

COMPRESSED SPRING WASHERS

1) Types of Compressed Spring Washers (Characteristics and Instructions for Use)

Common Characteristics

- Provide for load capacity requirements in smaller space than coiled spring types.
- Provide locking of screws and can suppress abnormal sound, looseness and unsteadiness by pressurizing retained parts at specific levels.
- Absorption of vibrations where dynamic load is applied.
- For Curved and Dish Washers, different spring characteristics can be obtained by combining (stacking) them in the same direction and/or in the face-to-face direction.

(1) Curved Washer

Characteristics

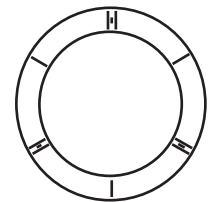
- Load is introduced by bending and flexing a flat washer on a circular (arched) shape.



(2) Wave Washer

Characteristics

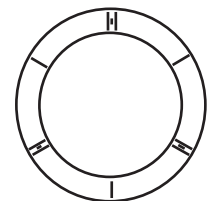
- Load is introduced by bending and flexing a flat washer on a waved shape.
- The waves are available from 2.
- This type provides higher load than the Curved Washer.



(3) Wave Washer for Bearing

Characteristics

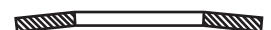
- Pressurization of bearings allows vibrations and abnormal sound to be suppressed. (The guideline for pressurization is to be at 0.5 to 1% of the rated load of bearing. However, the actual pressure should be obtained by testing with the actual machine.)
- Like the Wave Washer, load is introduced by bending and flexing a flat washer on a waved shape.



(4) Dish Washer

Characteristics

- Load is introduced by bending and flexing a flat washer on a conical (dish) shape.
- Higher load can be acquired by smaller deflection.
- Although this type provides higher load than the Curved and Wave Washers, the resultant load has larger variations because of larger load rate.



Instructions for Use

Where total compression is accomplished in the assembly process, settling may occur causing a difference between the initial load and the load after compression.

The method for preventing this requires prior setting to remove settling.. (See page 43.)