	EN 22341
1471	8744
1472	8745
1473	8740
1474	8741
1475	8742
1476	8746
1477	8747
1481	8752
6325	8734

DIN	ISO
6914	EN 14399-4
6915	EN 14399-4
6916	EN 14399-6
6921	EN 1665
6923	EN 1661
6924	7040
6925	7042
6926	EN 1661
6927	EN 1664
7343	8750
7343	8751
7344	8748
7346	13337
7971	1481
7972	1482
7973	1483
7976	1479
7977	EN 28737
7978	8736
7979	8733
7979	8735
7981	7049
7982	7050
7983	7051
7985	7045
7991	10642
9021	7093
11024	7072

* Successor standard roof of DIN 440 shape R (round hole)

FASTENERS

Differences between DIN – EN – ISO standards

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