

FAQ & ARGUMENTS: ecosyn[®]-grip, type SF

Loosening safeguard at full load-bearing capacity

Q: Is conformity with RoHS given?

A: Yes, the steel products with zinc plating and thicklayer passivation comply with the EU Directive 2011/65/EU and the 2015/863/EU update on the restriction of the use of certain hazardous substances in electrical and electronic equipment.

Q: Is conformity with REACH given?

A: Yes, Bossard pursues a legally compliant provision of steel products in accordance with the EU Chemicals Regulation EC 1907/2006 (REACH). There is no information that the galvanized steel products supplied by us contain substances of concern (SVHC) according to the candidate list.

Q: Can the ecosyn[®]-grip be used for safety-relevant applications?

A: Yes, the ecosyn[®]-grip screw, type SF, combines the process reliability of an internal drive with the safety against unscrewing of a serrated washer and the load capacity of a screw of strength 8.8 according to ISO898-1.

Q: What is meant with anti-loosening?

A: Anti-loosening fasteners prevent the fastener from unscrewing by itself. They maintain up to 80% of the original assembly preload force.

Q: What assembly specifications must be followed?

A: The maximum tightening torques M_A [Nm] and achievable preload forces F_M [kN] for the screw ecosyn[®]-grip, type SF with a 90 % utilization of the yield strength $R_{p0.2}$ are shown in specific reference value tables. The consideration of the respective lubrication situation, mating material/ surface hardness and surface conditions are among other things decisive for the selection of the assembly tightening torque.

Q: Which mounting conditions have to be considered?

A: The screw combines the wide contact surface of a pan head ~ISO7380-2 with a locking serration. The underhead serration anchors in the softer surface material of the component and canted in such a way that disassembly the screw leaves corresponding wear marks.

Q: What corrosion resistance ISO 4042/Zn5/Cn/T0 can be achieved?

A: Zinc plating with a thick layer passivation according to ISO4042:2018 enables corrosion protection in the neutral salt spray test according to ISO 9227NSS (wr = white rust; rr = red rust) from at least ≥ 72 h to wr / ≥ 120 h to rr. According to ISO4042:2018, the neutral salt spray test shall apply for fasteners alone, tested no sooner than 24 h after coating and in the "as-coated" condition, but before sorting, packaging and/or screwing. For dimensions $< M5$, the stated values may deviate downwards.

Q: In what dimensions is the screw ecosyn®-grip, type SF available?

A: Dimensions M5 to M10 in lengths from 10 to 35mm. Further dimensions on request.

Q: In which strength classes is the ecosyn®- grip available?

A: The ecosyn®-grip, type SF, corresponds to strength class 8.8. Other alternative anti-loosening fasteners are available up to class 100.

Q: How is the ecosyn®-grip specified for the order?

A: **BN219** with dimension and screw length

Q: Is there a danger of hydrogen embrittlement?

A: In the case of galvanically finished fasteners made of steels with higher tensile strengths or hardness ≥ 360 HV, that are under tensile stress, there is a risk of failure due to hydrogen embrittlement. The ecosyn®-grip corresponds to strength class 8.8 and is therefore not exposed to any danger of hydrogen embrittlement according to ISO4042.

Argumentation - compilation

- Anti-loosening safety without additional elements
- Large area coverage with large through-holes
- Process reliable and automated processing
- Elegant head design
- Full load-bearing capacity of an 8.8 screw comparable to cylinder head screws ISO14579
- Reduced settling phenomena due to reduced number of joints compared to a screw with additional lock washer