

INCH-POUND

MIL-DTL-27426C
22 SEPTEMBER 1998
SUPERSEDING
MIL-DTL-27426B
27 SEPTEMBER 1997

DETAIL SPECIFICATION

RINGS, RETAINING, SPIRAL
(UNIFORM CROSS SECTION)

This specification is approved for use by all Departments and Agencies of the Department of Defense.

1. SCOPE

1.1 Scope. This specification covers the procurement requirements for uniform cross section spiral retaining rings used on shafts and in bearing housings.

1.2 Classification. Retaining rings will conform to one of the following classifications and codes as specified (see 6.3).

Type 2A01 - Medium Duty External Rings
Type 2A02 - Heavy Duty External Rings
Type 2B01 - Medium Duty Internal Rings
Type 2B02 - Heavy Duty Internal Rings

2. APPLICABLE DOCUMENTS

2.1 General. The documents listed in this section are specified in sections 3 and 4 of this specification. This section does not include documents in other sections of this specification or recommended for additional information or as examples. While every effort has been made to ensure the completeness of this list, document users are cautioned that they must meet all specified requirements documents cited in sections 3 and 4 of this specification, whether or not they are listed.

2.2 Government documents.

2.2.1 Specifications, standards and handbooks. The following specifications, standards and handbooks form a part of this document to the extent specified herein. Unless otherwise specified, the issues of these documents are those listed in the issue of the Department of Defense Index of Specifications and Standards (DODISS) and supplement thereto, cited in the solicitation (see 6.2).

Beneficial comments (recommendations, additions, deletions) and any pertinent data which may be of use in improving this document should be addressed to: the Defense Industrial Supply Center, (Code DISC-AESD), 700 Robbins Avenue, Philadelphia, PA 19111-5096, by using the Standardization Document Improvement Proposal (DD Form 1426) appearing at the end of this document or by letter.

AMSC N/A

FSC 5325

DISTRIBUTION STATEMENT A. Approved for public release; distribution is unlimited.

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SPECIFICATIONS

FEDERAL

- QQ-P-35 - Passivation Treatments for Austenitic, Ferritic, and Corrosion-Resisting Steel (Fastening Devices)
- QQ-P-416 - Plating, Cadmium (Electrodeposited)
- PPP-H-1581 - Hardware (Fasteners and Related Items), Packaging and Packing for Shipment and Storage of. (Reference)

DEPARTMENT OF DEFENSE

- DOD-P-16232 - Phosphate Coating, heavy, Manganese or Zinc Base (for Ferrous Metals)
- MIL-DTL-27426/1 - Rings, Retaining, Spiral (Uniform Cross Section) Medium Duty External
- MIL-DTL-27426/2 - Rings, Retaining, Spiral (Uniform Cross Section) Heavy Duty External
- MIL-DTL-27426/3 - Rings, Retaining, Spiral (Uniform Cross Section) Medium Duty Internal
- MIL-DTL-27426/4 - Rings, Retaining, Spiral (Uniform Cross Section) Heavy Duty Internal

(Unless otherwise indicated, copies of specifications, standards and handbooks are available from the Standardization Document Order Desk, 700 Robbins avenue, Building 4D, Philadelphia, PA 19111-5094.)

2.3 Non-Government publications. The following document forms a part of this specification to the extent specified herein. Unless otherwise specified, the issues of the documents which are DoD adopted will be those listed in the issue of the DODISS specified in the solicitation. Unless otherwise specified, the issues of documents not listed in the DODISS are the issue of the documents cited in the solicitation (see 6.2).

AMERICAN NATIONAL STANDARDS INSTITUTE (ANSI)

- ANSI B27.6 - General Purpose Uniform Cross Section Spiral Retaining Rings.
- ANSI/ASQC Z1.4 - Sampling Procedures and Tables for Inspection by Attributes.

(Application for copies should be addressed to the American National Standards Institute, Inc., 11 West 42nd Street, New York, NY 10036.)

AMERICAN SOCIETY FOR TESTING AND MATERIALS (ASTM)

- ASTM B197 - Specification for Copper-Beryllium Alloy Wire
- ASTM E18 - Test for Rockwell Hardness of Metallic Materials (DoD Adopted)

(Copies of ASTM publication may be obtained from the American Society for Testing and Materials, 1916 Race Street, Philadelphia, PA 19103-1187.)

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SOCIETY OF AUTOMOTIVE ENGINEERS

AS3215	- Ring, Retaining-Spiral, Internal, Heavy Duty, CRES
AS3216	- Ring, Retaining-Spiral, External, Heavy Duty, CRES
AS3217	- Ring, Retaining-Spiral, Internal, Light Duty, CRES
AS3218	- Ring, Retaining-Spiral, External, Light Duty, CRES
AS3219	- Ring, Retaining, Spiral, Minimum Distortion, Dimensional and Acceptance Standard for
SAE 1070-1090	- Steel, Carbon, Strip, Cold Rolled, Hardened and Tempered, Spring Quality
SAE AMS 5866	- Steel, Corrosion Resistant, Flat Wire 18Cr - 9.0 Ni (SAE 30302) Spring Temper (UNS S30200)

(Application for copies should be addressed to the Society of Automotive Engineers, 400 Commonwealth Dr., Warrendale, PA 15096-0001).

(Non-Government Standards and other publications are normally available from the organizations that prepare or distribute the documents. These documents also may be available in or through libraries or other informational services).

2.4 Order of precedence. In the event of a conflict between the text of this document and the references cited herein (except for related associated specifications, specification sheets, or MS standards), the text of this document takes precedence. Nothing in this document, however, supersedes applicable laws and regulations unless a specific exemption has been obtained.

3. REQUIREMENTS

3.1 Materials. Material used in the manufacture of retaining rings shall be either carbon steel, corrosion-resisting steel, or copper-beryllium alloy as specified in the contract or purchase order (see 6.2).

3.1.1 Carbon steel. Carbon steel used in the manufacture of retaining rings shall conform to the requirements of SAE 1070-1090, AISI Grade designation C1070 through C1090 inclusive.

3.1.2 Corrosion-resisting steel. Corrosion-resisting steel used in the manufacture of retaining rings shall conform to the requirements of AMS 5866.

3.1.3 Copper-beryllium alloy. Copper-beryllium alloy used in the manufacture of retaining rings shall conform to ASTM B197, alloy number C17200.

3.2 Physical requirements. Retaining rings shall conform to the appropriate physical requirements specified in 3.2.1 through 3.2.3 for the type, material, and size of ring specified (see 6.2).

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3.2.1 Carbon steel rings. Carbon steel retaining rings shall have a tensile strength and a hardness conforming to ANSI B27.6 (reference).

3.2.2 Corrosion-resisting steel rings. Corrosion resisting steel retaining rings shall meet the physical requirements of AMS5866. Material shall not be rejected on the basis of hardness, provided that the tensile strength requirements are met.

3.2.3 Copper-beryllium alloy rings. Material used to manufacture copper-beryllium alloy retaining rings shall meet the tensile requirements of ASTM B197.

3.3 Protective Finish. Protective finish shall conform to 3.3.1, 3.3.2 or 3.3.3 as specified in the contract or purchase order (see 6.2).

3.3.1 Cadmium plating. Cadmium plating shall be in accordance with QQ-P-416, Type II, Class 2. NOTE: Use of this finish is not recommended.

3.3.2 Phosphate coating. Phosphate coating shall be in accordance with DOD-P-16232, Type Z, Class 2.

3.3.3 Passivation. Corrosion-resisting steel rings shall be passivated in accordance with QQ-P-35.

3.4 Design. The design, shape, mechanical requirements, and dimensions of retaining rings furnished under this specification shall conform to all the requirements specified in 3.4.1 through 3.4.9 for the applicable type, class, and size of ring.

3.4.1 Type 2A01 rings. Type 2A01 rings shall conform to the dimensions, tolerance and requirements specified in MIL-DTL-27426/1.

3.4.2 Type 2A02 rings. Type 2A02 rings shall conform to the dimensions, tolerances and requirements specified in MIL-DTL-27426/2.

3.4.3 Type 2B01 rings. Type 2B01 rings shall conform to the dimensions, tolerances and requirements specified in MIL-DTL-27426/3.

3.4.4 Type 2B02 rings. Type 2B02 rings shall conform to the dimensions, tolerances and requirements specified in MIL-DTL-27426/4.

3.4.5 Notches and slots. All rings shall be either notched in accordance with 3.4.5.1 or slotted to facilitate removal of the rings from the grooves, using a screwdriver or similar common type tool. Special removal tools shall not be required. Ring sizes 2.750 inches and smaller shall be notched. Unless specified in contract or order (see 6.2), ring sizes 2.812 inches and larger may be notched or slotted at the option of the manufacturer.

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3.4.5.1 Notches. Notches in the rings shall conform to AS3215 through AS3218 as appropriate to the type of ring.

3.4.6 Edges. The I.D. and O. D. circumferential edges of the ring material shall be rounded. These edges shall be free from burrs, slivers, dents, nicks, cracks and other irregularities that may adversely affect the ring performance. Unless otherwise stipulated in the contract, burrs at the end and notch areas of the ring are acceptable within the limits shown in Table I.

TABLE I

MATERIAL THICKNESS	MAXIMUM ACCEPTABLE BURR (AT NOTCH ENDS ONLY)
.009" TO .018"	.002"
.019" TO .030"	.003"
.031" TO .043"	.004"
.044" AND OVER	.005"

3.4.7 Crimp. Unless otherwise stipulated in the contract, rings shall be crimped according to Table II.

TABLE II

RING TYPE	RING SIZES - NOT CRIMPED DASH NUMBERS	RING SIZES - CRIMPED DASH NUMBERS
2A01	0100 - 0136	0137 - 0247
2A02	0100 - 0106	0107 - 0206
2B01	0100 - 0138	0139 - 0261
2B02	0100 - 0105	0106 - 0212

3.4.7.1 Crimp Height. The crimp height is equal to the ring thickness with the tolerances shown in Table III.

TABLE III

RING THICKNESS	CRIMP HEIGHT TOLERANCE
.000" - .044"	+.002"/-.004"
.045" - .066"	+.003"/-.005"
.067" AND OVER	+.005"/-.007"

3.4.7.2 Crimp length and radius. The crimp length and radius shall meet the specifications shown in Table IV.

TABLE IV

MATERIAL THICKNESS	CRIMP LENGTH	CRIMP RADIUS
UP TO .021"	.095" MAX	.015
.022" - .031"	.187" MAX.	.015
.032" - .055"	.218" MAX.	.031
.056" TO .080"	.312" MAX.	.031
.081" AND OVER	.375" MAX.	.031

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3.4.8 Dish. Dish shall be considered the height difference in the ring cross-sections axis of symmetry between the I.D. and O.D. as illustrated in Figure 1. Dish shall be minimized to the extent possible and not exceed the values of Table V.

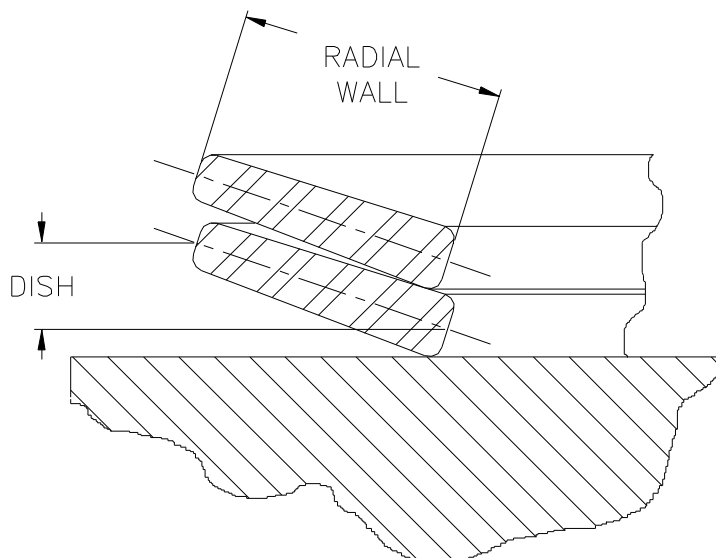


FIGURE 1

TABLE V

RING RADIAL WALL	MAX. ALLOWABLE DISH
.000" - .039"	.001"
.040" - .069"	.002"
.070" - .099"	.003"
.100" - .129"	.004"
.130" - .159"	.005"
.160" - .194"	.006"
.195" - .224"	.007"
.225" - .259"	.008"
.260" - .294"	.009"
.295" - .339"	.010"
.340" - .394"	.011"
.395" - .474"	.012"
.475" - .649"	.013"
.650" - 1.000"	.014"

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3.4.9 Misalignment. Misalignment is defined as the radial mismatch between the adjacent leaves of a retaining ring in the free state. This condition is illustrated in Figure 2. Misalignment is based on the nominal shaft/housing diameter that the retaining ring is designed for. Acceptable limits are shown in Table VI.

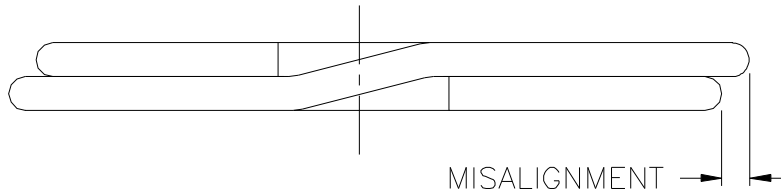


FIGURE 2

TABLE VI

NOMINAL HOUSING/SHAFT DIA.	MAX. MISALIGNMENT
.50" - 1.00"	.015"
1.01" - 2.00"	.025"
2.01" - 6.00"	.045"
6.01" - 10.00"	.070"
10.01" - 15.00"	.100"

3.5 Performance. Retaining rings shall pass the performance test of 4.2.4.2.

3.6 Workmanship. Workmanship shall be of a quality which will insure compliance with all the requirements of this specification. Each retaining ring shall be free from hanging burrs and slivers, gouges, porosity, cracks, objectionable scale, or any other defects which may adversely affect the rings serviceability.

4. VERIFICATION

4.1 Classification of inspections. The inspection requirements specified herein are classified as follows:

a. Conformance inspection. (See 4.2).

4.2 Conformance inspection. Conformance inspection shall include the examination of 4.2.1 and 4.2.2.

4.2.1 Lot. A lot shall consist of all items of the same type, size, material, and finish manufactured under essentially the same conditions.

4.2.2 Examination. Sample retaining rings shall be selected from each lot in accordance with Table VII, C=0 sampling plan or ANSI/ASQC Z1.4, for examination in accordance with 4.2.3.1 and 4.2.3.2

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4.2.3.1 Retaining rings. Sample retaining rings shall be visually and dimensionally examined to verify compliance with the requirements of sections 3.4 and 3.6 of this specification. The rings shall be accepted or rejected in accordance with the requirements of the C=0 Sample Plan (shown in Table VII) using an AQL level as specified in Table VIII or ANSI/ASQC Z1.4.

4.2.3.2 Packaging inspection. The preservation, packing and marking shall be inspected to verify conformance to the requirements of section 5.

4.2.4 Tests. A sample shall be selected from each lot and tested in accordance to the requirements below. Acceptance will be a pass/fail criteria.

TABLE VII. C=0 SAMPLING PLAN

ASSOCIATED AQL	.010	.015	.025	.040	.065	.10	.15	.25	.40	.65	1.0	1.5	2.5	4.0	6.5	10.0
LOT SIZE	SAMPLE SIZE															
2 TO 8	*	*	*	*	*	*	*	*	*	*	*	*	5	3	2	2
9 TO 15	*	*	*	*	*	*	*	*	*	*	13	8	5	3	2	2
16 TO 25	*	*	*	*	*	*	*	*	*	20	13	8	5	3	2	2
26 TO 50	*	*	*	*	*	*	*	*	32	20	13	8	5	5	3	3
51 TO 90	*	*	*	*	*	*	80	50	32	20	13	8	7	6	5	4
91 TO 150	*	*	*	*	*	125	80	50	32	20	13	12	11	7	5	5
151 TO 280	*	*	*	*	200	125	80	50	32	20	20	19	13	10	6	6
281 TO 500	*	*	*	315	200	125	80	50	48	47	29	21	16	11	7	7
501 TO 1200	*	800	500	315	200	125	80	75	73	47	34	27	19	15	8	8
1201 TO 3200	1250	800	500	315	200	125	120	116	73	53	42	35	23	18	9	9
3201 TO 10,000	1250	800	500	315	200	192	189	116	86	68	50	38	29	22	11	9
10,001 TO 35,000	1250	800	500	315	300	294	189	135	108	77	60	46	35	29	13	9
35,001 TO 150,000	1250	800	500	490	476	294	218	170	123	96	74	56	40	29	15	9
150,001 TO 500,000	1250	800	750	715	476	345	270	200	156	119	90	64	40	29	15	9
500,001 AND OVER	1250	1200	1112	715	556	435	303	244	189	143	102	64	40	29	15	9

*Indicates entire lot must be inspected.

NOTE: The Acceptance Number in all cases is ZERO.

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Table VIII. C=0 Sampling Plan AQL Levels

Key Characteristics	AQL Levels
Diameter	Cpk 1.67 and above: 1.0 Cpk 1.66 to 1.00: .25 Cpk less than 1.00: 100% inspection
Major Characteristics	
Thickness	4.0
Radial Wall	4.0
Burr	4.0
Dish	4.0
Misalignment	4.0
Crimp	4.0
Minor Characteristics	
Notch Radius	10.0*
	*Controlled by the tooling used.

4.2.4.1 Hardness test. Prior to forming the ring, a sample of each lot of raw material to be used in the retaining rings shall be tested for conformance to the hardness requirements specified in 3.2. The samples shall be tested for hardness using the Test Method ASTM E18.

4.2.4.2 Performance. Retaining rings shall be capable of being inserted and removed from grooves conforming to the dimensions and tolerances of the grooves for which the ring was designed without showing indications of cracks, excessive permanent set or distortion or other conditions detrimental to use of the rings. Sample ring shall be inserted and removed a minimum of (5) times from a fixture with a groove diameter conforming to the dimension and tolerance for which the ring was designed. Upon completion of the test, the ring shall be visually and dimensionally checked. Any indications of cracks or distortion shall be cause for rejection. The amount of permanent set acceptable for the ring shall be determined from the following formulas shown below. Rings not meeting the minimum requirements for interference fits between ring and groove shall be rejected.

$$H^3 \geq 0.003(\bar{A}C)$$

Where:

FOR EXTERNAL RINGS: $H = \bar{A}C - \bar{A}G$

H = Minimum interference fit between ring and groove after performance test.

$\bar{A}G$ = Maximum I. D. of ring as measured after performance test.

$\bar{A}C$ = Minimum groove diameter, external ring.

FOR INTERNAL RINGS: $H = \bar{A}G - \bar{A}C$

H = Minimum interference fit between ring and groove after performance test.

$\bar{A}G$ = Minimum O.D. of ring as measured after performance test.

$\bar{A}C$ = Maximum groove diameter, internal ring.

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4.2.4.3 Protective finish. When retaining rings are furnished with a plating or coating (see 3.3), the thickness of the plating or coating shall be determined in accordance with the applicable plating or coating specification.

5. PACKAGING

5.1 Packaging. For acquisition purposes, the packaging requirements shall be as specified in the contract or order (see 6.2). When actual packaging of material is to be performed by DoD personnel, these personnel need to contact the responsible packaging activity to ascertain requisite packaging requirements. Packaging requirements are maintained by the Inventory Control Point's packaging activity within the Military Department of Defense Agency, or within the Military Department's System Command. Packaging data retrievals available from the managing Military department's of Defense Agency's automated packaging files, CD-ROM products or by contacting the responsible packaging activity.

6. NOTES

6.1 Intended use. Retaining rings covered by this specification are intended for internal and external retaining applications, such as positioning and retaining bearings and springs in housings and on shafts, and for retaining shafts in housings.

6.2 Acquisition requirements. Acquisition documents must specify the following:

- a. Title, number and date of this inspection.
- b. Type, material, and size of rings (see 1.2.3.1 and 3.4).
- c. Issue of DoDISS to be cited in the solicitation, and if required, the specific issue of individual documents referenced (see 2.1 and 2.2).
- d. Protective finish required (see 3.3).
- e. Levels of preservation and packaging required (see 5.1).

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6.3 DESIGN INFORMATION

a. Definitions:

- 1) A = Shaft or housing diameter (in)
- 2) C = Groove diameter (in)
- 3) C₁ = Percent change of ring diameter from free state to installed state/100.
- 4) D = Groove width (in)
- 5) D_g = Permanent groove deformation (in)
- 6) D_n = Free neutral ring diameter (in)
- 7) D₁ = Depth of groove (in)
- 8) E = Ring radial wall (in)
- 9) F = Ring thickness (in)
- 10) G = Ring free O. D. or I. D. (in)
- 11) I = Moment of inertia T₁E³/12 (in⁴)
- 12) K = Factor of safety (K=2 based on groove yield, K=3 based on ring shear)
- 13) L = Number of turns of ring
- 14) M = Modulus of elasticity (psi)
- 15) N = Speed (rpm)
- 16) P_s = Allowable thrust load based on shear strength of material (lbs)
- 17) P_t = Thrust load (lbs)
- 18) R_g = Groove radius (in)
- 19) R_i = Free inside ring radius (in)
- 20) R_n = D_n/2 = Free neutral ring radius (in)
- 21) R_o = Free outside ring radius (in)
- 22) S = Installation stress (psi)
- 23) S_c = Shear strength of groove material (psi)
- 24) S_s = Shear strength of ring material (psi)
- 25) S_y = Compressive yield strength of groove material (psi)
- 26) T₁ = Material thickness (in)
- 27) Y = Distance of groove from end of shaft or housing (in)
- 28) S = Allowable working stress (psi)
- 29) f̂ = Allowable angle of deflection (deg)
- 30) t₁ = .019 (Frequency factor for 1st harmonic)
- 31) t₂ = .032 (Frequency factor for 2nd harmonic)
- 32) Ḡ = Specific weight of material (lbs/in³)

b. Allowable thrust load capacity of the rings can be found with the equation shown below. The value determined by this equation is valid under the following conditions: 1) square corners at retained part and groove, 2) minimum clearance between retained part and shaft/housing, 3) static loading conditions.

Allowable thrust based on shear strength of ring material, lbs.

$$P_s = \frac{A F S_s}{K} P$$

Shaft or housing diameter, in.
Ring thickness, in.
Shear strength, psi

Factor of Safety

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c. Axial deflection. The maximum stress on a ring, which is subjected to a uniform twisting moment, is a tensile stress that occurs at the inner corner of the ring. This stress makes the ring have a tendency to grow in diameter and become dished. This moment is caused when the compressive yield strength of the groove material is exceeded as illustrated in Figure 2.

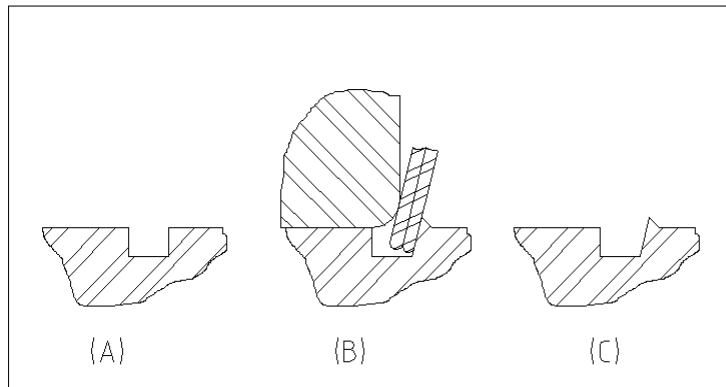


FIGURE 2. Axial deflection.

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To calculate allowable deflection of the ring the equations are:

For Internal Rings

$$f = 114.6 Rg \left[S + \frac{C_1 M E}{(1-C_1) D_n} \right]$$

Ring deflection, degrees
 Mean groove radius, in.
 Allowable working stress, psi
 Ring cling to groove bottom
 Ring modulus of elasticity, psi
 Ring radial wall, in.
 Number of turns of ring (L)
 Mean ring material thickness, in. (M)
 Ring free neutral diameter, in. (T₁)

Min. ring free O. D., in.
 Mean groove diameter, in.

$$\text{Where } C_1 = \frac{G - C}{G}$$

$$D_n = G - E \quad Rg = \frac{C}{2}$$

(For the above equations, use the calculated value of f if f is below 18°. If f is equal to or greater than 18°, use 18°.)

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For External Rings

$$f = 114.6 Rg \left[S - \frac{\left[\frac{C_1 M E}{(1+C_1) D_n} \right]}{M T_1} \right]$$

Ring deflection, degrees

Mean groove radius, in.

Allowable working stress, psi

Ring cling to groove bottom

Ring modulus of elasticity, psi

Ring radial wall, in.

Mean ring material thickness, in.

Ring free neutral diameter, in.

$$C_1 = \frac{C - G}{G}$$

Mean groove dia., in.

Max. ring free I. D. in.

$$D_n = G + E \text{ and } Rg = \frac{C}{2}$$

(For the above equations, use the calculated value of f if f is below 18° . If f is equal to or greater than 18° , use 18° .)

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d. The thrust load, based on groove yield, can be found with the following equation:

$$P_t = \frac{A \cdot S_y \cdot D_1 \cdot \tan f}{(0.073)K}$$

Thrust load, lbs. P_t

Shaft or housing diameter, D_1

Mean depth of groove, in. A

Yield strength of groove material, psi S_y

Factor of safety K

Allowable angle of deflection, deg. f

This equation is valid only if the load is applied through a retained part which applies the load very close to the shaft or bore diameter and where the load is of a static nature.

e. Minimum distance between outer groove wall and end of shaft should be three times the groove depth at a minimum.

$$(Y > 3D_1)$$

f. Centrifugal capacity: Proper functioning of an external retaining ring depends upon the ring remaining seated on the groove bottom. Centrifugal loading can overcome cling of the ring. To calculate allowable steady state speed of the retaining ring the equation is:

$$N = \left[\frac{0.466 \cdot C_1 \cdot E^3 \cdot X \cdot 10^{12}}{R_n^3 \cdot (1+C_1) \cdot (R_o^3 - R_i^3)} \right]^{1/2}$$

Speed, rpm N

Min ring cling to groove bottom C_1

Ring radial wall, in. X

Free neutral ring radius, in. R_n

Free outside ring radius, in. R_o

Free inside ring radius, in. R_i

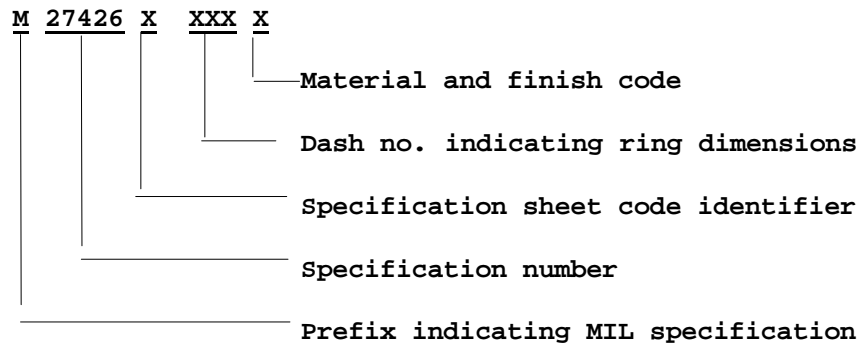
Elastic modulus, psi E

g. Rotation between parts: When a spiral ring retains a rotating part, rotation will be limited to one direction only and to applications involving light thrust loads. The ring is to be wound in the direction of rotation of the rotating part, in the case of external rings, or against the direction of rotation for internal rings, failure to follow these criteria could cause the ring to wind out of its groove.

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6.4 Part or identifying number. Procurement documents for ordering retaining rings will use the following part numbering technique for identification and ordering. Codes for variable characteristics are as specified below.

<u>Designation</u>	<u>Code</u>	<u>Item Requirement</u>	<u>Specification Sheet</u>	<u>Old Item Designation</u>
	1	Type 2A01	MIL-DTL-27426/1	Type A Class 1
	2	Type 2A02	MIL-DTL-27426/2	Type A Class 2
	3	Type 2B01	MIL-DTL-27426/3	Type B Class 1
	4	Type 2B02	MIL-DTL-27426/4	Type B Class 2
Material and Finish	A	Carbon steel plain		
	B	Carbon steel cadmium plated		
	C	Carbon steel phosphate coated		
	D	Corrosion resisting steel, passivated		
	E	Copper-beryllium alloy		



(Spaces inserted for purposes of illustration clarity.)

EXAMPLE: M274264102B which is: Specification sheet MIL-DTL-27426/4 (type 2B02), heavy-duty internal retaining ring, housing diameter of 0.562 inch, carbon steel, cadmium plated.

6.5 Subject term (key word) listing.

Fasteners
 Steel, carbon
 Steel, corrosion resistant
 Copper-beryllium alloy
 Shafts
 Housings

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Custodians:

Army - AR

Navy - OS

Air Force - 99

Review activities:

Army - AV, MI

Air Force - 11, 82

Preparing activity:

DLA-IS

(Project 5325-0433)