

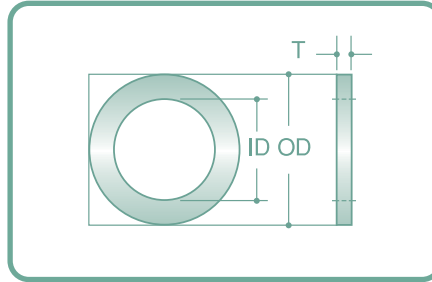
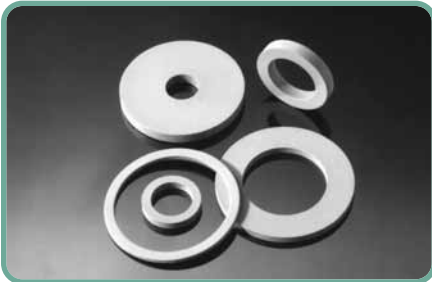
# WASHERS





# Nylon Flat Washers

**STANDARD** Tolerances:  $OD \pm .010$ ,  $ID \pm .005$ ,  $T \pm .015$



These washers are made to be used with standard screw sizes #2 up to 1/2. They come in the four most popular thicknesses, from 1/32" up to 1/8". If one of these dimensions

is not quite what you need, don't forget to see our section on special nylon flat washers (pages 187-189).

Part No.	ID	OD	T
FW 2-032	.090	.250	.032
FW 2-062	.090	.250	.062
FW 2-093	.090	.250	.093
FW 2-125	.090	.250	.125
FW 4-032	.115	.250	.032
FW 4-062	.115	.250	.062
FW 4-093	.115	.250	.093
FW 4-125	.115	.250	.125
FW 6-032	.140	.312	.032
FW 6-062	.140	.312	.062
FW 6-093	.140	.312	.093
FW 6-125	.140	.312	.125
FW 8-032	.171	.375	.032
FW 8-062	.171	.375	.062
FW 8-093	.171	.375	.093
FW 8-125	.171	.375	.125
FW 10-032	.194	.375	.032
FW 10-062	.194	.375	.062
FW 10-093	.194	.375	.093
FW 10-125	.194	.375	.125

Part No.	ID	OD	T
FW 250-032	.257	.500	.032
FW 250-062	.257	.500	.062
FW 250-093	.257	.500	.093
FW 250-125	.257	.500	.125
FW 312-032	.317	.500	.032
FW 312-062	.317	.500	.062
FW 312-093	.317	.500	.093
FW 312-125	.317	.500	.125
FW 375-032	.380	.625	.032
FW 375-062	.380	.625	.062
FW 375-093	.380	.625	.093
FW 375-125	.380	.625	.125
FW 437-032	.443	.750	.032
FW 437-062	.443	.750	.062
FW 437-093	.443	.750	.093
FW 437-125	.443	.750	.125
FW 500-032	.505	.750	.032
FW 500-062	.505	.750	.062
FW 500-093	.505	.750	.093
FW 500-125	.505	.750	.125

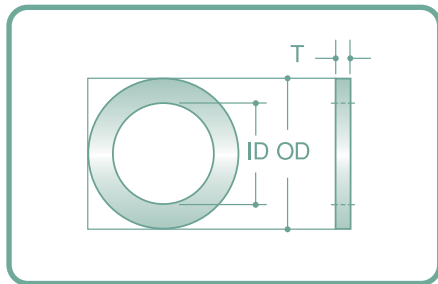
Minimum order 1000.

*Most washers are available in clear polycarbonate where quantities warrant.*



# Nylon Flat Washers CONTINUED

*SPECIAL Tolerances: OD and ID ± .015 , T ± .010*



Seal, insulate, absorb shock and vibration. They prevent galling and marring, and may also be used as spacers, guides, bearings, bushings, etc.

For washers thicker than .125", look at our standard and special spacers on pages 136-139. Metric washers can be

found on page 191.

**Other sizes can be tooled for moulding or stamping in any plastic.** Request a quotation, specifying size, tolerance and quantity. See the list at the end of this section for other non-metallic materials available.

Part No.	ID	OD	T
FW 031-4	.031	.090	.031
FW 035-4	.035	.100	.020
FW 093-5	.093	.187	.020
FW 093-10	.093	.187	.031
FW 105-5	.105	.250	.031
FW 105-10	.105	.250	.062
FW 113-1	.113	.240	.040
FW 120-20	.120	.250	.031
FW 120-25	.120	.281	.020
FW 120-30	.120	.281	.030
FW 120-35	.120	.281	.040
FW 120-40	.120	.281	.050
FW 120-45	.120	.310	.047
FW 125-5	.125	.281	.030
FW 125-10	.125	.281	.062
FW 125-15	.125	.312	.031
FW 125-20	.125	.312	.062
FW 125-25	.125	.375	.031
FW 125-30	.125	.500	.100
FW 126-4	.126	.250	.025
FW 130-5	.130	.250	.093
FW 130-8	.130	.350	.062
FW 140-10	.140	.250	.062
FW 140-15	.140	.250	.080
FW 140-20	.140	.285	.118

Part No.	ID	OD	T
FW 140-25	.140	.312	.047
FW 141-4	.141	.375	.031
FW 146-15	.146	.312	.050
FW 146-20	.146	.375	.062
FW 147-3	.147	.437	.062
FW 150-10	.150	.312	.040
FW 150-15	.150	.312	.050
FW 150-20	.150	.312	.062
FW 156-3	.156	.250	.093
FW 156-10	.156	.312	.020
FW 156-15	.156	.312	.031
FW 156-25	.156	.375	.031
FW 160-5	.170	.248	.100
FW 162-5	.162	.312	.062
FW 165-10	.165	.500	.075
FW 167-4	.167	.302	.062
FW 168-5	.168	.500	.062
FW 172-5	.172	.375	.060
FW 175-5	.175	.375	.040
FW 184-2	.184	.280	.040
FW 187-5	.187	.375	.032
FW 187-10	.187	.500	.040
FW 187-14	.187	.625	.062
FW 189-5	.189	1.006	.064
FW 190-5	.190	.330	.062

Minimum order 1000.

Continued



# Nylon Flat Washers

*SPECIAL CONTINUED Tolerances: OD and ID ± .015, T ± .010*

Part No.	ID	OD	T
FW 190-10	.190	.437	.032
FW 190-15	.190	.885	.062
FW 191-4	.191	.335	.032
FW 194-1	.194	.312	.032
W 6252	.194	.625	.124
FW 195-5	.195	.437	.030
W 4501	.200	.450	.048
FW200-10	.200	.625	.062
FW 201-10	.201	.437	.062
FW 203-5	.203	.437	.031
FW 203-10	.203	.437	.093
FW 218-5	.218	.437	.031
FW 218-10	.218	.437	.040
FW 218-14	.218	.625	.062
FW 218-15	.218	.750	.062
FW 220-2	.220	.435	.078
FW 225-5	.225	.415	.050
FW 250-4	.250	.375	.016
W 4351	.250	.435	.094
FW 250-5	.250	.625	.062
FW 250-8	.250	.719	.062
FW 253-4	.253	.375	.084
FW 253-5	.253	.550	.032
FW 254-4	.254	.565	.094
FW 255-1	.255	.555	.047
FW 255-2	.255	.375	.115
FW 256-5	.256	.626	.020
FW 257-5	.257	.500	.080
FW 257-6	.257	.750	.062
FW 257-7	.257	.875	.031
FW 257-8	.257	.875	.060
FW 260-5	.260	.362	.060
FW 260-10	.260	.437	.047
FW 260-15	.260	.562	.062
FW 260-18	.260	.687	.040
FW 260-20	.260	.687	.060
FW 265-12	.265	.625	.060
FW 278-4	.278	.437	.032
FW 281-5	.281	.500	.031
FW 281-10	.281	.625	.030

Part No.	ID	OD	T
FW 281-15	.281	.625	.115
FW 281-30	.281	1.250	.062
FW 290-3	.290	.445	.033
FW 296-5	.296	.625	.039
FW 312-2	.312	.625	.062
FW 315-4	.315	.625	.031
FW 315-6	.315	.626	.124
FW 315-7	.315	.872	.062
FW 323-3	.323	.750	.062
FW 327-5	.327	.562	.093
FW 330-5	.330	.562	.062
FW 331-4	.331	.709	.079
FW 333-5	.333	.562	.031
FW 340-5	.340	.687	.056
FW 343-3	.343	.500	.109
FW 343-5	.343	.875	.062
W 7507	.352	.750	.031
FW 375-5	.375	.500	.080
FW 375-15	.375	.875	.062
FW 375-16	.375	.900	.055
FW 378-2	.378	.626	.064
FW 380-5	.380	.875	.093
FW 381-10	.381	.750	.062
FW 381-15	.381	1.000	.062
FW 385-5	.385	.750	.045
FW 390-5	.390	.625	.093
FW 390-15	.390	1.500	.062
W 12505	.390	1.250	.040
FW 392-2	.392	.755	.123
W 12604	.400	1.270	.062
FW 405-4	.405	.540	.112
FW 406-10	.406	.812	.062
FW 406-15	.406	.875	.093
FW 406-18	.406	.984	.124
FW 406-20	.406	1.000	.062
FW 408-4	.408	.875	.060
FW 433-10	.433	.551	.059
FW 500-10	.500	.687	.062
FW 500-15	.500	1.000	.062
FW 500-17	.500	1.125	.122

Minimum order 1000.

Continued



# Nylon Flat Washers

*SPECIAL CONTINUED Tolerances: OD and ID ± .015, T ± .010*

Part No.	ID	OD	T
FW 500-20	.500	1.250	.062
FW 500-25	.500	1.375	.062
FW 505-10	.505	.780	.062
FW 508-2	.508	1.000	.062
FW 510-5	.510	.890	.062
FW 510-10	.510	.890	.093
FW 510-15	.510	.900	.075
FW 515-4	.515	.716	.015
FW 515-5	.515	.890	.031
FW 515-10	.515	1.000	.080
FW 515-14	.515	1.468	.050
FW 516-4	.516	1.250	.060
FW 525-13	.525	1.375	.125
FW 531-5	.531	1.000	.060
FW 531-12	.531	1.250	.093

Minimum order 1000.

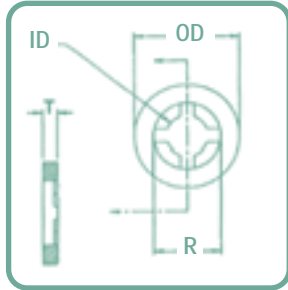
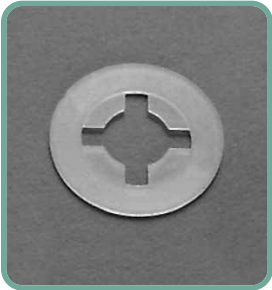
Part No.	ID	OD	T
FW 551-10	.551	.945	.079
FW 562-10	.562	1.250	.062
FW 625-2	.625	1.000	.062
FW 625-5	.625	1.250	.062
FW 625-10	.625	1.625	.062
FW 645-2	.645	1.310	.120
FW 660-5	.660	1.500	.093
FW 697-8	.697	1.425	.100
FW 750-2	.750	1.000	.060
FW 765-4	.765	1.250	.080
FW 810-5	.810	1.480	.062
FW 844-4	.844	1.031	.040
FW 875-10	.875	1.250	.124
FW 1031-2	1.031	1.218	.040
FW 1280-2	1.280	1.937	.062
FW 1375-2	1.375	1.625	.110

*Need longer washers? You might find a solution in our round spacers on pages 136–139.*



# Nylon Flat Washers CONTINUED

## RETAINING



Similar to our standard flat washer, but with a specially configured inside diameter designed to grip the outside of the screw shank. The washer slides on the screw easily, but is retained on the screw.

For use in applications requiring pre-assembly of the screw and washer to reduce final assembly cost.

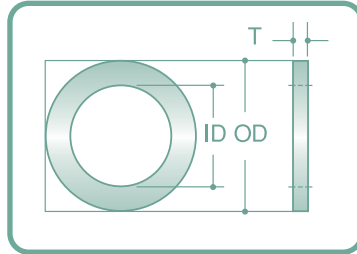
Other sizes may be tooled on request.

Part No.	ID	Retaining dia.		OD	T
		R			
FWR 2-032	.078	.115		13/64	.031
FWR 2-062	.078	.115		13/64	.062
FWR 4-032	.102	.156		17/64	.031
FWR 4-062	.102	.156		17/64	.062
FWR 6-032	.128	.198		21/64	.031
FWR 6-062	.128	.198		21/64	.062
FWR 8-032	.152	.235		25/64	.031
FWR 8-062	.152	.235		25/64	.062
FWR 10-032	.177	.277		29/64	.031
FWR 10-062	.177	.277		29/64	.062
FWR 250-032	.234	.375		19/32	.031
FWR 250-062	.234	.375		19/32	.062
FWR 312-032	.292	.470		47/64	.031
FWR 312-062	.292	.470		47/64	.062
FWR 375-032	.350	.564		57/64	.031
FWR 375-062	.350	.564		57/64	.062
FWR 437-032	.410	.570		1-1/32	.031
FWR 437-062	.410	.570		1-1/32	.062
FWR 500-032	.468	.690		1-1/8	.031
FWR 500-062	.468	.690		1-1/8	.062

Minimum order 1000.



## Metric Nylon Flat Washers

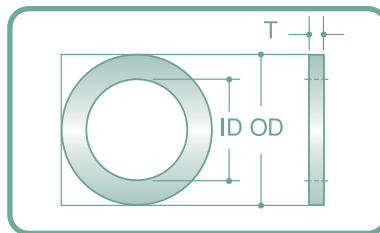


Part No.	ID		OD		T	
	mm	Inch	mm	Inch	mm	Inch
<b>MFW 2</b>	2.15	.085	5.00	.197	0.80	.031
<b>MFW 2.5</b>	2.65	.104	5.60	.220	0.80	.031
<b>MFW 3</b>	3.20	.125	8.00	.315	0.80	.031
<b>MFW 3.5</b>	3.70	.146	8.00	.315	0.80	.031
<b>MFW 4</b>	4.30	.169	9.00	.354	0.80	.031
<b>MFW 5</b>	5.30	.208	11.00	.433	1.00	.040
<b>MFW 6</b>	6.40	.252	12.00	.472	1.50	.060
<b>MFW 8</b>	8.40	.330	18.00	.709	2.00	.080
<b>MFW 10</b>	10.50	.413	22.00	.866	2.50	.098

Minimum order 1000.



## Stamped PVC Flat Washer

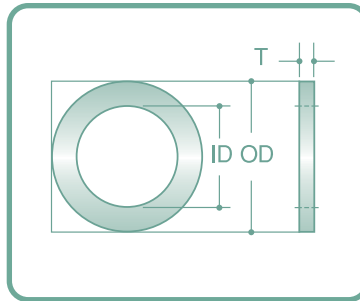


Part No.	ID	OD	T
<b>VW 250-062</b>	.250	1/2	.062
<b>VW 375-062</b>	.398	3/4	.062
<b>VW 500-062</b>	.530	7/8	.062

Minimum order 1000.  
Other sizes available.



# Black Fibre Flat Washers



Tolerance all dimensions:  $\pm .005$

Part No.	ID	OD	T
FFW 093-2	.093	.250	.031
FFW 105-2	.105	.250	.031
FFW 105-4	.105	.250	.062
FFW 120-2	.120	.250	.031
FFW 120-4	.120	.250	.062
FFW 125-2	.125	.312	.031
FFW 125-4	.125	.312	.062
FFW 146-2	.146	.250	.062
FFW 146-4	.146	.375	.031
FFW 146-6	.146	.375	.062
FFW 156-2	.156	.312	.062
FFW 173-2	.173	.375	.031
FFW 173-4	.173	.375	.062
FFW 187-2	.187	.375	.031
FFW 203-2	.203	.375	.031
FFW 203-4	.203	.375	.062
FFW 203-6	.203	.437	.031
FFW 203-8	.203	.437	.062
FFW 203-10	.203	.437	.093
FFW 258-2	.258	.500	.062

Part No.	ID	OD	T
FFW 258-4	.258	.500	.093
FFW 265-2	.265	.500	.031
FFW 281-2	.281	.500	.031
FFW 320-2	.320	.500	.062
FFW 333-2	.333	.562	.031
FFW 333-4	.333	.562	.062
FFW 333-6	.333	.562	.093
FFW 385-2	.385	.625	.062
FFW 385-4	.385	.750	.062
FFW 385-6	.385	.625	.031
FFW 385-8	.385	.625	.093
FFW 458-2	.458	.750	.031
FFW 458-4	.458	.750	.062
FFW 458-6	.458	.750	.093
FFW 514-2	.514	.885	.031
FFW 514-4	.514	.885	.062
FFW 514-6	.514	.885	.093

Minimum order 1000.

Fibre to MIL-F-1148CH.





## Black Neoprene Flat Washers

Tolerances: ID and OD  $\pm .010$ , T  $\pm 10\%$

Part No.	ID	OD	T
RFW 093-2	.093	.250	.031
RFW 125-2	.125	.375	.031
RFW 125-4	.125	.375	.062
RFW 156-2	.156	.437	.062
RFW 187-2	.187	.500	.062
RFW 203-2	.203	.562	.093
RFW 281-2	.281	.750	.093

**Minimum order 1000.**

Neoprene 45/65 DURO



## White Teflon Flat Washers

Tolerance all dimensions:  $\pm .005$ , Thickness .031\*

Part No.	ID	OD
TFW 093-2	.093	.187
TFW 105-2	.105	.250
TFW 125-2	.125	.281
TFW 125-4	.125	.312
TFW 146-2	.146	.375
TFW 156-2	.156	.312
TFW 173-2	.173	.375
TFW 203-2	.203	.437
TFW 260-2	.260	.500
TFW 328-2	.328	.562
TFW 385-2	.385	.625
TFW 390-2	.390	.750

**Minimum order 1000.**

\*Also available in .062 thick (minimum order 10,000).

Teflon to MIL-P-22241

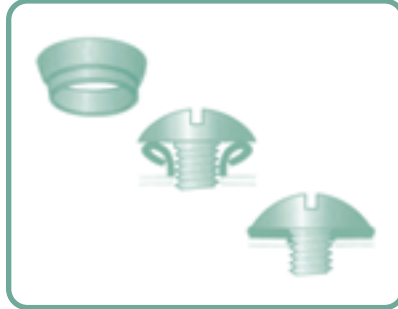
### OTHER NON-METALLIC MATERIALS AVAILABLE

Delrin	Nylatron GS
Epoxy Glass	Polyethylene
Fishpaper	Polypropylene
Kapton	Pressboard
Melamine	Rubber
Mylar	Silicone
Nomex	Sponge



# Nylon Turtleneck Products

**LOCK SEAL WASHERS** Tolerances: ID: + .004, -.003, Wall: ±.002, Height: +.025 -.015



Use with metal fasteners to pressure-seal holes, as a great lockwasher, to prevent galvanic corrosion, to protect glass, porcelain, etc. surfaces from chipping, crazing or cracking. A problem solver.

Part No.	ID	Wall	Height
TW 4	.116	.013	.080
TW 6	.142	.015	.095
TW 8	.168	.015	.115
TW 10	.194	.017	.115
TW 1/4	.252	.020	.125
TW 5/16	.316	.020	.130
TW 3/8	.379	.020	.160
TW 1/2	.504	.022	.195
TW 5/8	.630	.025	.230
TW 3/4	.755	.028	.270

Minimum order 1000.

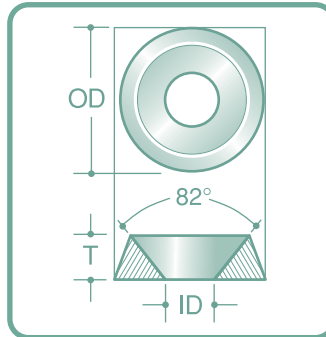
## TURTLENECK BUSHINGS

With inside sleeve lengths of 1/4", 1/2" or 3/4", these have all the uses of the washer plus the function of a shoulder washer, screw insulator, or simply a bushing where space is restricted.

## THIN WALL NYLON TUBING

The nylon tubing used to make the turtlenecks can be cut to your specifications.

## Nylon Finishing Washers



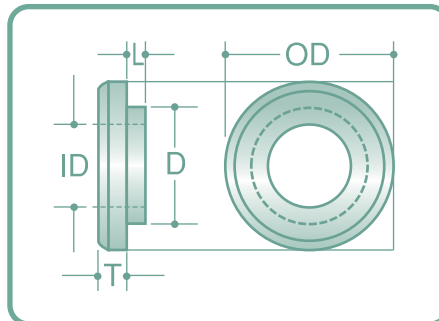
These washers protect cabinets from scratching, cover misaligned holes, etc. May also be used as glides, bumpers, feet and spacers.

Part No.	ID	OD	T
<b>SFW 6</b>	.143	.437	.100
<b>SFW 8</b>	.171	.515	.115
<b>SFW 10</b>	.191	.580	.152
<b>SFW 25</b>	.251	.683	.183

Minimum order 1000.

## Nylon Shoulder Washers

### STANDARD



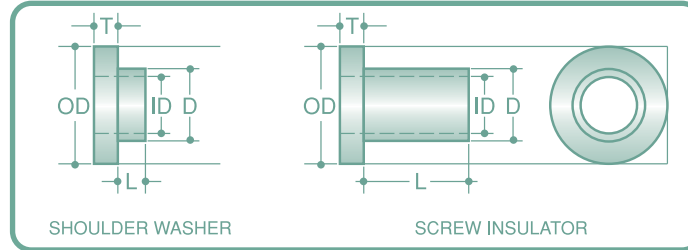
Part No.	ID	OD	T	D	L
<b>SW 2</b>	.093	.250	.040	.156	.040
<b>SW 4</b>	.122	.281	.040	.187	.040
<b>SW 6</b>	.146	.328	.040	.218	.040
<b>SW 8</b>	.174	.375	.050	.250	.050
<b>SW 10</b>	.201	.437	.050	.281	.050
<b>SW 1/4</b>	.260	.562	.060	.375	.060
<b>SW 3/8</b>	.385	.750	.060	.500	.060

Minimum order 1000.



# Nylon Shoulder Washers/Screw Insulators

**SPECIAL** Tolerances all dimensions:  $\pm .015$



Suitable for a variety of insulation and mechanical applications. They seal, reduce vibration, act as spacers, guides, bushings and bearings. Isolate metal screws electrically and reduce corrosion. They can also be used as light load

bearings in many applications.

Shoulder washers are shown with the prefix **NSW**. Screw insulators are for standard screw sizes (#2 up to 1/4) and are shown with the prefix **SC**. Shoulder washers can often be interchanged with

screw insulators, but they tend to have a shorter shank (L dimension).

**Custom sizes can be tooled for moulding.** Please specify size, quantity and tolerances when requesting a quote.

Part No.	ID	D	OD	T	L
SC 2X.125	.090	.120	.181	.046	.125
SC 2X.187	.090	.120	.181	.046	.187
SC 2X.250	.090	.120	.181	.046	.250
SC 2X.375	.090	.120	.181	.046	.375
NSW 1F	.093	.120	.195	.031	.062
NSW 3F	.093	.125	.205	.031	.078
NSW 5F	.102	.169	.250	.031	.062
NSW 12X	.115	.135	.218	.047	.031
NSW 13F	.115	.143	.250	.031	.062
SC 4X.031	.115	.145	.235	.046	.031
SC 4X.046	.115	.145	.235	.046	.046
SC 4X.062	.115	.145	.235	.046	.062
SC 4X.093	.115	.145	.235	.046	.093
SC 4X.125	.115	.145	.235	.046	.125
SC 4X.156	.115	.145	.235	.046	.156
SC 4X.187	.115	.145	.235	.046	.187
SC 4X.250	.115	.145	.235	.046	.250
SC 4X.375	.115	.145	.235	.046	.375
SC 4X.500	.115	.145	.235	.046	.500
NSW 15F	.115	.187	.312	.062	.015
NSW 17F	.116	.185	.250	.062	.047
NSW 28	.117	.135	.220	.040	.032
NSW 29F	.120	.145	.202	.015	.047
NSW 31F	.120	.145	.210	.015	.047
NSW 37F	.122	.142	.230	.016	.047
NSW 40	.122	.142	.230	.041	.023
NSW 41N	.122	.157	.244	.039	.079
NSW 48	.126	.157	.265	.031	.031
NSW 54N	.129	.190	.315	.050	.330
NSW 57F	.135	.250	.438	.031	.141

Minimum order 1000.

Continued



# Nylon Shoulder Washers/Screw Insulators

## SPECIAL CONTINUED

Tolerances all dimensions:  $\pm .015$

Part No.	ID	D	OD	T	L
NSW 57G	.136	.248	.375	.062	.093
SC 6X.062	.140	.170	.290	.046	.062
SC 6X.093	.140	.170	.290	.046	.093
SC 6X.125	.140	.170	.290	.046	.125
SC 6X.156	.140	.170	.290	.046	.156
SC 6X.187	.140	.170	.290	.046	.187
SC 6X.250	.140	.170	.290	.046	.250
SC 6X.375	.140	.170	.290	.046	.375
SC 6X.500	.140	.170	.290	.046	.500
NSW 58	.140	.178	.312	.048	.050
NSW 59F	.140	.185	.312	.031	.031
NSW 62	.140	.185	.312	.062	.027
NSW 65F	.140	.187	.250	.062	.031
NSW 72X	.140	.248	.349	.047	.062
NSW 73F	.140	.250	.375	.093	.062
NSW 75F	.141	.187	.312	.062	.031
NSW 77F	.144	.234	.312	.047	.125
NSW 77G	.145	.240	.385	.062	.031
NSW 79	.150	.250	.355	.040	.090
NSW 80	.156	.250	.500	.094	.031
NSW 80N	.159	.194	.393	.047	.062
NSW 83N	.161	.236	.323	.059	.118
NSW 84N	.161	.236	.232	.059	.157
NSW 86	.167	.246	.375	.062	.031
NSW 87F	.167	.250	.500	.125	.437
NSW 89F	.171	.250	.510	.062	.406
NSW 90	.172	.312	.500	.078	.140
SC 8X.125	.173	.205	.344	.062	.125
SC 8X.140	.173	.205	.344	.062	.140
SC 8X.250	.173	.205	.344	.062	.250
SC 8X.375	.173	.205	.344	.062	.375
SC 8X.500	.173	.205	.344	.062	.500
SC 8X.625	.173	.205	.344	.062	.625
SC 8X.750	.173	.205	.344	.062	.750
NSW 91F	.187	.245	.375	.031	.141
NSW 93N	.189	.250	.500	.062	.249
NSW 99	.194	.240	.437	.062	.031
NSW 105	.195	.303	.440	.040	.141
NSW 106	.196	.254	.380	.125	.065
NSW 107	.196	.277	.500	.125	.187
NSW 107V	.196	.300	.581	.120	.158

Minimum order 1000.

Continued



# Nylon Shoulder Washers/Screw Insulators

## SPECIAL CONTINUED

Tolerances all dimensions:  $\pm .015$

Part No.	ID	D	OD	T	L
NSW 108	.197	.240	.408	.062	.187
NSW 108X	.197	.250	.375	.062	.213
SC 10X.187	.200	.260	.399	.062	.187
SC 10X.250	.200	.260	.399	.062	.250
SC 10X.375	.200	.260	.399	.062	.375
SC 10X.500	.200	.260	.399	.062	.500
SC 10X.562	.200	.260	.399	.062	.562
SC 10X.625	.200	.260	.399	.062	.625
SC 10X.750	.200	.260	.399	.062	.750
NSW 109F	.201	.281	.437	.047	.047
NSW 112F	.205	.312	.620	.047	.047
NSW 113F	.240	.315	.480	.079	.315
NSW 113G	.250	.310	.425	.062	.062
NSW 113V	.250	.370	.600	.125	.125
NSW 113X	.250	.500	.750	.125	.062
NSW 115N	.252	.312	.500	.062	.031
NSW 116	.252	.343	.625	.062	.125
NSW 119	.253	.440	.938	.125	.170
NSW 120	.253	.341	.750	.031	.050
NSW 121F	.255	.312	.467	.047	.125
NSW 121A	.255	.322	.625	.062	.187
NSW 121B	.255	.365	.500	.031	.188
NSW 121	.255	.372	.550	.062	.422
NSW 121C	.256	.341	.750	.150	.101
NSW 122	.256	.355	.437	.060	.109
NSW 124	.257	.375	.500	.125	.170
NSW 125	.257	.422	.570	.135	.100
NSW 125F	.258	.312	.515	.062	.141
SC 250X.125	.260	.312	.513	.062	.125
SC 250X.187	.260	.312	.513	.062	.187
SC 250X.250	.260	.312	.513	.062	.250
SC 250X.375	.260	.312	.513	.062	.375
SC 250X.500	.260	.312	.513	.062	.500
SC 250X.625	.260	.312	.513	.062	.625
SC 250X.750	.260	.312	.513	.062	.750
NSW 126F	.260	.375	.562	.093	.062
NSW 127	.265	.425	1.000	.060	.075
NSW 127F	.266	.380	.750	.093	.218
NSW 128N	.275	.375	.546	.063	1.000
NSW 129	.281	.500	.750	.093	.094

Minimum order 1000.

Continued



# Nylon Shoulder Washers/Screw Insulators

## SPECIAL CONTINUED

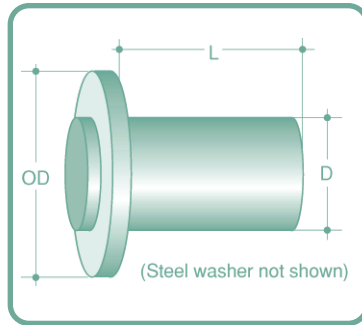
Tolerances all dimensions:  $\pm .015$

Part No.	ID	D	OD	T	L
NSW 130N	.308	.350	.428	.125	.047
NSW 133	.316	.502	.620	.060	.150
NSW 133N	.319	.394	.559	.098	.315
SC 312X.125	.320	.360	.620	.060	.125
SC 312X.250	.320	.360	.620	.060	.250
SC 312X.375	.320	.360	.620	.060	.375
SC 312X.500	.320	.360	.620	.060	.500
SC 312X.625	.320	.360	.620	.060	.625
NSW 134	.320	.405	.625	.066	.139
NSW 134F	.328	.437	.693	.062	.125
NSW 134N	.358	.482	.748	.059	.118
NSW 135F	.375	.500	.750	.062	.125
NSW 140	.375	.500	.750	.125	.195
NSW 142	.375	.500	.750	.125	.031
NSW 150	.375	.500	1.000	.125	.195
NSW 152A	.378	.505	.750	.078	.245
NSW 156N	.380	.440	.563	.030	.220
NSW 157	.383	.505	.750	.125	.360
NSW 165	.390	.520	1.000	.120	.400
NSW 165V	.390	.520	1.000	.120	.700
NSW 168N	.445	.500	.875	.100	.500
NSW 170	.500	.563	.787	.059	.413
NSW 170N	.503	.625	.750	.066	.174
NSW 171F	.508	.543	.688	.031	.047
NSW 173F	.515	.740	1.125	.062	.093
NSW 174	.520	.660	1.250	.120	.760
NSW 250N	.750	.875	1.125	.062	.313
NSW 280N	.875	.935	1.120	.132	.219

Minimum order 1000.



## Acetal Bolt Insulator and Steel Washer Sets



Part No. & Bolt Size	L	Flange OD	D
SC .500	1	1-1/8	.580
SC .625	1-1/8	1-5/16	.705
SC .750	1-9/16	1-9/16	.830
SC .875	1-3/4	1-13/16	.955
SC 1.000	2	2	1.080
SC 1.125	2-5/16	2-3/16	1.205
SC 1.250	3-1/8	1-3/8	1.330
SC 1.375	3-5/8	2-1/2	1.455
SC 1.500	3-3/4	2-3/4	1.580

Minimum order 100.



## Washer Information

### 10 REASONS TO USE NON-METALLIC WASHERS

Non-metallic washers have it all over metal in many applications – and they cost less. A lot of companies already appreciate the various advantages of washers made from nylon, fibre, felt, acetal, rubber, cork, sponge and other non-metallic materials. Each has certain characteristics that make it most suitable in particular situations. If you don't yet know the advantages of each, allow us to enlighten you.

- 1. Excellent Wear Resistance.** You may not believe it, but some of our non-metallic washers outwear metal parts by as much as 20 to 1.
- 2. Internal Lubrication.** Certain non-metallic washers contain a solid lubricant, making them ideal in installations where external lubrication is difficult or undesirable.
- 3. Noise Reduction.** Non-metallic washers absorb noise and shock and reduce chatter and vibration.
- 4. Non-Abrasive.** The non-metallic washers we stock will not gall or scratch mating parts.
- 5. Corrosion Resistance.** Have you ever seen a nylon or fibre washer rust?
- 6. Low Surface Friction.** A low coefficient of friction in some washer materials makes for smoother, longer-lasting operation of almost any product.
- 7. Excellent Sealing.** Non-metallic washers compress under pressure, so they are ideal as seals under unfavourable environmental conditions.
- 8. Insulation Properties.** Our non-metallic washers are an excellent choice for applications involving electricity or temperatures.
- 9. Lightweight.** To minimize the weight of automobiles, airplanes and other products, nonmetallic washers are a sensible alternative.
- 10. Lower Cost.** This is one we all like to hear. Not only do non-metallic washers have all of the above advantages, but they typically cost far less than their metal counterparts.