

THE REQUIREMENTS FOR ACQUIRING THE PRODUCT(S) DESCRIBED HEREIN SHALL CONSIST OF THIS SPECIFICATION SHEET AND THE ISSUE OF THE FOLLOWING SPECIFICATION LISTED IN THAT ISSUE OF THE DODDS SPECIFIED IN THE SOLICITATION: MIL-N-25027

THIS SPECIFICATION IS APPROVED FOR USE BY ALL DEPARTMENTS AND AGENCIES OF THE DEPARTMENT OF DEFENSE.

Form Approved
OMB No. 0704-0188

1. APPLICATION AND DESIGN SELECTION: THESE A.R.E. (ATTACHED RETENTION ELEMENT) NUT ASSEMBLIES SHALL BE SELECTED AND USED IN ACCORDANCE WITH MS33588.
2. MILITARY INSTALLATION AND TOOLS: NONE
3. REPLACEMENT NUT ELEMENT: MS14213
4. GENERAL REQUIREMENTS:
 - 4.1 PERFORMANCE PER MIL-N-25027.
 - 4.1.1 INSTALLATION HOLES SHALL BE PER TABLE II, PANEL GRIP THICKNESS PER TABLE III.
 - 4.2 MATERIAL:
 - 4.2.1 NUT ELEMENT: CRES A-286 PER AMS 5525.
 - 4.2.2 SLEEVE: CRES AISI 304 PER AMS 5639 OR AISI 305 PER AMS 5514.
 - 4.2.3 CAGE: CRES 17-7PH PER AMS 5528.
 - 4.3 HEAT TREAT
 - 4.3.1 NUT ELEMENT: 160 KSI MIN
 - 4.3.2 CAGE: 180 KSI MIN
 - 4.4 FINISH:
 - 4.4.1 NUT, SLEEVE AND CAGE SHALL BE PASSVATED PER QQ-P-35.
 - 4.5 LUBRICANT:
 - 4.5.1 NUT ELEMENT SHALL BE DRY FILM LUBRICATED PER MIL-L-8937.
 - 4.6 SURFACE TEXTURE:
 - 4.6.1 SURFACE TEXTURE IN ACCORDANCE WITH ANSI B46.1. UNLESS OTHERWISE SPECIFIED, THE SURFACE ROUGHNESS SHALL NOT EXCEED 125 MICRO INCHES.
 - 4.7 NUT FLOAT:
 - 4.7.1 MINIMUM RADIAL FLOAT 0.020-INCH. THE NUT ELEMENT SHALL BE CAPABLE OF ENGAGEMENT WITH BOLT IN MAXIMUM MAXIMUM MISALIGNED POSITION.
 - 4.8 NUT REPLACEABILITY:
 - 4.8.1 NUT ELEMENT SHALL BE REMOVABLE FROM THE BASKET WITH THE PROPER REMOVAL TOOL AND A NEW NUT ELEMENT PER MS14213(AS) SHALL BE CAPABLE OF BEING SNAPPED IN PLACE IN THE CAGE.
 - 4.8.2 CAGE REUSABILITY: CAGE SHALL BE CAPABLE OF BEING REUSED A MINIMUM OF 5 TIMES FOR THE REPLACEMENT OF THE MS14213(AS) NUT ELEMENT; THE NUT SHALL THEN MEET THE TORQUE OUT AND PUSH OUT VALUES OF MIL-N-25027.
 - 4.9 WORKMANSHIP:
 - 4.9.1 BREAK ALL SHARP EDGES AND REMOVE ALL BURRS AND SLIVERS.
 - 4.9.2 DIMENSIONS ARE IN INCHES.
 - 4.9.3 TOLERANCES: DECIMALS ± 0.010 , ANGLES $\pm 5^\circ$ UNLESS OTHERWISE SPECIFIED.
 - 4.10 INSTALLATION:
 - 4.10.1 WHEN INSTALLED INTO PROPERLY PREPARED HOLES USING PROPER TOOLING, THE SLEEVE SHALL BE CAPABLE OF FLARING SMOOTHLY WITH NO VISUAL EVIDENCE OF CRACKING OR SPLITTING.
 - 4.10.2 FOR INSTALLATION ON MATERIALS HARDER THAN R693 (SUCH AS CORROSION RESISTANT STEEL OR NICKEL ALLOYS). THE INSTALLATION HOLE SHALL BE PREBROACHED WITH THE APPROPRIATE LOBE PATTERN.

(A) DENOTES CHANGE(S)

INCH-POUND

PREPARING ACTIVITY: DLA-IS

CUSTODIANS: ARMY- (A) NAVY- AS
AIR FORCE- DLA-

REVIEW:
USER:

PROJECT NUMBER: 5310-1942

DISTRIBUTION STATEMENT

MILITARY SPECIFICATION SHEET

TITLE

NUT, FLOATING, SELF LOCKING, ATTACHED
RETENTION ELEMENT (A. R. E), 450°F, CRES
(A-286), 125 KSI Ftu, REPLACEABLE NUT
ELEMENT.

SPECIFICATION SHEET NUMBER

MS14210 1 DEC 93
REV A

SUPERSEDING

MS14210(AS) 13 MAR 84

AMSC- N/A

FSC 5310

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DD Form 672, MAY 88

PREVIOUS EDITIONS ARE OBSOLETE

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MANUFACTURER'S IDENTIFICATION MARK ON CAGE AND NUT ELEMENT (LOCATION OPTIONAL ON EACH)

SHAPE OF LOCKING PORTION OPTIONAL

NUT ELEMENT
MS14213 (AS)

CAGE

ANTI-ROTATION LOBES

SLEEVE

6. TABLE I

SIZE DASH NO. (a)	THREAD SIZE MIL-S-8879	A MAX.	B ± .010	ØC MIN.	ØF MIN.	A ØE		ØD MAX.	G ± .010	H MAX.	J ± .010	K REF. (b)	M MAX.	V +.010 -.010	AXIAL STRENGTH LB. MIN.
						MIN.	MAX.								
04	.1120-40 UNJC-3B	.310	.318	.182	.116	.228	.234	.217	.155	.214	.064	.062	.435	.020	750
06	.1380-32 UNJC-3B	.310	.318	.182	.142	.228	.234	.217	.155	.214	.064	.062	.435	.020	1130
08	.1640-32 UNJC-3B	.405	.425	.235	.168	.296	.304	.270	.187	.270	.075	.068	.587	.025	1720
3	.1900-32 UNJF-3B	.405	.425	.235	.194	.296	.304	.270	.187	.270	.075	.068	.587	.025	2460
4	.2500-28 UNJF-3B	.465	.496	.300	.254	.363	.369	.335	.198	.325	.083	.089	.665	.035	4580

(a) ASSEMBLY DASH NUMBER IS THE SAME AS THE NUT ELEMENT SIZE DASH NUMBER.

(b) K IS THE THREAD RELIEF, SLEEVE FLANGE AND CAGE THICKNESS.

PREPARING ACTMITY: DLA-IS CUSTODIANS: ARMY- AIR FORCE- REVIEW: USER: PROJECT NUMBER: 5310-1942 DISTRIBUTION STATEMENT	MILITARY SPECIFICATION SHEET TITLE NUT, FLOATING, SELF LOCKING, ATTACHED RETENTION ELEMENT (A. R. E), 450°F, CRES (A-286), 125 KSI F _{tu} , REPLACEABLE NUT ELEMENT.	SPECIFICATION SHEET NUMBER MS14210 1 DEC 93 REV A SUPERSEDING MS14210(AS) 13 MAR 84 AMSC- N/A FSC 5310
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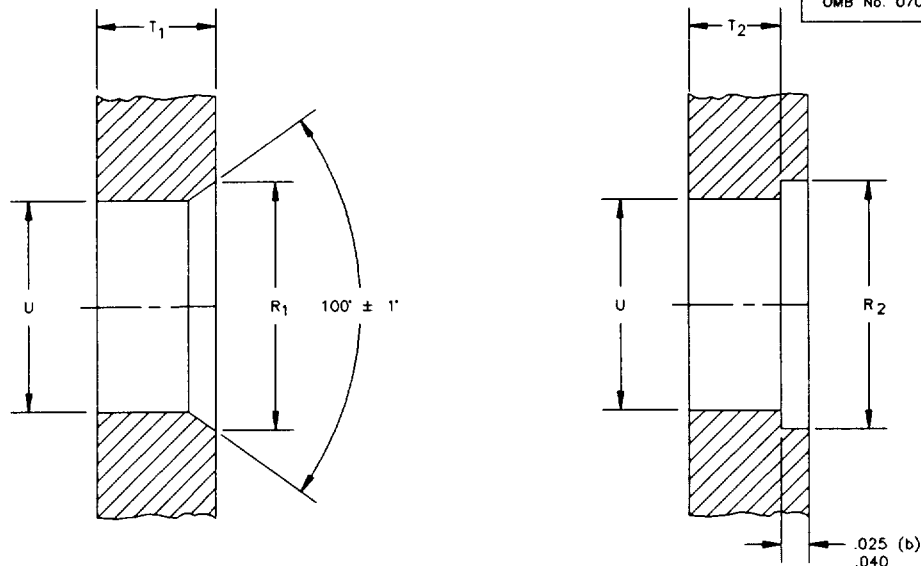
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SIZE DASH NO.	(a) INSTALLATION HOLE LIMITS		R ₁ +.005	R ₁ +.005 (-2 grip only)	R ₂ +.020 -.005	Weight lb/100
	U					
	MAX	MIN				
L04	.222	.217	.307	.275	.312	.131
L06	.227	.217	.307	.275	.312	.140
L08	.285	.280	.370	.343	.375	.365
L3(c)	.285	.280	.370	.343	.375	.370
L4(c)	.352	.347	.437	N/A	.515	.682

B. TABLE III

GRIP DASH NO.	T ₁ GRIP THICKNESS (COUNTERSINK)	T ₂ GRIP THICKNESS (COUNTERBORE)	L LENGTH
2 (c)	.055 - .073 (c)	N/A	.073
4	.074 - .106	.031 - .062 (c)	.099
6	.107 - .133	.063 - .094	.130
8	.134 - .165	.095 - .125	.161
10	.166 - .196	.126 - .156	.192
12	.197 - .227	.157 - .187	.223
14	.228 - .258	.188 - .218	.254
16	.259 - .289	.219 - .250	.285
18	.290 - .320	.251 - .281	.316
20	.321 - .351	.282 - .312	.347
22	.352 - .382	.313 - .343	.378
24	.383 - .413	.344 - .374	.409
26	.414 - .444	.375 - .405	.440
28	.445 - .475	.406 - .436	.471
30	.476 - .506	.437 - .467	.502

- (a) INSTALLATION MAXIMUM AND MINIMUM HOLE LIMITS CAN BE REDUCED BY 0.009-INCH FOR SIZE DASH NOS. 08, 3 AND 4 WHEN INSTALLING IN SOFT MATERIALS, INCLUDING ALUMINUM ALLOYS WITH HARDNESS NOT EXCEEDING BHN 110 OR ROCKWELL B70.
- (b) COUNTERBORE IS OPTIONAL: TO BE USED IN APPLICATIONS REQUIRING SURFACE FLUSHNESS. FOR THE MINIMUM GRIP THICKNESS OF EACH GRIP DASH NO., COUNTERBORE CAN BE INCREASED TO 0.030 TO ENSURE ROLLOVER FLUSHNESS.
- (c) NUT OF SIZE DASH NO. 4 SHALL NOT BE INSTALLED IN A PANEL OF GRIP THICKNESS LESS THAN 0.060-INCH. NUTS OF SIZE DASH NO.3 CAN BE INSTALLED IN GRIP THICKNESSES LESS THAN 0.060 PROVIDED THAT THE INSTALLATION HOLE LIMITS ARE 0.276-0.281
- (d) TO OBTAIN WEIGHTS FOR DIFFERENT GRIP DASH NOS., ADD INCREMENTS OF 0.010-LB FOR SIZES 04 AND 06 AND 0.020-LB FOR SIZES 08, 3 AND 4.

PREPARING ACTMITY: DLA-IS

CUSTODIANS: ARMY-
AIR FORCE-
NAVY- AS
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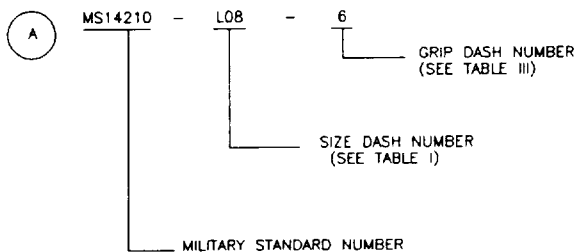
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9. PART NUMBER EXAMPLE:



10. ADMINISTRATIVE AND CONTRACTUAL PROVISION:

- 10.1 FOR DESIGN FEATURE PURPOSES, THIS STANDARD TAKES PRECEDENCE OVER PROCUREMENT DOCUMENTS REFERENCED HEREIN.
- 10.2 REFERENCED DOCUMENTS SHALL BE OF THE ISSUE IN EFFECT ON DATE OF INVITATION FOR BIDS, OR REQUEST FOR PROPOSAL, EXCEPT THAT REFERENCED ADOPTED INDUSTRY DOCUMENTS SHALL GIVE THE DATE OF THE ISSUE ADOPTED.
- 10.3 THE A.R.E NUTS WITHOUT MANUFACTURER'S IDENTIFICATION MAY BE FURNISHED FROM MANUFACTURER'S STOCK UNTIL 31 DECEMBER 1985
- 10.4 THE A.R.E NUT ASSEMBLIES IDENTIFIED HEREIN ARE PROPRIETARY PRODUCTS OF DEUTSCH FASTENER CORPORATION AND ARE COVERED BY THE FOLLOWING PATENTS: U.S. 3,695,324 (EXPIRING OCTOBER 3, 1989); GERMANY 22 17 490 (EXPIRING MARCH 31, 1992). THE GOVERNMENT DOES NOT HAVE A ROYALTY FREE LICENSE.

PREPARING ACTIVITY: DLA-IS

CUSTODIANS: ARMY- (A) NAVY- AS
AIR FORCE- (A) DLA-

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