

THREADED ROD DIN 976-1 - 10.9

Primary data

- > Class 10.9 acc. to ISO 898-1
- > Metric thread acc. to ISO 965-2
- > Coarse thread
- > Fine thread
- > Right hand / left hand thread



Description

> Recommended to friction bolted joints with controlled tightening and bolted joints exposed with high loads. The strength of the material exceeds the higher tensile strength (above 1000 MPa), which carries the risk of hydrogen embrittlement. It is often recommended for surface finish of special applications (GEOMET®, DACROMET® etc.).

Guaranteed minimum notched impact strength min. 27J at -20°C

Produced from carbon or alloy steel, hardened and tempered.

Dimensions lengths and diameters

- > Lengths - Standard: 1000 mm, 2000 mm, 3000 mm
- on the request: 70 mm - 6000 mm
- > Diameters - M3 - M160

Surface finish

- > Without surface finish - plain (marked PL)
- > Electrogalvanized (marked ZP), standard 8 µm (A3K) acc. to ISO 4042
- > Others

Tolerance of length, thread and straightness

> Tolerance of the length:

length [mm]		tol. [mm]	length [mm]		tol. [mm]
≥...	<...		≥...	<...	
...	30	0,42	400	500	1,25
30	50	0,5	500	630	1,4
50	80	0,6	631	800	1,6
80	120	0,7	800	1000	1,8
120	180	0,8	1000	2000	4,5
180	250	0,925	2000	3000	7,5
250	315	1,05	3000	...	10,5
315	400	1,15			

> Tolerance of the thread:

tolerance **6g**: without surface treatment (PL)

tolerance **6h**: for electrogalvanized (ZP)

Other according to specification

> Straightness threaded rods $d \geq M10$:

tolerance 2,5 mm / 1 m

Mechanical properties, class 10.9

			min.	max.
Tensile Strength	Rm	MPa	1040	-
Yield Stress	Rel	MPa	940	-

continue

Elongation	A	%	9	-
Hardness - Rockwell	HRC	-	32	39
Impact strength KV	-20°C	J	27	-

Chemical properties, class 10.9

		min.	max.
C	%	0,2	0,550
P	%	-	0,025
S	%	-	0,025
B	%	-	0,003
Carbon equivalent CEQ	%	-	-

Minimum ultimate tensile loads M3 - M39, class 10.9

thread	As [mm ²]	min. ultimate t. l. [kN]	thread	As [mm ²]	min. ultimate t. l. [kN]
M3	5,03	5,23	M18	192	200,2
M4	8,78	9,13	M20	245	254,6
M5	14,2	14,77	M22	303	315,5
M6	20,1	20,90	M24	353	366,6
M8	36,6	38,07	M27	459	477,8
M10	58	60,31	M30	561	583,0
M12	84,3	87,64	M33	694	721,3
M14	115	120,1	M36	817	849,4
M16	157	162,9	M39	976	1014,8

Marking - colour code

> colored end - white colour RAL 1013



Documents

Your request to create any of these documents must be entered before ordering. We can supply the following documents:

- > Declaration of compliance with the order F2.1 acc. EN ISO 16228 or EN 10204
- > Certificate F2.2 acc. to EN 16228 or EN 10204
- > Inspection certificate F3.1 acc. to EN 16228 or EN 10204
- > Test report
- > Dimensional checklist

Standards

- > EN ISO 898-1
- > DIN 976-1
- > EN ISO 965-1, EN ISO 965-2
- > EN ISO 4042, EN ISO 10684

Example of ordering

DIN 976-1 - 10.9 - M24x1000 mm - ZP

DIN 976-1 - 10.9 - M12x1400 mm - PL

Notice

The above mentioned information gives basic information on fasteners. Company Valenta ZT Ltd. assumes no responsibility for inappropriate use or misinterpretation of the information presented herein.

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