

# EMI/RFI Grounding Washers (2500 Series)

EMI/RFI grounding washers are manufactured from knitted wire mesh stocking that is formed into a resilient metal washer by compressing in a close-tolerance forming die. The grounding washer can be supplied in various diameters and thicknesses to satisfy the many requirements as indicated in the Applications shown in Figures 1 through 4.

By varying the weight of the stocking mesh inserted into the compression die, the density of the washers can be varied, thus increasing or decreasing unit resilience, depending on the needs of the specific application. Washers with a metal density of 15 to 20 percent will “flow” under compression and thus will fill a gap or seam under minimal pressure (10 psi).

A grounding washer with a metal density of 30 to 40 percent provides a snug fit around a shaft or rod, but when compressed against the wall of a metal enclosure (as shown in Figure 3) will act as a slip-ring thus grounding the rotating shaft to enclosure. This eliminates the possibility of the shaft acting as an antenna to radiate or pick up unwanted noises.

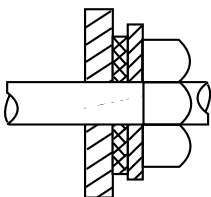
The all-metallic construction of the grounding washers that can be supplied in varying alloys makes them especially effective in hostile environments of temperature or chemicals.

## Design Data

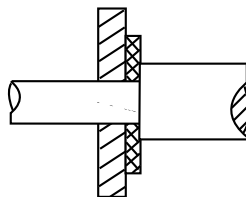
### Applications

Figures 1 through 4 show some of the possible mounting methods for grounding washers.

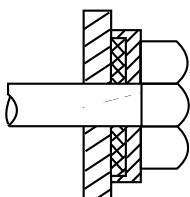
**Figure 1**  
With Washer & Jam Nut



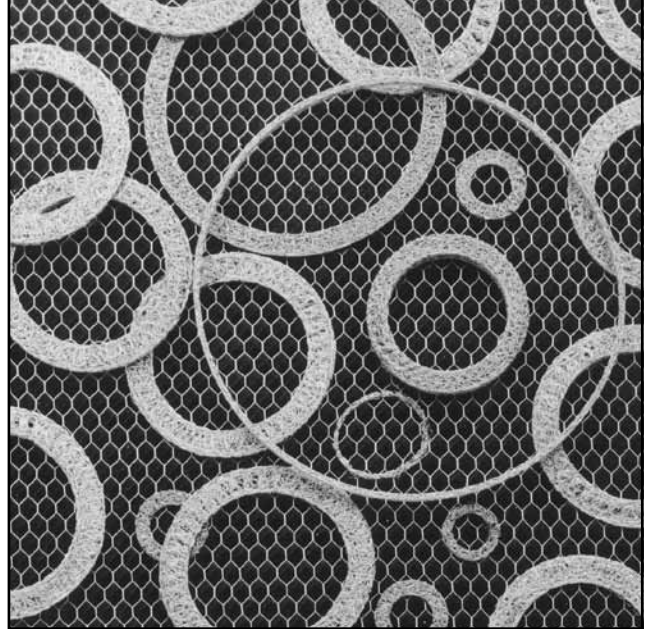
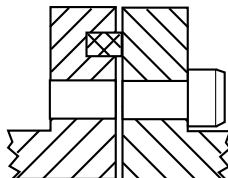
**Figure 2**  
With Shaft Shoulder



**Figure 3**  
With Positive Stop Cup Washer



**Figure 4**  
Mounted in Flange Groove



## Features

- **Resiliency:** Grounding washers, when designed into applications that require recovery after the unit has been deflected, can be supplied in a resiliency that will return to 90 to 95 percent of free height after deflection of 25 percent.
- **All Metallic Construction:** For applications requiring grounding where the temperature and chemical environments are extreme, MAJR can supply grounding washers in a variety of wire types.
- **Density Variations:** Grounding washers can be supplied in varying metal densities from 15 to 40 percent to satisfy the compressibility or vary the snugness of fit on a rotating shaft.
- **Multiple Applications:** The compact construction of the metallic grounding washer makes the unit suitable for applications where the unit is in compression, rotating or shear, without degrading the effectiveness of unit conductivity.

## Available Sizes

**Table 1 — Grounding Washer Diameters**

Part Number	O.D.	I.D.
250A-70005-xx	0.218	0.062
250A-70007-xx	0.375	0.250
250A-70010-xx	1.000	0.500
250A-70015-xx	0.234	0.109
250A-70020-xx	0.500	0.250
250A-70027-xx	0.635	0.500
250A-70076-xx	1.120	0.810
250A-70079-xx	2.322	2.202
250A-70084-xx	1.370	1.120
250A-70094-xx	0.062	0.000
250A-70106-xx	1.425	1.043
250A-70108-xx	1.437	1.063
250A-70109-xx	1.437	1.083
250A-70110-xx	1.437	1.102
250A-70115-xx	0.255	0.150
250A-70117-xx	0.885	0.625
250A-70118-xx	0.630	0.550
250A-70119-xx	1.380	1.250
250A-70120-xx	0.320	0.260
250A-70121-xx	0.880	0.810
250A-70122-xx	0.635	0.375
250A-70134-xx	0.937	0.687
250A-70135-xx	0.625	0.469
250A-70136-xx	1.620	1.125
250A-70137-xx	2.130	1.600
250A-70138-xx	0.495	0.295
250A-70144-xx	0.875	0.375
250A-70145-xx	0.345	0.185
250A-70150-xx	2.125	1.812
250A-70158-xx	1.500	1.000
250A-70160-xx	2.950	2.875
250A-70170-xx	2.642	2.562
250A-70180-xx	0.910	0.790
250A-70200-xx	0.750	0.250
250A-70300-xx	0.225	0.130
250A-70310-xx	0.410	0.250
250A-70320-xx	0.350	0.175
250A-70350-xx	0.906	0.344
250A-70360-xx	0.550	0.200
250A-70500-xx	0.875	0.344
250A-70501-xx	0.875	0.315
250A-70502-xx	0.275	0.180
250A-70503-xx	0.300	0.150
250A-70504-xx	0.240	0.187
250A-70505-xx	1.688	0.250
250A-70507-xx	1.812	1.562
250A-70508-xx	0.600	0.438
250A-70509-xx	0.500	0.375
250A-70510-xx	0.800	0.650
250A-70511-xx	2.835	2.047
250A-70512-xx	3.543	2.362
250A-70513-xx	0.300	0.187
250A-70514-xx	0.755	0.630
250A-70515-xx	2.000	1.250
250A-70516-xx	0.305	0.248
250A-70517-xx	2.180	2.060
250A-70518-xx	0.750	0.500
250A-70600-xx	1.370	0.750
250A-70650-xx	2.625	0.450
250A-70700-xx	0.500	0.200
250A-70710-xx	0.450	0.170
250A-70720-xx	1.250	0.315
250A-70730-xx	1.880	0.680
250A-70740-xx	1.000	0.300
250A-70750-xx	1.800	0.480
250A-70755-xx	1.100	0.315
250A-70756-xx	0.900	0.480
250A-70800-xx	0.394	0.323
250A-70950-xx	1.375	1.125

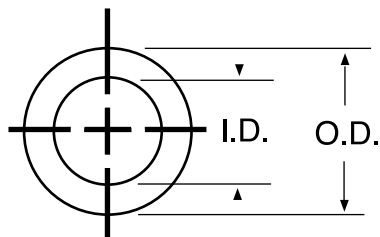


Table 2 shows washer sizes that can readily be supplied from existing tooling. Thickness can be varied from .032 to .125.

## Tolerances

**Table 2**

Sizes	O.D.	I.D.
Up to 1 (Up to 25.40)	+0.015, -0.000 (+0.38)	+0.000, -0.015 (-0.38)
1 to 2 (25.40 to 50.80)	+0.020, -0.000 (+0.51)	+0.000, -0.020 (-0.51)
2 to 3 (50.80 to 76.20)	+0.025, -0.000 (+0.63)	+0.000, -0.025 (-0.63)
3 to 4 (76.20 to 101.60)	+0.030, -0.000 (+0.76)	+0.000, -0.030, (-0.76)
Over 4 (101.60)	+0.040, -0.000 (+1.02)	+0.000, -0.040 (-1.02)

## Materials

Grounding washers can be supplied using knit wire mesh of the following materials:

**Table 3**

Code	Description
-31	Monel per QQ-N-281 Class A
-32	Aluminum
-33	Silver Plated Brass per QQ-W-321 (3% Silver by Weight)
-34	Tin Plated Copper Clad Steel per ASTM B520



\* xx: See Table 3 for material codes.

A = Thickness. Thickness needs to be specified at time of request or order.