

Specifications for plastic screws in the energy storage industry

What is the difference between a standard screw and a special fastener?

As demonstrated in the chart to the left - based on testing - the fastener for plastic has a much higher drive-to-strip ratio, so the joint is less likely to be damaged during installation. The standard screw has a safety margin of only 3.5 lbs.in. The special fastener for plastic has a safety margin of 12 lbs.in.

What does a plastic boss with a 60° thread fastener show?

In the photo at right, the plastic boss with a 60° thread fastener shows radial stress and subsequent damage. The plastic boss with a reduced radial stress. Plastics Flexural modulus is the best indicator of how a plastic will respond to fasteners.

How much safety margin does a screw have?

The standard screw has a safety margin of only 3.5 lbs.in. The special fastener for plastic has a safety margin of 12 lbs.in. Note: The chosen seating torque was 65% of the failure torque, based on testing. Increased drive gun speed can negatively affect the quality of the joint.

How big should a screw boss be?

For optimum performance, the hole size should provide a minimum 70% thread engagement. The outside diameter of the boss (boss O.D.) should be 2.5 to 3 times the nominal diameter of the screw (C dimension). The boss height should not exceed 2 times the boss O.D. The counterbore width (CBw) should be slightly larger than the C dimension.

How deep should a plastic fastener be?

Its depth (CBd) should be 1/4 to 1/2 the thread pitch. The PLASTITE 45 fastener is designed to facilitate thread forming in less-compressible plastics while providing high resistance to strip-out and pull-out. It has smaller root and major diameters than a 48° PLASTITE, so it can be used in smaller bosses.

Why should you use smaller bosses than standard screws?

Because radial stress is reduced, special fasteners for plastics allow the use of smaller bosses than standard screws, as shown at left. Using smaller bosses can reduce your overall costs through decreased material usage and molding cycle times. In the illustrations at left, CM represents the area subjected to shear when an axial load is applied.

Specialty fastener suppliers and industrial supply companies typically carry a more extensive range of plastic screws and can provide specialized options for specific ...

Lokesh Kumar, the chief design engineer at Eisen Electric Corporation, discusses types of plastic joints, screw

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types needed for plastics joints, plus some alternatives for serviceable joints, and ...

By EP Fastener 2024-05-272024-05-27 Plastic screws on the cover plate of energy storage batteries are used to secure the power circuit board. Since the power supply itself transmits ...

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