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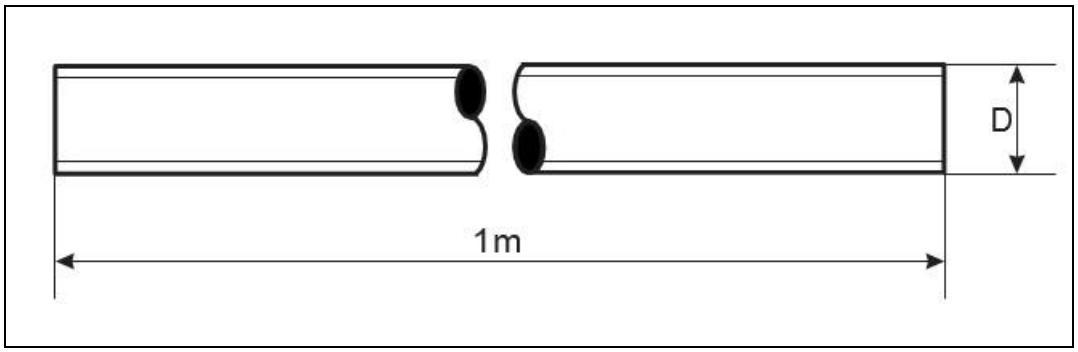
Product Dimensions and Weights Technical Specifications

DIN 975 withdrawn replaced by DIN 976

Metric DIN 975 Threaded Rods



Thread size D		Length	Weight kg/1000pcs
M2	M2-0.4	1000±10	18.7
M2.5	M2.5-0.45	1000±10	30
M3	M3-0,5	1000±10	44
M3.5	M3.5-0.6	1000±10	60
M4	M4-0.7	1000±10	78
M5	M5-0.8	1000±10	124
M6	M6-1.0	1000±10	177
M8	M8-1.25	1000±10	319
M10	M10-1.5	1000±10	500
M12	M12-1.75	1000±10	725
M14	M14-2	1000±10	970
M16	M16-2	1000±10	1330
M18	M18-2.5	1000±10	1650

All measurements are in mm

Cont.

Thread size D		Length	Weight kg/1000pcs
M20	M20-2.5	1000±10	2080
M22	M22-2.5	1000±10	2540
M24	M24-3	1000±10	3000
M27	M27-3	1000±10	3850
M30	M30-3.5	1000±10	4750
M33	M33-3.5	1000±10	5900
M36	M36-4	1000±10	3900
M39	M39-4	1000±10	8200
M42	M42-4.5	1000±10	9400
M45	M45-4.5	1000±10	11000
M48	M48-5	1000±10	12400
M52	M52-5	1000±10	14700

All measurements are in mm

Metric DIN 975 threaded rods are 1m long rods that are threaded along their entire length. They resemble the threaded shaft of a screw or bolt, but tend to be longer. Unlike a screw or bolt, they do not have a head. Also known as all thread rod (ATR), fully threaded rod, continuously threaded rod or redi-rod. They are designed to be used in tension joining and/or stabilizing objects together. Metric DIN 975 threaded rods are available in steel as well as stainless steel A2 and A4.

DIN (**D**eutsches **I**nstitut für **N**ormung - German Institute for Standardization) standards are issued for a variety of components including industrial fasteners as metric DIN 975 threaded rods. The DIN standards remain common in Germany. Europe and globally even though the transition to ISO standards is taking place. DIN standards continue to be used for parts which do not have ISO equivalents or for which there is no need for standardization like DIN 975 threaded rods.

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1) Mechanical properties of stainless steel for metric DIN 975 threaded rods

Stainless steels can be divided into three groups of steel - austenitic. ferritic and martensitic. Austenitic steel is by far the most common type (>90% of commercial fasteners). The steel groups and strength classes are designated by a four-digit sequence of letters and numbers (eg A2-70) as shown in the following table. DIN EN ISO 3506 governs screws and nuts made from stainless steel.

Steel group	Steel grade	Strength class	Screws. Nuts and Bolts			
			Tensile strength N/mm²	Tensile strength PSI	Dia range	Nut Load N/mm²
Austenitic	A2 and A4	50	500	70.000	<=M39	500
		70	700	100.000	<=M20	700
		80	800	118.000	<=M20	800

The tensile stress is calculated with reference to the tensile stress area (see DIN EN ISO 3506-1979). Nuts to be paired with same grade of stainless steel screws

Steel group	Property Strength class	Made From	Characteristics
Austenitic	50	A1. A2	Soft; cold worked. turned and soft pressed fasteners
	70	A2. A4	Cold worked. normal strength formed fasteners
	80	A2. A4	Extreme cold worked. high strength. special applications

2) Chemical composition of stainless steel metric DIN 975 threaded rods

Grade	USA Grade	Material designation	Material no.	C %	Si ≤ %	Mn ≤ %	Cr %	Mo %	Ni %
A 2	304	X 5Cr Ni 1810	1.4301	≤ 0.07	1.0	2.0	17.5 to 19.5	-	8.0 to 10.5
		X 2 Cr Ni 1811	1.4306	≤ 0.03	1.0	2.0	18.0 to 20.0	-	10 to 12.0
		X 8 Cr Ni 19/10	1.4303	≤ 0.07	1.0	2.0	17.0 to 19.0	-	11.0 to 13.0
A 4	316	X 5 Cr Ni Mo 1712	1.4401	≤ 0.07	1.0	2.0	16.5 to 18.5	2.0 to 2.5	10.0 to 13.0
		X 2 Cr Ni Mo 1712	1.4404	≤ 0.03	1.0	2.0	16.5 to 18.5	2.0 to 2.5	10 to 13

3) Chemical composition of steel metric DIN 975 threaded rods

PROPERTY CLASS	MATERIALAND TREATMENT	CHEMICAL COMPOSITION LIMITS %				TEMPERING TEMP °C MIN.
		C		P	S	
		min.	max.	max.	max.	
4.6. 4.8. 5.8.6.8	Low or medium carbon steel	-	0.55	0.05	0.06	-
8.8	Medium carbon steel quenched. tempered	0.25	0.55	0.04	0.05	425
9.8	Medium carbon steel quenched. tempered	0.25	0.55	0.04	0.05	425
10.9	Medium carbon steel additives e.g. boron. Mn. Cr or Alloy steel -quenched. tempered	0.20	0.55	0.04	0.05	425
12.9	Alloy steel - quenched. tempered	0.20	0.50	0.035	0.035	380

4) Mechanical properties of steel for metric DIN 975 threaded rods

MECHANICAL PROPERTY		PROPERTY CLASS								
						8.8				
		4.8	5.6	5.8	6.8	Up to M 16	Over M 16	9.8	10.9	12.9
Tensile Strength (Rm. N/mm²)	nom.	400	500		600	800		900	1000	1200
	min.	420	500	520	600	800	830	900	1040	1220
Vickers Hardness	min.	130	155	160	190	250	255	290	320	385
	max	250				320	336	360	380	435
Brinell Hardness	min.	124	147	152	181	319	242	266	295	353
	max.	238				385	319	342	363	412
Rockwell Hardness	min. HR	71	79	82	89	-				
	HRC	-	-	-	-	20	23	28	32	39
	HR	95			99	-				
	max. HRC	-	-	-	-	32	34	37	39	44
Yield Stress ReL. N/mm²	nom.	320	300	400	480	-				
	min.	340	300	420	480	-				
Stress at permanent set limit N/mm²	nom.	-				640		720	900	1080
	min.	-				640	660	720	940	1100

Disclaimer

Dimensional data and technical information for metric DIN 975 threaded rods was obtained from publicly available sources and not acquired through standards agencies. It has been completed and compiled for reference purposes only; where discrepancies are found they are subject to change without notice.