

3M announces it has made and sold more than 300 million Friction Shims worldwide

The small, thin shims are used in demanding applications such as automotive, wind energy, and aerospace

ST. PAUL, Minn., Sept. 4, 2024 /PRNewswire/ -- [3M™ Friction Shims](#) are small, thin steel shims with a big impact. They can increase maximum load and peak torque in bolted connections without additional fasteners or redesigns. 3M is excited to announce that it has now made and sold more than 300 million Friction Shims worldwide.

"This is a significant milestone for us because we know 3M Friction Shims help our customers improve their design," said Amy McLaughlin, president of 3M's Advanced Materials Division. "We are very proud that we've now made and sold more than 300 million worldwide. 3M Friction Shims are a simple solution for stronger and more stable bolted connections."

3M Friction Shims increase friction coefficients in torsional and static joints, particularly in demanding automotive applications. Nickel-coated steel shims contain partially embedded diamond particles which resist breakage. When applied with pressure between two mating surfaces, the diamonds "bite" into each surface to create a microform fit.

This allows for a coefficient of static friction up to five times greater than in a conventional bolted connection – especially valuable as electric vehicles take center stage in the global marketplace. Heavy lithium-ion battery packs combined with higher torque can often put considerably more strain on critical chassis and battery mount joints.

3M Friction Shims fit within most engineering tolerances, allowing for lightweight, compact designs. They can also be used as a drop-in solution to stabilize joints further down the manufacturing chain. Friction Shims can be used in a wide range of applications, including:

- Shear joints in automotive chassis
- Torsional joints
- Flange joints
- Joints with central bolt
- Bolted connections
- Fastener systems

According to 3M, engineers can use 3M Friction Shims to:

Secure critical joints in chassis, battery mounts, suspensions and other critical areas in internal combustion and electric vehicles.

Optimize design for multi-material automotive structures to withstand higher force loads without changing parts or part sizes.


Enhance pursuit of lightweighting goals by achieving the same shear and peak load performance using fewer smaller and lighter mechanical fasteners.

Manage NVH by dampening micromovements in bolted joints, enhancing passenger experiences and increasing joint life.

3M supplies Friction Shims in various grades for specific friction coefficients and related shear or torque requirements. Friction Shims can be specified for ultra-thin torsional crankshaft or camshaft assemblies, or to create form fits even through e-coatings and rough surfaces. Preassembly solutions include inner clips for faster installation. Friction Shims can also be disassembled and reused.

About 3M

3M (NYSE: MMM) believes science helps create a brighter world for everyone. By unlocking the power of people, ideas and science to reimagine what's possible, our global team uniquely addresses the opportunities and challenges of our customers, communities, and planet. Learn how we're working to improve lives and make what's next at [3M.com/news](https://www.3m.com/news).

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