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REV.
B

AS81819™/1

FEDERAL SUPPLY CLASS
3120

RATIONALE

FIVE-YEAR REVIEW. CHANGES INCLUDE UPDATED CADMIUM PLATE NOTICE, CORRECTED RADIAL STATIC LIMIT LOAD RATING, CORRECTED H DIMENSION TOLERANCE, UPDATED PLATING OPTIONS, AND CLARIFIED LOAD RATING EQUATIONS.

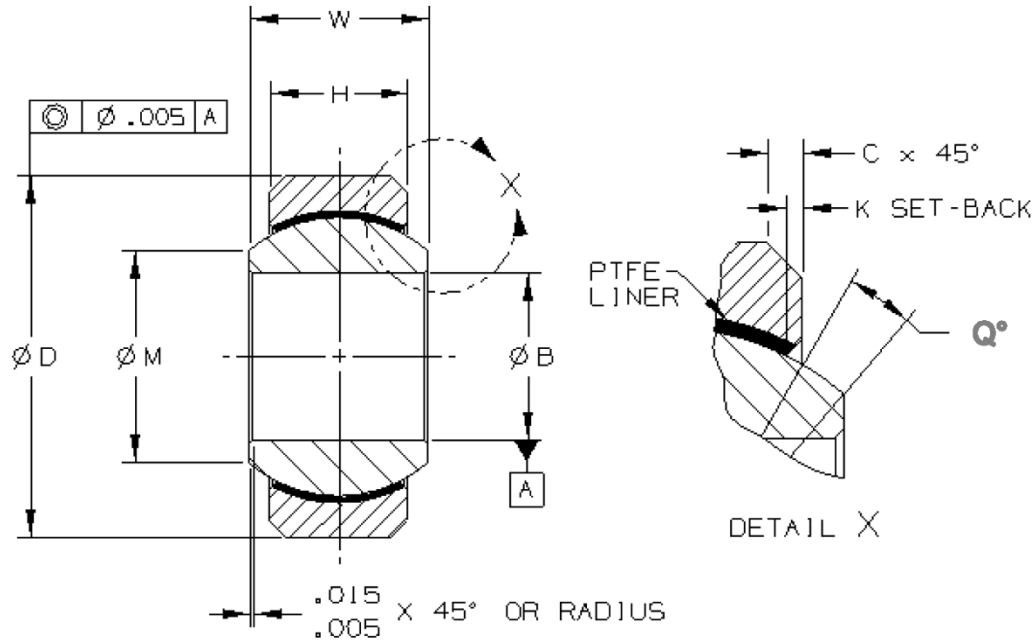
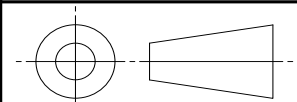


FIGURE 1 - CROSS-SECTION OF AS81819 BEARING

For more information on this standard, visit
<https://www.sae.org/standards/content/AS81819/1B/>

THIRD ANGLE PROJECTION



CUSTODIAN: ACBG

PROCUREMENT SPECIFICATION: AS81819



AEROSPACE STANDARD
BEARINGS, PLAIN, SELF-LUBRICATING
SELF-ALIGNING, HIGH SPEED OSCILLATION
-65 TO +160 °F

AS81819™/1
SHEET 1 OF 3

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TABLE 1 - DIMENSIONS AND QUALIFICATION TEST CRITERIA

DASH NO.	K MAX	C ±.005	øB +.0000 -.0005	øD +.0000 -.0005	H ±.005	øM MIN	Q° MIN	W +.000 -.002	NO-LOAD ROTATIONAL BREAKWAY TORQUE (IN-LB)	WEIGHT POUNDS (APPROX)
-2	.045	.035	1.0000	1.7500	.797	1.118	9	1.000	1-24	.386

DASH NO.	QUALIFICATION TESTS									
	STATIC LIMIT LOADS		CONSTANT LOAD OSCILLATION WEAR TEST CONDITIONS				CYCLIC LOAD OSCILLATION WEAR TEST CONDITIONS			
	RADIAL (POUNDS) 1/	AXIAL (POUNDS) 2/	TEST LOAD (POUNDS) 3/	TEST SPEED (CPM) 4/	OSCILLATION ANGLE (°)	TEST TIME (HOURS) 5/	TEST CONDITION	TEST SPEED (CPM)	OSCILLATION ANGLE (°)	TEST TIME (HOURS)
-2	72100	10200	2300	300	±10	600	I	300	±10	600
							II	300	±10	600

TEST CONDITION 6/	RELATIONSHIP BETWEEN CYCLIC LOAD AND OSCILLATION ANGLE DURING ONE TEST CYCLE									
I	0 LB	→	+2300 LB	→	0 LB	→	-2300 LB	→	0 LB	
	+10°	→	0°	→	-10°	→	0°	→	+10°	
II	+2300 LB	→	+4600 LB	→	+2300 LB	→	0 LB	→	+2300 LB	
	+10°	→	0°	→	-10°	→	0°	→	+10°	

1/ RADIAL STATIC LIMIT LOAD (LB) = $68000 \times d \times h$

WHERE d = NOMINAL BALL DIAMETER = $2 \times ((W/2)^2 + (M/2)^2)^{1/2}$

h = MINIMUM LINER WIDTH = $H_{min} - (2 \times K_{max})$

2/ AXIAL STATIC LIMIT LOAD (LB) = $\frac{26000 \times \pi \times h^2}{4}$

3/ LOAD FOR CONSTANT OSCILLATION WEAR TEST SHALL BE APPLIED WITH LOAD LINK IN COMPRESSION USING HOUSING DESIGN SPECIFIED IN AS81819.

4/ ONE CYCLE SHALL CONSIST OF ROTATION FROM ZERO TO +10°, RETURN TO ZERO TO -10° AND RETURN TO ZERO.

5/ EXCEPT FLUID CONTAMINATION TESTS, WHICH ARE 200 HOURS TEST TIME.

6/ CYCLIC LOAD TESTS SHALL BE CONDUCTED SO THAT THE MAXIMUM LOAD AND MAXIMUM BALL SURFACE SPEED OCCUR AT THE SAME TIME.

NOTES:

NOTICE

THIS DOCUMENT REFERENCES A PART WHICH CONTAINS CADMIUM AS A PLATING MATERIAL. CONSULT LOCAL OFFICIALS IF YOU HAVE QUESTIONS CONCERNING CADMIUM USE.

CADMIUM IS CARCINOGENIC TO HUMANS (INTERNATIONAL AGENCY FOR RESEARCH ON CANCER (IARC), GROUP 1) AND IS HAZARDOUS TO ECOSYSTEMS AND HUMAN HEALTH. SUGGEST USE OF ALTERNATIVE MATERIALS, WHEN POSSIBLE.

	AEROSPACE STANDARD	AS81819™/1 SHEET 2 OF 3	REV. B
	BEARINGS, PLAIN, SELF-LUBRICATING SELF-ALIGNING, HIGH SPEED OSCILLATION -65 TO +160 °F		



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