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AS27649™/1

FEDERAL SUPPLY CLASS
3110

RATIONALE

THIS STANDARD DEFINES A CORROSION RESISTANT NITROGEN STEEL (CREN) VERSION OF THE AS27649 INTERMEDIATE DUTY AIRFRAME BALL BEARING SERIES.

NOTICE

THE COMPLETE REQUIREMENTS FOR PROCURING THE PRODUCT DESCRIBED HEREIN SHALL CONSIST OF THIS DOCUMENT AND THE LATEST ISSUE OF AS7949.

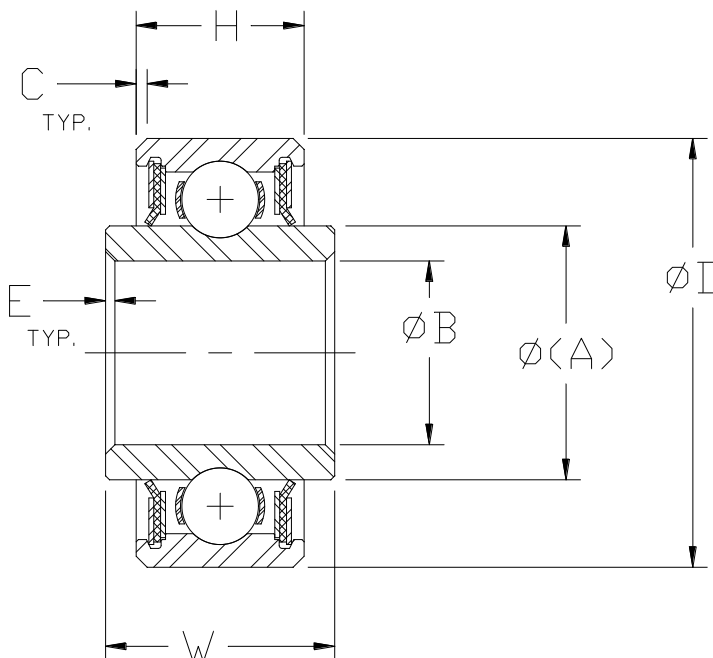
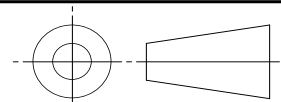


FIGURE 1 - PART CONFIGURATION

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THIRD ANGLE PROJECTION



CUSTODIAN: ACBG

PROCUREMENT SPECIFICATION: AS7949



AEROSPACE STANDARD

BEARING, BALL, AIRFRAME,
ANTIFRICTION, INTERMEDIATE DUTY
CORROSION RESISTANT NITROGEN STEEL (CREN)

AS27649™/1
SHEET 1 OF 3

Documents

ISSUED 2017-02

TABLE 1 - DIMENSIONS AND LOADS

AS DASH NO.	1/ ØB BORE +.0000 -.0005	1/ ØD OUTSIDE DIAMETER +.0000 -.0005	W WIDTH INNER RING +.0000 -.0025	H WIDTH OUTER RING +.000 -.005	(øA) SHOULDER DIAMETER INNER RING (APPROX)	E 3/	C 2/	RADIAL LIMIT LOAD RATING POUND	THRUST LIMIT LOAD RATING POUND	4/ RADIAL LOAD RATING (POUND) FOR AVERAGE LIFE OF 10000 COMPLETE 90° CYCLES		WEIGHT POUNDS (APPROX)	6/ MAXIMUM STARTING TORQUE
						CORNER CHAMFER X 45°				CASE I	CASE II		
						INNER RING BORE +.015 -.000	OUTER RING OD +.015 -.000						
-3	.1900	.6250	.4060	.312	.317	.005	.016	450	210	440	440	.018	
-4	.2500	.7500	.4380	.312	.415	.005	.016	525	250	510	510	.028	
-5	.3125	.8125	.4690	.344	.462	.015	.016	820	380	800	800	.033	
-6	.3750	.8750	.4690	.344	.520	.015	.016	820	380	800	800	.034	
-8	.5000	1.1250	.5620	.438	.681	.015	.016	1350	630	1310	1310	.075	
-10	.6250	1.3750	.5940	.469	.848	.015	.032	1840	860	1790	1790	.119	
-12	.7500	1.6250	.6560	.531	1.052	.015	.032	2400	1120	2340	2340	.189	
-16	1.0000	2.0000	.6880	.562	1.334	.015	.032	3000	1400	2920	2920	.296	
-20	1.2500	2.2500	.6880	.562	1.615	.015	.032	3600	1680	3500	3270	.355	

1/ OUT-OF-ROUND TOLERANCES: BORE: +.0002, -.0007; OUTER DIAMETER: +.0005, -.0010.

2/ A RADIUS GIVING APPROXIMATELY THE SAME GRIP FOR STAKING THE BEARING IN THE HOUSING WILL BE ACCEPTABLE.

3/ A RADIUS GIVING APPROXIMATELY THE SAME FILLET CLEARANCE WILL BE ACCEPTABLE.

4/ CASE I - LOAD FIXED WITH RESPECT TO OUTER RING.

CASE II - LOAD FIXED WITH RESPECT TO INNER RING.

5/ THESE RATINGS ARE FOR OPERATION UP TO 250 °F. FOR OPERATION UP TO 350 °F, THE RATINGS SHALL BE REDUCED BY 20%.

6/ SPECIFIED LIMITS ARE FOR BEARINGS LUBRICATED WITH MIL-PRF-81322 GREASE. FOR BEARINGS LUBRICATED WITH MIL-PRF-23827 TYPE I GREASE, THE TORQUE LIMIT SHALL BE THE SPECIFIED VALUE IN THE TABLE MULTIPLIED BY 1.2.

REQUIREMENTS

1. MATERIAL:

RINGS: CORROSION RESISTANT NITROGEN STEEL (CREN) PER AMS5898, AMS5925, OR AISI 422 STEEL PER AMS5655.

BALLS: NO SUFFIX CODE: CORROSION RESISTANT NITROGEN STEEL (CREN) PER AMS5898 OR AMS5925.

SUFFIX CODE "T": CORROSION RESISTANT STEEL (CRES) PER AMS5880 OR AMS5618.

CRES BALLS SHALL BE PASSIVATED IN ACCORDANCE WITH AMS2700, METHOD 1 (NITRIC ACID) OR METHOD 2 (CITRIC ACID), OR ASTM A967/A967M, CITRIC I, II, OR III.

AMS2700 METHOD 1, TYPE 8 SHALL NOT BE USED.

BALL RETAINER/CAGE: ANY CORROSION RESISTANT STEEL.

SEALS: POLYTETRAFLUOROETHYLENE (PTFE) PER AMS3652 .

SEAL RETAINERS: ANY CORROSION RESISTANT STEEL.

2. HARDNESS:

RINGS: STEEL PER AMS5898 AND AMS5925 THROUGH HARDEN TO 58 HRC MINIMUM.

STEEL PER AMS5655: RING WALL THICKNESS .090 OR LESS: CASE HARDEN 58 HRC MINIMUM AT A CASE DEPTH OF 1/3 WALL THICKNESS.

RING WALL THICKNESS GREATER THAN .090: CASE HARDEN 58 HRC MINIMUM AT A CASE DEPTH OF .030.

BALLS: 58 HRC MINIMUM.

3. STABILITY:

RINGS AND BALLS SHALL BE STABILIZED FOR OPERATION UP TO 250 °F.

	AEROSPACE STANDARD	AS27649™/1 SHEET 2 OF 3	
	BEARING, BALL, AIRFRAME, ANTIFRICTION, INTERMEDIATE DUTY CORROSION RESISTANT NITROGEN STEEL (CREN)		



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