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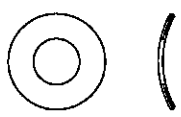


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SPRING WASHERS *(Continued)*

The principal types of Spring Washers are Crescent (Cylindrically Curved), Wave (Marcel, Wavy), and Conical Spring (Belleville). These are illustrated below.

TYPE	DESCRIPTION	APPROXIMATE LOAD CAPACITIES	SPRING RATE	MAXIMUM PERMISSIBLE DEFLECTION
Crescent Washers (Cylindrically Curved)		0-100 lbs.	Approx. linear over entire deflection range	Approximately 30% of outside diameter
Wave Washers		2-200 lbs.	Approx. linear except near flat position	Approximately 6% of inside diameter
Conical Washers (Belleville)		10-2,000 lbs.	Can provide: 1. Linear 2. Increasing 3. Decreasing 4. Zero 5. Negative	Approximately 10% of washer sidewall

Spring Washers are commonly used to apply a predetermined force on adjacent members in an assembly. Consequently, these washers are fabricated to meet close load, deflection, and size tolerances.

The dimensions given in the catalog apply when the Spring Washers are in the formed condition. Since they will expand slightly when deflected, space must be provided for this expansion. For these washers to function properly, the mating surfaces must be such as to allow the washer's contact surfaces to slide freely. If the mating surfaces are soft or rough, consider using a flat washer for the spring washer to slide on.

Some of their specific uses are to dampen vibrations, eliminate side or end play, control end pressure, keep fasteners secure, accommodate thermal or pressure expansion and contractions, apply drag or resistance to turning, and many other compression spring applications.

Several advantages over coil springs are price, ability to accommodate high loads in small spaces, weight reduction, etc., and with Conical Spring (Belleville) washers one can provide a linear spring rate, an increasing spring rate, a decreasing spring rate, a zero spring rate, or a negative spring rate.

The selection of a particular type of Spring Washer depends on the application in terms of space available and deflection and load characteristics required. In certain cases any one of the three basic types will serve equally as well. In other situations the particular characteristics required will dictate the selection. Some typical applications are shown on page 85.

SPRING WASHERS *(Continued)*

Spring Washers used for pre-loading are often designed so that the stress at the test or rated height is within the yield strength. However deflection beyond that height will cause a permanent set or flattening. Therefore they should not be used beyond the test or rated height.

Where more deflection is required than can be obtained from a single Spring Washer they may be used in series to obtain the desired deflection. In this arrangement a rigid flat washer is used between each Wave or Crescent washer. (See Figure 1a.) Conical (Belleville) Spring Washers do not require a flat washer when stacked in series.

Where more load is required than can be provided by a single Spring Washer they can also be assembled in parallel. In this arrangement the load is increased in approximate proportion to the number of washers used. (See Figure 1b.)

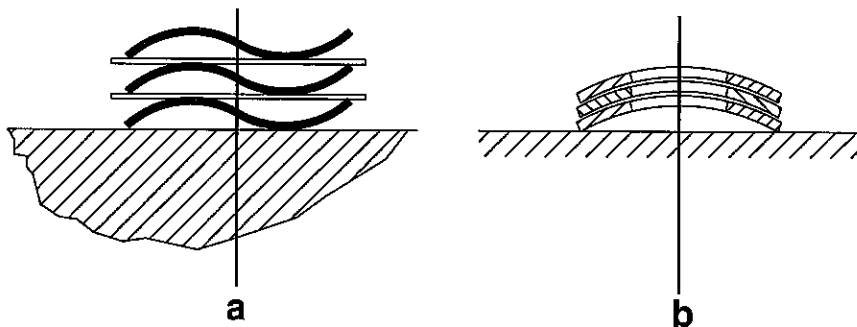


FIGURE 1

Stacking in series and parallel as shown in Figure 2c will both increase the load capacity and increase the deflection. The load will be increased in proportion to the number of washers stacked in parallel in one set. The deflection will be increased in proportion to the number of sets of washers. To illustrate, consider that all of the stacks in Figure 2 are made from a basic washer which provides 25 pounds of load with .020 inch deflection. Figure 2a would give 25 pounds with .100 inch deflection. Figure 2b would give 75 pounds with .020 inch deflection and Figure 2c would give 50 pounds with .060 inch deflection. This use of spring washers sometimes makes it possible to use one basic spring in different applications by combining the washers in various ways.

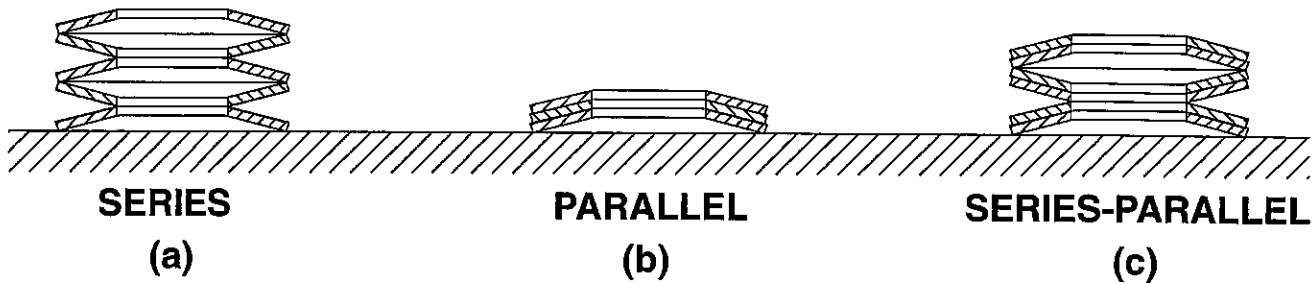


FIGURE 2

- Solder Lugs
- Spring Clips
- Spring Washers**
- Shoulder Washers
- Stand Off Spacers
- Flat Round Washers - Metallic
- Flat Round Washers - Non-Metallic
- O-Rings
- Retaining Rings
- Lockwashers, Retention Washers & Push-on Nuts
- Clamps & Brackets
- Expansion Plugs
- Ground Straps, Bus Bars & Term. Blocks
- Tab & Notch Washers
- Misc. Washers & Tags
- Solid State Insulators
- Military Standards
- Custom Parts
- Engineering Tables
- Num. & Alpha. Index of Parts

SPRING WASHERS *(Continued)*

Below are suggestions for stacking spring washers.

1. The stack must be guided. This can be done either on the inside diameter or outside diameter.
2. Buckling tends to occur when stacked heights are excessive causing friction on the guide. Stacked heights in the free position should not be greater than the outside diameter of the washer.
3. When spring washers are stacked in parallel, the load capacity may be adversely affected by friction between the washer, especially with heavy loads or where more than three are stacked together. A lubricant reduces this effect.

CRESCENT SPRING WASHERS (CYLINDRICALLY CURVED)

This is the simplest and most commonly used spring washer. It is designed to have the greatest deflection for its size compared to the other two types. It also has linear spring rate over its total range of deflection. The maximum design height for this type of spring washer should be less than one third the outside diameter.

This spring is best suited for applications which require flexibility, frequent load cycling, and light loads.

WAVE SPRING WASHERS

Wave washers normally have 3 waves, but they can be made with 4 waves, 6 waves, or more, depending on design requirements. By increasing the number of waves, the strength of the washer is increased. This usually decreases the amount of deflection permissible because of radial stress.

A small number of waves using thicker material is generally preferable to more waves with thinner material, because the stress is less.

Selection of a narrow sidewall with a smooth shallow form provides a spring with good flexibility but not much resistance to deflection. Selection of a wide radial width and/or steep form provides a stronger spring with much higher resistance to deflection.

Some rules to follow when selecting a 3 Wave Spring Washer required to deflect to the flat condition, are shown in Figure 3.

WAVE SPRING WASHERS — DESIGN CRITERIA

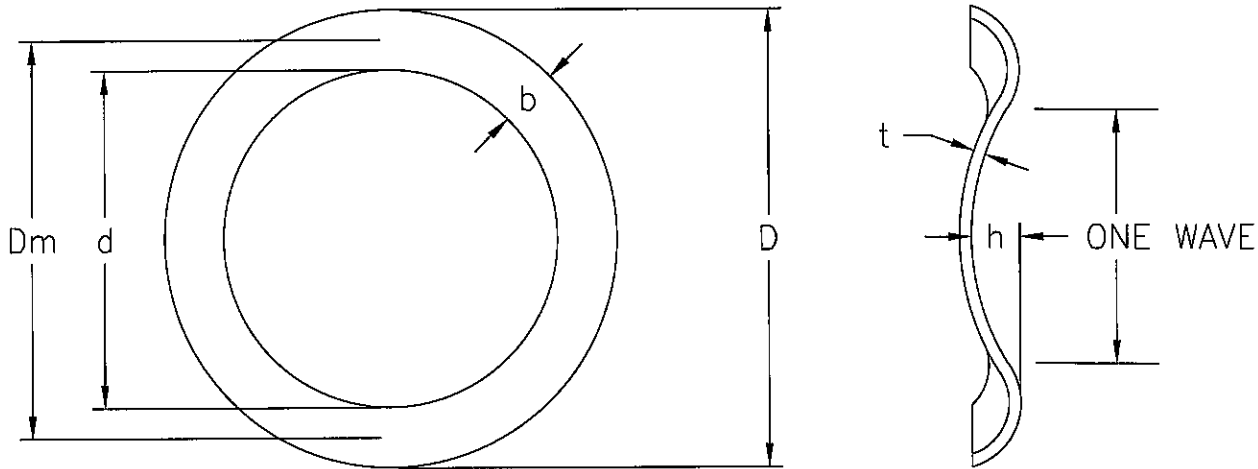


FIGURE 3.

$$\frac{D_m}{b} = 8 \text{ or more}$$

$$\frac{d}{h} = 16 \text{ or more}$$

A mean diameter to sidewall ratio of 8 or more will produce a nice flexible three wave spring washer. If the ratio is less than 8, the washer will be stronger, but it may deform when deflected to the flat condition.

Also, if a three wave washer must be compressed to the flat condition the maximum height must not be more than 1/16 of the inside diameter.

The true load deflection rate for these washers does not start until the waves are evenly loaded with an initial pre-load. They will then have a relatively linear spring rate from pre-load to 80% of designed maximum deflection.

This type of spring washer is used primarily for requirements where the load is static or the working range is small and the amount of axial space is limited.

Solder Lugs

Spring Clips

Spring Washers

Shoulder Washers

Stand Off Spacers

Flat Round Washers - Metallic

Flat Round Washers - Non-Metallic

O-Rings

Retaining Rings

Lockwashers, Retention Washers & Push-on Nuts

Clamps & Brackets

Expansion Plugs

Ground Straps, Bus Bars & Term. Blocks

Tab & Notch Washers

Misc. Washers & Tags

Solid State Insulators

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CONICAL SPRING WASHERS (BELLEVILLE)

Conical spring washers have the least deflection for their size compared to the other two types of spring washers. They also have the highest load carrying capacity.

This type of washer is used where applications require high loads, small deflection, and where the amount of axial space is limited.

A Belleville washer is a specially designed conical spring washer that will not take a permanent set when deflected to the flat condition. Many times conical spring washers are designed with dimensions which will not allow deflection to the flat condition. These are used for applications which require high loads and very small amounts of deflection.

In order to depress Belleville washers to the flat condition the following conditions must be met. Please refer to Figure 4.

1. $\frac{h}{b} < .1$
2. $\frac{t}{b} = .1 \text{ to } .2$
3. $\frac{\text{O.D.}}{\text{I.D.}} = 1.7 \text{ to } 2$

CONICAL WASHERS (BELLEVILLE) — DESIGN CRITERIA

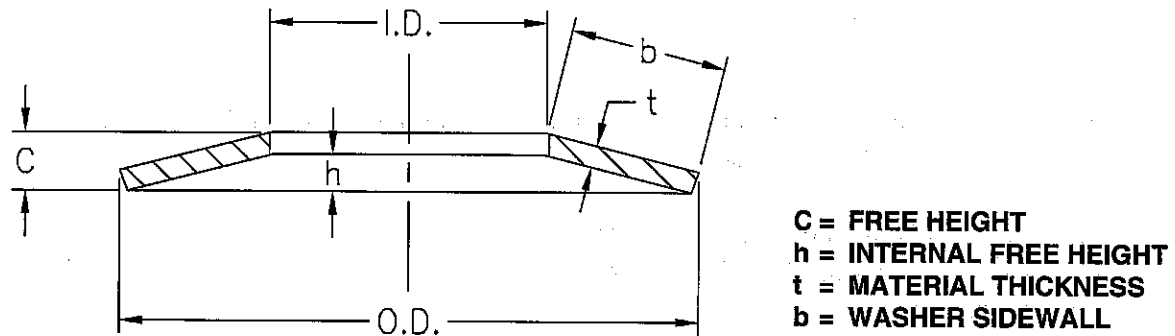


FIGURE 4

CONICAL WASHERS (BELLEVILLE) — DESIGN CRITERIA *(Continued)*

To design a conical spring washer for a particular application please refer to the chart on Page 84 and the chart below.

If the h/t Ratio is:	Spring Rate is: (From relaxed condition to flattened position)
.4	Linear and positive.
.4 - 1.41	Positive, but rate of increase diminishes as washer is deflected.
1.3 - 1.5	Initially positive, but approaches zero from 60% to 90% deflection.
1.41 - 2.83	Initially positive, then zero, then negative. These washers will "oil can" through the flat position.
> 2.83	Initially positive, then zero, then negative. These washers will snap inside out through the flat position and will require the same force to snap back to its original position.

Springs with an h/t ratio greater than 1.3 should not be stacked in series if deflection may approach the flat condition. Because of variables in the manufacturing, one or more washers may snap flat and cause erratic loading.

The charts above and on Page 84 are correct over their entire range for washers that are designed to be deflected to the flat position (Belleville type).

Washers that require very high loads and very little deflection are not designed to be deflected flat. These will follow the chart only within their designed range.

These charts will predict performance reasonably well for deflections of less than 80%. If accurate loads are required, the washer should be designed to reach the desired load before 80% deflection is reached.

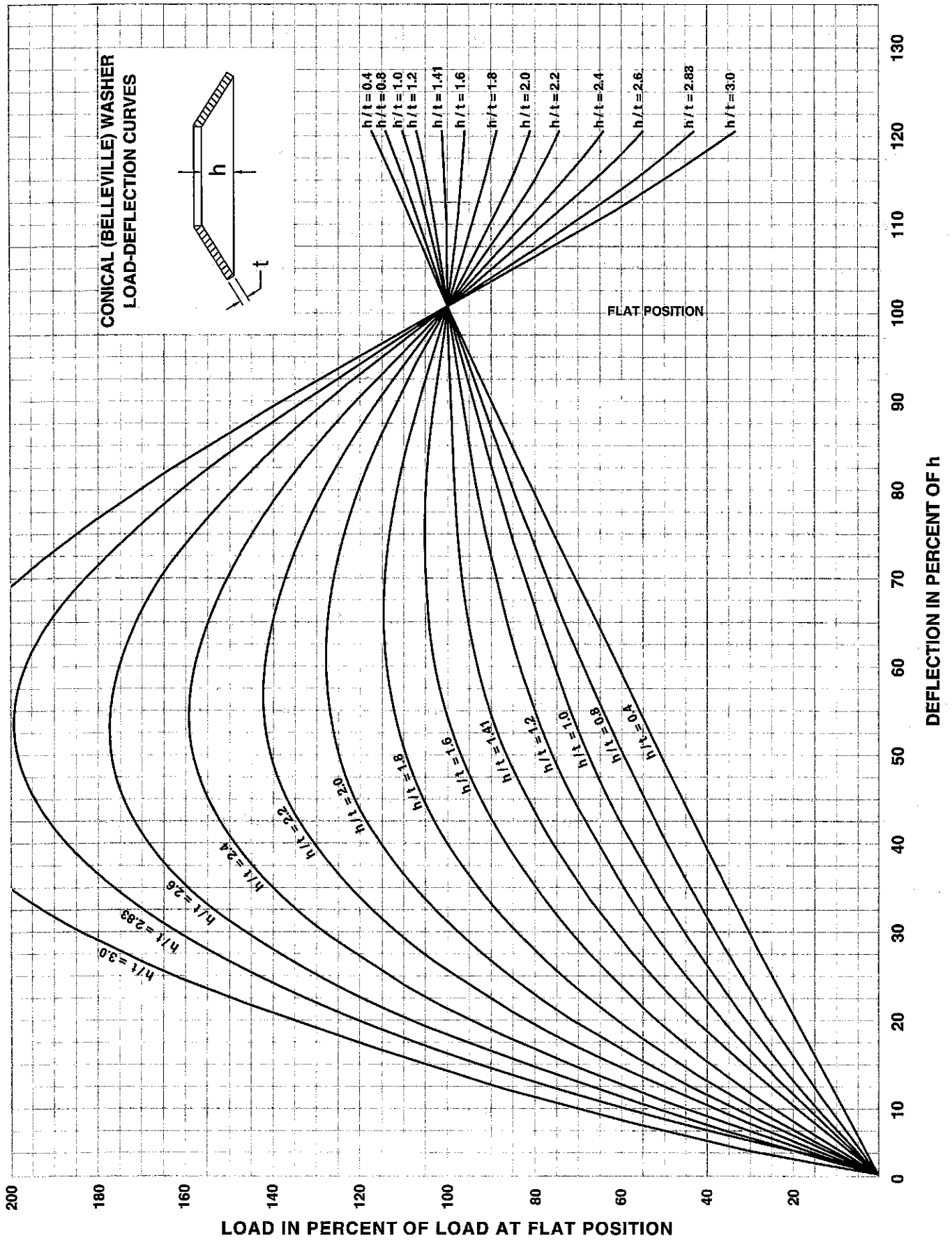
A Conical Spring Washer will carry more load if:

1. The material thickness is increased.
2. The h/t ratio is increased.
3. The O.D. / I.D. ratio is increased

Generally these variables will also decrease the percentage of allowable deflection because of stress build-up around the inside diameter.

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CONICAL STYLE SPRING WASHER (BELLEVILLE) LOAD-DEFLECTION CURVES



CAPACITY RATINGS — SEASTROM SPRING WASHERS

(REFER TO RATINGS CAPACITY COLUMNS IN CATALOG SECTION)

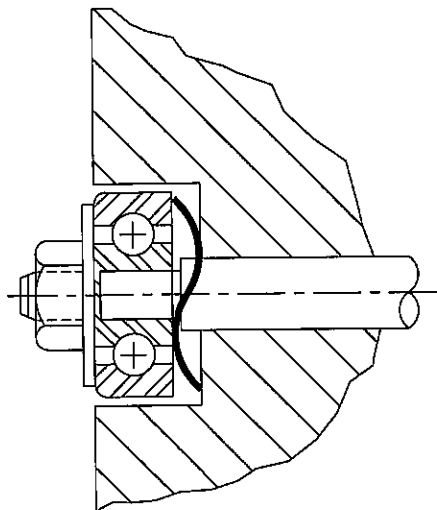
The Values for "Maximum Load", "Maximum Deflection", "Load at Flat", and "Spring Rate" are calculated for Spring Washers made to the nominal dimensions given in the catalog. Due to variations in material properties and manufacturing tolerances these values are **not** guaranteed and are offered as design guide information only.

Values are calculated for static loads. For dynamic loading these values will be less.

For conical (Belleville) Spring Washers, the load at flat may be less than the maximum load if the h/t ratio is greater than 1.41, see curves on page 84.

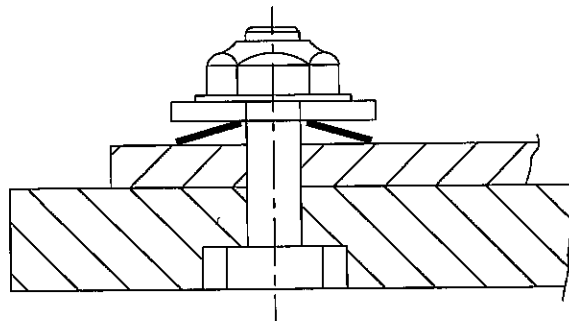
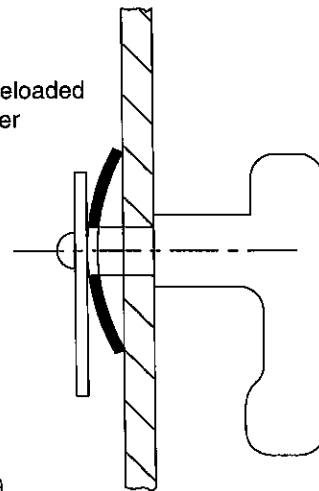
Before testing Spring Washers, it is always advisable to load the Washers several times through the specified working deflection to eliminate any set which might take place.

TYPICAL SPRING WASHER APPLICATIONS



Bearing preloaded with Wave Spring washer

Compartment door latch preloaded with Crescent Spring washer



Electrical Bus Bar preloaded with Belleville Spring washer. Tension remains approximately constant under temperature changes.

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Spring Clips

Spring Washers

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TOLERANCES FOR CONICAL SPRING WASHERS (BELLEVILLE)*

(Formed condition)

DIMENSION	OUTSIDE DIAMETER SIZE			
	.000-.500	.501-.875	.876-1.375	1.376-2.000
A	± .005	± .005	± .005	± .007
B	± .010	± .010	± .010	± .010
C*	± .008	± .010	± .013	± .015

TOLERANCES FOR CRESCENT STYLE SPRING WASHERS (CYLINDRICALLY CURVED)

(Formed condition)

DIMENSION	OUTSIDE DIAMETER SIZE			
	.000-.500	.501-.875	.876-1.375	1.376-2.000
A	± .005	± .005	± .005	± .007
B	± .010	± .010	± .010	± .010
C*	± .008	± .010	± .015	± .020

TOLERANCES FOR WAVE STYLE SPRING WASHERS

(Formed condition)

DIMENSION	OUTSIDE DIAMETER SIZE			
	.000-.500	.501-.875	.876-1.375	1.376-2.000
A**	± .010	± .010	± .010	± .015
B**	± .010	± .010	± .015	± .015
C*	± .010	± .012	± .015	± .020

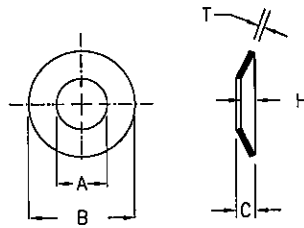
* Nominal as stamped. Some distortion may occur in Heat Treatment.

** The "A" and "B" dimensions must be measured with plug and ring gages because they are not perfectly round.

The Free Height ("C" dimension) of a Wave Washer is measured by placing it between two parallel plates and compressing it until all lobes are in contact with the plates. The measured distance between the plates is the Free Height as related to the stated catalog dimension and tolerance for it.

CONICAL STYLE SPRING WASHER (BELLEVILLE) – SPRING STEEL

Custom Sizes Available . . . See Last Page of This Section



NOTE: Unless stated, all catalog parts are supplied without finish. See page 545 for specifying finishes.

PART NUMBER	A +	B +	C +	T	h/T RATIO**	CALCULATED **		
						LOAD AT FLAT (LBS)	MAXIMUM LOAD (LBS)	MAXIMUM DEFLECTION (IN.)
5808-51-5	.056	.125	.010	.005	1.0	7.2	2.4	.001
5808-52-10	.066	.156	.025	.010	1.5	109.2	—	< .001
5808-53-10	.066	.218	.032	.010	2.2	78.0	19.5	.001
5808-285-12	.066	.250	.025	.012	1.1	60.6	9.5	.001
5808-54-8	.066	.312	.018	.008	1.3	9.0	5.2	.003
5808-55-8	.078	.150	.028	.008	2.5	88.6	—	< .001
5808-56-10	.078	.187	.020	.010	1.0	50.4	9.3	.001
5808-57-10	.078	.218	.045	.010	3.5	—	—	< .001
5808-58-15	.078	.250	.046	.015	2.1	282.5	46.1	.001
5808-59-10	.087	.196	.025	.010	1.5	70.3	14.2	.001
5808-224-10	.090	.172	.025	.010	1.5	99.1	20.0	.001
5808-223-10	.093	.215	.022	.010	1.2	46.4	8.7	.001
5808-1-10	.094	.187	.025	.010	1.5	81.8	16.5	.001
5808-2-10	.094	.250	.040	.010	3.0	82.7	26.3	.001
5808-3-15	.094	.312	.060	.015	3.0	263.0	56.7	.001
5808-60-5	.094	.343	.020	.005	3.0	2.6	5.3	.005
5808-61-10	.094	.375	.050	.010	4.0	48.0	38.0	.002
5808-62-10	.097	.203	.030	.010	2.0	90.1	21.2	.001
5808-63-20	.100	.200	.040	.020	1.0	760.8	—	< .001
5808-178-10	.101	.198	.028	.010	1.8	88.3	19.5	.001
5808-6-6	.103	.200	.031	.006	4.2	26.1	18.1	.001
5808-64-32	.103	.312	.055	.032	0.7	1311.8	84.6	.001
5808-65-8	.106	.240	.050	.008	5.3	67.1	44.0	.001
5808-217-10	.109	.187	.029	.010	1.9	115.6	26.4	.001
5808-66-12	.111	.300	.055	.012	3.6	141.8	44.2	.001
5808-67-10	.111	.375	.045	.010	3.5	41.9	29.2	.002
5808-188-12	.112	.187	.044	.012	2.7	345.7	—	< .001
5808-68-5	.115	.250	.025	.005	4.0	7.3	10.7	.002
5808-179-12	.116	.188	.025	.012	1.1	143.5	22.5	.001
5808-226-10	.116	.220	.024	.010	1.4	56.8	11.2	.001
5808-69-32	.118	.375	.050	.032	0.6	708.3	99.6	.002
5808-70-20	.118	.400	.035	.020	0.8	126.3	35.5	.003
5808-7-5	.119	.200	.030	.005	5.0	16.9	16.6	.001
5808-71-45	.120	.365	.060	.045	0.3	1737.7	127.4	.001
5808-72-10	.125	.250	.020	.010	1.0	30.4	10.4	.002
5808-73-20	.125	.250	.045	.020	1.3	608.6	60.1	.001
5808-74-32	.125	.312	.050	.032	0.6	1058.4	75.9	.001
5808-191-12	.126	.224	.018	.012	0.5	42.6	16.2	.002
5808-232-15	.127	.250	.057	.015	2.8	435.3	88.7	.001
5808-11-8	.128	.250	.020	.008	1.5	18.9	11.7	.003

+ For tolerances see beginning of section.

**For an explanation of these values and design criteria see beginning of section.

SEASTROM Manufacturing Co., Inc.

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Solder Lugs

Spring Clips

Spring Washers

Shoulder Washers

Stand Off Spacers

Flat Round Washers – Metallic

Flat Round Washers – Non-Metallic

O-Rings

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Lockwashers, Retention Washers & Push-on Nuts

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Custom Parts

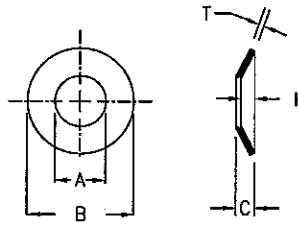
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CONICAL STYLE SPRING WASHER (Continued)

(BELLEVILLE) – SPRING STEEL

Custom Sizes Available . . . See Last Page of This Section



NOTE: Unless stated, all catalog parts are supplied without finish. See page 545 for specifying finishes.

PART NUMBER	A +	B +	C +	T	h/T RATIO**	CALCULATED **		
						LOAD AT FLAT (LBS)	MAXIMUM LOAD (LBS)	MAXIMUM DEFLECTION (IN.)
5808-4-10	.128	.318	.060	.010	5.0	86.4	43.6	.001
5808-4-15	.128	.318	.060	.015	3.0	262.6	56.6	.001
5808-75-32	.128	.437	.050	.032	0.6	520.4	73.2	.002
5808-76-15	.128	.550	.060	.015	3.0	85.2	51.8	.003
5808-77-15	.128	.625	.060	.015	3.0	66.8	52.5	.004
5808-78-12	.130	.243	.020	.012	0.7	46.4	15.0	.002
5808-233-12	.130	.271	.032	.012	1.7	87.6	29.6	.002
5808-234-12	.130	.308	.022	.012	0.8	32.3	17.2	.004
5808-5-3	.130	.315	.015	.003	4.0	0.5	2.0	.008
5808-79-20	.130	.365	.040	.020	1.0	205.1	38.0	.002
5808-235-8	.132	.243	.017	.008	1.1	15.7	8.9	.003
5808-80-12	.133	.300	.045	.012	2.8	114.0	28.4	.001
5808-80-15	.133	.300	.045	.015	2.0	202.5	32.4	.001
5808-81-16	.133	.312	.060	.016	2.8	329.0	62.1	.001
5808-236-15	.138	.271	.031	.015	1.1	141.3	34.2	.002
5808-82-10	.144	.281	.030	.010	2.0	48.8	21.6	.002
5808-83-12	.144	.300	.050	.012	3.2	135.8	38.0	.001
5808-84-20	.144	.425	.050	.020	1.5	225.6	65.9	.003
5808-237-32	.144	.750	.112	.032	2.5	808.1	209.2	.003
5808-238-62	.144	.750	.113	.062	0.8	3747.0	240.6	.002
5808-239-15	.145	.274	.023	.015	0.5	70.8	30.4	.003
5808-180-25	.145	.328	.047	.025	0.9	574.8	87.4	.002
5808-85-40	.148	.375	.055	.040	0.4	1188.2	176.4	.002
5808-86-40	.148	.500	.070	.040	0.8	1294.1	130.0	.002
5808-87-25	.153	.312	.040	.025	0.6	453.1	78.0	.002
5808-8-10	.153	.375	.060	.010	5.0	62.3	61.1	.002
5808-8-15	.153	.375	.060	.015	3.0	189.5	79.2	.002
5808-88-32	.153	.438	.050	.032	0.6	524.0	108.4	.003
5808-89-20	.153	.500	.040	.020	1.0	107.9	44.6	.005
5808-90-32	.153	.562	.060	.032	0.9	489.5	112.6	.004
5808-225-15	.154	.375	.030	.015	1.0	63.3	27.6	.004
5808-181-10	.156	.312	.020	.010	1.0	19.5	11.6	.004
5808-91-15	.156	.625	.040	.015	1.7	36.5	27.8	.007
5808-240-32	.156	1.000	.147	.032	3.6	674.2	235.9	.003
5808-241-62	.156	1.000	.154	.062	1.5	3923.1	396.0	.003
5808-9-15	.160	.307	.025	.015	0.7	69.8	26.5	.003
5808-182-12	.168	.312	.022	.012	0.8	35.4	18.9	.004
5808-92-40	.168	.437	.055	.040	0.4	870.0	129.2	.002
5808-183-15	.169	.283	.022	.015	0.5	64.3	30.2	.003
5808-242-15	.172	.336	.023	.015	0.5	46.1	25.5	.004

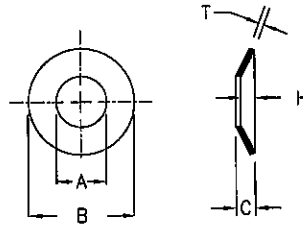
+ For tolerances see beginning of section.

**For an explanation of these values and design criteria see beginning of section.

CONICAL STYLE SPRING WASHER (Continued)

(BELLEVILLE) – SPRING STEEL

Custom Sizes Available . . . See Last Page of This Section



NOTE: Unless stated, all catalog parts are supplied without finish. See page 545 for specifying finishes.

PART NUMBER	A +	B +	C +	T	h/T RATIO**	CALCULATED **		
						LOAD AT FLAT (LBS)	MAXIMUM LOAD (LBS)	MAXIMUM DEFLECTION (IN.)
5808-184-25	.172	.343	.045	.025	0.8	506.0	78.3	.002
5808-93-15	.173	.365	.035	.015	1.3	93.7	33.7	.003
5808-185-32	.175	.347	.040	.032	0.3	416.1	108.3	.002
5808-186-40	.175	.443	.057	.040	0.4	965.2	130.6	.002
5808-94-32	.175	.500	.070	.032	1.2	849.0	150.6	.003
5808-95-40	.175	.562	.065	.040	0.6	855.0	135.7	.003
5808-96-20	.182	.380	.079	.020	3.0	608.0	97.7	.001
5808-116-5	.183	.400	.011	.005	1.2	0.8	0.8	.006
5808-10-6	.185	.306	.016	.006	1.7	5.0	5.4	.006
5808-97-40	.185	.375	.055	.040	0.4	1288.9	191.4	.002
5808-98-32	.185	.500	.060	.032	0.9	630.6	111.2	.003
5808-99-40	.185	.625	.075	.040	0.9	966.2	181.0	.004
5808-100-10	.187	.437	.020	.010	1.0	9.3	9.3	.010
5808-12-10	.187	.437	.060	.010	5.0	46.5	66.5	.003
5808-12-15	.187	.437	.060	.015	3.0	141.5	59.1	.002
5808-243-25	.188	.562	.045	.025	0.8	167.8	69.5	.006
5808-244-20	.190	.375	.036	.020	0.8	174.4	48.1	.003
5808-245-50	.190	.500	.075	.050	0.5	2158.5	210.8	.002
5808-246-6	.193	.370	.028	.006	3.7	6.8	13.5	.004
5808-187-20	.195	.369	.039	.020	1.0	219.7	59.0	.003
5808-13-15	.195	.370	.027	.015	0.8	58.1	26.2	.004
5808-189-20	.195	.375	.075	.020	2.8	609.2	92.6	.001
5808-101-32	.195	.562	.045	.032	0.4	229.7	95.6	.005
5808-102-32	.196	.480	.050	.032	0.6	449.3	121.7	.004
5808-247-93	.199	.394	.113	.093	0.2	19824.0	1033.7	.001
5808-248-36	.201	.465	.052	.036	0.4	616.3	132.4	.003
5808-103-32	.201	.500	.075	.032	1.3	985.3	122.9	.002
5808-190-15	.202	.368	.027	.015	0.8	60.5	27.3	.004
5808-14-10	.204	.437	.060	.010	5.0	48.1	68.7	.003
5808-16-10	.204	.509	.060	.010	5.0	33.7	62.2	.004
5808-16-15	.204	.509	.060	.015	3.0	102.4	80.4	.004
5808-15-25	.204	.561	.050	.025	1.0	212.6	73.1	.005
5808-249-32	.205	.405	.043	.032	0.3	420.9	123.3	.003
5808-17-15	.205	.586	.031	.015	1.1	26.8	22.7	.011
5808-104-50	.205	.750	.080	.050	0.6	1123.4	238.7	.005
5808-250-12	.206	.800	.113	.012	8.4	46.0	123.4	.004
5808-105-5	.207	.375	.020	.005	3.0	2.7	5.9	.007
5808-106-40	.207	.562	.060	.040	0.5	695.9	164.2	.004
5808-107-32	.207	.625	.050	.032	0.6	255.9	100.3	.006
5808-108-20	.208	.396	.030	.020	0.5	99.9	44.7	.004

+ For tolerances see beginning of section.

**For an explanation of these values and design criteria see beginning of section.

SEASTROM Manufacturing Co., Inc.

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Flat Round Washers – Non-Metallic

O-Rings

Retaining Rings

Lockwashers, Retention Washers & Push-on Nuts

Clamps & Brackets

Expansion Plugs

Ground Straps, Bus Bars & Term. Blocks

Tab & Notch Washers

Misc. Washers & Tags

Solid State Insulators

Military Standards

Custom Parts

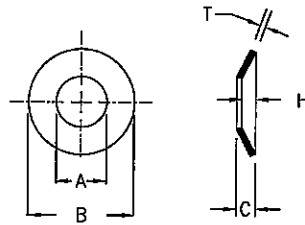
Engineering Tables

Num. & Alpha. Index of Parts

CONICAL STYLE SPRING WASHER *(Continued)*

(BELLEVILLE) – SPRING STEEL

Custom Sizes Available . . . See Last Page of This Section



NOTE: Unless stated, all catalog parts are supplied without finish. See page 545 for specifying finishes.

PART NUMBER	A +	B +	C +	T	h/T RATIO**	CALCULATED **		
						LOAD AT FLAT (LBS)	MAXIMUM LOAD (LBS)	MAXIMUM DEFLECTION (IN.)
5808-109-20	.219	.406	.032	.020	0.6	116.2	46.5	.004
5808-251-12	.220	.600	.108	.012	8.0	79.	153.3	.003
5808-110-20	.223	.435	.035	.020	0.8	122.3	53.5	.005
5808-111-50	.223	.435	.065	.050	0.3	1912.2	273.5	.002
5808-112-62	.223	.485	.080	.062	0.3	3331.1	396.3	.002
5808-113-32	.223	.562	.050	.032	0.6	325.4	108.2	.005
5808-114-32	.223	.685	.050	.032	0.6	212.7	95.6	.007
5808-115-50	.223	.685	.100	.050	1.0	2254.3	258.5	.003
5808-192-36	.250	.750	.053	.036	0.5	239.1	136.4	.009
5808-252-8	.251	.385	.018	.008	1.3	8.4	7.9	.008
5808-117-32	.252	.437	.090	.032	1.8	2097.1	151.9	.001
5808-118-25	.255	.500	.040	.025	0.6	180.3	72.1	.005
5808-18-8	.255	.610	.032	.008	3.0	5.8	12.6	.013
5808-193-32	.255	.637	.048	.032	0.5	225.7	109.6	.007
5808-119-62	.255	.870	.110	.062	0.8	2546.3	400.2	.005
5808-19-6	.256	.406	.031	.006	4.2	7.5	17.5	.004
5808-20-15	.256	.694	.080	.015	4.3	78.2	106.3	.005
5808-20-25	.256	.694	.080	.025	2.2	306.4	144.8	.005
5808-194-18	.260	.493	.035	.018	0.9	80.2	41.7	.006
5808-21-18	.260	.500	.034	.018	0.8	72.6	42.8	.007
5808-120-20	.260	.562	.040	.020	1.0	92.7	49.8	.007
5808-121-25	.261	.493	.040	.025	0.6	189.9	75.9	.005
5808-122-20	.264	.752	.060	.020	2.0	96.4	74.8	.008
5808-123-40	.265	.740	.090	.040	1.3	999.1	233.3	.005
5808-253-62	.265	1.125	.140	.062	1.3	2493.0	461.2	.006
5808-124-8	.266	.626	.012	.008	0.5	0.9	0.9	.004
5808-254-25	.268	.397	.041	.025	0.6	405.0	98.8	.003
5808-195-20	.268	.490	.035	.020	0.8	100.8	51.2	.006
5808-47-20	.271	.406	.027	.020	0.4	85.2	62.2	.005
5808-22-18	.275	.600	.038	.018	1.1	59.1	40.5	.009
5808-196-62	.281	.625	.131	.062	1.1	7620.8	482.7	.002
5808-125-45	.281	.871	.064	.045	0.4	386.0	195.9	.009
5808-23-32	.281	.910	.080	.032	1.5	320.4	145.2	.008
5808-227-32	.283	.552	.044	.032	0.4	249.1	131.1	.006
5808-48-50	.283	.593	.076	.050	0.5	1716.2	319.8	.004
5808-126-62	.296	.500	.125	.062	1.1	12975.5	413.6	.001
5808-255-50	.301	.490	.124	.050	1.5	8656.5	368.0	.001
5808-197-62	.305	.495	.125	.062	1.0	13816.8	440.4	.001
5808-256-62	.312	.892	.095	.062	0.5	1684.8	428.7	.007
5808-127-32	.316	.690	.054	.032	0.7	276.1	125.1	.008

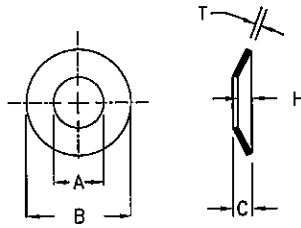
+ For tolerances see beginning of section.

**For an explanation of these values and design criteria see beginning of section.

CONICAL STYLE SPRING WASHER (Continued)

(BELLEVILLE) – SPRING STEEL

Custom Sizes Available . . . See Last Page of This Section



NOTE: Unless stated, all catalog parts are supplied without finish. See page 545 for specifying finishes.

PART NUMBER	A +	B +	C +	T	h/T RATIO**	CALCULATED **		
						LOAD AT FLAT (LBS)	MAXIMUM LOAD (LBS)	MAXIMUM DEFLECTION (IN.)
5808-128-10	.319	.492	.020	.010	1.0	9.9	9.9	.010
5808-257-20	.319	.620	.043	.020	1.2	92.6	55.1	.008
5808-258-125	.320	.551	.150	.125	0.2	34112.1	1415.8	.001
5808-198-32	.320	.750	.055	.032	0.7	238.2	116.8	.009
5808-199-36	.320	.875	.052	.036	0.4	167.2	138.9	.013
5808-49-32	.322	.620	.048	.032	0.5	265.3	128.8	.007
5808-129-10	.323	.500	.025	.010	1.5	14.3	14.3	.009
5808-130-25	.323	.500	.045	.025	0.8	299.0	87.3	.004
5808-50-32	.323	.906	.061	.032	0.9	197.8	113.1	.012
5808-259-18	.325	.655	.053	.018	1.9	90.1	67.1	.007
5808-131-80	.325	.750	.103	.080	0.3	3740.1	691.0	.004
5808-132-10	.325	.870	.050	.010	4.0	9.0	31.5	.016
5808-133-20	.326	.600	.030	.020	0.5	44.5	44.5	.010
5808-134-10	.326	.620	.085	.010	7.5	38.2	107.8	.004
5808-200-20	.326	.783	.051	.020	1.6	71.4	60.4	.012
5808-260-32	.327	.625	.051	.032	0.6	311.6	135.6	.007
5808-27-16	.328	.688	.062	.016	2.9	73.8	84.0	.007
5808-261-20	.331	.551	.035	.020	0.8	86.7	55.1	.008
5808-24-15	.334	.620	.080	.015	4.3	113.8	126.6	.004
5808-24-25	.334	.620	.080	.025	2.2	445.8	172.6	.004
5808-135-62	.340	.870	.115	.062	0.9	2898.3	445.8	.005
5808-136-93	.340	1.250	.150	.093	0.6	4945.0	795.1	.007
5808-137-62	.348	1.119	.083	.062	0.3	674.6	399.0	.012
5808-25-16	.353	.665	.035	.016	1.2	34.7	30.7	.013
5808-201-25	.377	1.000	.055	.025	1.2	80.8	68.0	.018
5808-26-62	.379	1.110	.125	.062	1.0	2071.3	485.0	.008
5808-202-20	.380	.750	.054	.020	1.7	92.7	74.7	.010
5808-138-40	.380	.750	.055	.040	0.4	327.0	203.9	.009
5808-28-15	.382	.683	.080	.015	4.3	96.5	131.1	.005
5808-28-25	.382	.683	.080	.025	2.2	378.1	178.7	.005
5808-29-40	.383	.741	.055	.040	0.4	339.1	211.4	.009
5808-262-20	.389	.818	.124	.020	5.2	230.5	289.5	.005
5808-139-20	.390	.625	.045	.020	1.3	117.2	64.5	.007
5808-263-12	.390	.625	.050	.012	3.2	38.5	59.7	.007
5808-140-40	.390	.740	.060	.040	0.5	459.1	205.6	.008
5808-177-62	.390	.740	.080	.062	0.3	1538.7	536.9	.006
5808-141-50	.390	1.100	.080	.050	0.6	529.1	265.9	.013
5808-142-36	.390	1.500	.095	.036	1.6	206.4	168.0	.019
5808-203-32	.392	.737	.054	.032	0.7	262.3	131.2	.009
5808-30-80	.395	1.242	.135	.080	0.7	3084.8	688.0	.009

+ For tolerances see beginning of section.

**For an explanation of these values and design criteria see beginning of section.

SEASTROM Manufacturing Co., Inc.

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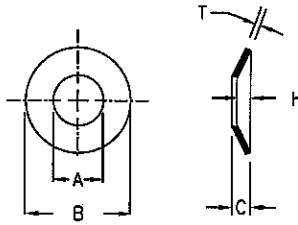
Engineering Tables

Num. & Alpha. Index of Parts

CONICAL STYLE SPRING WASHER *(Continued)*

(BELLEVILLE) – SPRING STEEL

Custom Sizes Available . . . See Last Page of This Section



NOTE: Unless stated, all catalog parts are supplied without finish. See page 545 for specifying finishes.

PART NUMBER	A +	B +	C +	T	h/T RATIO**	CALCULATED **		
						LOAD AT FLAT (LBS)	MAXIMUM LOAD (LBS)	MAXIMUM DEFLECTION (IN.)
5808-264-80	.396	.935	.115	.080	0.4	3635.4	713.6	.006
5808-204-15	.402	.740	.028	.015	0.9	16.1	16.1	.013
5808-31-32	.402	.787	.053	.032	0.7	213.9	129.0	.011
5808-34-32	.402	1.100	.069	.032	1.2	171.8	118.5	.016
5808-35-40	.402	1.100	.069	.040	0.7	263.0	169.9	.016
5808-143-62	.405	.875	.110	.062	0.8	2736.7	510.2	.006
5808-144-18	.406	.607	.045	.018	1.5	107.5	61.0	.006
5808-265-10	.406	.618	.027	.010	1.7	10.9	11.9	.015
5808-205-50	.406	.750	.109	.050	1.2	2623.9	401.0	.004
5808-145-62	.406	1.000	.090	.062	0.5	1169.5	419.5	.009
5808-146-62	.406	1.180	.092	.062	0.5	873.5	388.6	.012
5808-147-109	.406	1.187	.129	.109	0.2	3125.1	1270.2	.008
5808-148-72	.406	1.250	.096	.072	0.3	970.1	545.0	.013
5808-266-10	.408	.812	.044	.010	3.4	9.8	26.3	.016
5808-267-25	.415	.705	.040	.025	0.6	101.3	84.6	.012
5808-149-32	.420	1.125	.090	.032	1.8	258.4	189.0	.013
5808-32-15	.440	.785	.080	.015	4.3	73.1	132.8	.007
5808-32-25	.440	.785	.080	.025	2.2	286.7	180.8	.007
5808-268-45	.447	.865	.067	.045	0.5	519.6	260.0	.010
5808-150-32	.448	.860	.062	.032	0.9	259.1	138.2	.011
5808-151-40	.450	.785	.070	.040	0.8	653.0	210.4	.007
5808-206-36	.457	.987	.067	.036	0.9	272.0	161.5	.014
5808-33-10	.500	1.109	.035	.010	2.5	3.6	6.1	.025
5808-36-15	.504	1.000	.080	.015	4.3	41.9	115.2	.012
5808-36-25	.504	1.000	.080	.025	2.2	164.1	156.5	.012
5808-152-36	.504	1.000	.085	.036	1.4	436.8	223.1	.011
5808-153-62	.505	1.250	.135	.062	1.2	1948.9	564.5	.010
5808-228-32	.507	.867	.055	.032	0.7	214.0	140.5	.013
5808-154-62	.515	1.250	.112	.062	0.8	1341.8	462.1	.012
5808-155-62	.515	1.475	.110	.062	0.8	896.0	418.4	.017
5808-269-80	.516	1.062	.122	.080	0.5	3571.8	817.7	.008
5808-156-109	.516	1.500	.250	.109	1.3	13805.5	1748.3	.007
5808-270-50	.517	.987	.075	.050	0.5	627.5	331.0	.012
5808-271-20	.521	.864	.037	.020	0.9	40.1	40.1	.017
5808-207-50	.522	1.092	.083	.050	0.7	642.9	306.9	.013
5808-208-40	.524	.988	.075	.040	0.9	452.7	219.9	.012
5808-209-93	.531	1.000	.115	.093	0.2	3493.5	1147.2	.007
5808-167-134	.531	1.625	.162	.134	0.2	4319.2	1887.3	.012
5808-210-15	.540	.862	.030	.015	1.0	15.7	15.7	.015
5808-272-109	.545	1.120	.183	.109	0.7	14322.5	1633.2	.006

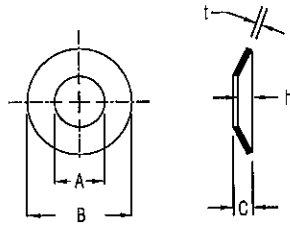
+ For tolerances see beginning of section.

**For an explanation of these values and design criteria see beginning of section.

CONICAL STYLE SPRING WASHER (Continued)

(BELLEVILLE) – SPRING STEEL

Custom Sizes Available . . . See Last Page of This Section



NOTE: Unless stated, all catalog parts are supplied without finish. See page 545 for specifying finishes.

PART NUMBER	A +	B +	C +	T	h/T RATIO**	CALCULATED **		
						LOAD AT FLAT (LBS)	MAXIMUM LOAD (LBS)	MAXIMUM DEFLECTION (IN.)
5808-157-80	.545	1.547	.125	.080	0.6	1642.4	681.9	.016
5808-273-25	.560	1.000	.061	.025	1.4	115.6	97.4	.016
5808-158-109	.562	1.625	.139	.109	0.3	2504.3	1287.7	.015
5808-159-93	.562	1.625	.187	.093	1.0	4873.8	1141.2	.012
5808-37-50	.563	1.340	.095	.050	0.9	554.2	307.8	.018
5808-160-50	.563	1.573	.107	.050	1.1	492.3	302.8	.021
5808-161-40	.567	1.125	.075	.040	0.9	338.1	204.1	.016
5808-38-40	.635	1.250	.082	.040	1.1	330.1	219.1	.019
5808-274-20	.639	1.250	.063	.020	2.2	42.4	58.5	.028
5808-275-62	.650	1.360	.102	.062	0.6	957.8	483.8	.017
5808-211-62	.688	1.095	.080	.062	0.3	825.6	560.7	.012
5808-162-62	.700	1.067	.110	.062	0.8	2456.1	596.8	.008
5808-163-40	.700	1.360	.080	.040	1.0	267.7	200.5	.023
5808-212-25	.710	1.128	.052	.025	1.1	76.7	75.5	.026
5808-213-15	.724	1.110	.043	.015	1.9	18.6	22.1	.028
5808-39-45	.760	1.500	.093	.045	1.1	372.5	265.7	.024
5808-164-20	.770	1.250	.050	.020	1.5	34.6	35.1	.030
5808-165-62	.770	1.500	.125	.062	1.0	1288.8	574.6	.017
5808-214-62	.776	1.485	.118	.062	0.9	1182.1	531.8	.017
5808-229-80	.776	1.486	.120	.080	0.5	1810.7	856.7	.017
5808-166-62	.781	1.343	.110	.062	0.8	1346.9	535.3	.014
5808-215-40	.797	1.314	.093	.040	1.3	435.3	279.4	.017
5808-230-15	.803	1.248	.043	.015	1.9	14.4	17.1	.028
5808-216-15	.803	1.363	.043	.015	1.9	10.9	13.0	.028
5808-40-62	.803	1.570	.104	.062	0.7	782.6	493.2	.023
5808-168-12	.812	1.180	.033	.012	1.8	6.8	7.6	.021
5808-169-80	.817	2.362	.171	.080	1.1	1421.5	788.7	.029
5808-170-15	.830	1.248	.043	.015	1.9	15.1	17.9	.028
5808-276-28	.831	1.152	.048	.028	0.7	95.5	95.5	.020
5808-277-80	.895	1.735	.128	.080	0.6	1581.6	833.9	.022
5808-171-5	.960	1.250	.065	.005	12.0	1.6	40.9	.017
5808-172-20	1.004	1.554	.050	.020	1.5	23.7	24.1	.030
5808-41-62	1.010	2.000	.130	.062	1.1	775.0	521.0	.030
5808-278-62	1.015	1.625	.125	.062	1.0	1302.7	607.5	.018
5808-42-32	1.031	1.500	.065	.032	1.0	126.4	126.4	.033
5808-279-80	1.031	1.980	.138	.080	0.7	1476.1	835.3	.027
5808-280-93	1.031	2.355	.177	.093	0.9	2184.1	1116.1	.030
5808-43-18	1.093	1.565	.047	.018	1.6	18.6	19.7	.029
5808-218-25	1.110	1.840	.060	.025	1.4	35.6	35.6	.035
5808-173-32	1.120	1.382	.096	.032	2.0	440.5	457.1	.009

+ For tolerances see beginning of section.

**For an explanation of these values and design criteria see beginning of section.

SEASTROM Manufacturing Co., Inc.

456 Seastrom Street • Twin Falls, Idaho 83301

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Solder Lugs

Spring Clips

Spring Washers

Shoulder Washers

Stand Off Spacers

Flat Round Washers – Metallic

Flat Round Washers – Non-Metallic

O-Rings

Retaining Rings

Lockwashers, Retention Washers & Push-on Nuts

Clamps & Brackets

Expansion Plugs

Ground Straps, Bus Bars & Term. Blocks

Tab & Notch Washers

Misc. Washers & Tags

Solid State Insulators

Military Standards

Custom Parts

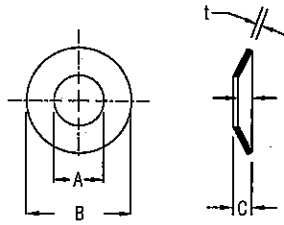
Engineering Tables

Num. & Alpha. Index of Parts

CONICAL STYLE SPRING WASHER (Continued)

(BELLEVILLE) – SPRING STEEL

Custom Sizes Available . . . See Last Page of This Section



NOTE: Unless stated, all catalog parts are supplied without finish. See page 545 for specifying finishes.

PART NUMBER	A +	B +	C +	T	h/t RATIO**	CALCULATED **		
						LOAD AT FLAT (LBS)	MAXIMUM LOAD (LBS)	MAXIMUM DEFLECTION (IN.)
5808-174-62	1.120	2.250	.103	.062	0.7	366.2	366.2	.041
5808-281-20	1.165	1.621	.058	.020	1.9	33.1	40.0	.038
5808-219-25	1.195	1.835	.060	.025	1.4	39.3	39.3	.035
5808-231-18	1.202	2.135	.070	.018	2.9	13.7	28.3	.052
5808-175-62	1.260	2.000	.122	.062	1.0	827.6	559.1	.030
5808-44-80	1.260	2.500	.160	.080	1.0	1252.1	847.0	.039
5808-45-40	1.270	2.060	.085	.040	1.1	153.1	153.1	.045
5808-220-20	1.270	2.500	.145	.020	6.3	30.7	240.1	.047
5808-282-25	1.394	1.939	.058	.025	1.3	39.3	39.3	.033
5808-46-30	1.484	1.995	.080	.032	1.5	66.9	68.0	.048
5808-283-36	1.584	2.100	.051	.036	0.4	50.8	50.8	.015
5808-284-28	1.960	2.200	.067	.028	1.4	117.8	85.4	.003
5808-221-28	2.030	2.810	.077	.028	1.8	39.4	44.2	.049
5808-222-50	2.156	3.063	.115	.050	1.3	237.9	237.9	.065

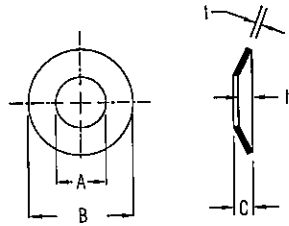
+ For tolerances see beginning of section.

**For an explanation of these values and design criteria see beginning of section.

CONICAL STYLE SPRING WASHER (BELLEVILLE)

301-304 STAINLESS STEEL

Custom Sizes Available . . . See Last Page of This Section



NOTE: Unless stated, all catalog parts are supplied without finish. See page 545 for specifying finishes.

PART NUMBER	A +	B +	C +	T	HARDNESS	h/t RATIO**	CALCULATED **		
							LOAD AT FLAT (LBS)	MAXIMUM LOAD (LBS)	MAXIMUM DEFLECTION (IN.)
5809-1-5	.053	.125	.013	.005	HH	1.6	9.9	—	< .001
5809-2-12	.066	.250	.025	.012	HH	1.1	52.9	8.3	.001
5809-3-10	.084	.198	.025	.010	HH	1.5	59.2	12.0	.001
5809-4-8	.095	.184	.019	.008	FH	1.4	32.8	7.9	.001
5809-5-10	.095	.177	.015	.010	HH	0.5	27.7	6.5	.001
5809-6-10	.109	.187	.029	.010	HH	1.9	100.9	—	< .001
5809-7-12	.112	.187	.044	.012	HH	2.7	301.5	—	< .001
5809-8-12	.116	.188	.025	.012	HH	1.1	125.2	—	< .001
5809-9-10	.116	.220	.024	.010	HH	1.4	49.6	9.8	.001
5809-10-20	.116	.382	.078	.020	HH	2.9	467.7	74.1	.001
5809-11-6	.125	.250	.015	.006	HH	1.5	5.2	3.9	.003
5809-12-12	.126	.224	.018	.012	HH	0.5	37.2	14.1	.002
5809-13-16	.127	.250	.057	.016	HH	2.6	449.9	—	< .001
5809-14-12	.130	.243	.020	.012	HH	0.7	40.5	13.1	.002
5809-15-12	.130	.271	.032	.012	HH	1.7	76.4	13.7	.001
5809-16-12	.130	.308	.022	.012	HH	0.8	28.2	11.9	.003
5809-17-12	.132	.300	.046	.012	FH	2.8	119.3	30.4	.001
5809-18-16	.138	.271	.031	.016	HH	0.9	140.3	16.8	.001
5809-19-16	.138	.281	.024	.016	FH	0.5	79.6	23.2	.002
5809-20-10	.144	.281	.030	.010	FH	2.0	49.7	22.0	.002
5809-21-30	.144	.750	.112	.030	HH	2.7	595.4	119.1	.002
5809-22-60	.144	.750	.112	.060	HH	0.9	3020.3	198.5	.002
5809-23-30	.156	1.000	.147	.030	HH	3.9	493.0	197.6	.003
5809-24-16	.160	.307	.025	.016	HH	0.6	66.5	18.0	.002
5809-25-16	.160	.302	.025	.016	HH	0.6	69.5	18.8	.002
5809-26-25	.172	.343	.045	.025	HH	0.8	441.4	35.2	.001
5809-27-25	.188	.562	.045	.025	HH	0.8	146.4	52.0	.005
5809-28-20	.190	.375	.036	.020	HH	0.8	152.2	29.0	.002
5809-29-50	.190	.500	.075	.050	HH	0.5	1882.8	183.9	.002
5809-30-20	.192	.560	.083	.020	HH	3.2	238.4	79.1	.002
5809-31-20	.195	.367	.026	.020	FH	0.3	71.6	37.0	.003
5809-32-16	.202	.367	.027	.016	HH	0.7	59.1	20.9	.003
5809-34-24	.260	.490	.033	.024	FH	0.4	104.1	60.4	.005
5809-35-16	.260	.493	.035	.016	HH	1.2	54.9	27.5	.005

+ For tolerances see beginning of section.

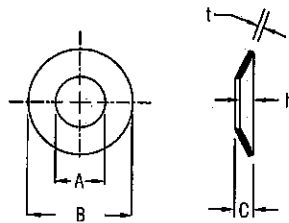
**For an explanation of these values and design criteria see beginning of section.

- Solder Lugs
- Spring Clips
- Spring Washers
- Shoulder Washers
- Stand Off Spacers
- Flat Round Washers - Metallic
- Flat Round Washers - Non-Metallic
- O-Rings
- Retaining Rings
- Lockwashers, Retention Washers & Push-on Nuts
- Clamps & Brackets
- Expansion Plugs
- Ground Straps, Bus Bars & Term. Blocks
- Tab & Notch Washers
- Misc. Washers & Tags
- Solid State Insulators
- Military Standards
- Custom Parts
- Engineering Tables
- Num. & Alpha. Index of Parts

CONICAL STYLE SPRING WASHER (BELLEVILLE)

301-304 STAINLESS STEEL (Continued)

Custom Sizes Available . . . See Last Page of This Section



NOTE: Unless stated, all catalog parts are supplied without finish. See page 545 for specifying finishes.

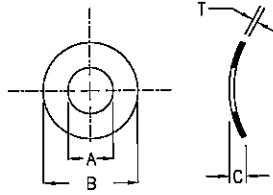
PART NUMBER	A +	B +	C +	T	HARDNESS	h/t RATIO**	CALCULATED **		
							LOAD AT FLAT (LBS)	MAXIMUM LOAD (LBS)	MAXIMUM DEFLECTION (IN.)
5809-36-25	.270	.485	.038	.025	HH	0.5	154.0	54.9	.004
5809-37-40	.270	.552	.048	.040	FH	0.2	321.4	163.1	.004
5809-38-20	.273	.519	.090	.020	HH	3.5	355.7	129.4	.002
5809-39-8	.276	1.100	.026	.008	FH	2.3	1.3	1.9	.018
5809-40-60	.312	.892	.095	.060	HH	0.6	1412.7	256.5	.005
5809-41-20	.319	.620	.043	.020	HH	1.2	80.8	43.8	.007
5809-42-60	.321	.570	.078	.060	HH	0.3	2514.7	257.5	.002
5809-43-30	.322	.615	.043	.030	FH	0.4	184.7	91.9	.006
5809-44-20	.332	.610	.042	.020	HH	1.1	82.9	44.7	.007
5809-45-30	.332	.610	.048	.030	HH	0.6	228.9	77.8	.005
5809-46-40	.396	.730	.059	.040	HH	0.5	399.0	142.4	.006
5809-47-60	.407	1.000	.100	.060	HH	0.7	1321.7	308.7	.007
5809-48-10	.408	.812	.044	.010	HH	3.4	8.6	22.2	.013
5809-49-25	.415	.705	.040	.025	HH	0.6	88.4	58.4	.009
5809-50-30	.447	.865	.048	.030	FH	0.6	128.2	92.3	.012
5809-51-50	.522	.980	.075	.050	HH	0.5	561.5	228.7	.009
5809-52-50	.584	1.108	.084	.050	HH	0.7	593.2	242.2	.011
5809-53-60	.645	1.240	.092	.060	HH	0.5	763.6	327.7	.012
5809-54-20	.639	1.250	.063	.020	HH	2.2	37.0	50.7	.022
5809-55-60	.650	1.360	.102	.060	HH	0.7	795.0	337.2	.014
5809-56-50	.775	1.480	.093	.050	HH	0.9	418.6	244.5	.019
5809-57-60	.895	1.735	.125	.060	HH	1.1	788.2	393.8	.019
5809-58-60	1.020	1.980	.130	.060	HH	1.2	651.2	388.7	.024

+ For tolerances see beginning of section.

**For an explanation of these values and design criteria see beginning of section.

CRESCENT SHAPE SPRING WASHER

Custom Sizes Available . . . See Last Page of This Section



NOTE: Unless stated, all catalog parts are supplied without finish. See page 545 for specifying finishes.

* ADD TO PART NUMBER

- 1 for beryllium copper
- 2 for spring steel
- 3 for stainless steel (17-7PH)

CALCULATED **

PART NUMBER	A +	B +	C +	T	MAXIMUM LOAD (LBS)			MAXIMUM DEFLECTION (IN.)			SPRING RATE (LBS/IN.)		
					-1	-2	-3	-1	-2	-3	-1	-2	-3
5804-166-*	.040	.105	.018	.006	2.7	3.3	3.4	.003	.002	.002	897	1455	1431
5804-167-*	.043	.088	.015	.004	1.0	1.2	1.3	.003	.002	.003	313	507	499
5804-84-*	.047	.120	.025	.004	1.2	1.4	1.5	.006	.004	.005	200	324	319
5804-67-*	.047	.120	.032	.004	1.2	1.4	1.5	.006	.004	.005	200	324	319
5804-1-*	.051	.378	.047	.005	2.4	3.2	3.3	.042	.035	.037	56	91	89
5804-168-*	.052	.133	.035	.005	1.8	2.2	2.3	.006	.004	.005	318	516	508
5804-87-*	.055	.240	.040	.016	23.7	28.9	30.3	.006	.004	.005	4056	6578	6468
5804-169-*	.055	.350	.060	.005	2.5	3.1	3.2	.040	.030	.032	64	103	101
5804-2-*	.059	.183	.047	.005	2.0	2.5	2.6	.011	.008	.009	187	304	298
5804-88-*	.064	.130	.025	.006	2.2	2.7	2.8	.005	.003	.004	480	779	766
5804-68-*	.064	.130	.032	.006	2.2	2.7	2.8	.005	.003	.004	480	779	766
5804-170-*	.064	.250	.030	.003	0.6	1.0	1.0	.027	.025	.027	24	39	38
5804-3-*	.064	.379	.047	.010	10.0	12.2	12.7	.023	.018	.019	428	694	683
5804-4-*	.065	.133	.037	.008	3.9	4.8	5.0	.004	.003	.003	1095	1776	1746
5804-171-*	.065	.371	.065	.018	32.1	—	—	.012	—	—	2586	—	—
5804-172-*	.067	.600	.100	.004	1.1	—	—	.096	—	—	12	—	—
5804-347-*	.068	.130	.032	.006	2.1	2.5	2.6	.005	.003	.004	451	731	719
5804-173-*	.068	.145	.030	.005	1.6	1.9	2.0	.007	.005	.005	234	379	373
5804-89-*	.070	.240	.055	.005	2.1	2.6	2.7	.019	.014	.015	114	184	181
5804-350-*	.075	.118	.020	.003	0.4	0.5	0.5	.008	.006	.006	52	85	83
5804-174-*	.075	.158	.047	.003	0.6	0.7	0.7	.013	.010	.011	42	68	67
5804-330-*	.080	.245	.050	.006	2.9	3.6	3.7	.016	.012	.013	179	291	286
5804-90-*	.084	.130	.035	.008	2.7	3.3	3.5	.003	.003	.003	793	1286	1265
5804-359-*	.090	.185	.037	.010	6.2	7.5	7.9	.006	.004	.004	1110	1800	1770
5804-91-*	.090	.240	.040	.010	7.5	9.2	9.6	.009	.007	.007	803	1302	1280
5804-331-*	.091	.123	.040	.016	8.0	9.8	10.2	.002	.001	.001	5212	8452	8311
5804-5-*	.092	.163	.047	.005	1.3	1.6	1.7	.009	.006	.007	152	246	242
5804-92-*	.093	.170	.026	.004	0.9	1.1	1.1	.012	.009	.009	74	120	118
5804-332-*	.093	.670	.078	.012	14.9	18.2	19.0	.061	.046	.049	245	398	391
5804-360-*	.094	.160	.034	.004	0.8	1.0	1.0	.010	.008	.008	76	124	122
5804-175-*	.095	.312	.077	.007	4.1	5.0	5.2	.023	.017	.018	181	294	289
5804-176-*	.095	.320	.055	.008	5.4	6.6	6.9	.021	.016	.017	260	422	415
5804-93-*	.096	.140	.031	.003	0.3	0.4	0.4	.011	.008	.008	32	52	51
5804-177-*	.096	.250	.040	.005	1.8	2.3	2.4	.020	.015	.016	91	148	145
5804-162-*	.097	.193	.047	.005	1.5	1.8	1.9	.012	.009	.010	124	200	197
5804-6-*	.097	.193	.047	.010	6.0	7.3	7.6	.006	.005	.005	988	1602	1576
5804-178-*	.097	.210	.040	.010	6.5	7.9	8.3	.007	.005	.006	903	1464	1440
5804-94-*	.097	.302	.030	.006	2.9	3.6	3.7	.024	.019	.020	119	193	190
5804-95-*	.097	.302	.030	.008	5.2	6.4	6.7	.018	.014	.015	282	457	450
5804-69-*	.098	.403	.047	.006	3.1	4.0	4.2	.041	.033	.035	74	121	119

+ For tolerances see beginning of section.

**For an explanation of these values and design criteria see beginning of section.

SEASTROM Manufacturing Co., Inc.

456 Seastrom Street • Twin Falls, Idaho 83301

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Solder Lugs

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Flat Round Washers - Metallic

Flat Round Washers - Non-Metallic

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Retaining Rings

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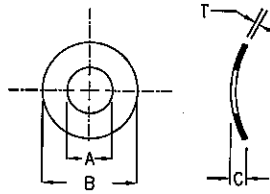
Custom Parts

Engineering Tables

Num. & Alpha. Index of Parts

CRESCENT SHAPE SPRING WASHER *(Continued)*

Custom Sizes Available . . . See Last Page of This Section



NOTE: Unless stated, all catalog parts are supplied without finish. See page 545 for specifying finishes.

* ADD TO PART NUMBER

- 1 for beryllium copper
- 2 for spring steel
- 3 for stainless steel (17-7PH)

PART NUMBER	A +	B +	C+	T	CALCULATED **								
					MAXIMUM LOAD (LBS)			MAXIMUM DEFLECTION (IN.)			SPRING RATE (LBS/IN.)		
					-1	-2	-3	-1	-2	-3	-1	-2	-3
5804-179-*	.098	.438	.060	.010	9.3	11.4	11.9	.031	.023	.025	299	486	477
5804-180-*	.099	.205	.040	.010	6.2	7.6	7.9	.007	.005	.005	910	1476	1452
5804-181-*	.100	.625	.090	.010	10.1	12.3	12.9	.063	.048	.051	159	258	254
5804-96-*	.101	.147	.040	.005	0.9	1.1	1.2	.007	.005	.006	134	217	214
5804-7-*	.109	.203	.032	.005	1.4	1.7	1.8	.013	.010	.011	104	169	166
5804-182-*	.109	.250	.062	.005	1.7	2.1	2.2	.020	.015	.016	83	135	133
5804-183-*	.112	.220	.025	.003	0.4	0.6	0.7	.022	.020	.021	20	33	32
5804-184-*	.112	.240	.040	.010	6.4	7.8	8.2	.009	.007	.007	685	1111	1093
5804-9-*	.112	.273	.047	.005	1.8	2.2	2.3	.024	.018	.019	73	119	117
5804-185-*	.112	.375	.090	.005	2.1	2.6	2.7	.046	.034	.037	46	75	74
5804-186-*	.112	.437	.090	.005	2.2	2.7	2.9	.062	.047	.050	36	58	57
5804-11-*	.117	.313	.047	.008	4.8	5.9	6.1	.020	.015	.016	242	393	386
5804-187-*	.118	.203	.032	.005	1.3	1.5	1.6	.013	.010	.011	94	152	150
5804-333-*	.119	.250	.032	.010	6.3	7.7	8.0	.010	.008	.008	620	1006	989
5804-188-*	.122	.250	.036	.016	15.7	19.2	20.1	.006	.005	.005	2483	4027	3959
5804-189-*	.122	.377	.060	.007	4.0	4.9	5.1	.033	.025	.026	121	196	193
5804-13-*	.122	.378	.047	.008	5.2	6.4	6.6	.029	.022	.023	180	291	286
5804-361-*	.125	.200	.040	.008	2.9	3.5	3.7	.008	.006	.006	355	576	566
5804-163-*	.125	.247	.062	.003	0.5	0.7	0.7	.033	.025	.026	16	26	26
5804-15-*	.125	.247	.062	.005	1.5	1.8	1.9	.020	.015	.016	75	121	119
5804-8-*	.125	.250	.047	.008	3.8	4.7	4.9	.013	.010	.010	303	492	483
5804-97-*	.125	.250	.047	.012	8.6	10.6	11.0	.008	.006	.007	1023	1659	1631
5804-190-*	.125	.406	.070	.008	5.3	6.5	6.8	.033	.025	.027	159	258	254
5804-191-*	.126	.213	.035	.005	1.2	1.5	1.6	.015	.011	.012	83	135	133
5804-17-*	.127	.176	.032	.010	3.3	4.1	4.3	.005	.004	.004	665	1079	1061
5804-98-*	.127	.213	.018	.005	1.1	1.5	1.5	.013	.011	.012	82	133	131
5804-362-*	.127	.213	.035	.005	1.2	1.5	1.5	.015	.011	.012	82	133	131
5804-192-*	.127	.406	.050	.005	1.7	2.5	2.6	.045	.040	.043	39	63	61
5804-99-*	.128	.198	.040	.008	2.7	3.3	3.5	.008	.006	.006	342	554	545
5804-70-*	.128	.230	.047	.008	3.4	4.2	4.4	.011	.008	.009	318	515	506
5804-193-*	.128	.240	.041	.005	1.4	1.7	1.8	.019	.014	.015	75	122	120
5804-194-*	.128	.240	.041	.008	3.6	4.4	4.6	.012	.009	.009	307	498	489
5804-100-*	.128	.250	.025	.012	8.4	10.3	10.8	.008	.006	.007	998	1619	1592
5804-363-*	.128	.270	.030	.008	4.0	4.9	5.2	.015	.011	.012	273	443	436
5804-71-*	.130	.219	.032	.007	2.4	2.9	3.1	.011	.008	.009	215	349	343
5804-196-*	.130	.240	.045	.012	7.9	9.7	10.1	.008	.006	.006	1018	1650	1623
5804-364-*	.130	.302	.065	.016	17.5	21.4	22.4	.009	.007	.007	1893	3069	3018
5804-197-*	.130	.468	.060	.005	1.7	2.6	2.7	.055	.054	.055	31	49	49
5804-198-*	.130	.687	.060	.010	6.4	10.3	10.1	.050	.050	.050	127	206	203
5804-365-*	.131	.370	.042	.005	1.6	2.4	2.5	.037	.033	.036	44	71	70

+ For tolerances see beginning of section.

**For an explanation of these values and design criteria see beginning of section.

SEASTROM Manufacturing Co., Inc.

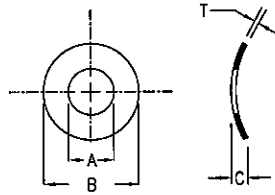
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CRESCENT SHAPE SPRING WASHER (Continued)

Custom Sizes Available . . . See Last Page of This Section



NOTE: Unless stated, all catalog parts are supplied without finish. See page 545 for specifying finishes.

* ADD TO PART NUMBER

- 1 for beryllium copper
- 2 for spring steel
- 3 for stainless steel (17-7PH)

CALCULATED **											
MAXIMUM LOAD (LBS)			MAXIMUM DEFLECTION (IN.)			SPRING RATE (LBS/IN.)					
-1	-2	-3	-1	-2	-3	-1	-2	-3			

PART NUMBER	A +	B +	C +	T	CALCULATED **								
					-1	-2	-3	-1	-2	-3	-1	-2	-3
5804-366-*	.132	.290	.070	.010	6.5	8.0	8.4	.014	.010	.011	479	777	764
5804-19-*	.132	.503	.078	.010	8.9	10.8	11.3	.041	.031	.033	216	350	344
5804-334-*	.133	.247	.060	.005	1.4	1.7	1.8	.020	.015	.016	70	113	112
5804-367-*	.133	.250	.032	.006	2.0	2.5	2.6	.017	.013	.014	120	194	191
5804-368-*	.133	.250	.042	.005	1.4	1.7	1.8	.020	.015	.016	69	112	110
5804-369-*	.133	.285	.046	.006	2.3	2.8	2.9	.022	.017	.018	105	170	167
5804-199-*	.133	.285	.062	.006	2.3	2.8	2.9	.022	.017	.018	105	170	167
5804-370-*	.134	.210	.030	.016	11.1	13.6	14.2	.004	.003	.004	2487	4034	3966
5804-371-*	.134	.285	.065	.006	2.3	2.8	2.9	.022	.017	.018	104	169	166
5804-101-*	.134	.437	.094	.010	8.3	10.2	10.6	.031	.023	.025	269	436	428
5804-200-*	.135	.245	.032	.006	1.9	2.4	2.5	.016	.012	.013	120	194	191
5804-372-*	.135	.245	.047	.004	0.9	1.1	1.1	.024	.018	.019	35	57	56
5804-201-*	.135	.285	.062	.006	2.3	2.8	2.9	.022	.017	.018	104	168	165
5804-102-*	.136	.312	.062	.006	2.4	3.0	3.1	.026	.020	.021	93	150	148
5804-103-*	.136	.312	.062	.010	6.8	8.3	8.6	.016	.012	.013	429	695	684
5804-202-*	.136	.370	.035	.008	4.7	5.9	6.2	.027	.021	.022	175	284	279
5804-203-*	.136	.400	.065	.010	7.9	9.7	10.1	.026	.020	.021	305	495	487
5804-204-*	.137	.250	.020	.005	1.0	1.6	1.6	.015	.015	.015	67	108	107
5804-21-*	.137	.253	.047	.005	1.4	1.7	1.8	.021	.016	.017	66	107	106
5804-10-*	.137	.283	.047	.008	4.0	4.8	5.1	.016	.012	.013	244	396	389
5804-22-*	.137	.283	.062	.005	1.5	1.9	2.0	.026	.020	.021	60	97	95
5804-205-*	.137	.283	.062	.010	6.2	7.6	7.9	.013	.010	.010	477	773	760
5804-23-*	.139	.317	.062	.010	6.7	8.2	8.6	.016	.012	.013	413	671	659
5804-373-*	.140	.242	.042	.006	1.8	2.2	2.3	.016	.012	.013	115	187	183
5804-374-*	.140	.270	.029	.008	3.7	4.5	4.7	.015	.011	.012	250	406	399
5804-206-*	.140	.365	.065	.005	1.8	2.3	2.4	.043	.033	.035	43	69	68
5804-207-*	.140	.406	.060	.005	2.0	2.4	2.5	.053	.040	.043	37	60	59
5804-104-*	.140	.490	.080	.020	34.3	41.9	43.8	.019	.015	.016	1761	2856	2808
5804-208-*	.140	.562	.060	.012	13.0	15.9	16.6	.043	.032	.034	304	493	485
5804-209-*	.141	.213	.048	.008	2.6	3.2	3.3	.009	.007	.007	282	458	450
5804-210-*	.141	.281	.047	.008	3.8	4.7	4.9	.016	.012	.013	239	388	381
5804-24-*	.141	.373	.062	.010	7.5	9.1	9.5	.023	.017	.018	331	536	528
5804-211-*	.141	.467	.058	.010	8.4	10.2	10.7	.035	.027	.028	237	384	378
5804-72-*	.144	.312	.047	.016	16.5	20.2	21.1	.010	.007	.008	1677	2719	2674
5804-105-*	.144	.312	.048	.016	16.5	20.2	21.1	.010	.007	.008	1677	2719	2674
5804-212-*	.145	.312	.030	.003	0.3	0.5	0.5	.027	.027	.027	11	18	18
5804-213-*	.145	.490	.080	.005	2.0	2.6	2.7	.075	.059	.062	27	44	43
5804-335-*	.147	.188	.041	.007	1.3	1.6	1.6	.008	.006	.007	157	254	250
5804-25-*	.147	.640	.062	.005	1.0	1.6	1.6	.057	.057	.057	17	28	28
5804-106-*	.148	.200	.060	.016	8.0	9.8	10.2	.004	.003	.003	1970	3195	3142

+ For tolerances see beginning of section.

**For an explanation of these values and design criteria see beginning of section.

SEASTROM Manufacturing Co., Inc.

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Solder Lugs

Spring Clips

Spring Washers

Shoulder Washers

Stand Off Spacers

Flat Round Washers - Metallic

Flat Round Washers - Non-Metallic

O-Rings

Retaining Rings

Lockwashers, Retention Washers & Push-on Nuts

Clamps & Brackets

Expansion Plugs

Ground Straps, Bus Bars & Term. Blocks

Tab & Notch Washers

Misc. Washers & Tags

Solid State Insulators

Military Standards

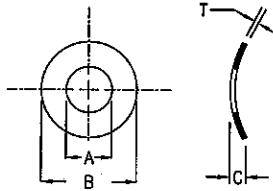
Custom Parts

Engineering Tables

Num. & Alpha. Index of Parts

CRESCENT SHAPE SPRING WASHER (Continued)

Custom Sizes Available . . . See Last Page of This Section



NOTE: Unless stated, all catalog parts are supplied without finish. See page 545 for specifying finishes.

* ADD TO PART NUMBER

- 1 for beryllium copper
- 2 for spring steel
- 3 for stainless steel (17-7PH)

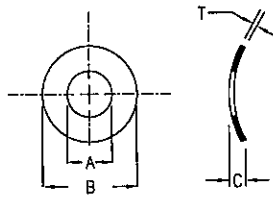
PART NUMBER	A +	B +	C +	T	CALCULATED **								
					MAXIMUM LOAD (LBS)			MAXIMUM DEFLECTION (IN.)			SPRING RATE (LBS/IN.)		
					-1	-2	-3	-1	-2	-3	-1	-2	-3
5804-107-*	.149	.277	.060	.004	0.9	1.1	1.1	.031	.023	.025	29	46	45
5804-73-*	.149	.277	.062	.007	2.7	3.3	3.5	.018	.013	.014	153	248	244
5804-214-*	.149	.322	.030	.010	6.4	7.9	8.2	.017	.013	.013	383	622	611
5804-215-*	.150	.240	.045	.010	4.5	5.5	5.8	.009	.007	.007	482	781	768
5804-216-*	.150	.275	.062	.005	1.4	1.7	1.7	.025	.018	.020	56	90	89
5804-375-*	.153	.267	.035	.007	2.5	3.1	3.2	.017	.012	.013	152	247	242
5804-376-*	.153	.270	.052	.005	1.3	1.6	1.7	.024	.018	.019	55	89	88
5804-377-*	.153	.322	.034	.010	6.3	7.7	8.0	.017	.013	.013	375	607	597
5804-336-*	.154	.311	.062	.005	1.5	1.9	1.9	.031	.024	.025	48	78	77
5804-12-*	.155	.312	.062	.010	6.0	7.4	7.7	.016	.012	.013	383	620	610
5804-337-*	.156	.375	.093	.003	0.6	0.8	0.8	.076	.057	.061	8	13	13
5804-26-*	.157	.381	.062	.010	7.1	8.6	9.0	.024	.018	.019	300	486	478
5804-108-*	.159	.562	.070	.016	22.0	26.9	28.1	.032	.024	.026	688	1116	1097
5804-378-*	.160	.222	.039	.010	3.4	4.1	4.3	.008	.006	.006	419	680	669
5804-109-*	.161	.249	.047	.005	1.1	1.3	1.4	.020	.015	.016	53	86	84
5804-110-*	.161	.249	.047	.007	2.1	2.5	2.7	.014	.011	.012	145	235	231
5804-74-*	.161	.249	.047	.010	4.2	5.2	5.4	.010	.008	.008	422	684	673
5804-27-*	.161	.301	.047	.005	1.4	1.7	1.8	.029	.022	.024	47	77	76
5804-217-*	.161	.302	.080	.005	1.4	1.7	1.8	.030	.022	.024	47	77	76
5804-218-*	.166	.270	.030	.008	3.0	3.6	3.8	.015	.011	.012	200	325	319
5804-111-*	.168	.280	.046	.010	4.8	5.9	6.1	.013	.010	.010	378	612	602
5804-219-*	.169	.312	.030	.005	1.1	1.7	1.7	.025	.024	.025	44	71	69
5804-220-*	.169	.437	.060	.005	1.6	2.2	2.4	.055	.047	.050	30	48	47
5804-221-*	.169	.517	.090	.010	8.1	9.9	10.3	.043	.033	.035	186	302	297
5804-28-*	.169	.518	.062	.016	20.7	25.3	26.4	.027	.020	.022	761	1234	1214
5804-112-*	.170	.405	.062	.010	7.0	8.5	8.9	.027	.020	.021	262	425	417
5804-113-*	.172	.241	.040	.006	1.2	1.5	1.6	.016	.012	.013	79	128	126
5804-222-*	.172	.302	.048	.005	1.3	1.6	1.7	.030	.022	.024	44	71	70
5804-223-*	.172	.344	.050	.006	2.2	2.6	2.8	.032	.024	.026	68	110	108
5804-224-*	.172	.365	.065	.005	1.6	1.9	2.0	.043	.033	.035	37	60	59
5804-225-*	.172	.562	.070	.016	21.3	26.1	27.2	.032	.024	.026	666	1080	1062
5804-379-*	.173	.473	.090	.010	7.6	9.3	9.7	.036	.027	.029	210	340	335
5804-226-*	.173	.625	.030	.016	7.9	12.7	12.5	.014	.014	.014	561	910	895
5804-114-*	.174	.250	.040	.015	8.2	10.0	10.5	.007	.005	.005	1215	1970	1937
5804-227-*	.174	.322	.064	.005	1.4	1.7	1.8	.034	.025	.027	41	66	65
5804-228-*	.174	.400	.030	.006	1.4	2.2	2.2	.024	.024	.024	56	92	90
5804-29-*	.177	.993	.062	.010	3.2	5.2	5.1	.052	.052	.052	62	100	98
5804-115-*	.178	.375	.090	.010	6.3	7.7	8.1	.023	.017	.018	276	448	441
5804-229-*	.178	.498	.062	.032	79.0	96.5	100.9	.013	.009	.010	6283	10188	10018
5804-380-*	.179	.319	.042	.008	3.4	4.1	4.3	.021	.016	.017	163	265	261

+ For tolerances see beginning of section.

**For an explanation of these values and design criteria see beginning of section.

CRESCENT SHAPE SPRING WASHER (Continued)

Custom Sizes Available . . . See Last Page of This Section



NOTE: Unless stated, all catalog parts are supplied without finish. See page 545 for specifying finishes.

* ADD TO PART NUMBER
 -1 for beryllium copper
 -2 for spring steel
 -3 for stainless steel (17-7PH)

CALCULATED **

		MAXIMUM LOAD (LBS)			MAXIMUM DEFLECTION (IN.)			SPRING RATE (LBS/IN.)		
		-1	-2	-3	-1	-2	-3	-1	-2	-3

PART NUMBER	A +	B +	C +	T	CALCULATED **								
					MAXIMUM LOAD (LBS)			MAXIMUM DEFLECTION (IN.)			SPRING RATE (LBS/IN.)		
					-1	-2	-3	-1	-2	-3	-1	-2	-3
5804-381-*	.179	.370	.039	.012	8.9	10.9	11.4	.019	.014	.015	482	782	769
5804-30-*	.185	.315	.062	.016	12.7	15.5	16.2	.010	.008	.008	1261	2044	2010
5804-230-*	.187	.440	.030	.010	4.4	7.1	7.0	.020	.020	.020	220	356	350
5804-14-*	.187	.440	.062	.010	6.9	8.4	8.8	.031	.024	.025	220	356	350
5804-116-*	.187	.562	.078	.008	5.1	6.3	6.5	.064	.048	.05	1 80	130	128
5804-382-*	.187	1.000	.060	.032	55.2	89.5	88.0	.028	.028	.028	1971	3197	3144
5804-231-*	.188	.314	.047	.005	1.2	1.5	1.5	.032	.024	.026	38	61	60
5804-232-*	.188	.375	.040	.008	3.8	4.7	4.9	.029	.021	.023	134	218	214
5804-117-*	.189	.312	.062	.004	0.8	0.9	1.0	.039	.030	.032	19	31	31
5804-233-*	.189	.343	.030	.010	5.4	6.6	6.9	.019	.014	.015	282	458	450
5804-234-*	.190	.375	.050	.005	1.5	1.8	1.9	.045	.034	.037	32	53	52
5804-118-*	.191	.500	.062	.010	7.4	9.1	9.5	.041	.031	.032	183	297	292
5804-383-*	.193	.302	.056	.010	4.3	5.3	5.5	.015	.011	.012	293	475	467
5804-384-*	.193	.312	.066	.006	1.6	2.0	2.1	.026	.020	.021	63	102	100
5804-235-*	.193	.375	.074	.004	0.9	1.1	1.2	.057	.043	.046	16	27	26
5804-236-*	.193	.437	.065	.008	4.3	5.2	5.5	.039	.029	.031	111	180	177
5804-237-*	.194	.370	.050	.008	3.7	4.5	4.7	.028	.021	.022	132	213	210
5804-238-*	.194	.375	.070	.006	2.1	2.5	2.7	.038	.029	.030	55	89	87
5804-239-*	.194	.630	.090	.020	33.2	40.6	42.4	.032	.024	.026	1032	1674	1646
5804-385-*	.195	.245	.050	.005	0.6	0.7	0.8	.019	.015	.016	31	51	50
5804-240-*	.195	.277	.060	.005	0.9	1.1	1.1	.025	.019	.020	36	58	57
5804-241-*	.195	.312	.030	.010	4.5	5.5	5.8	.016	.012	.013	285	462	455
5804-386-*	.195	.328	.047	.006	1.8	2.1	2.2	.029	.022	.023	60	98	96
5804-387-*	.195	.380	.054	.003	0.3	0.6	0.5	.051	.051	.051	7	11	11
5804-242-*	.195	.400	.060	.016	15.7	19.2	20.1	.016	.012	.013	971	1574	1548
5804-243-*	.195	.490	.030	.010	3.7	6.0	5.9	.020	.020	.020	186	301	296
5804-244-*	.195	.562	.070	.008	4.9	6.1	6.4	.062	.048	.051	78	127	125
5804-75-*	.196	.750	.093	.020	35.5	43.3	45.3	.046	.034	.037	777	1261	1240
5804-119-*	.198	.442	.062	.010	6.6	8.1	8.5	.032	.024	.025	209	339	333
5804-120-*	.199	.375	.041	.010	5.6	6.9	7.2	.023	.017	.018	247	400	394
5804-245-*	.199	.443	.055	.005	1.3	2.0	2.1	.050	.048	.050	26	42	41
5804-246-*	.200	.302	.045	.005	1.0	1.2	1.3	.030	.022	.024	34	56	55
5804-388-*	.200	.370	.047	.008	3.5	4.3	4.5	.028	.021	.022	127	206	203
5804-338-*	.200	.370	.055	.010	5.5	6.7	7.0	.022	.017	.018	248	403	396
5804-247-*	.200	.430	.070	.010	6.4	7.8	8.2	.030	.023	.024	214	347	341
5804-31-*	.200	.990	.062	.010	3.1	5.1	5.0	.052	.052	.052	60	98	96
5804-121-*	.201	.300	.050	.010	4.0	4.8	5.1	.015	.011	.012	271	440	433
5804-248-*	.201	.374	.065	.005	1.4	1.7	1.8	.045	.034	.036	31	50	49
5804-32-*	.202	.312	.062	.010	4.2	5.2	5.4	.016	.012	.013	268	435	427
5804-33-*	.202	.505	.062	.005	1.2	2.0	2.0	.057	.057	.057	22	35	35

+ For tolerances see beginning of section.

**For an explanation of these values and design criteria see beginning of section.

SEASTROM Manufacturing Co., Inc.

456 Seastrom Street • Twin Falls, Idaho 83301

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Solder Lugs

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Flat Round Washers - Metallic

Flat Round Washers - Non-Metallic

O-Rings

Retaining Rings

Lockwashers, Retention Washers & Push-on Nuts

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Ground Straps, Bus Bars & Term. Blocks

Tab & Notch Washers

Misc. Washers & Tags

Solid State Insulators

Military Standards

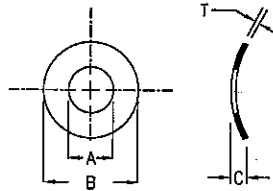
Custom Parts

Engineering Tables

Num. & Alpha. Index of Parts

CRESCENT SHAPE SPRING WASHER *(Continued)*

Custom Sizes Available . . . See Last Page of This Section



NOTE: Unless stated, all catalog parts are supplied without finish. See page 545 for specifying finishes.

* ADD TO PART NUMBER
 -1 for beryllium copper
 -2 for spring steel
 -3 for stainless steel (17-7PH)

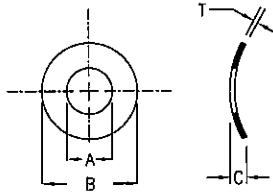
PART NUMBER	A +	B +	C +	T	CALCULATED **								
					MAXIMUM LOAD (LBS)			MAXIMUM DEFLECTION (IN.)			SPRING RATE (LBS/IN.)		
					-1	-2	-3	-1	-2	-3	-1	-2	-3
5804-16-*	.202	.505	.062	.012	10.4	12.7	13.2	.034	.026	.028	301	488	480
5804-76-*	.203	.365	.032	.005	0.8	1.3	1.3	.027	.027	.027	31	50	49
5804-339-*	.203	.365	.062	.008	3.4	4.2	4.4	.027	.020	.022	126	205	201
5804-340-*	.203	.365	.069	.010	5.3	6.5	6.8	.022	.016	.017	247	400	393
5804-164-*	.203	.375	.062	.005	1.4	1.7	1.8	.046	.034	.037	30	49	48
5804-77-*	.203	.375	.062	.010	5.5	6.7	7.0	.023	.017	.018	241	391	385
5804-78-*	.203	.406	.047	.005	1.2	1.8	1.9	.042	.040	.042	28	45	45
5804-249-*	.203	.438	.070	.010	6.4	7.9	8.2	.031	.023	.025	207	336	330
5804-389-*	.203	.500	.060	.003	0.3	0.4	0.4	.057	.057	.057	5	8	8
5804-250-*	.203	.500	.080	.016	18.2	22.3	23.3	.025	.019	.020	720	1168	1148
5804-251-*	.203	.501	.074	.016	18.3	22.3	23.3	.025	.019	.020	718	1165	1145
5804-341-*	.203	.549	.060	.018	24.5	29.9	31.3	.027	.020	.022	902	1463	1439
5804-252-*	.204	.438	.070	.010	6.4	7.8	8.2	.031	.023	.025	206	334	329
5804-122-*	.204	.565	.052	.025	47.9	58.6	61.2	.021	.016	.017	2314	3753	3690
5804-253-*	.204	.640	.045	.005	0.6	1.0	1.0	.040	.040	.040	15	25	25
5804-390-*	.205	.367	.047	.010	5.3	6.5	6.8	.022	.016	.018	243	393	387
5804-391-*	.205	.367	.069	.006	1.9	2.3	2.4	.036	.027	.029	52	85	84
5804-123-*	.205	.369	.080	.005	1.3	1.6	1.7	.044	.033	.035	30	49	48
5804-254-*	.205	.500	.080	.016	18.1	22.2	23.2	.025	.019	.020	715	1160	1141
5804-255-*	.205	1.010	.085	.062	316.9	449.4	469.8	.023	.020	.021	13780	22345	21973
5804-392-*	.206	.300	.049	.012	5.4	6.6	6.9	.012	.009	.010	445	722	710
5804-393-*	.208	.322	.053	.005	1.1	1.3	1.4	.034	.025	.027	32	51	50
5804-394-*	.208	.370	.047	.010	5.3	6.4	6.7	.022	.017	.018	237	384	377
5804-34-*	.208	.563	.062	.012	10.9	13.3	13.9	.043	.032	.034	254	413	406
5804-395-*	.209	.502	.048	.010	6.5	8.6	8.9	.038	.031	.033	171	278	273
5804-342-*	.211	.370	.052	.010	5.2	6.3	6.6	.022	.017	.018	232	377	370
5804-256-*	.220	.406	.060	.005	1.4	1.7	1.8	.053	.040	.043	26	42	41
5804-124-*	.220	.740	.130	.010	8.4	10.3	10.8	.089	.067	.071	95	154	151
5804-343-*	.228	.312	.045	.010	3.2	3.9	4.1	.016	.012	.013	205	332	326
5804-125-*	.228	.375	.041	.010	4.7	5.7	6.0	.023	.017	.018	206	335	329
5804-165-*	.228	.468	.125	.016	15.8	19.3	20.1	.022	.017	.018	710	1151	1132
5804-257-*	.231	.423	.050	.010	5.4	6.7	7.0	.029	.022	.023	188	304	299
5804-258-*	.234	.438	.077	.010	5.6	6.8	7.1	.031	.023	.025	180	291	286
5804-18-*	.234	.630	.062	.012	10.1	13.3	13.9	.050	.040	.043	203	328	323
5804-259-*	.235	.325	.047	.010	3.3	4.1	4.2	.017	.013	.014	194	315	309
5804-35-*	.235	.410	.062	.010	5.1	6.3	6.5	.027	.021	.022	188	305	300
5804-396-*	.236	.420	.053	.010	5.3	6.4	6.7	.029	.022	.023	184	298	293
5804-260-*	.239	.438	.095	.010	5.5	6.7	7.0	.031	.023	.025	175	284	279
5804-261-*	.239	.500	.050	.016	16.0	19.6	20.5	.025	.019	.020	633	1026	1009
5804-262-*	.239	.625	.100	.016	19.0	23.2	24.2	.040	.030	.032	479	777	764

+ For tolerances see beginning of section.

**For an explanation of these values and design criteria see beginning of section.

CRESCENT SHAPE SPRING WASHER (Continued)

Custom Sizes Available . . . See Last Page of This Section



NOTE: Unless stated, all catalog parts are supplied without finish. See page 545 for specifying finishes.

- * ADD TO PART NUMBER
 -1 for beryllium copper
 -2 for spring steel
 -3 for stainless steel (17-7PH)

PART NUMBER	A +	B +	C +	T	CALCULATED **								
					MAXIMUM LOAD (LBS)			MAXIMUM DEFLECTION (IN.)			SPRING RATE (LBS/IN.)		
					-1	-2	-3	-1	-2	-3	-1	-2	-3
5804-263-*	.250	.437	.047	.010	5.1	6.3	6.6	.031	.023	.025	166	269	264
5804-264-*	.250	.437	.090	.010	5.1	6.3	6.6	.031	.023	.025	166	269	264
5804-126-*	.250	.495	.125	.007	2.9	3.6	3.7	.057	.043	.045	51	83	82
5804-265-*	.250	.500	.078	.006	2.2	2.6	2.8	.068	.051	.054	32	52	51
5804-127-*	.250	.562	.078	.020	26.6	32.6	34.0	.026	.019	.021	1041	1687	1659
5804-36-*	.250	.625	.078	.020	28.8	35.2	36.8	.032	.024	.025	909	1475	1450
5804-266-*	.251	.562	.037	.007	1.3	2.2	2.1	.030	.030	.030	44	72	71
5804-267-*	.251	.750	.070	.032	81.8	99.9	104.5	.029	.021	.023	2868	4651	4574
5804-37-*	.252	1.065	.093	.016	15.7	25.5	25.0	.077	.077	.077	204	331	325
5804-268-*	.253	.406	.030	.005	0.5	0.9	0.8	.025	.025	.025	21	34	34
5804-79-*	.253	.469	.047	.010	5.5	6.8	7.1	.036	.027	.029	155	251	247
5804-344-*	.254	.495	.100	.016	15.0	18.3	19.1	.025	.019	.020	602	977	960
5804-128-*	.254	.497	.100	.006	2.1	2.6	2.7	.067	.050	.053	32	51	50
5804-269-*	.254	.497	.100	.010	5.9	7.2	7.5	.040	.030	.032	146	238	234
5804-397-*	.255	.710	.031	.010	2.0	3.2	3.2	.021	.021	.021	94	153	150
5804-38-*	.255	.750	.093	.012	11.4	13.9	14.6	.076	.057	.061	150	243	239
5804-345-*	.255	.750	.126	.016	20.3	24.8	25.9	.057	.043	.046	356	577	567
5804-80-*	.256	.406	.032	.006	0.9	1.5	1.5	.026	.026	.026	36	58	57
5804-270-*	.257	.438	.040	.005	0.7	1.1	1.1	.035	.035	.035	20	32	32
5804-271-*	.257	.438	.047	.016	12.7	15.5	16.2	.019	.015	.016	653	1059	1041
5804-272-*	.258	.680	.080	.010	7.0	9.1	9.5	.070	.057	.060	99	161	158
5804-130-*	.259	.406	.062	.018	14.1	17.2	18.0	.015	.011	.012	948	1537	1512
5804-131-*	.259	.562	.080	.018	21.0	25.6	26.8	.028	.021	.023	737	1195	1175
5804-132-*	.259	.691	.070	.006	1.3	2.2	2.1	.064	.064	.064	21	34	33
5804-346-*	.260	.375	.085	.003	0.3	0.4	0.4	.076	.057	.061	4	7	7
5804-81-*	.260	.495	.125	.007	2.8	3.4	3.6	.057	.043	.045	49	80	78
5804-399-*	.260	.500	.080	.007	2.8	3.4	3.6	.058	.044	.046	49	79	78
5804-273-*	.260	.508	.055	.016	15.0	18.3	19.2	.026	.020	.021	573	930	914
5804-400-*	.261	.440	.090	.010	4.9	6.0	6.2	.031	.024	.025	155	252	248
5804-401-*	.261	.551	.097	.012	9.1	11.1	11.6	.041	.031	.033	222	359	353
5804-274-*	.261	.740	.130	.010	7.8	9.5	9.9	.089	.067	.07	1 87	142	139
5804-275-*	.261	.875	.060	.032	62.2	100.9	99.2	.028	.028	.028	2222	3604	3544
5804-129-*	.262	.378	.062	.005	0.9	1.1	1.2	.046	.035	.037	20	32	32
5804-39-*	.262	.378	.062	.010	3.7	4.5	4.7	.023	.017	.019	159	258	253
5804-276-*	.262	.438	.050	.010	4.8	5.9	6.2	.031	.023	.025	155	251	247
5804-277-*	.262	.562	.060	.008	3.3	5.0	5.2	.052	.048	.051	64	104	102
5804-40-*	.263	.433	.047	.005	0.8	1.3	1.3	.042	.042	.042	19	31	31
5804-41-*	.263	.433	.047	.008	3.0	3.7	3.9	.038	.029	.030	79	129	127
5804-42-*	.263	.433	.047	.016	12.1	14.7	15.4	.019	.014	.015	635	1029	1012

+ For tolerances see beginning of section.

**For an explanation of these values and design criteria see beginning of section.

Solder Lugs

Spring Clips

Spring Washers

Shoulder Washers

Stand Off Spacers

Flat Round Washers - Metallic

Flat Round Washers - Non-Metallic

O-Rings

Retaining Rings

Lockwashers, Retention Washers & Push-on Nuts

Clamps & Brackets

Expansion Plugs

Ground Straps, Bus Bars & Term. Blocks

Tab & Notch Washers

Misc. Washers & Tags

Solid State Insulators

Military Standards

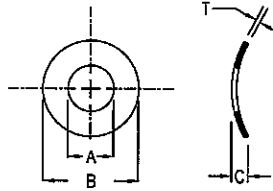
Custom Parts

Engineering Tables

Num. & Alpha. Index of Parts

CRESCENT SHAPE SPRING WASHER (Continued)

Custom Sizes Available . . . See Last Page of This Section



NOTE: Unless stated, all catalog parts are supplied without finish. See page 545 for specifying finishes.

* ADD TO PART NUMBER

- 1 for beryllium copper
- 2 for spring steel
- 3 for stainless steel (17-7PH)

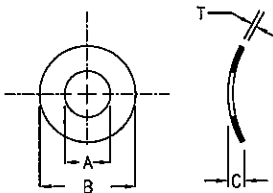
PART NUMBER	CALCULATED **												
	A +	B +	C +	T	MAXIMUM LOAD (LBS)			MAXIMUM DEFLECTION (IN.)			SPRING RATE (LBS/IN.)		
					-1	-2	-3	-1	-2	-3	-1	-2	-3
5804-43-*	.263	.437	.062	.005	1.1	1.5	1.5	.057	.047	.050	19	31	31
5804-44-*	.263	.437	.062	.008	3.1	3.7	3.9	.039	.029	.031	79	128	126
5804-20-*	.263	.437	.062	.012	6.9	8.4	8.8	.026	.019	.021	267	432	425
5804-133-*	.265	.406	.044	.010	4.2	5.1	5.3	.027	.020	.021	156	253	249
5804-82-*	.265	.406	.062	.010	4.2	5.1	5.3	.027	.020	.021	156	253	249
5804-402-*	.265	.490	.071	.010	5.5	6.7	7.0	.039	.029	.031	142	229	226
5804-278-*	.265	.490	.092	.008	3.5	4.3	4.5	.049	.037	.039	72	118	116
5804-134-*	.265	.500	.070	.020	22.6	27.6	28.8	.020	.015	.016	1113	1805	1775
5804-45-*	.265	.508	.093	.010	5.7	7.0	7.3	.042	.032	.034	137	222	219
5804-46-*	.265	.508	.093	.016	14.7	18.0	18.8	.026	.020	.021	562	911	896
5804-47-*	.265	.508	.093	.028	45.0	55.0	57.5	.015	.011	.012	3011	4883	4801
5804-135-*	.265	.552	.075	.008	4.0	4.9	5.1	.062	.047	.049	65	105	103
5804-279-*	.265	.562	.125	.025	39.6	48.4	50.6	.020	.015	.016	1935	3137	3085
5804-280-*	.265	.625	.075	.016	17.7	21.6	22.6	.040	.030	.032	447	725	713
5804-403-*	.268	.420	.068	.006	1.6	1.9	2.0	.048	.036	.038	33	53	52
5804-404-*	.269	.423	.075	.006	1.6	1.9	2.0	.048	.036	.039	33	53	52
5804-281-*	.269	.435	.068	.010	4.6	5.6	5.9	.031	.023	.025	149	242	238
5804-405-*	.269	.490	.070	.010	5.4	6.6	6.9	.039	.029	.031	139	225	222
5804-406-*	.269	.490	.085	.008	3.5	4.2	4.4	.049	.037	.039	71	115	113
5804-282-*	.270	.380	.060	.010	3.5	4.2	4.4	.023	.018	.019	148	241	237
5804-407-*	.270	.487	.063	.010	5.3	6.5	6.8	.038	.029	.031	139	225	222
5804-408-*	.270	.487	.091	.008	3.4	4.2	4.4	.048	.036	.039	71	115	114
5804-136-*	.270	.500	.060	.010	5.5	6.7	7.1	.041	.031	.032	136	221	217
5804-283-*	.270	.500	.060	.020	22.1	27.0	28.2	.020	.015	.016	1089	1766	1737
5804-284-*	.272	.496	.060	.010	5.4	6.6	6.9	.040	.030	.032	136	220	217
5804-285-*	.275	.599	.055	.010	5.0	7.9	8.0	.045	.044	.045	112	181	178
5804-137-*	.275	.600	.035	.018	11.0	17.9	17.6	.017	.017	.017	649	1053	1035
5804-286-*	.280	.375	.030	.005	0.4	0.7	0.7	.025	.025	.025	17	27	27
5804-287-*	.280	.500	.090	.010	5.3	6.5	6.7	.041	.031	.032	130	211	208
5804-288-*	.280	.552	.075	.016	15.1	18.5	19.3	.031	.023	.025	490	795	782
5804-48-*	.280	.625	.093	.006	2.0	2.9	3.0	.087	.080	.085	23	37	36
5804-49-*	.280	.625	.093	.008	4.2	5.2	5.4	.079	.060	.063	54	87	85
5804-50-*	.280	.625	.093	.010	6.6	8.1	8.5	.063	.048	.051	105	170	167
5804-51-*	.280	.625	.093	.012	9.5	11.7	12.2	.053	.040	.042	181	293	288
5804-52-*	.280	.625	.093	.016	17.0	20.7	21.7	.040	.030	.032	428	695	683
5804-53-*	.280	.625	.093	.020	26.5	32.4	33.9	.032	.024	.025	837	1357	1334
5804-138-*	.280	.740	.135	.010	7.5	9.1	9.5	.089	.067	.071	84	136	134
5804-409-*	.281	.400	.096	.006	1.3	1.6	1.6	.043	.033	.035	30	48	47
5804-289-*	.290	.437	.060	.005	0.9	1.2	1.3	.055	.047	.050	16	26	26
5804-139-*	.296	.551	.085	.010	5.6	6.8	7.1	.049	.037	.039	113	183	180

+ For tolerances see beginning of section.

**For an explanation of these values and design criteria see beginning of section.

CRESCENT SHAPE SPRING WASHER (Continued)

Custom Sizes Available . . . See Last Page of This Section



NOTE: Unless stated, all catalog parts are supplied without finish. See page 545 for specifying finishes.

* ADD TO PART NUMBER

- 1 for beryllium copper
- 2 for spring steel
- 3 for stainless steel (17-7PH)

PART NUMBER	A +	B +	C +	T	CALCULATED **								
					MAXIMUM LOAD (LBS)			MAXIMUM DEFLECTION (IN.)			SPRING RATE (LBS/IN.)		
					-1	-2	-3	-1	-2	-3	-1	-2	-3
5804-410-*	.301	.548	.070	.012	7.8	9.5	10.0	.041	.031	.033	192	311	306
5804-54-*	.301	.671	.093	.012	9.5	11.6	12.2	.061	.046	.049	157	254	250
5804-411-*	.305	.393	.075	.016	6.9	8.4	8.8	.016	.012	.013	439	713	701
5804-412-*	.311	.415	.069	.008	1.9	2.4	2.5	.035	.026	.028	55	89	88
5804-413-*	.312	.437	.085	.010	3.4	4.2	4.4	.031	.023	.025	111	180	177
5804-140-*	.312	.562	.093	.020	21.4	26.1	27.3	.026	.019	.021	834	1352	1330
5804-348-*	.312	.750	.095	.020	28.0	34.3	35.8	.046	.034	.037	615	997	980
5804-290-*	.315	.500	.060	.010	4.4	5.4	5.7	.041	.031	.032	110	178	175
5804-414-*	.315	.550	.100	.020	20.5	25.1	26.2	.025	.018	.020	836	1356	1333
5804-83-*	.315	.625	.062	.010	4.9	7.3	7.6	.052	.048	.051	94	152	150
5804-291-*	.315	.625	.095	.010	6.0	7.3	7.6	.063	.048	.051	94	152	150
5804-141-*	.316	.490	.040	.010	3.3	5.2	5.2	.030	.029	.030	109	177	175
5804-292-*	.316	.625	.098	.020	23.7	29.0	30.3	.032	.024	.025	749	1215	1195
5804-293-*	.319	.500	.075	.016	11.1	13.6	14.2	.025	.019	.020	439	712	700
5804-294-*	.320	.625	.080	.012	8.4	10.3	10.8	.053	.040	.042	160	259	255
5804-295-*	.320	.688	.080	.010	5.9	7.8	8.2	.070	.058	.062	84	136	133
5804-296-*	.323	.415	.062	.003	0.2	0.2	0.2	.059	.059	.059	3	4	4
5804-297-*	.323	.415	.062	.008	1.7	2.1	2.2	.035	.026	.028	49	79	78
5804-55-*	.323	.415	.062	.016	6.8	8.3	8.7	.017	.013	.014	390	633	622
5804-298-*	.326	.490	.062	.010	4.0	4.9	5.1	.039	.029	.031	103	167	164
5804-142-*	.326	1.000	.093	.050	202.2	247.1	258.4	.032	.024	.026	6235	10110	9942
5804-299-*	.327	.620	.085	.010	5.7	6.9	7.2	.062	.047	.050	91	148	145
5804-300-*	.328	.500	.080	.008	2.6	3.2	3.4	.051	.038	.041	52	85	83
5804-301-*	.328	.562	.080	.008	3.2	3.9	4.1	.064	.048	.051	50	81	80
5804-302-*	.328	.562	.125	.025	31.2	38.2	39.9	.020	.015	.016	1524	2472	2431
5804-349-*	.328	.875	.180	.062	288.4	352.4	368.5	.020	.015	.016	14400	23352	22963
5804-415-*	.330	.605	.105	.012	7.9	9.6	10.0	.049	.037	.040	159	258	253
5804-416-*	.330	.610	.110	.010	5.5	6.7	7.0	.060	.045	.048	91	148	146
5804-303-*	.330	.750	.187	.032	68.8	84.1	87.9	.029	.021	.023	2414	3915	3849
5804-304-*	.330	.875	.040	.010	1.8	2.9	2.9	.030	.030	.030	60	98	96
5804-56-*	.331	.622	.093	.006	1.7	2.5	2.6	.087	.079	.084	19	31	31
5804-57-*	.331	.622	.093	.012	8.1	9.9	10.3	.052	.039	.042	155	251	247
5804-58-*	.331	.622	.093	.015	12.6	15.4	16.1	.042	.032	.034	302	490	482
5804-59-*	.331	.622	.093	.025	35.1	42.9	44.8	.025	.019	.020	1398	2267	2230
5804-417-*	.332	.609	.113	.008	3.5	4.3	4.5	.075	.057	.060	46	75	74
5804-418-*	.338	.600	.091	.032	53.7	65.6	68.6	.018	.014	.015	2941	4770	4690
5804-351-*	.344	.750	.050	.040	45.6	73.9	72.7	.010	.010	.010	4558	7391	7268
5804-60-*	.346	.761	.187	.020	26.2	32.0	33.4	.047	.035	.038	557	904	889
5804-305-*	.363	.672	.080	.015	12.4	15.2	15.9	.049	.037	.039	254	412	406
5804-419-*	.368	.669	.081	.015	12.1	14.8	15.5	.048	.036	.039	251	407	400

+ For tolerances see beginning of section.

**For an explanation of these values and design criteria see beginning of section.

SEASTROM Manufacturing Co., Inc.

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Tab & Notch Washers

Misc. Washers & Tags

Solid State Insulators

Military Standards

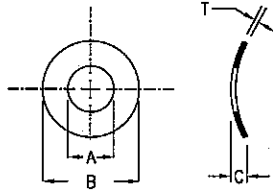
Custom Parts

Engineering Tables

Num. & Alpha. Index of Parts

CRESCENT SHAPE SPRING WASHER (Continued)

Custom Sizes Available . . . See Last Page of This Section



NOTE: Unless stated, all catalog parts are supplied without finish. See page 545 for specifying finishes.

* ADD TO PART NUMBER
 -1 for beryllium copper
 -2 for spring steel
 -3 for stainless steel (17-7PH)

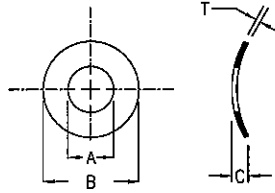
PART NUMBER	A +	B +	C +	T	CALCULATED **								
					MAXIMUM LOAD (LBS)			MAXIMUM DEFLECTION (IN.)			SPRING RATE (LBS/IN.)		
					-1	-2	-3	-1	-2	-3	-1	-2	-3
5804-420-*	.374	.750	.057	.010	3.1	5.0	4.9	.047	.047	.047	66	107	105
5804-306-*	.375	.600	.070	.025	28.1	34.4	35.9	.023	.018	.019	1204	1953	1921
5804-143-*	.375	.750	.140	.020	24.0	29.3	30.7	.046	.034	.037	526	853	839
5804-352-*	.375	.750	.140	.010	6.0	7.3	7.7	.091	.069	.073	66	107	105
5804-144-*	.375	.870	.109	.010	5.5	8.3	8.7	.099	.093	.098	56	90	89
5804-61-*	.377	.465	.093	.006	0.8	1.0	1.0	.058	.044	.047	14	23	22
5804-307-1*	.378	.685	.100	.005	0.8	—	—	.095	—	—	9	—	—
5804-308-*	.379	.500	.070	.010	2.9	3.5	3.7	.041	.031	.032	72	116	114
5804-309-*	.379	.563	.080	.010	3.9	4.8	5.0	.051	.039	.041	76	124	122
5804-145-*	.379	.563	.080	.020	15.7	19.2	20.0	.026	.019	.021	610	990	973
5804-62-*	.379	.686	.093	.010	5.4	6.6	6.9	.076	.058	.061	70	114	112
5804-146-*	.383	.625	.078	.010	4.6	5.7	5.9	.063	.048	.051	73	119	117
5804-147-*	.383	.691	.070	.008	2.2	3.6	3.5	.062	.062	.062	35	57	56
5804-148-*	.385	.687	.040	.016	6.8	11.0	10.8	.024	.024	.024	282	458	450
5804-310-*	.390	.553	.075	.006	1.1	1.6	1.6	.069	.062	.066	15	25	25
5804-311-*	.390	.740	.140	.010	5.7	6.9	7.3	.089	.067	.071	64	104	102
5804-312-*	.390	.740	.140	.020	22.7	27.7	29.0	.044	.033	.036	511	829	815
5804-313-*	.391	.656	.125	.025	30.3	37.0	38.7	.028	.021	.022	1085	1760	1731
5804-421-*	.391	.810	.100	.008	2.7	4.5	4.4	.092	.092	.092	30	48	48
5804-149-*	.400	.600	.093	.012	5.8	7.0	7.4	.049	.037	.039	118	192	189
5804-422-*	.400	.610	.108	.010	4.1	5.0	5.3	.060	.045	.048	68	111	109
5804-423-*	.400	.732	.086	.016	13.9	17.0	17.8	.054	.041	.044	571	416	409
5804-314-*	.406	.524	.060	.010	2.7	3.3	3.5	.045	.034	.036	61	98	97
5804-424-*	.406	.549	.107	.010	3.1	3.8	4.0	.049	.037	.039	64	104	102
5804-425-*	.406	.750	.097	.016	14.1	17.2	18.0	.057	.043	.046	247	401	394
5804-426-*	.436	1.500	.130	.040	134.4	166.5	174.0	.090	.069	.073	1493	2421	2381
5804-150-*	.438	.740	.140	.016	12.5	15.3	16.0	.056	.042	.044	226	366	360
5804-63-*	.439	.623	.093	.012	5.1	6.2	6.5	.052	.040	.042	97	158	155
5804-315-*	.455	.740	.140	.010	4.6	5.6	5.9	.089	.067	.071	52	84	83
5804-427-*	.467	.854	.100	.018	17.6	21.5	22.5	.066	.050	.053	268	435	428
5804-428-*	.467	.960	.107	.020	24.7	30.1	31.5	.075	.056	.060	330	535	526
5804-316-1*	.468	.686	.130	.005	0.8	—	—	.125	—	—	6	—	—
5804-317-*	.470	.870	.116	.010	4.8	6.7	7.0	.106	.093	.098	45	73	72
5804-318-*	.474	.709	.115	.016	10.2	12.4	13.0	.051	.038	.041	200	324	319
5804-319-*	.477	.708	.120	.010	3.9	4.8	5.0	.081	.061	.065	48	78	77
5804-429-*	.485	.687	.100	.010	3.5	4.3	4.	.077	.058	.061	46	75	74
5804-430-*	.500	.618	.129	.012	3.3	4.0	4.2	.052	.039	.041	64	104	102
5804-64-*	.502	1.003	.093	.012	5.1	8.3	8.2	.081	.081	.081	63	103	101
5804-151-*	.504	.938	.100	.032	56.9	69.5	72.6	.045	.034	.036	1275	2068	2033
5804-320-*	.505	.740	.125	.010	3.8	4.7	4.9	.089	.067	.071	43	70	68

+ For tolerances see beginning of section.

**For an explanation of these values and design criteria see beginning of section.

CRESCENT SHAPE SPRING WASHER (Continued)

Custom Sizes Available . . . See Last Page of This Section



NOTE: Unless stated, all catalog parts are supplied without finish. See page 545 for specifying finishes.

* ADD TO PART NUMBER

- 1 for beryllium copper
- 2 for spring steel
- 3 for stainless steel (17-7PH)

PART NUMBER	A +	B +	C +	T	CALCULATED **								
					MAXIMUM LOAD (LBS)			MAXIMUM DEFLECTION (IN.)			SPRING RATE (LBS/IN.)		
					-1	-2	-3	-1	-2	-3	-1	-2	-3
5804-321-*	.505	.740	.130	.016	9.8	11.9	12.5	.056	.042	.044	176	285	280
5804-152-*	.505	.815	.093	.028	35.8	43.7	45.7	.038	.029	.031	930	1508	1483
5804-153-1***	.507	.750	.125	.003	0.1	—	—	.122	—	—	1	—	—
5804-431-*	.510	.625	.054	.010	1.5	2.5	2.4	.044	.044	.044	35	57	56
5804-154-*	.514	.874	.032	.020	3.8	6.2	6.1	.012	.012	.012	319	518	509
5804-353-*	.514	.875	.100	.016	12.7	15.5	16.2	.078	.058	.062	163	265	260
5804-322-*	.515	.875	.125	.016	12.6	15.4	16.1	.078	.058	.062	163	264	260
5804-85-*	.516	.744	.093	.010	3.4	4.5	4.7	.083	.068	.072	41	66	65
5804-432-*	.520	.730	.130	.008	2.2	2.7	2.8	.108	.081	.087	20	33	33
5804-65-1***	.520	.870	.109	.005	0.5	—	—	.104	—	—	5	—	—
5804-155-*	.520	.870	.109	.010	3.9	5.9	6.2	.099	.093	.098	39	64	63
5804-156-*	.525	.980	.110	.020	22.3	27.2	28.5	.078	.059	.062	286	464	456
5804-157-*	.531	.873	.156	.010	4.7	5.7	6.0	.124	.093	.099	38	62	61
5804-433-*	.536	.795	.129	.010	3.9	4.8	5.0	.102	.077	.082	38	62	61
5804-66-*	.537	.753	.093	.012	5.0	6.1	6.3	.077	.058	.061	65	105	103
5804-434-*	.584	.726	.045	.010	1.0	1.6	1.5	.035	.035	.035	27	45	44
5804-323-*	.585	.875	.135	.010	4.0	4.9	5.1	.124	.094	.099	32	52	51
5804-324-*	.600	.850	.080	.020	14.1	17.3	18.0	.059	.044	.047	241	391	384
5804-435-*	.603	.854	.110	.018	11.4	14.0	14.6	.066	.050	.053	174	282	277
5804-86-*	.614	.880	.062	.020	9.7	15.7	15.5	.042	.042	.042	231	375	368
5804-325-*	.640	.750	.050	.010	0.8	1.3	1.2	.040	.040	.040	19	31	31
5804-326-*	.640	.875	.060	.010	1.3	2.1	2.1	.050	.050	.050	26	42	41
5804-327-*	.640	1.000	.100	.032	44.2	54.1	56.5	.051	.038	.041	873	1416	1392
5804-354-*	.658	1.000	.148	.032	42.0	51.4	53.7	.051	.038	.041	829	1345	1322
5804-158-*	.658	1.750	.219	.020	24.0	36.6	38.3	.199	.187	.199	121	196	192
5804-328-*	.665	.980	.100	.020	15.4	18.9	19.7	.078	.059	.062	198	321	316
5804-436-*	.681	.874	.110	.020	10.6	13.0	13.5	.062	.047	.050	171	278	273
5804-437-*	.688	.977	.118	.020	14.2	17.4	18.1	.077	.058	.062	183	297	293
5804-159-*	.720	1.000	.150	.016	8.6	10.5	11.0	.101	.076	.087	85	138	135
5804-160-*	.765	.910	.100	.020	7.6	9.3	9.8	.067	.051	.054	114	185	182
5804-438-*	.765	1.125	.098	.020	11.7	18.8	18.6	.078	.077	.078	150	243	239
5804-355-*	.765	1.189	.120	.008	1.1	1.7	1.7	.112	.112	.112	10	15	15
5804-356-*	.770	1.250	.187	.025	28.8	35.2	36.8	.101	.076	.081	284	461	453
5804-439-*	.781	1.000	.105	.016	5.9	8.2	8.6	.089	.076	.081	66	108	106
5804-440-*	.781	1.000	.133	.010	2.0	3.2	3.2	.123	.122	.123	16	26	26
5804-441-*	.803	1.248	.043	.016	1.9	3.0	3.0	.027	.027	.027	69	113	111
5804-442-*	.818	.915	.110	.008	0.5	0.8	0.8	.102	.102	.102	5	8	8
5804-329-	.890	1.093	.130	.010	1.4	—	—	.120	—	—	12	—	—
5804-161-*	.890	1.095	.093	.032	23.0	28.1	29.4	.061	.046	.049	379	614	604
5804-357-*	1.010	1.250	.210	.012	3.1	4.1	4.2	.198	.159	.169	16	25	25

+ For tolerances see beginning of section.

**For an explanation of these values and design criteria see beginning of section.

***No guarantee on free height "C" due to heat treat distortion.

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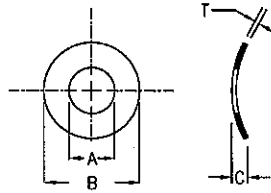
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Solder Lugs
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Spring Washers
Shoulder Washers
Stand Off Spacers
Flat Round Washers - Metallic
Flat Round Washers - Non-Metallic
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Lockwashers, Retention Washers & Push-on Nuts
Clamps & Brackets
Expansion Plugs
Ground Straps, Bus Bars & Term. Blocks
Tab & Notch Washers
Misc. Washers & Tags
Solid State Insulators
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CRESCENT SHAPE SPRING WASHER 301-304 STAINLESS STEEL

Custom Sizes Available . . . See Last Page of This Section



NOTE: Unless stated, all catalog parts are supplied without finish. See page 545 for specifying finishes.

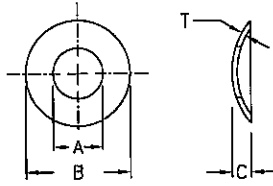
PART NUMBER	A +	B +	C +	T	HARDNESS	CALCULATED **		
						MAXIMUM LOAD (LBS)	MAXIMUM DEFLECTION (IN.)	SPRING RATE (LBS/IN.)
5803-1	.075	.118	.020	.003	HH	0.3	.005	73
5803-2	.128	.270	.030	.008	HH	3.6	.009	384
5803-3	.128	.750	.030	.005	FH	0.5	.025	21
5803-4	.130	.219	.045	.003	FH	0.5	.018	26
5803-5	.134	.210	.030	.016	HH	9.9	.003	3496
5803-6	.140	.245	.034	.006	HH	1.6	.010	160
5803-7	.140	.270	.029	.008	HH	3.3	.009	352
5803-8	.153	.270	.035	.007	HH	2.3	.011	212
5803-9	.153	.270	.052	.005	HH	1.2	.015	77
5803-10	.153	.322	.034	.010	HH	5.6	.011	526
5803-11	.173	.473	.090	.010	HH	6.8	.023	295
5803-12	.179	.370	.039	.012	HH	7.9	.012	678
5803-13	.187	.375	.035	.004	FH	0.8	.031	26
5803-14	.203	.365	.069	.010	HH	4.7	.014	346
5803-15	.206	.322	.053	.005	HH	1.0	.021	45
5803-16	.208	.370	.047	.010	HH	4.7	.014	333
5803-17	.256	.315	.047	.007	FH	1.1	.016	73
5803-18	.256	.375	.034	.010	FH	3.9	.015	253
5803-19	.261	.440	.090	.010	HH	4.3	.020	219
5803-20	.269	.490	.065	.010	HH	4.8	.025	195
5803-21	.316	.624	.091	.010	HH	5.3	.040	132
5803-22	.368	.672	.081	.016	HH	12.4	.029	427
5803-23	.391	.656	.125	.024	HH	24.8	.018	1350
5803-24	.399	.736	.084	.016	HH	12.5	.035	360
5803-25	.467	.960	.107	.020	HH	21.9	.047	464
5803-26	.514	.875	.100	.016	HH	11.3	.049	230
5803-27	.520	.730	.130	.008	HH	2.0	.068	29
5803-28	.530	.980	.110	.020	HH	19.6	.049	398
5803-29	.536	.795	.129	.010	HH	3.5	.065	54
5803-30	.600	.855	.151	.012	FH	5.3	.067	79
5803-31	.770	1.250	.187	.024	HH	23.6	.067	353
5803-32	.818	.915	.110	.008	HH	0.7	.102	7

+ For tolerances see beginning of section.

**For an explanation of these values and design criteria see beginning of section.

DOME STYLE SPRING WASHER SPRING STEEL

Custom Sizes Available . . . See Last Page of This Section



NOTE: Unless stated, all catalog parts are supplied without finish. See page 545 for specifying finishes.

PART NUMBER	A +	B +	C +	T
5810-10	.100	.200	.055	.020
5810-12	.127	.218	.030	.010
5810-13	.127	.545	.034	.010
5810-14	.128	.500	.032	.006
5810-19	.170	.285	.032	.006
5810-20	.190	.375	.032	.020
5810-22	.194	.750	.070	.025
5810-23	.195	.968	.156	.062
5810-24	.230	.400	.085	.025
5810-28	.256	.406	.030	.006
5810-29	.257	.625	.179	.032
5810-36	.514	.874	.032	.020
5810-30	.515	.875	.052	.020
5810-32	.516	2.003	.247	.080
5810-31	.585	1.750	.263	.072

+ For tolerances see beginning of section and use crescent style criteria.

Solder Lugs

Spring Clips

Spring Washers

Shoulder Washers

Stand Off Spacers

Flat Round Washers - Metallic

Flat Round Washers - Non-Metallic

O-Rings

Retaining Rings

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Expansion Plugs

Ground Straps, Bus Bars & Term. Blocks

Tab & Notch Washers

Misc. Washers & Tags

Solid State Insulators

Military Standards

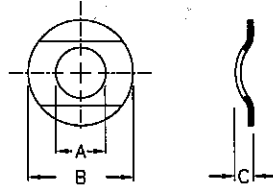
Custom Parts

Engineering Tables

Num. & Alpha. Index of Parts

SINGLE WAVE SPRING WASHER

Custom Sizes Available . . . See Last Page of This Section



* ADD TO PART NUMBER

-1 for beryllium copper

-2 for spring steel

NOTE: Unless stated, all catalog parts are supplied without finish. See page 545 for specifying finishes.

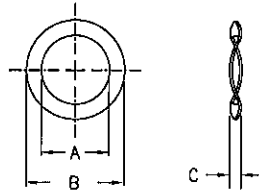
PART NUMBER	A +	B +	C +	T
5807-1-*	.096	.437	.065	.010
5807-12-*	.097	.375	.030	.005
5807-13-*	.097	.375	.044	.006
5807-2-*	.102	.240	.022	.008
5807-3-*	.117	.250	.032	.008
5807-4-*	.130	.302	.060	.006
5807-5-*	.195	.328	.060	.006
5807-6-*	.257	.440	.065	.016
5807-7-*	.257	.590	.140	.032
5807-8-*	.272	.494	.058	.010
5807-9-*	.330	.475	.060	.025
5807-10-*	.379	.740	.110	.005
5807-11-*	.390	.625	.050	.010

+ For tolerances see beginning of section.

**For an explanation of these values and design criteria see beginning of section.

WAVE SHAPE SPRING WASHER

Custom Sizes Available . . . See Last Page of This Section



NOTE: Unless stated, all catalog parts are supplied without finish. See page 545 for specifying finishes.

* ADD TO PART NUMBER
 -1 for beryllium copper
 -2 for spring steel
 -3 for stainless steel (17-7PH)

PART NUMBER	A +	B +	C +	NO. WAVES	T	CALCULATED **								
						MAXIMUM LOAD (LBS)			MAXIMUM DEFLECTION (IN.)			SPRING RATE (LBS/IN.)		
						-1	-2	-3	-1	-2	-3	-1	-2	-3
5806-4-*	.075	.187	.025	3	.005	—	—	—	.003	.002	.002	—	—	—
5806-214-*	.080	.145	.017	3	.006	7.2	8.8	9.2	.002	.001	.002	3820	6194	6091
5806-215-*	.080	.150	.024	3	.006	7.7	9.4	9.8	.002	.001	.002	3918	6354	6248
5806-216-*	.088	.155	.018	3	.006	6.7	8.2	8.6	.002	.002	.002	3074	4985	4902
5806-82-*	.093	.205	.030	3	.004	—	—	—	.005	.004	.004	—	—	—
5806-83-*	.096	.187	.025	3	.005	5.7	7.0	7.3	.004	.003	.003	1610	2610	2567
5806-217-*	.096	.246	.037	3	.004	—	—	—	.006	.005	.005	—	—	—
5806-1-*	.096	.250	.030	3	.004	—	—	—	.007	.005	.005	—	—	—
5806-84-*	.098	.152	.032	3	.005	3.3	4.0	4.2	.003	.002	.002	1183	1918	1886
5806-218-*	.100	.201	.018	3	.006	—	—	—	.003	.003	.003	—	—	—
5806-219-*	.101	.205	.025	3	.006	—	—	—	.003	.003	.003	—	—	—
5806-85-*	.110	.196	.033	3	.012	27.6	33.7	35.3	.002	.001	.001	15917	25812	25382
5806-86-*	.110	.250	.040	3	.008	—	—	—	.004	.003	.003	—	—	—
5806-220-*	.111	.210	.018	3	.006	7.8	9.6	10.0	.004	.003	.003	2047	3320	3264
5806-221-*	.111	.210	.027	3	.006	7.8	9.6	10.0	.004	.003	.003	2047	3320	3264
5806-222-*	.112	.210	.024	3	.006	7.7	9.4	9.8	.004	.003	.003	1999	3242	3188
5806-2-*	.120	.225	.030	3	.006	7.7	9.4	9.8	.004	.003	.004	1741	2824	2777
5806-87-*	.125	.250	.040	3	.005	6.0	7.3	7.7	.006	.005	.005	960	1557	1531
5806-5-*	.125	.250	.062	3	.032	245.9	300.6	314.2	.001	.001	.001	251756	408253	401448
5806-6-*	.128	.250	.015	3	.003	2.1	2.5	2.6	.011	.008	.008	196	318	312
5806-88-*	.128	.281	.045	3	.006	—	—	—	.006	.005	.005	—	—	—
5806-7-*	.128	.402	.035	3	.007	—	—	—	.009	.007	.007	—	—	—
5806-89-*	.129	.375	.040	3	.005	—	—	—	.011	.009	.009	—	—	—
5806-223-*	.130	.240	.028	3	.006	7.4	9.1	9.5	.005	.004	.004	1468	2380	2340
5806-224-*	.130	.245	.021	3	.006	7.8	9.5	9.9	.005	.004	.004	1489	2414	2374
5806-90-*	.131	.249	.015	3	.003	2.0	2.4	2.5	.011	.008	.009	184	299	294
5806-91-*	.132	.222	.032	3	.005	4.2	5.1	5.3	.006	.004	.004	749	1214	1194
5806-225-*	.139	.260	.021	3	.006	7.6	9.3	9.8	.006	.004	.005	1296	2101	2066
5806-92-*	.143	.282	.042	3	.005	5.9	7.2	7.5	.008	.006	.006	730	1183	1163
5806-293-*	.153	.295	.031	3	.008	14.4	17.6	18.4	.006	.004	.004	2582	4187	4117
5806-15-*	.154	.281	.042	3	.005	5.0	6.2	6.4	.008	.006	.007	600	973	956
5806-17-*	.155	.281	.045	3	.006	7.2	8.8	9.2	.007	.005	.006	1018	1650	1623
5806-226-*	.157	.280	.036	3	.003	1.7	2.1	2.2	.014	.011	.011	122	198	195
5806-227-*	.157	.295	.028	3	.008	13.7	16.8	17.5	.006	.004	.005	2415	3916	3851
5806-93-*	.160	.345	.060	3	.012	—	—	—	.005	.004	.004	—	—	—
5806-23-*	.165	.250	.025	3	.005	3.0	3.7	3.9	.008	.006	.006	395	641	631
5806-75-*	.167	.375	.040	3	.006	—	—	—	.011	.008	.009	—	—	—
5806-8-*	.167	.375	.040	3	.016	—	—	—	.004	.003	.003	—	—	—
5806-169-*	.168	.330	.044	3	.016	59.6	72.8	76.1	.003	.003	.003	17291	28040	27572
5806-94-*	.169	.306	.060	3	.008	12.7	15.5	16.2	.006	.005	.005	2027	3287	3232

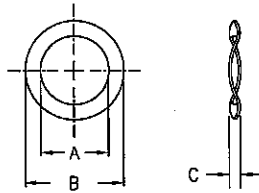
+ For tolerances see beginning of section.

**For an explanation of these values and design criteria see beginning of section.

- Solder Lugs
- Spring Clips
- Spring Washers
- Shoulder Washers
- Stand Off Spacers
- Flat Round Washers - Metallic
- Flat Round Washers - Non-Metallic
- O-Rings
- Retaining Rings
- Lockwashers, Retention Washers & Push-on Nuts
- Clamps & Brackets
- Expansion Plugs
- Ground Straps, Bus Bars & Term. Blocks
- Tab & Notch Washers
- Misc. Washers & Tags
- Solid State Insulators
- Military Standards
- Custom Parts
- Engineering Tables
- Num. & Alpha. Index of Parts

WAVE SHAPE SPRING WASHER

Custom Sizes Available . . . See Last Page of This Section



NOTE: Unless stated, all catalog parts are supplied without finish. See page 545 for specifying finishes.

* ADD TO PART NUMBER
 -1 for beryllium copper
 -2 for spring steel
 -3 for stainless steel (17-7PH)

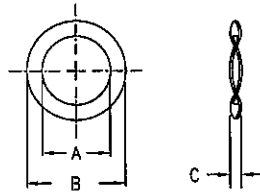
PART NUMBER	A +	B +	C +	NO. WAVES	T	CALCULATED **								
						MAXIMUM LOAD (LBS)			MAXIMUM DEFLECTION (IN.)			SPRING RATE (LBS/IN.)		
						-1	-2	-3	-1	-2	-3	-1	-2	-3
5806-95-*	.169	.500	.050	3	.016	—	—	—	.006	.005	.005	—	—	—
5806-96-*	.175	.375	.030	4	.007	—	—	—	.005	.004	.004	—	—	—
5806-228-*	.179	.336	.036	3	.010	21.4	26.1	27.3	.006	.004	.005	3626	5880	5782
5806-97-*	.180	.343	.030	3	.010	22.0	26.9	28.1	.006	.005	.005	3620	5870	5772
5806-229-*	.181	.335	.030	3	.010	20.8	25.4	26.6	.006	.004	.005	3512	5695	5600
5806-9-*	.185	.375	.035	3	.006	—	—	—	.012	.009	.009	—	—	—
5806-10-*	.187	.265	.060	3	.008	5.8	7.1	7.5	.006	.004	.005	1029	1668	1640
5806-98-*	.190	.281	.030	3	.010	11.0	13.5	14.1	.005	.004	.004	2238	3629	3569
5806-170-*	.192	.300	.020	3	.003	1.1	1.5	1.5	.017	.014	.014	68	110	108
5806-11-*	.193	.280	.040	3	.016	26.1	31.8	33.3	.003	.002	.002	8382	13592	13365
5806-99-*	.198	.438	.060	4	.015	—	—	—	.003	.003	.003	—	—	—
5806-100-*	.198	.438	.060	4	.025	—	—	—	.002	.002	.002	—	—	—
5806-53-*	.200	.307	.060	3	.008	8.1	9.9	10.4	.007	.005	.006	1137	1844	1813
5806-101-*	.201	.308	.040	3	.005	3.2	3.9	4.0	.012	.009	.009	274	444	436
5806-102-*	.203	.368	.045	3	.016	51.0	62.3	65.1	.005	.003	.004	11250	18244	17940
5806-12-*	.203	.375	.031	3	.005	5.2	6.3	6.6	.015	.011	.012	348	565	556
5806-103-*	.203	.376	.055	4	.006	13.3	16.3	17.0	.007	.005	.006	1907	3092	3041
5806-104-*	.203	.438	.050	4	.010	—	—	—	.005	.004	.004	—	—	—
5806-230-*	.205	.375	.050	3	.005	5.1	6.2	6.5	.015	.011	.012	339	550	541
5806-105-*	.206	.360	.060	3	.010	18.3	22.4	23.4	.007	.005	.006	2576	4177	4107
5806-231-*	.208	.370	.036	3	.012	27.5	33.6	35.1	.006	.005	.005	4445	7208	7087
5806-106-*	.219	.414	.071	3	.020	86.7	106.0	110.8	.004	.003	.004	19468	31570	31044
5806-107-*	.221	.374	.050	3	.010	17.0	20.7	21.7	.008	.006	.006	2155	3495	3436
5806-232-*	.221	.375	.047	3	.012	24.6	30.1	31.4	.007	.005	.005	3737	6059	5958
5806-171-*	.225	.343	.065	3	.016	31.7	38.7	40.5	.004	.003	.004	7072	11469	11278
5806-172-*	.238	.329	.045	3	.008	5.1	6.3	6.5	.009	.007	.007	574	930	915
5806-173-*	.246	.403	.045	3	.005	3.9	4.8	5.0	.019	.014	.015	208	337	331
5806-13-*	.252	.750	.086	3	.012	—	—	—	.019	.014	.015	—	—	—
5806-108-*	.255	.345	.030	3	.008	4.5	5.5	5.8	.010	.008	.008	450	730	718
5806-211-*	.255	.345	.039	3	.012	10.1	12.4	12.9	.007	.005	.005	1519	2463	2422
5806-212-*	.260	.360	.060	3	.020	32.3	39.5	41.3	.004	.003	.003	7564	12266	12062
5806-74-*	.265	.365	.030	3	.006	2.8	3.5	3.6	.015	.011	.012	192	311	306
5806-109-*	.265	.375	.030	4	.010	16.1	19.7	20.6	.005	.004	.004	3145	5100	5015
5806-110-*	.265	.406	.030	3	.016	32.3	39.4	41.2	.006	.005	.005	5158	8365	8225
5806-174-*	.265	.430	.050	3	.012	21.8	26.6	27.8	.009	.007	.007	2435	3949	3883
5806-73-*	.265	.432	.045	3	.016	39.3	48.0	50.2	.007	.005	.005	5816	9431	9274
5806-233-*	.265	.500	.035	3	.010	21.6	26.4	27.6	.013	.010	.010	1660	2692	2647
5806-111-*	.265	.500	.045	3	.006	7.8	9.5	9.9	.022	.016	.017	359	581	572
5806-16-*	.265	.500	.045	3	.008	13.8	16.9	17.7	.016	.012	.013	850	1378	1355
5806-112-*	.265	.500	.045	3	.010	21.6	26.4	27.6	.013	.010	.010	1660	2692	2647

+ For tolerances see beginning of section.

**For an explanation of these values and design criteria see beginning of section.

WAVE SHAPE SPRING WASHER

Custom Sizes Available . . . See Last Page of This Section



NOTE: Unless stated, all catalog parts are supplied without finish. See page 545 for specifying finishes.

* ADD TO PART NUMBER
 -1 for beryllium copper
 -2 for spring steel
 -3 for stainless steel (17-7PH)

PART NUMBER	A +	B +	C +	NO. WAVES	T	CALCULATED **								
						MAXIMUM LOAD (LBS)			MAXIMUM DEFLECTION (IN.)			SPRING RATE (LBS/IN.)		
						-1	-2	-3	-1	-2	-3	-1	-2	-3
5806-113-*	.265	.500	.045	3	.016	55.3	67.6	70.6	.008	.006	.007	6766	11026	10842
5806-114-*	.265	.562	.070	3	.010	—	—	—	.015	.011	.012	—	—	—
5806-234-*	.271	.357	.032	3	.006	2.1	2.6	2.7	.015	.011	.012	143	233	229
5806-235-*	.271	.495	.045	3	.016	51.8	63.6	66.2	.008	.006	.007	6352	10301	10129
5806-175-*	.280	.420	.036	3	.008	7.5	9.1	9.5	.014	.010	.011	548	889	874
5806-176-*	.283	.343	.035	3	.006	2.4	2.9	3.0	.015	.011	.012	163	264	260
5806-115-*	.288	.410	.062	3	.005	2.3	2.9	3.0	.022	.016	.017	108	175	172
5806-116-*	.290	.531	.070	3	.010	20.3	24.8	26.0	.015	.011	.012	1357	2200	2164
5806-236-*	.312	.422	.070	3	.012	10.1	12.4	12.9	.010	.008	.008	1013	1643	1615
5806-18-*	.312	.463	.031	4	.016	50.9	62.2	65.1	.005	.004	.004	10847	17590	17297
5806-117-*	.312	.463	.050	4	.020	79.6	97.2	101.6	.004	.003	.003	21186	34355	33782
5806-178-*	.322	.455	.023	3	.006	2.5	4.0	3.9	.017	.017	.017	145	235	231
5806-118-*	.322	.420	.040	3	.006	1.9	2.4	2.5	.020	.015	.016	95	154	151
5806-119-*	.325	.500	.055	3	.008	8.2	10.0	10.5	.019	.014	.015	433	702	690
5806-54-*	.325	.500	.055	3	.016	32.7	40.0	41.8	.009	.007	.008	3462	5614	5521
5806-19-*	.328	.682	.062	3	.010	—	—	—	.023	.017	.018	—	—	—
5806-55-*	.335	.562	.060	4	.010	29.5	36.0	37.7	.010	.008	.008	2930	4751	4672
5806-237-*	.336	.596	.053	3	.016	48.6	59.4	62.1	.012	.009	.010	4026	6529	6421
5806-238-*	.338	.485	.036	3	.010	9.7	11.8	12.4	.015	.011	.012	643	1043	1026
5806-239-*	.340	.520	.085	3	.005	3.1	3.8	4.0	.033	.025	.026	95	154	152
5806-179-*	.344	.467	.065	3	.012	10.4	12.7	13.2	.012	.009	.010	850	1378	1355
5806-76-1	.346	.562	.080	3	.003	1.4	—	—	.061	—	—	22	—	—
5806-77-*	.346	.562	.080	3	.005	3.8	4.6	4.8	.037	.028	.029	103	168	165
5806-21-*	.346	.562	.080	3	.010	15.2	18.5	19.4	.018	.014	.015	828	1343	1320
5806-240-*	.350	.434	.032	4	.008	8.4	10.2	10.7	.010	.007	.008	871	1412	1388
5806-241-*	.350	.492	.035	3	.008	5.6	6.9	7.2	.020	.015	.016	285	462	454
5806-180-*	.350	.493	.030	3	.007	4.3	5.3	5.5	.023	.017	.018	192	312	306
5806-242-*	.353	.480	.038	3	.008	4.6	5.7	5.9	.019	.015	.015	241	391	384
5806-120-*	.355	.500	.045	3	.005	2.2	2.7	2.8	.032	.024	.026	68	110	109
5806-121-*	.355	.561	.080	3	.010	14.0	17.1	17.9	.019	.014	.015	749	1215	1194
5806-122-*	.365	.485	.060	3	.006	2.2	2.7	2.9	.027	.020	.021	84	136	133
5806-181-*	.378	.500	.053	3	.005	1.5	1.8	1.9	.034	.026	.027	44	71	70
5806-123-*	.382	.625	.080	3	.007	7.6	9.3	9.7	.032	.024	.026	236	382	376
5806-124-*	.385	.500	.050	3	.005	1.3	1.6	1.7	.035	.026	.028	37	60	59
5806-56-*	.385	.500	.050	3	.010	5.2	6.3	6.6	.017	.013	.014	297	482	474
5806-125-*	.385	.531	.035	3	.010	7.9	9.7	10.1	.019	.014	.015	424	687	676
5806-126-*	.386	.495	.050	3	.010	8.5	10.4	10.8	.017	.013	.014	492	798	785
5806-243-*	.387	.500	.059	4	.016	22.5	27.5	28.7	.006	.005	.005	3656	5929	5830
5806-127-*	.390	.562	.060	3	.010	9.9	12.1	12.6	.020	.015	.016	490	795	782
5806-182-*	.390	.562	.110	3	.020	39.5	48.3	50.5	.010	.008	.008	3921	6359	6253

+ For tolerances see beginning of section.

**For an explanation of these values and design criteria see beginning of section.

SEASTROM Manufacturing Co., Inc.

456 Seastrom Street • Twin Falls, Idaho 83301

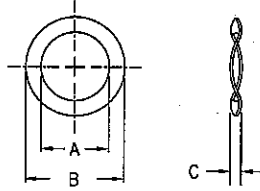
1-800-634-2356

Fax (208) 734-7222

- Solder Lugs
- Spring Clips
- Spring Washers
- Shoulder Washers
- Stand Off Spacers
- Flat Round Washers - Metallic
- Flat Round Washers - Non-Metallic
- O-Rings
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- Lockwashers, Retention Washers & Push-on Nuts
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WAVE SHAPE SPRING WASHER

Custom Sizes Available . . . See Last Page of This Section



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* ADD TO PART NUMBER
 -1 for beryllium copper
 -2 for spring steel
 -3 for stainless steel (17-7PH)

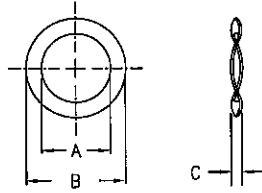
PART NUMBER	A +	B +	C +	NO. WAVES	T	CALCULATED **								
						MAXIMUM LOAD (LBS)			MAXIMUM DEFLECTION (IN.)			SPRING RATE (LBS/IN.)		
						-1	-2	-3	-1	-2	-3	-1	-2	-3
5806-244-*	.390	.600	.062	3	.010	12.8	15.6	16.3	.022	.016	.017	587	952	936
5806-128-*	.390	.625	.080	3	.016	37.3	45.6	47.7	.014	.011	.011	2609	4230	4160
5806-129-*	.390	.655	.093	3	.010	16.6	20.3	21.2	.024	.018	.019	685	1111	1092
5806-130-*	.390	.655	.110	3	.016	42.6	52.0	54.4	.015	.011	.012	2806	4550	4474
5806-57-*	.390	.655	.110	3	.020	66.5	81.3	85.0	.012	.009	.010	5480	8887	8739
5806-245-*	.390	.682	.065	3	.010	18.4	22.5	23.5	.026	.019	.020	719	1166	1147
5806-183-*	.393	.656	.083	3	.005	4.1	5.0	5.2	.049	.037	.039	84	136	133
5806-184-*	.395	.495	.050	3	.008	4.9	6.0	6.3	.022	.017	.018	224	364	357
5806-246-*	.400	.575	.045	3	.008	6.2	7.6	8.0	.026	.020	.021	237	384	377
5806-131-*	.406	.650	.085	3	.010	14.5	17.8	18.6	.025	.019	.020	587	951	935
5806-247-*	.411	.695	.064	3	.020	67.7	82.7	86.5	.014	.010	.011	4980	8075	7940
5806-58-*	.420	.524	.068	3	.003	0.7	0.8	0.9	.065	.050	.053	10	17	16
5806-132-*	.437	.550	.036	3	.010	7.9	9.6	10.0	.022	.016	.017	363	588	578
5806-133-*	.440	.618	.040	3	.004	0.8	1.3	1.3	.036	.036	.036	22	36	36
5806-134-*	.440	.618	.040	3	.008	5.6	6.8	7.1	.031	.023	.025	179	291	286
5806-59-*	.441	.654	.075	3	.010	11.2	13.6	14.3	.027	.020	.021	419	679	668
5806-135-*	.441	.655	.094	3	.010	11.2	13.7	14.3	.027	.020	.021	420	682	670
5806-136-*	.441	.655	.094	3	.016	28.7	35.1	36.7	.017	.013	.013	1722	2792	2746
5806-137-*	.441	.750	.080	3	.015	38.6	47.2	49.4	.021	.016	.017	1838	2981	2931
5806-185-*	.445	.610	.040	3	.008	4.9	6.0	6.2	.031	.023	.025	158	256	252
5806-78-*	.445	.610	.094	3	.004	1.2	1.5	1.6	.062	.047	.050	20	32	31
5806-79-*	.445	.610	.094	3	.006	2.7	3.4	3.5	.041	.031	.033	67	108	106
5806-22-*	.445	.610	.094	3	.010	7.6	9.3	9.7	.025	.019	.020	308	500	492
5806-24-*	.450	.605	.050	3	.007	3.3	4.0	4.2	.035	.027	.028	94	152	149
5806-25-*	.455	.870	.094	3	.010	22.2	27.1	28.3	.039	.029	.031	568	920	905
5806-248-*	.459	.608	.047	3	.008	3.9	4.8	5.0	.032	.024	.025	123	199	196
5806-249-*	.460	.735	.040	3	.008	7.5	11.3	11.8	.032	.030	.032	233	378	372
5806-138-*	.470	.880	.045	4	.005	8.3	11.6	12.1	.040	.034	.037	207	336	331
5806-139-*	.470	.880	.045	4	.007	18.5	22.6	23.7	.033	.025	.026	569	923	908
5806-250-*	.474	.815	.070	3	.020	70.6	86.3	90.2	.018	.014	.015	3822	6198	6094
5806-26-*	.490	.610	.032	4	.008	6.5	8.0	8.3	.022	.016	.017	302	489	481
5806-140-*	.505	.656	.070	4	.006	3.3	4.1	4.2	.028	.021	.023	118	192	188
5806-28-*	.505	.750	.045	3	.010	11.2	13.7	14.3	.035	.026	.028	321	520	511
5806-186-*	.505	.812	.065	3	.020	58.9	72.0	75.3	.019	.015	.015	3057	4957	4874
5806-27-*	.515	.865	.093	3	.010	16.6	20.3	21.3	.042	.032	.034	393	637	627
5806-187-*	.520	.687	.050	3	.010	6.0	7.3	7.6	.032	.024	.026	184	298	293
5806-141-*	.520	.740	.080	3	.016	23.8	29.1	30.5	.022	.017	.018	1081	1753	1724
5806-60-*	.530	.780	.125	3	.012	15.6	19.0	19.9	.032	.024	.025	490	795	781
5806-251-*	.531	.734	.055	3	.008	5.1	6.3	6.5	.044	.034	.036	115	187	184
5806-252-*	.536	.724	.051	3	.010	7.0	8.5	8.9	.035	.027	.028	197	320	314

+ For tolerances see beginning of section.

**For an explanation of these values and design criteria see beginning of section.

WAVE SHAPE SPRING WASHER

Custom Sizes Available . . . See Last Page of This Section



NOTE: Unless stated, all catalog parts are supplied without finish. See page 545 for specifying finishes.

* ADD TO PART NUMBER
 -1 for beryllium copper
 -2 for spring steel
 -3 for stainless steel (17-7PH)

PART NUMBER	A +	B +	C +	NO. WAVES	T	CALCULATED **								
						MAXIMUM LOAD (LBS)			MAXIMUM DEFLECTION (IN.)			SPRING RATE (LBS/IN.)		
						-1	-2	-3	-1	-2	-3	-1	-2	-3
5806-253-*	.538	.944	.073	3	.020	74.1	90.5	94.6	.024	.018	.020	3034	4920	4838
5806-61-*	.545	.852	.080	3	.032	138.2	168.9	176.6	.014	.010	.011	10193	16530	16254
5806-254-*	.550	.740	.110	3	.016	17.4	21.2	22.2	.023	.017	.019	751	1218	1197
5806-145-*	.560	.750	.045	3	.010	6.0	8.0	8.4	.035	.029	.031	172	279	275
5806-62-*	.563	.760	.110	3	.018	22.5	27.5	28.7	.022	.016	.017	1039	1685	1657
5806-29-*	.565	.687	.062	3	.010	6.7	8.2	8.5	.035	.026	.028	192	311	306
5806-146-*	.580	.730	.040	3	.010	6.2	9.6	9.9	.030	.029	.030	206	334	328
5806-188-*	.590	.710	.062	3	.010	6.3	7.7	8.1	.038	.028	.030	169	273	269
5806-30-*	.609	.859	.062	3	.010	8.9	10.9	11.4	.048	.036	.038	186	302	297
5806-32-*	.620	.750	.045	4	.010	11.6	14.1	14.8	.023	.018	.019	493	800	787
5806-255-*	.635	.885	.067	3	.032	85.8	104.8	109.6	.016	.012	.013	5343	8664	8520
5806-189-*	.638	.988	.078	3	.005	2.0	3.3	3.2	.073	.073	.073	28	45	44
5806-147-*	.640	.866	.045	3	.020	34.4	36.0	36.0	.025	.019	.020	1117	1811	1781
5806-34-*	.641	.875	.125	3	.008	4.8	5.8	6.1	.064	.048	.051	75	121	119
5806-148-*	.642	1.000	.105	3	.016	34.1	41.7	43.6	.037	.028	.030	911	1478	1453
5806-256-*	.645	.795	.040	3	.012	7.5	12.2	12.0	.028	.028	.028	268	435	427
5806-190-*	.645	.870	.062	3	.016	17.7	21.6	22.6	.032	.024	.026	554	898	883
5806-149-*	.650	.790	.062	3	.010	6.7	8.2	8.5	.046	.035	.037	145	235	231
5806-257-*	.650	.855	.064	3	.010	5.8	7.0	7.4	.050	.038	.040	114	185	182
5806-191-*	.659	.815	.062	3	.020	29.0	35.5	37.1	.024	.018	.019	1203	1951	1918
5806-258-*	.661	.747	.105	3	.006	1.5	1.8	1.9	.073	.055	.059	21	33	33
5806-259-*	.661	.845	.062	3	.010	8.4	10.2	10.7	.050	.038	.040	166	270	265
5806-260-*	.661	1.165	.090	3	.028	146.7	179.3	187.4	.026	.020	.021	5541	8985	8835
5806-192-*	.670	.825	.130	3	.020	28.5	34.8	36.4	.025	.019	.020	1146	1858	1827
5806-261-*	.670	.870	.100	3	.016	13.2	16.2	16.9	.033	.025	.026	402	651	640
5806-193-*	.687	.814	.156	3	.025	36.3	44.4	46.4	.020	.015	.016	1811	2937	2888
5806-36-*	.688	.937	.141	3	.012	10.6	12.9	13.5	.049	.037	.039	216	350	344
5806-37-*	.691	1.000	.092	3	.010	10.1	12.3	12.9	.064	.048	.051	158	257	253
5806-33-*	.695	.945	.078	3	.025	45.4	55.5	58.0	.024	.018	.019	1897	3077	3025
5806-262-*	.695	.950	.092	3	.010	7.5	9.2	9.6	.060	.045	.048	125	202	199
5806-35-*	.700	.850	.090	3	.010	6.6	8.1	8.5	.053	.040	.043	124	202	198
5806-38-*	.700	.875	.090	3	.007	3.7	4.6	4.8	.079	.059	.063	47	77	76
5806-263-*	.703	1.115	.125	3	.016	36.2	44.2	46.2	.046	.035	.037	788	1278	1256
5806-150-*	.718	.920	.050	3	.010	5.7	9.2	9.0	.040	.040	.040	142	230	226
5806-39-*	.718	1.000	.087	3	.010	8.3	10.2	10.7	.066	.049	.053	127	206	203
5806-264-*	.719	.925	.066	3	.010	8.0	10.5	11.0	.056	.045	.048	143	232	228
5806-265-*	.728	1.118	.082	3	.010	12.1	15.5	16.2	.072	.057	.061	168	272	268
5806-266-*	.749	.829	.070	3	.020	13.9	17.0	17.8	.028	.021	.022	503	815	802
5806-63-*	.750	1.000	.136	3	.012	9.2	11.2	11.7	.057	.043	.045	162	262	258
5806-213-*	.760	1.120	.080	3	.020	43.5	53.2	55.6	.039	.030	.031	1108	1796	1766

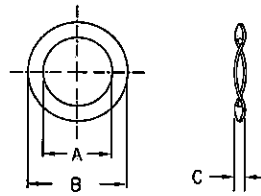
+ For tolerances see beginning of section.

**For an explanation of these values and design criteria see beginning of section.

- Solder Lugs
- Spring Clips
- Spring Washers
- Shoulder Washers
- Stand Off Spacers
- Flat Round Washers - Metallic
- Flat Round Washers - Non-Metallic
- O-Rings
- Retaining Rings
- Lockwashers, Retention Washers & Push-on Nuts
- Clamps & Brackets
- Expansion Plugs
- Ground Straps, Bus Bars & Term. Blocks
- Tab & Notch Washers
- Misc. Washers & Tags
- Solid State Insulators
- Military Standards
- Custom Parts
- Engineering Tables
- Num. & Alpha. Index of Parts

WAVE SHAPE SPRING WASHER

Custom Sizes Available . . . See Last Page of This Section



NOTE: Unless stated, all catalog parts are supplied without finish. See page 545 for specifying finishes.

* ADD TO PART NUMBER
 -1 for beryllium copper
 -2 for spring steel
 -3 for stainless steel (17-7PH)

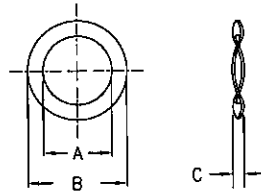
PART NUMBER	A +	B +	C +	NO. WAVES	T	CALCULATED **								
						MAXIMUM LOAD (LBS)			MAXIMUM DEFLECTION (IN.)			SPRING RATE (LBS/IN.)		
						-1	-2	-3	-1	-2	-3	-1	-2	-3
5806-267-*	.766	.911	.085	3	.012	8.5	10.4	10.9	.052	.039	.042	164	266	262
5806-151-*	.767	1.125	.105	3	.016	27.3	33.4	34.9	.050	.037	.040	549	890	876
5806-152-*	.780	1.060	.120	3	.008	4.6	5.7	5.9	.094	.071	.075	49	80	78
5806-40-*	.781	1.000	.080	3	.012	12.2	14.9	15.5	.059	.044	.047	207	335	330
5806-153-*	.781	1.000	.080	3	.020	33.8	41.3	43.1	.035	.027	.028	957	1552	1527
5806-268-*	.786	1.385	.095	3	.028	146.6	179.2	187.3	.037	.028	.030	3918	6353	6247
5806-154-*	.800	.900	.090	3	.018	13.1	16.0	16.7	.036	.027	.029	366	594	584
5806-269-*	.800	.990	.090	3	.018	23.6	28.8	30.2	.040	.030	.032	596	967	951
5806-41-*	.812	.983	.080	3	.010	6.4	8.0	8.4	.070	.054	.057	91	148	146
5806-155-*	.812	1.095	.062	3	.010	4.4	7.2	7.1	.052	.052	.052	85	138	136
5806-194-*	.815	1.018	.100	3	.016	19.5	23.8	24.9	.047	.035	.037	417	676	665
5806-270-*	.816	1.094	.145	3	.005	1.4	2.0	2.1	.140	.122	.130	10	17	16
5806-64-*	.828	1.432	.125	3	.020	71.6	87.5	91.5	.057	.043	.045	1261	2045	2011
5806-65-*	.856	1.102	.075	3	.012	6.1	8.4	8.8	.063	.054	.057	97	157	154
5806-66-*	.885	1.311	.125	4	.007	9.7	11.8	12.4	.086	.065	.069	112	182	179
5806-195-*	.900	1.090	.120	3	.020	26.2	32.0	33.5	.044	.033	.035	595	966	949
5806-156-*	.900	1.150	.060	3	.012	7.4	12.0	11.8	.048	.048	.048	155	251	247
5806-196-*	.901	1.159	.080	3	.012	10.7	15.1	15.8	.068	.059	.063	157	255	251
5806-67-*	.910	1.410	.120	3	.020	52.4	64.1	67.0	.060	.045	.048	876	1421	1397
5806-271-*	.912	1.018	.106	3	.012	5.4	6.6	6.9	.069	.052	.055	79	128	125
5806-68-*	.914	1.078	.120	3	.005	0.9	1.5	1.5	.115	.115	.115	8	13	13
5806-69-*	.915	1.110	.120	3	.010	6.6	8.1	8.4	.091	.069	.073	72	118	116
5806-272-*	.921	1.105	.132	3	.020	24.9	30.5	31.9	.046	.034	.037	546	886	871
5806-157-*	.926	1.116	.090	3	.018	20.7	25.3	26.4	.051	.039	.041	402	651	641
5806-273-*	.926	1.126	.100	3	.020	26.8	32.7	34.2	.047	.035	.038	572	927	912
5806-158-*	.959	1.115	.055	3	.020	15.1	24.5	24.1	.035	.035	.035	432	700	689
5806-42-*	.960	1.110	.048	3	.012	3.2	5.3	5.2	.036	.036	.036	90	146	144
5806-197-*	.960	1.110	.125	3	.012	7.2	8.8	9.1	.079	.060	.064	90	146	144
5806-274-*	.961	1.235	.087	3	.016	21.9	26.8	28.0	.067	.050	.054	327	531	522
5806-80-*	.970	1.210	.062	4	.012	19.3	23.6	24.7	.050	.037	.040	391	633	623
5806-159-*	1.014	1.245	.145	3	.028	55.0	67.2	70.3	.041	.031	.032	1358	2202	2165
5806-43-*	1.015	1.250	.050	3	.006	0.6	1.0	0.9	.044	.044	.044	13	22	22
5806-44-*	1.016	1.437	.156	3	.012	13.0	15.9	16.6	.111	.084	.089	117	189	186
5806-160-*	1.016	1.500	.085	3	.016	22.0	34.3	35.1	.069	.066	.069	319	517	509
5806-275-*	1.037	1.145	.110	3	.025	21.2	25.9	27.1	.042	.032	.034	501	813	800
5806-161-*	1.044	1.235	.090	3	.018	18.6	22.8	23.8	.064	.048	.051	290	471	463
5806-276-*	1.050	1.271	.100	3	.025	40.8	49.9	52.2	.048	.036	.038	853	1382	1359
5806-198-*	1.052	1.353	.100	3	.016	22.0	26.9	28.1	.080	.061	.064	274	444	436
5806-45-*	1.068	1.368	.072	3	.020	26.7	41.3	42.5	.052	.050	.052	513	831	817
5806-70-*	1.093	1.365	.093	3	.012	7.9	12.8	12.6	.081	.081	.081	98	158	156

+ For tolerances see beginning of section.

**For an explanation of these values and design criteria see beginning of section.

WAVE SHAPE SPRING WASHER

Custom Sizes Available . . . See Last Page of This Section



NOTE: Unless stated, all catalog parts are supplied without finish. See page 545 for specifying finishes.

* ADD TO PART NUMBER
 -1 for beryllium copper
 -2 for spring steel
 -3 for stainless steel (17-7PH)

PART NUMBER	A +	B +	C +	NO. WAVES	T	CALCULATED **								
						MAXIMUM LOAD (LBS)			MAXIMUM DEFLECTION (IN.)			SPRING RATE (LBS/IN.)		
						-1	-2	-3	-1	-2	-3	-1	-2	-3
5806-277-*	1.098	1.224	.107	3	.025	23.3	28.4	29.7	.048	.036	.038	485	787	774
5806-278-*	1.133	1.303	.137	3	.012	6.9	8.4	8.8	.110	.083	.088	63	102	100
5806-71-*	1.135	1.470	.062	3	.012	2.9	4.7	4.6	.050	.050	.050	58	94	92
5806-279-*	1.164	1.375	.123	3	.016	14.6	17.8	18.7	.090	.068	.072	163	264	260
5806-280-*	1.170	1.362	.150	3	.016	13.3	16.3	17.0	.089	.067	.071	150	243	238
5806-162-*	1.185	1.437	.075	3	.020	19.0	30.8	30.3	.055	.055	.055	345	560	551
5806-281-*	1.200	1.543	.115	3	.018	27.8	34.0	35.5	.093	.070	.074	299	485	477
5806-72-*	1.201	1.543	.105	3	.016	18.6	26.8	28.0	.089	.079	.084	209	339	334
5806-282-*	1.239	1.593	.110	3	.018	25.8	34.0	35.5	.092	.075	.079	281	455	447
5806-163-*	1.250	1.453	.090	4	.016	23.5	28.7	30.0	.057	.043	.046	411	666	655
5806-199-*	1.250	1.640	.060	4	.016	17.3	28.1	27.6	.044	.044	.044	393	638	627
5806-164-*	1.250	2.004	.140	3	.032	149.5	182.8	191.1	.074	.055	.059	2033	3297	3242
5806-283-*	1.261	1.621	.112	3	.018	25.5	33.9	35.5	.094	.077	.082	271	439	432
5806-200-*	1.273	1.395	.058	3	.018	4.6	7.5	7.4	.040	.040	.040	116	188	184
5806-284-*	1.274	1.395	.068	4	.022	26.8	32.7	34.2	.040	.031	.032	661	1072	1054
5806-49-*	1.310	1.556	.172	3	.020	23.6	28.8	30.1	.091	.069	.073	258	418	412
5806-201-*	1.406	1.765	.187	3	.025	48.6	59.3	62.0	.089	.067	.072	543	881	866
5806-285-*	1.420	1.590	.230	4	.020	27.6	33.7	35.2	.057	.043	.045	487	789	776
5806-46-1	1.437	1.690	.035	4	.005	0.3	—	—	.030	—	—	10	—	—
5806-202-*	1.440	1.690	.045	4	.018	12.5	20.3	20.0	.027	.027	.027	464	752	740
5806-286-*	1.475	1.613	.103	3	.032	31.4	38.4	40.1	.066	.050	.053	474	769	756
5806-47-1	1.500	1.820	.125	4	.010	9.8	—	—	.115	—	—	—	85	—
5806-203-*	1.510	2.100	.300	3	.010	8.3	10.1	10.6	.290	.218	.232	29	46	46
5806-204-*	1.531	1.890	.125	3	.020	23.3	35.2	36.8	.105	.098	.104	221	359	353
5806-165-*	1.565	2.010	.150	3	.032	87.5	106.9	111.8	.089	.067	.071	985	1598	1571
5806-287-*	1.575	1.970	.137	4	.008	5.7	9.3	9.1	.129	.129	.129	44	72	71
5806-205-*	1.630	2.160	.150	4	.032	110.9	135.6	141.7	.056	.042	.045	1976	3204	3151
5806-206-*	1.655	2.000	.125	3	.020	18.3	29.7	29.2	.105	.105	.105	174	283	278
5806-48-1	1.656	1.985	.045	4	.010	2.3	—	—	.085	—	—	66	—	—
5806-207-*	1.656	1.985	.125	4	.010	7.6	12.4	12.2	.115	.115	.115	66	108	106
5806-288-*	1.658	2.132	.148	3	.025	51.7	65.6	68.5	.123	.096	.102	420	681	670
5806-50-*	1.700	1.800	.050	4	.025	8.9	14.4	14.2	.025	.025	.025	356	577	567
5806-51-*	1.750	2.000	.150	4	.025	50.8	62.1	64.9	.070	.053	.056	723	1172	1152
5806-52-*	1.781	2.000	.187	4	.020	28.3	34.5	36.1	.089	.067	.072	316	513	504
5806-208-*	1.853	2.396	.168	3	.025	27.7	38.0	39.7	.143	.121	.129	194	314	309
5806-289-*	1.860	2.063	.186	3	.020	13.8	17.4	18.1	.166	.129	.137	83	135	132
5806-166-*	2.000	2.250	.200	3	.020	14.5	19.7	20.6	.180	.151	.161	80	130	128
5806-167-*	2.032	2.875	.215	4	.016	41.2	50.4	52.6	.188	.142	.151	219	355	349
5806-290-*	2.057	2.645	.184	3	.028	59.8	82.2	86.0	.156	.132	.141	383	622	611
5806-209-*	2.068	2.775	.089	8	.016	121.3	148.2	155.0	.046	.035	.037	2646	4291	4220

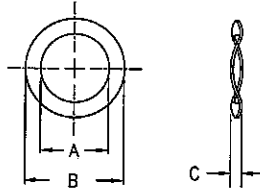
+ For tolerances see beginning of section.

**For an explanation of these values and design criteria see beginning of section.

- Solder Lugs
- Spring Clips
- Spring Washers
- Shoulder Washers
- Stand Off Spacers
- Flat Round Washers - Metallic
- Flat Round Washers Non-Metallic
- O-Rings
- Retaining Rings
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- Clamps & Brackets
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WAVE SHAPE SPRING WASHER

Custom Sizes Available . . . See Last Page of This Section



NOTE: Unless stated, all catalog parts are supplied without finish. See page 545 for specifying finishes.

* ADD TO PART NUMBER

- 1 for beryllium copper
- 2 for spring steel
- 3 for stainless steel (17-7PH)

PART NUMBER	A +	B +	C +	NO. WAVES	T	CALCULATED **								
						MAXIMUM LOAD (LBS)			MAXIMUM DEFLECTION (IN.)			SPRING RATE (LBS/IN.)		
						-1	-2	-3	-1	-2	-3	-1	-2	-3
5806-291-*	2.335	2.495	.092	6	.028	71.3	87.1	91.1	.046	.035	.037	1540	2497	2455
5806-210-*	2.680	3.300	.440	3	.032	72.9	89.0	93.1	.248	.187	.199	293	476	468
5806-292-*	2.755	2.990	.269	4	.016	12.5	15.6	16.3	.253	.194	.207	50	80	79

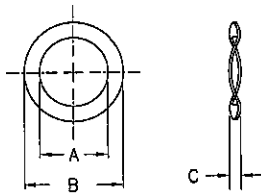
+ For tolerances see beginning of section.

**For an explanation of these values and design criteria see beginning of section.

WAVE SHAPE SPRING WASHER

301-304 STAINLESS STEEL

Custom Sizes Available . . . See Last Page of This Section



NOTE: Unless stated, all catalog parts are supplied without finish. See page 545 for specifying finishes.

PART NUMBER	A +	B +	C +	NO. WAVES	T	HARDNESS	CALCULATED **		
							LOAD AT FLAT (LBS)	MAXIMUM LOAD (LBS)	MAXIMUM DEFLECTION (IN.)
5805-1	.076	.183	.027	3	.005	HH	—	—	.002
5805-2	.080	.145	.017	3	.006	HH	6.4	5368	.001
5805-3	.088	.155	.018	3	.006	HH	6.0	4320	.001
5805-4	.100	.201	.018	3	.006	HH	—	—	.002
5805-5	.101	.205	.025	3	.006	HH	—	—	.002
5805-6	.111	.210	.027	3	.006	HH	6.9	2877	.002
5805-7	.130	.240	.028	3	.006	HH	6.6	2063	.003
5805-8	.139	.260	.021	3	.006	HH	6.8	1821	.004
5805-9	.157	.295	.028	3	.008	HH	12.2	3394	.004
5805-10	.181	.335	.030	3	.010	HH	18.5	4936	.004
5805-11	.208	.370	.036	3	.012	HH	24.5	6247	.004
5805-12	.225	.343	.065	3	.016	HH	28.2	9939	.003
5805-13	.257	.315	.047	3	.007	FH	3.5	497	.007
5805-14	.264	.325	.045	3	.008	FH	4.7	714	.007
5805-15	.265	.325	.032	3	.007	FH	3.5	468	.008
5805-16	.266	.367	.036	3	.006	FH	2.9	291	.010
5805-17	.266	.500	.062	3	.016	FH	56.4	10189	.006
5805-18	.271	.357	.032	3	.006	HH	1.9	202	.009
5805-19	.271	.496	.045	3	.016	HH	46.2	8942	.005
5805-20	.329	.682	.060	3	.010	FH	—	—	.015
5805-21	.337	.595	.035	3	.007	FH	9.5	505	.019
5805-22	.350	.490	.032	3	.003	FH	0.6	22	.029
5805-23	.350	.492	.035	3	.007	FH	4.4	289	.015
5805-24	.355	.482	.035	3	.007	HH	3.1	223	.014
5805-25	.378	.500	.053	3	.005	HH	1.3	62	.022
5805-26	.385	.500	.050	3	.010	FH	5.3	450	.012
5805-27	.411	.695	.064	3	.020	HH	60.2	6998	.009
5805-28	.441	.618	.043	3	.008	FH	5.7	268	.021
5805-29	.445	.608	.040	3	.008	HH	4.3	218	.019
5805-30	.474	.815	.070	3	.020	HH	62.7	5371	.012
5805-31	.519	.603	.036	3	.008	FH	3.4	142	.024
5805-32	.536	.724	.051	3	.008	HH	4.0	142	.028
5805-33	.536	.945	.076	3	.020	HH	66.6	4317	.015
5805-34	.635	.885	.067	3	.030	HH	67.0	6187	.011
5805-35	.661	1.165	.070	3	.030	HH	149.7	9577	.016
5805-36	.662	.844	.063	3	.010	HH	7.4	231	.032
5805-37	.728	1.118	.082	3	.010	HH	11.3	236	.048
5805-38	.780	1.004	.070	3	.010	FH	4.9	102	.048
5805-39	.786	1.385	.095	3	.030	HH	149.6	6772	.022
5805-40	.831	.987	.097	3	.006	FH	2.2	26	.083

+ For tolerances see beginning of section.

**For an explanation of these values and design criteria see beginning of section.

Solder Lugs
 Spring Clips
 Spring Washers
 Shoulder Washers
 Stand Off Spacers
 Flat Round Washers - Metallic
 Flat Round Washers - Non-Metallic
 O-Rings
 Retaining Rings
 Lockwashers, Retention Washers & Push-on Nuts
 Clamps & Brackets
 Expansion Plugs
 Ground Straps, Bus Bars & Term. Blocks
 Tab & Notch Washers
 Misc. Washers & Tags
 Solid State Insulators
 Military Standards
 Custom Parts
 Engineering Tables
 Num. & Alpha. Index of Parts

HOW TO REQUEST A FAX QUOTE:

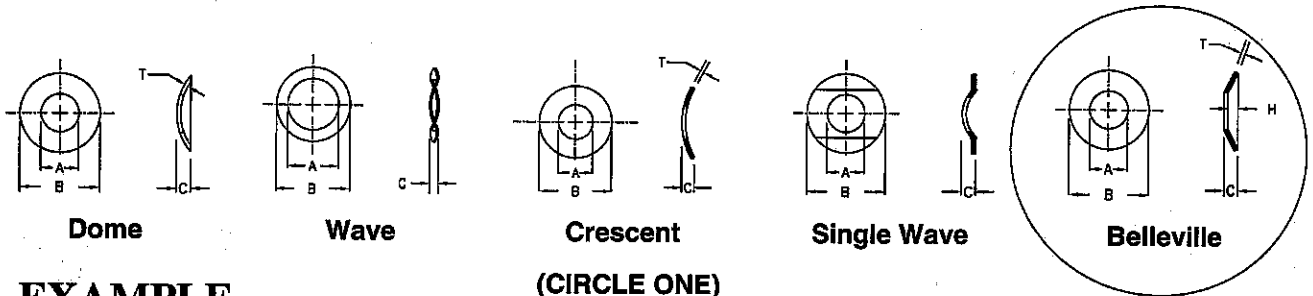
CUSTOM SPRING WASHERS

If your application requires a custom spring washer with dimensions not listed in this catalog, simply photocopy the adjoining page, fill in all necessary dimensions, and fax it to us at 208-734-7222. It's that simple!

Seastrom Manufacturing can manufacture virtually any custom spring washer you require.

For more information on spring washer applications, spring rates or design criteria, please refer to the front of the Spring Washer section.

If the custom configuration you require is different than shown on the adjoining page, please refer to the Custom Parts section for a fax quote cover sheet and a blank print to sketch your own design.



EXAMPLE

A: <u>.255</u>	B: <u>.870</u>	C: <u>.110</u>
T: <u>.062</u>	# Of Waves: _____	

If we can answer any questions concerning your custom spring washer needs, please feel free to call us today at 1-800-634-2356.

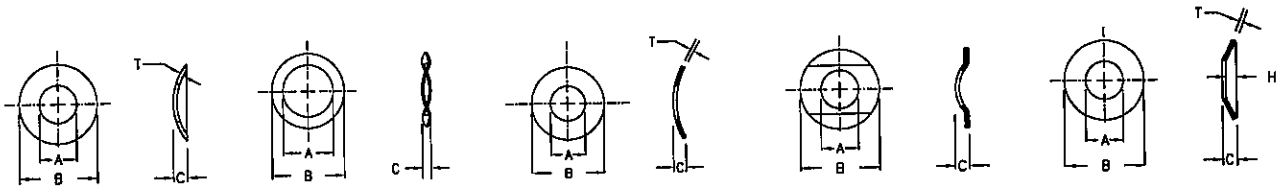
FAX QUOTE

CUSTOM SPRING WASHERS

PLEASE FAX TO:

SEASTROM MANUFACTURING COMPANY, INC. 208•734•7222

ATTENTION: Inside Sales



Dome

Wave

Crescent

Single Wave

Belleville

(CIRCLE ONE)

DATE _____

A: _____	B: _____	C: _____
T: _____ # Of Waves : _____		

UNLESS OTHERWISE SPECIFIED ALL DIMENSIONS WILL BE TO CATALOG TOLERANCES.*

Material: _____

Plating: _____

Other Requirements: _____

From: _____ Title: _____

Company: _____

Address: _____ City: _____ State: ___ Zip: _____

Phone: _____ Fax: _____

DO NOT TEAR OUT ... PLEASE PHOTOCOPY

***See Pages 551 and 552 for commercial thickness tolerances.**

Please Quote the following:	<i>For Seastrom Use</i>	
QUANTITY	PRICE	DELIVERY
Estimated Yearly Usage:		