

Powłoki preaplikowane zastosowania



Co to jest powłoka preaplikowana ?

- Sucha w dotyku powłoka naniesiona na element złączny – na gwint lub pod łeb na części lub całości obwodu.
- Zabezpiecza przed samoodkręceniem i/lub uszczelnia złącze.
- Może obniżać moment instalacyjny lub znakować element złączny.

Rodzaje powłok

- Klejowa (mikrokapsuły), 360° obwodu trzpienia, DIN 267-27
- Blokująca (poliamidowa), 180° lub 360° obwodu trzpienia, DIN 267-28
- Uszczelniająca - 360° obwodu trzpienia
- Smarująca - 360° obwodu trzpienia

Powłoki klejowe

1. 3M

- Scotch Grip 2353 (niebieski)
- Scotch Grip 2510 (pomarańczowy)

2. Henkel/Loctite

- Loctite 204 (Dri-loc 204, czerwony)
- Loctite 2045 (Dri-loc 2045, malinowy)

3. Omnitechnik

- Precote 30 (żółty)
- Precote 80 (czerwony)
- Precote 85 (turkusowy)



Powłoki blokujące

1. Omnitechnik

- Precote 10-1 (zielony, 360°)

2. Galfa

- Dri-loc plastic (żółty, czerwony, niebieski, 180°)



Powłoki uszczelniające

1. Omnitechnik
 - Precote 5 (biały)
2. Henkel/Loctite
 - Loctite 5061 (Dri-loc 5061, jasno-szary)
 - Loctite 517 (Vibra-Seal 517, rudy)
 - Loctite 506 (Dri 506, jasno-niebieski)

Powłoki smarujące

1. Omnitechnik
 - Top300 (żółty)



Norma DIN 267-27 powłoki klejowe

Fasteners – Part 27: Steel screws, bolts and studs with adhesive coating – Technical delivery conditions

3.1 adhesive coating

microencapsulated adhesive coating completely covering the entire thread, the bonding properties of which are activated by the process of bolting and which, after curing, serves to prevent the bolts working loose

3.4 screw-in torque

M_{in}
torque measured when a bolt is driven into a test nut

3.5 tightening torque

M_A
torque required to generate the required preload

3.6 breakaway torque

M_{LB}
torque directed to permit loosening and measured when a relative motion between test nut and bolt is detected in a preloaded or unloaded, adhesive-coated bolt assembly

3.8 loosening torque

M_{out}
maximum torque measured when unscrewing an adhesive-coated bolt after breakaway from the locking position

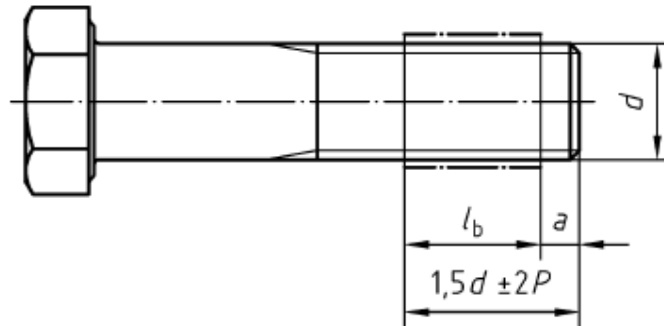
Norma DIN 267-27 powłoki klejowe

4.1 Standard coating

Unless otherwise specified, the coating shall cover a zone, measured from the bolt end, of length equal to

$$1,5 d \pm 2 P .$$

The first two or three turns of thread should be free from coating material to facilitate bolting (see Figure 1). Adhesive residue in these turns is permitted unless this adversely affects bolting (in accordance with DIN EN ISO 3269).



Key

- l_b Length of coated zone
- d Nominal thread diameter
- a Two or three turns of thread left uncoated
- P Pitch

Figure 1 — Length and position of coated zone on bolts with standard coating

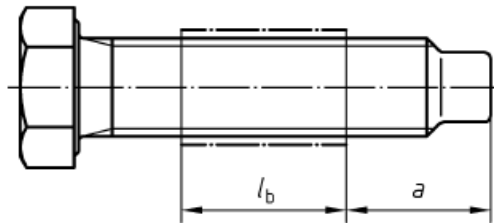
Norma DIN 267-27 powłoki klejowe

4.2 Non-standard coating

For lengths of engagement exceeding $1 d$ and property classes below 8.8, or for bolts with head of reduced strength, the length of the coated zone is to be specified as a function of the property class and intended application in order to ensure disassembly. The correct length and position of the coated zone is to be established by testing, where necessary.

In the case of bolt/nut assemblies, the length and position of the coated zone shall be selected so that, after assembly, it is in complete contact with the nut thread.

If, for design reasons, a different length l_b and/or distance from the bolt end a of the coated zone is required (see Figure 2), both dimensions shall be indicated in the standard designation (see 4.3, Example 2). For dimension l_b a tolerance equal to $\pm 2 P$ applies.



Key

- l_b Length of coated zone
- a Distance of coated zone from bolt end

Figure 2 — Length and position of coated zone on bolts with non-standard coating

Norma DIN 267-27 powłoki klejowe

4.3 Designation

The designation of adhesive-coated bolts conforming to this standard shall include the following items, given in the order below:

- symbol MK indicating that no special requirements regarding the coefficient of thread friction are specified for the coating, or
- symbol MKL denoting an adhesive-coating with a specific coefficient of thread friction, or
- service temperature (for bolts suitable for use at temperatures up to 150 °C),
- l_b (length of coated zone) \times a (distance of coated zone from bolt end) in millimetres, where appropriate.

EXAMPLE 3 Designation of an M12 steel bolt (M12), with a nominal length, l , of 80 mm, with a long dog point (LD) as in DIN EN ISO 4753, of property class 8.8, provided with an adhesive coating and a specified range of coefficients of thread friction (MKL), for service temperatures up to 150 °C, with a length of coated zone, l_b , of 30 mm and a distance from the bolt end, a , of 10 mm (30 \times 10):

Bolt ...¹⁾ — M12 \times 80 — LD — 8.8 — MKL — 150 — 30 \times 10

Główne obszary :

- Produkcja seryjna i masowa – duża presja na czas;
- Produkcja zautomatyzowana;
- Produkcja ręczna z wymogiem 100% pewności zastosowania;
- Wymóg funkcji specjalnej (zabezpieczenie i/lub uszczelnienie);
- Konieczna identyfikacja wyrobu;
- Detale przekazywane klientowi muszą posiadać funkcję specjalną;
- Komfort montażu i nowoczesność złącza.