

DIN 267-27:2024-07 (E)

Fasteners - Part 27: Steel screws, bolts and studs made of steel with pre-adhesive coating - Technical specifications

Contents		Page
Foreword		4
1	Scope	6
2	Normative references	6
3	Terms and definitions	7
4	Dimensions and designation	9
4.1	Coating as a rule	9
4.2	Coatings with special length and/or position	9
4.3	Designation	10
4.3.1	General	10
4.3.2	Designation example for a coating as a rule	10
4.3.3	Examples of designations for coatings with a special length and/or position	11
5	Requirements	11
5.1	General	11
5.1.1	Suitability test	11
5.1.2	System test	11
5.2	Test torques, test tightening torques and test torque ratios	13
5.2.1	Testing without preload at room temperature (23 ± 5) °C, 100 °C and 150 °C	13
5.2.2	Testing with preload	14
5.3	Thread friction coefficients	15
5.4	Resistance to aggressive media	15
5.5	Resistance to long-term effects at elevated temperatures	15
6	Test procedure	15
6.1	General	15
6.2	Test of breakaway torques, prevailing-off torques and test torque ratios	15
6.2.1	Testing without preload	15
6.2.2	Testing with preload	16
6.3	Testing of thread friction coefficients	18
6.4	Testing the resistance to aggressive media	18
6.5	Testing the resistance to long-term effects of elevated temperatures	19
6.6	Test specimens and test devices	19
6.6.1	Test bolt	19
6.6.2	Test nut	19
6.6.3	Test washer	19
6.6.4	Torque measuring device	19
6.6.5	Test device for evaluation of thread friction coefficients	19
6.6.6	Oven for testing temperature resistance	20
7	Auxiliary functions and application notes	20
7.1	Sealing function	20
7.2	Fastening in practice	20
7.2.1	Nut thread	20
7.2.2	Fastening process	20
7.3	Loosening capability	20
7.4	Reuse	20
7.5	Design information	21

8	Delivery	21
9	Shelf life	21
	Annex A (informative) Influence of the engaged adhesive length on the locking effect of MK coatings	23
	Annex B (informative) Explanations on the locking effect of MK coatings on bolts with surfaces with integral and/or additionally applied lubricants (testing with preload)	24
	Bibliography	26
	Figures Figure 1 -- Examples for length and position of the coating as a rule	9
	Figure 2 -- Examples of coatings of a particular length and position	10
	Figure 3 -- Test procedure for testing without preload	16
	Figure 4 -- Test arrangement with test strip	17
	Figure 5 -- Test arrangement with test sleeve	17
	Figure 6 -- Test procedure for testing with preload	18
	Figure B.1 -- Loosening torque ratio ML/MA of bolts without adhesive protection (unsecured bolts) as a function of the coefficient of friction μ_{ges} (here for example for M6 bolts); assumptions: Bearing geometry according to DIN EN ISO 4014, preload loss due to setting 10 %	24
	Tables Table 1 -- Test torques at room temperature, 100 °C and 150 °C (without preload)	13
	Table 2 -- Test torques and test torque ratios at room temperature, 100 °C and 150 °C (with preload)	14