

TECHNICAL DATA SHEET

Dubo Lock washers

Dubo locking rings can be used on their own or with a toothed collar ring for especially high loading applications (i.e. when using 8.8 and 10.9 bolts). In addition to having the normal locking action of a standard lock washer, the elastic distortion which occurs when the material is subjected to heavy pressure creates considerable frictional resistance. Dubo polyamide sealing/locking rings are available for threaded fasteners from M2 to M52 and offer an inexpensive and simple solution for Original Equipment Manufacturers and Installers to permanently retain and seal threaded items. The shape of the ring is designed so that as the bolt is tightened, the screw thread is gripped both along the internal circumference and in the bolt hole. This brings into effect additional frictional forces, which make it impossible for the ring to rotate around the bolt. The Dubo system is applicable to all forms of hex nut or socket screw and the polyamide rings are resistant to all generally encountered chemicals, (i.e. alkalis, petrol, sea water etc.)

DUBO retaining rings

Multiple locking and sealing because DUBO retaining rings:

- flow into the threads of the bolt and the nut;
- create a particularly effective frictional resistance with the bolt and thereby;
- prevent rotation of the retaining ring around the bolt;
- wraparound the flats on the nut and thereby effectively prevent the nut from loosening;
- by filling all free spaces, seal against leakage.

Sound-deadening properties and durability because DUBO retaining rings:

- absorb vibrations arising in any bolt assembly;
- have plastic-flexible characteristics;
- neither deteriorate nor wear, and therefore can always be re-used again and again without loss of the above-mentioned advantages.

Insulation and protection of the surface of the material because DUBO retaining rings:

- are chemically resistant to Alkalis, to solutions of neutral inorganic salts, to oils, fats, petrol, benzene, alcohol, acetone, diluted acids, and sea water;
- prevent electrolytic corrosion between two different metal surfaces;
- prevent fatigue in the bolt material.

Physical properties:

Tensile strength up to the elastic limit 7 N/mm²
 Ultimate tensile strength 26 N/mm²
 Modulus of elasticity 66 N/mm²
 Breakdown voltage 18 kV/mm
 Rockwell hardness 115° R
 Specific gravity 1,14
 DUBO retaining rings

The specifications of DUBO retaining rings used in conjunction with DUBO toothed collar rings also apply in principle for DUBO retaining rings for socket head screws. It is the same ring, but with special dimensions to suit socket head screws.

Instructions for fitting DUBO retaining rings

To ensure reliable locking and sealing of the screw it is important to observe the following points on assembly:

1. The screw should be tightened until the outer reinforcing rim of the ring is distorted and has engaged around the head of the screw. The screw generally then has the right initial stress. Because the material of the ring slides over the surface of the surrounding component, it feels as if the screw still needs further tightening, but this is not so. The required initial stress is obtained immediately on distortion of the ring and the screw is then completely locked.

Further tightening of the screw is harmful.

2. The smoothest finish possible on the bearing surface of the component improves the locking and sealing.
3. The correct diameter of ring should be used for each thread diameter.
4. Where the DUBO retaining ring is used with a DUBO toothed collar ring the screw can be tightened up to any permitted torque value.

NOTE: The information contained herein are typical values intended for reference and comparison purposes only. They should NOT be used as a basis for design specifications or quality control. Contact us for manufacturers' complete material property datasheets.
 All values at 73°F (23°C) unless otherwise noted.

Benefits

- Tight solid seal
- Eliminate leakage
- Protect the underlying surface
- Sound deadening and isolation
- Corrosion and chemical resistance

Applications

- Aerospace
- Electronics
- Assembly
- Construction
- Maintenance

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