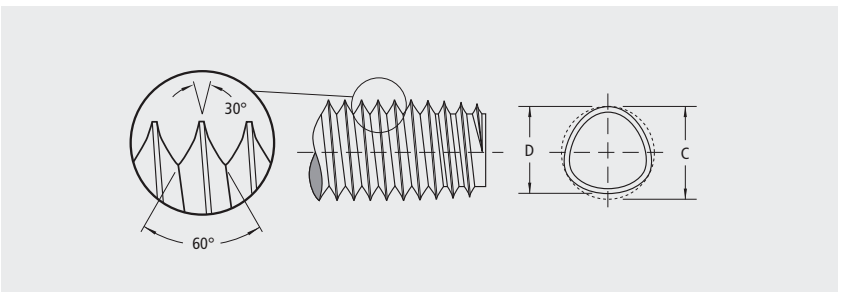
# TECHNICAL DATA SHEET
# POWERLOK®

## When to choose POWERLOK® screws?

**TRILOBULAR® POWERLOK®** screws are recommended to solve loosening problems in tapped holes, specially in the assembly of components under severe vibration conditions and expansion/contraction cycles.

**POWERLOK®** screws eliminate the need of additional locking elements, such as adhesive patches, locking washers and locking nuts.

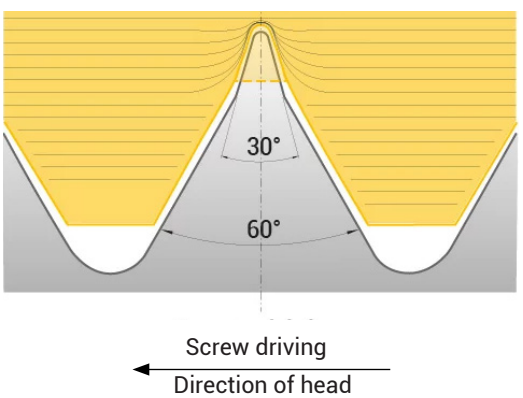
## Benefits



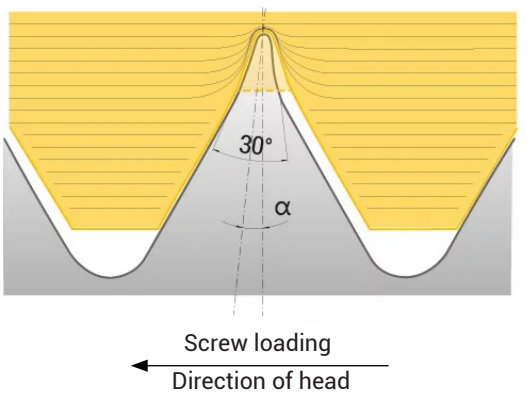

- **Immediate and continuous locking action** along the entire length independently of nut tolerance.
- **POWERLOK®,** being an all-metal locking screw, **do not lose their efficiency in high operating temperatures.**
- **In-place fastening cost reduction** by eliminating the need for additional locking elements, such as adhesive patches or locking washers.
- **Excellent vibration loosening resistance**. POWERLOK® screw meets the standards of regulation IFI 524.
- **Reusability:** POWERLOK® thread design ensures continued locking effectiveness after repeated insertions and removals.

## How do POWERLOK® screws work?

TRILOBULAR® POWERLOK® screw for metal is a unique locking concept solution for tapped holes. To ensure the correct screw performance, the screw's hardness must be greater than the nut's.
**We recommend contacting our technical department to ensure the suitability of POWERLOK® screws for your application.**




- Deformation of the female thread by the 30° tips occurs within the elastic range. This results in a high degree of self-locking and permits reuse of the screw in the same female thread ensuring continued locking effectiveness.




- The innovative Dual-Angle™ thread form provides "live-action" locking along its entire length, regardless of the nut tolerance and operating temperatures.
- The 30º tip interferes with the root of the nut thread, which removes any tolerance and cause the screw to self-lock.

## Main POWERLOK® applications

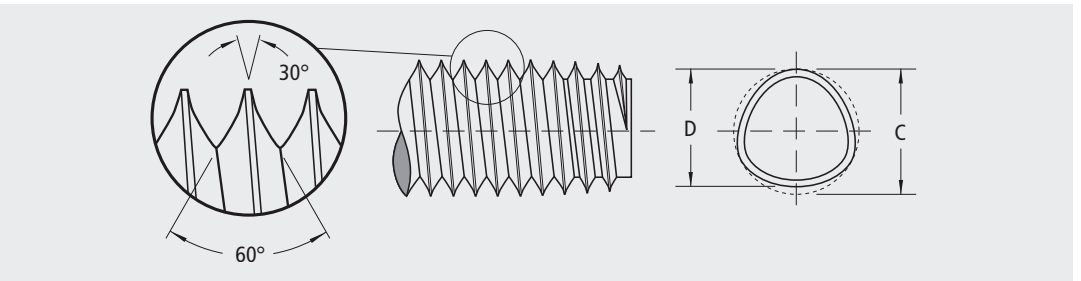
Assembly of components under severe vibration conditions or cycles of expansion / contraction in tapped holes.
Cost reduction and better performance eliminating the use of adhesive patches and under-head locking elements such as lock washers in metric screws and locking nuts.
Some examples:

- Automotive components
- Household appliances
- Electronics components
- Motors and industrial equipment

## Dimensional data - metric sizes

We produce customized POWERLOK® screws to fit your exact requirements. To improve their functionality, POWERLOK® screws can be produced under different head designs, recess, point, dimensions and coating configuration.

**Additionally, we offer POWERLOK® screws in stock for immediate delivery.**




| d | Minimum Breaking torque (Nm) | C | D |
|---|---|---|---|
| M3 | 1.90 | 3.18 | 3.08 |
| M3.5 | 3.00 | 3.69 | 3.57 |
| M4 | 4.40 | 4.22 | 4.08 |
| M5 | 9.30 | 5.26 | 5.10 |
| M6 | 16.00 | 6.30 | 6.10 |

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

**Note:** Dimensions in mm. For further information on the options available, please contact our application engineers.

Further information at: **www.celofasteners.com**
Contact us by E-mail: **celo@celo.com**