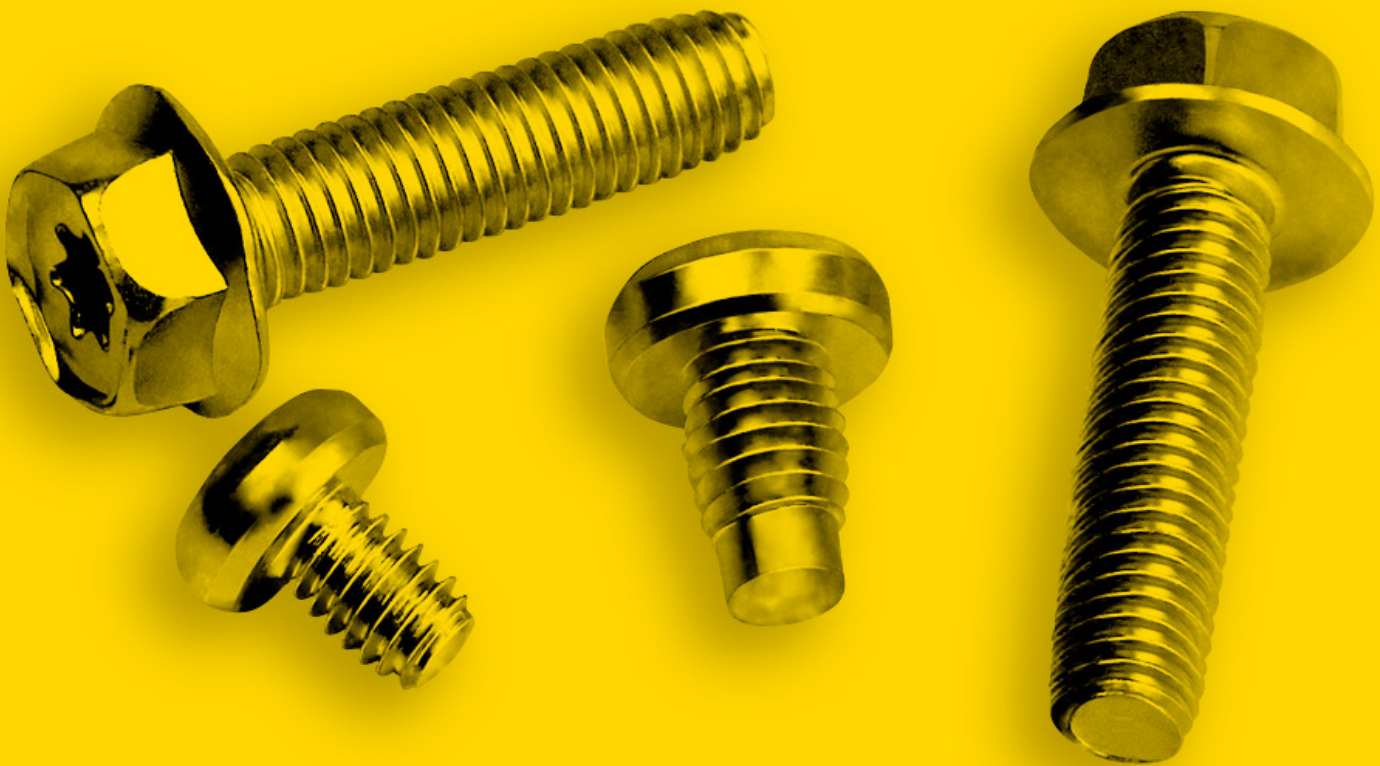


CELO

POWERLOK®

**The solution for your
loosening problems on tapped holes**



POWERLOK®



TRILOBULAR® POWERLOK® thread is recommended to solve loosening problems in tapped holes, especially in applications exposed to severe vibration conditions or cycles of expansion/contraction.

TRILOBULAR® POWERLOK® screw for the assembly into tapped holes, is the only one with the locking concept: the thread design provides locking action over the entire length of the screw thread without using patches, adhesives or other features. The locking action is independent of the base material and the temperatures reached during assembly lifespan.

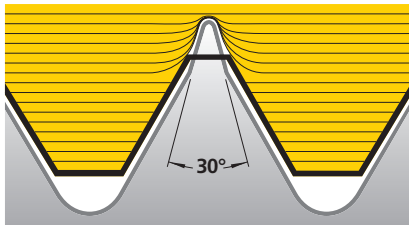
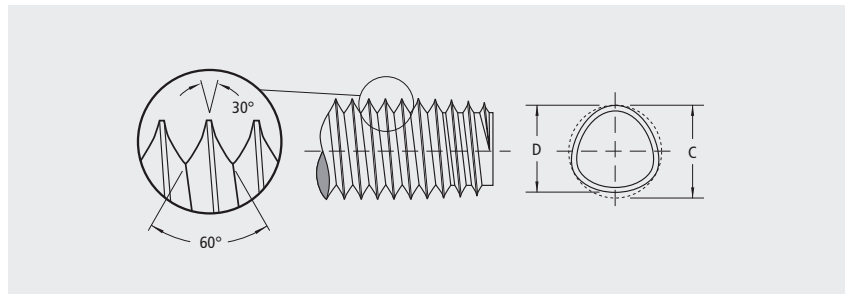


Fig.36. 30° thread interferes in the nut thread, eliminating the tolerance and providing locking action.

POWERLOK® hardness

Core

Surface

327-382 HV

min. 336 HV

1. Technical features

- DUAL-ANGLE™ thread form:
30° thread overlapped to the standard 60° thread centralizes in the root of the nut thread, eliminating tolerance and **providing "live-action" locking** along the entire length of the screw.
- TRILOBULAR® thread body section:
 - **Reduces friction** during installation.
 - **Prevents vibrational loosening** by providing additional locking action.
- Neutral hardened in accordance to POWERLOK® manufacturing standards.
- POWERLOK® screws are lubricated to make the insertion process easier.
- Due to the hardness of the screw, it is necessary to apply baking treatment to reduce the risk of hydrogen embrittlement (page 124).

To ensure a correct performance of the screw, it should have higher hardness value than the nut member. We recommend contacting our technical department to confirm the feasibility of POWERLOK® screws for each particular application.

2. Advantages

- **Immediate and continuous locking action** over the entire length of the screw allowing for repeated insertions and removals without affecting its locking properties and independently of nut tolerance. Unlike time-sensitive chemical locking agents, the locking action with POWERLOK® screws is instantaneous and no reaction or curing time is required.
- **Excellent vibration loosening resistance.** POWERLOK® screw eliminates loosening problems in tapped holes and nuts without the use of additional locking elements (lock nuts, spring washers, adhesive patches, etc...)
- The spring effect of 30° thread crest **maintains clamping.**
- **Cost reduction** by eliminating the need for additional locking elements.
- Meets **the standards of regulation IFI 524** concerning screws loosening resistance
- Locking action is **not affected by temperature.** POWERLOK® screws, being an all-metal locking screw, do not lose their efficiency in high operating temperatures.
- POWERLOK® screw maintains **continued locking effectiveness**, even after **repeated insertions and removals.**

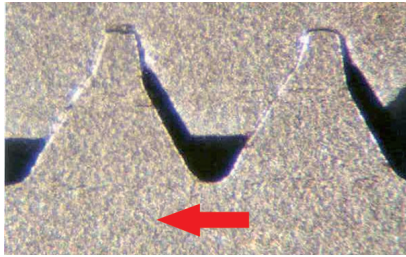


Fig.37. The spring effect of 30° thread crest maintains clamping.

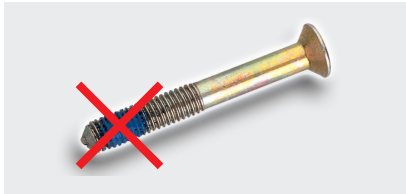


Fig.38. Adhesive patch or non-metallic additives lose much of their developed force and deteriorate with time under the influence of high temperatures. The screw cannot be reused and assembly costs are high.

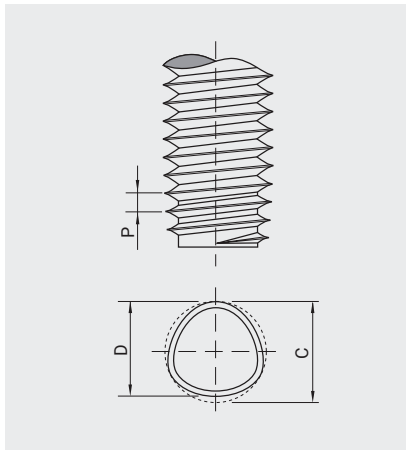
3. Technical data

POWERLOK® screws can be manufactured with different head types, recess, dimensions and coating configuration to fit your exact application requirements.

For additional information, please contact our sales department on celo@celo.com

d	Pitch P	Minimum Breaking torque (Nm)	C	D
M3	0.50	1.90	3.18	3.08
M3.5	0.60	3.00	3.69	3.57
M4	0.70	4.40	4.22	4.08
M5	0.80	9.30	5.26	5.10
M6	1.00	16.00	6.30	6.10

Dimensions in mm. This data is intended for guidance purposes. We recommend carrying out relevant tests on die casting parts to establish the precise values.



Nominal length (mm)	Tolerance (mm)
≤ 3	± 0.2
3 < L ≤ 10	± 0.3
10 < L ≤ 16	± 0.4
16 < L ≤ 50	± 0.5
> 50	± 1.0

Need to get in touch? Contact us to discuss your application.

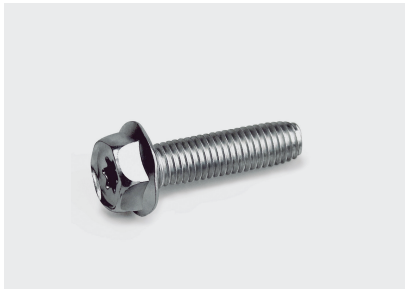
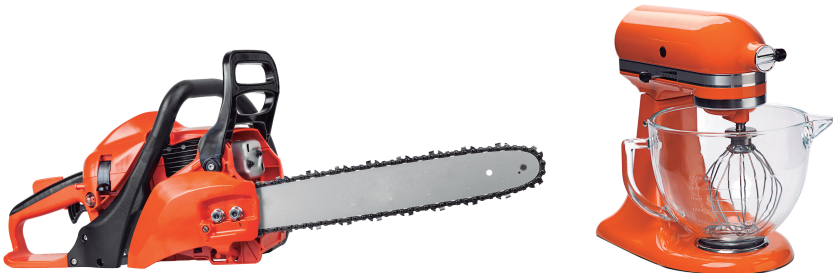
Contact us

4. Applications

Assembly of components under severe vibration conditions or cycles of expansion / contraction in tapped holes.

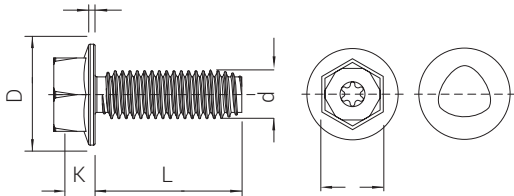
Cost reduction and better performance eliminating the use of adhesive patches and under-head locking elements such as lock washers in metric screws and locking nuts.

Examples:
Automotive components
Household appliances
Motors and industrial equipment



PL78T POWERLOK®

- Hexagonal Flange head
- TORX® recess
- Zinc plated Cr (III) 10µm + Sealant + Lubricant + Baking



CAD Files and Samples available

[Go to product](#)

d mm	M5	M6
D mm	11	13.5
K mm	4.5	5.3
C mm	0.82	1.02
S mm	8	10
TORX®	T20	T25
L mm	Ø5	Ø6
16	○	●
20	●	●

● Product available in stock. ○ Product available upon request. For other plating, thread dimensions and head design, please contact our sales department. Information about packaging conditions in page 130.



Small Things Matter

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