

OTHER SEMS SCREW AND WASHER ASSEMBLIES



The basic Sems preassembled screw and washer was a major fastening invention that changed industry's assembly methods. All types of washers — conical, flat, tooth, helical and many others - can be preassembled to all types of screws. Many important advantages of screw and washer assemblies have contributed to their popularity through the years:

- **Eliminate small parts handling and dropped parts.**
- **Lower purchasing, inventory and assembly costs.**
- **Insure proper parts usage.**
- **Increase assembly, efficiency and productivity.**

The conventional flat washer, tooth washer or helical washer Sems meets the needs of most assembly applications. Flat Washer Sems span large holes, protect fragile surfaces and distribute load. External tooth lock washers are the preferred tooth lock washer style for preassembly as the tapered twisted teeth are on the largest radius to provide maximum torsional resistance to removal rotation. The internal tooth lock washer style is ideal when the screw head is small — such as a fillister head — and in applications where it is desirable to hide the teeth — either for appearance or to avoid snagging and scratching.

Helical washers are often used on larger diameter screws and bolts where high torques or heavy loads are involved and in hardened surface applications where confined space must be accommodated.

A wide variety of other Sems combinations can be provided for applications involving high torques, load distribution, electrical grounding, fragile materials, wire termination or the spanning of larger holes. Screw and washer assemblies increase torsional resistance to removal rotation, reducing potential loosening of the fastener. Sems assemblies not only reduce loosening caused by vibration but, unlike the locking features incorporated under some screw heads or on some screw threads, they also provide a compensating spring action that resists loosening caused by heat cycling and by the independent expansion and contraction of different materials that may make up the assembly.

WCL also stocks standard Phillips Pan Head “Square Dome” washer sems as well as sems of all types in a variety of other head styles. WCL can provide sems fasteners with a wide variety of washers preassembled to just about any type of screw including machine screws, tapping screws, Tap/R® thread rolling screws, Taptite® trilobular thread forming screw, GX® self-extruding screws and others. Sems can be produced in diameters ranging from a number 2 through 3/8" and in lengths from 3/16" through 7". All conventional head styles, drives and points are available.

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Taptite is a registered trademark of Research Engineering and Manufacturing Incorporated.