

# Datasheet

## Steel E Type Circlip, 9.5mm Shaft Diameter, 7mm Groove Diameter

RS Stock number 289-499



### STANDARD SERIES 'E' CIRCLIPS

**D1500** INCORPORATING DIN 6799 & BS 3673/2 Metric Series **& N1500**

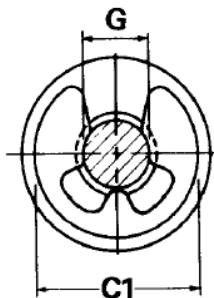
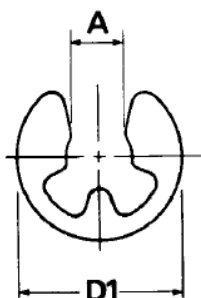
INCORPORATING  
BS 3673 Part 2 and  
MIL-R-21248/MS 16633



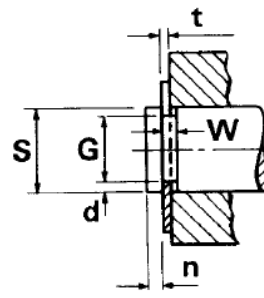
All dimensions  
in mm

Standard material -  
carbon spring steel.  
Standard finish -  
phosphate and oil.

Sizes printed  
in blue are  
preferred sizes



Circlip in groove



**D1500** \*This size in Beryllium copper only

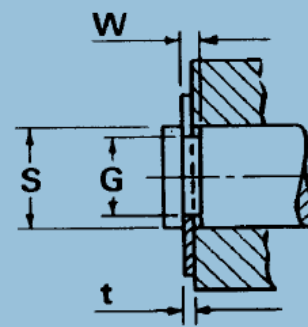
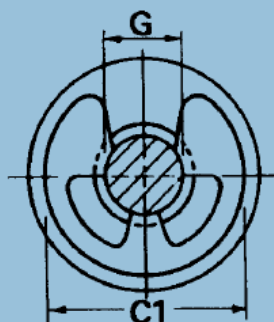
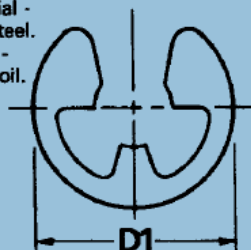
† Thrust load calculations see pages 9 & 10

| SIZE<br>CODE | B.S.<br>Ref | Shaft (S) |       | Groove (G) |                |      |                | Circlip (F) |          |      |       |       |      |       |        | Tc†<br>(N) | Tg†<br>(N) | Appli-<br>cator | BASE   |
|--------------|-------------|-----------|-------|------------|----------------|------|----------------|-------------|----------|------|-------|-------|------|-------|--------|------------|------------|-----------------|--------|
|              |             | S.        | Tol.  | G.         | Tol.           | W.   | Tol.           | n<br>(min)  | d<br>Nom | t    | Tol.  | D1    | C1   | A     | Tol.   |            |            |                 |        |
| *0008        | 008MS       | 1.20      | ±0.20 | 0.8        | +0.00<br>-0.04 | 0.24 | +0.04<br>-0.00 | 0.4         | 0.20     | 0.20 |       | 1.95  | 2.25 | 0.58  |        | 63         | 30         | —               | —      |
| 0012         | 012MS       | 1.70      | ±0.30 | 1.2        |                | 0.34 |                | 0.6         | 0.25     | 0.30 |       | 2.90  | 3.25 | 1.01  |        | 203        | 53         | 28              | DR 1.2 |
| 0015         | 015MS       | 2.25      |       | 1.5        | +0.00          | 0.44 |                | 0.8         | 0.38     | 0.40 |       | 3.85  | 4.25 | 1.28  |        | 358        | 105        | 21A             | DR 1.5 |
| 0019         | 019MS       | 2.75      | ±0.25 | 1.9        | -0.06          | 0.54 |                | 1.0         | 0.43     | 0.50 |       | 4.40  | 4.8  | 1.61  | ±0.04  | 546        | 145        | 22              | DR 1.9 |
| 0023         | 023MS       | 3.50      |       | 2.3        |                | 0.64 |                | 1.0         | 0.60     | 0.60 | ±0.02 | 5.90  | 6.3  | 1.94  |        | 835        | 260        | 3C              | DR 2.3 |
| 0032         | 032MS       | 4.50      | ±0.50 | 3.2        |                | 0.64 | +0.05<br>-0.00 | 1.0         | 0.65     | 0.60 |       | 6.80  | 7.3  | 2.70  |        | 1070       | 365        | AM9             | DR 3.2 |
| 0040         | 040MS       | 6.00      |       | 4.0        | +0.00          | 0.74 |                | 1.2         | 1.00     | 0.70 |       | 8.80  | 9.3  | 3.34  |        | 1670       | 745        | 23B             | DR 4   |
| 0050         | 050MS       | 7.00      | ±1.00 | 5.0        | -0.075         | 0.74 |                | 1.2         | 1.00     | 0.70 |       | 10.75 | 11.3 | 4.11  | ±0.048 | 1950       | 870        | 7B              | DR 5   |
| 0060         | 060MS       | 8.00      |       | 6.0        |                | 0.74 |                | 1.2         | 1.00     | 0.70 |       | 11.75 | 12.3 | 5.26  |        | 2220       | 995        | 24              | DR 6   |
| 0070         | 070MS       | 9.50      | ±1.50 | 7.0        |                | 0.94 |                | 1.5         | 1.25     | 0.90 |       | 13.80 | 14.3 | 5.84  |        | 3400       | 1480       | 15              | FR 7   |
| 0080         | 080MS       | 10.50     |       | 8.0        | +0.00          | 1.05 |                | 1.8         | 1.25     | 1.00 |       | 15.60 | 16.3 | 6.52  |        | 4170       | 1630       | AM20            | FR 8   |
| 0090         | 090MS       | 12.00     | ±2.00 | 9.0        | -0.09          | 1.15 |                | 2.0         | 1.50     | 1.10 |       | 18.20 | 18.8 | 7.63  | ±0.058 | 5250       | 2240       | 25              | FR 9   |
| 0100         | 100MS       | 13.00     |       | 10.0       |                | 1.25 |                | 2.0         | 1.50     | 1.20 |       | 19.65 | 20.4 | 8.32  |        | 6200       | 2430       | 26              | FR 10  |
| 0120         | 120MS       | 15.50     | ±2.50 | 12.0       | +0.00          | 1.35 | +0.08<br>-0.00 | 2.5         | 1.75     | 1.30 | ±0.03 | 22.65 | 23.4 | 10.45 |        | 8010       | 3370       | 27              | FR 12  |
| 0150         | 150MS       | 20.00     | ±4.00 | 15.0       | -0.11          | 1.55 |                | 3.0         | 2.50     | 1.50 |       | 28.60 | 29.4 | 12.61 | ±0.07  | 11900      | 6220       | 20B             | FR 15  |
| 0190         | 190MS       | 25.50     | ±5.50 | 19.0       | +0.00          | 1.85 |                | 3.5         | 3.25     | 1.75 |       | 36.70 | 37.6 | 15.92 |        | 17700      | 10300      | 32A             | FR 19  |
| 0240         | 240MS       | 31.50     | ±6.50 | 24.0       | -0.13          | 2.05 |                | 4.0         | 3.75     | 2.00 |       | 43.65 | 44.6 | 21.88 | ±0.084 | 25000      | 14700      | —               | —      |

All dimensions  
in inches

Standard material -  
carbon spring steel.  
Standard finish -  
phosphate and oil.

Sizes printed  
in blue are  
preferred sizes



## N1500

\*This size in Beryllium copper only

Circlip in groove

† Thrust load calculations see pages 9 & 10

| SIZE<br>CODE | B.S.<br>Ref. | Shaft (S) |                  | Groove (G) |                  |      |                  | Circlip (F) |       |      |        | Tc†<br>(lb.f) | Tg†<br>(lb.f) | Appli-<br>cator | Base | SIZE<br>CODE |
|--------------|--------------|-----------|------------------|------------|------------------|------|------------------|-------------|-------|------|--------|---------------|---------------|-----------------|------|--------------|
|              |              | S         | Tol.             | G          | Tol.             | W    | Tol.             | D1          | C1    | t    | Tol.   |               |               |                 |      |              |
| *X004        | 028PS        | .040      | + .010<br>- .000 | .026       |                  | .012 |                  | .079        | .090  | .010 |        | 15            | 5             | —               | —    | X004         |
| X006         | —            | .062      |                  | .052       |                  | .012 |                  | .140        | .150  | .010 | ± .001 | 36            | 6             | AM2             | SF2  | X006         |
| 0006         | 054PS        | .062      |                  | .052       |                  | .012 |                  | .156        | .165  | .010 |        | 36            | 6             | AM3             | SF3  | 0006         |
| Y006         | —            | .062      | + .030<br>- .000 | .052       |                  | .023 |                  | .187        | .200  | .020 |        | 72            | 6             | —               | —    | Y006         |
| X009         | —            | .094      |                  | .074       |                  | .018 | + .002<br>- .000 | .230        | .245  | .015 |        | 81            | 17            | AM7             | SF4  | X009         |
| 0009         | 076PS        | .094      |                  | .074       |                  | .018 |                  | .187        | .200  | .015 |        | 81            | 17            | AM5             | SF5  | 0009         |
| X011         | 081A2        | .110      |                  | .079       |                  | .018 |                  | .375        | .390  | .015 |        | 95            | 32            | AM6             | SF6  | X011         |
| 0012         | 097PS        | .125      |                  | .095       |                  | .018 |                  | .230        | .240  | .015 |        | 108           | 35            | AM7             | SF7  | 0012         |
| X014         | 104PS        | .140      | + .040<br>- .000 | .102       |                  | .018 |                  | .203        | .214  | .015 |        | 121           | 50            | AM8             | SF8  | X014         |
| Y014         | 112A1        | .140      |                  | .110       |                  | .018 |                  | .250        | .265  | .015 |        | 121           | 39            | AM10            | SF10 | Y014         |
| 0014         | 107A1        | .140      |                  | .105       |                  | .029 |                  | .270        | .285  | .025 |        | 202           | 46            | AM9             | SF9  | 0014         |
| 0015         | 118A1        | .156      |                  | .116       |                  | .029 |                  | .282        | .295  | .025 |        | 225           | 58            | AM11            | SF11 | 0015         |
| X017         | 129PS        | .172      | + .050<br>- .000 | .127       |                  | .029 |                  | .312        | .325  | .025 |        | 248           | 72            | AM12            | SF12 | X017         |
| X018         | —            | .188      |                  | .125       |                  | .029 |                  | .375        | .390  | .025 |        | 271           | 110           | AM13            | SF13 | X018         |
| 0018         | 149PS        | .188      | + .060<br>- .000 | .147       |                  | .029 |                  | .335        | .350  | .025 |        | 271           | 72            | AM14            | SF14 | 0018         |
| X021         | 190PS        | .219      |                  | .188       |                  | .029 |                  | .437        | .450  | .025 | ± .002 | 316           | 63            | AM15            | SF15 | X021         |
| 0025         | 212PS        | .250      |                  | .210       |                  | .029 |                  | .527        | .540  | .025 |        | 361           | 93            | AM16            | SF16 | 0025         |
| X031         | 252PS        | .312      | + .100<br>- .000 | .250       |                  | .029 | + .003<br>- .000 | .500        | .520  | .025 |        | 450           | 180           | AM16            | SF17 | X031         |
| 0037         | 306PS        | .375      |                  | .303       |                  | .039 |                  | .660        | .680  | .035 |        | 757           | 252           | AM18            | SF18 | 0037         |
| 0043         | 346PS        | .438      |                  | .343       |                  | .039 |                  | .687        | .710  | .035 |        | 885           | 388           | AM19            | SF19 | 0043         |
| X043         | 383A1        | .438      |                  | .380       |                  | .039 |                  | .600        | .620  | .035 |        | 884           | 237           | AM20            | SF20 | X043         |
| 0050         | 399PS        | .500      |                  | .396       | + .003<br>- .000 | .046 |                  | .800        | .820  | .042 |        | 1210          | 485           | AM21            | SF21 | 0050         |
| 0062         | 488PS        | .625      |                  | .485       |                  | .046 |                  | .940        | .960  | .042 |        | 1510          | 816           | AM22            | SF22 | 0062         |
| X074         | 628A1        | .744      | + .120<br>- .000 | .625       |                  | .056 |                  | 1.000       | 1.020 | .050 |        | 2160          | 1190          | AM23            | SF23 | X074         |
| 0075         | 583PS        | .750      |                  | .580       |                  | .056 |                  | 1.120       | 1.140 | .050 |        | 2520          | 1630          | AM24            | SF24 | 0075         |
| 0087         | 678PS        | .875      |                  | .675       |                  | .056 |                  | 1.300       | 1.320 | .050 |        | 2840          | 1370          | AM25            | SF25 | 0087         |
| X098         | —            | .984      |                  | .835       |                  | .056 |                  | 1.500       | 1.530 | .050 |        | 4250          | 1210          | AM26            | SF26 | X098         |
| X118         | —            | 1.188     | + .200<br>- .000 | 1.079      | + .005<br>- .000 | .068 | + .004<br>- .000 | 1.626       | 1.670 | .062 | ± .003 | 4920          | 1860          | AM27            | SF27 | X118         |
| X137         | —            | 1.375     |                  | 1.230      |                  | .068 |                  | 1.875       | 1.920 | .062 |        | 4920          | 1860          | —               | —    | X137         |