

**REQUIREMENTS:**

**1. MATERIAL:**

- BAND** - ALUMINUM ALLOY, 2024-0 HEAT TREATED TO T42 CONDITION IN ACCORDANCE WITH MIL-H-6088. CORROSION RESISTANT STEEL, TYPE 302 IN ACCORDANCE WITH MIL-S-5059 OR TYPE 321 IN ACCORDANCE WITH AMS 5510-78.
- CUSHION** - CHLOROPRENE RUBBER, 65-75 DUROMETER "A" IN ACCORDANCE WITH AMS 3209-81 AND PROCUREMENT SPECIFICATION, 1.6 mm THICK.  
 SILICONE RUBBER, 55-65 DUROMETER "A", IN ACCORDANCE WITH AMS 3303-75, 1.6 mm THICK.  
 POLYTETRAFLUOROETHYLENE (PTFE) IN ACCORDANCE WITH ASTM-D1457-81, TYPE I, 0.6 mm THICK.  
 FLUOROSILICONE RUBBER IN ACCORDANCE WITH MIL-R-25988, 1.6 mm THICK.  
 NITRILE RUBBER, 65-75 DUROMETER "A" IN ACCORDANCE WITH AMS 3215-78 AND PROCUREMENT SPECIFICATION, 1.6 mm THICK.  
 ETHYLENE PROPYLENE IN ACCORDANCE WITH PROCUREMENT SPECIFICATION 1.6 mm THICK.

**2. FINISH:**

- CRES - PASSIVATE IN ACCORDANCE WITH ASTM-A380-78
- ALUMINUM ALLOY - CHEMICAL FILM PER MIL-C-5541, CLASS 1A.

**3. SURFACE TREATMENT:**

CUSHIONS FABRICATED FROM PTFE SHALL BE SODIUM TREATED IN ACCORDANCE WITH THE SURFACE TREATMENT PARAGRAPH OF AMS 2491-81 TO REDUCE THE MATERIAL'S LUBRICITY. ALL OTHER PARAGRAPHS OF AMS 2491-81 SHALL NOT APPLY.

**4. CUSHION SELECTION GUIDE:**

- CHLOROPRENE** - RECOMMENDED FOR GENERAL PURPOSES USE IN AREAS CONTAMINATED WITH PETROLEUM BASE HYDRAULIC FLUID AND OCCASIONAL FUEL SPLASH. EXCELLENT OZONE RESISTANCE. NOT RESISTANT TO PHOSPHATE ESTER BASED FLUIDS. NOT FOR USE WITH TITANIUM TUBING. COLOR SHALL BE BLACK WITH A BLUE IDENTIFIER IN ACCORDANCE WITH PROCUREMENT SPECIFICATION.
- SILICONE** - RECOMMENDED FOR USE AT ELEVATED TEMPERATURE IN PHOSPHATE ESTER BASED FLUID AND OTHER SYNTHETIC FLUID CONTAMINATED AREAS. EXCELLENT OZONE RESISTANCE. NOT RESISTANT TO PETROLEUM BASED FLUIDS. COLOR SHALL BE SOLID (PIGMENTED) WHITE.

**METRIC**

REVISED  
APPROVED 15 OCT 84

P.A. Other Cust	AS	INTERNATIONAL INTEREST	TITLE <b>CLAMP ASSEMBLY, CUSHIONED SADDLE, METRIC</b>	<b>MILITARY STANDARD</b>	
	99 AR			<b>DS14298</b>	
PROCUREMENT SPECIFICATION <b>MIL-C-8603</b>		SUPERSEDES		PAGE 1	OF 3

REVIEWER ACTIVITIES:  
 ARMY-AT, AV, GL  
 NAVY-EC, MC, YD  
 AIR FORCE-II  
 DLA-18

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USER ACTIVITIES:  
 ARMY-MI

FED. SUP CLASS  
5340

POLYTETRAFLUOROETHYLENE (PTFE) - RECOMMENDED FOR USE AT ELEVATED TEMPERATURES IN HYDROCARBON FUEL CONTAMINATED AREAS. ALSO RECOMMENDED FOR USE IN AREAS CONTAMINATED WITH PHOSPHATE TYPE HYDRAULIC FLUIDS AND OTHER SYNTHETIC LUBRICANTS. EXCELLENT OZONE RESISTANCE. COLOR SHALL BE SOLID BROWN.

FLUOROSILICONE - RECOMMENDED FOR USE AT ELEVATED TEMPERATURES IN PETROLEUM BASED FLUID CONTAMINATED AREAS. EXCELLENT OZONE RESISTANCE. NOT RESISTANT TO PHOSPHATE BASED FLUIDS. COLOR SHALL BE SOLID BLUE.

NITRILE - RECOMMENDED FOR USE PRIMARILY IN FUEL IMMERSION AND FUEL VAPORS. GOOD OZONE RESISTANCE. NOT RESISTANT TO PHOSPHATE ESTER BASED FLUIDS. NOT FOR USE WITH TITANIUM TUBING. COLOR SHALL BE SOLID YELLOW.

ETHYLENE PROPYLENE - RECOMMENDED FOR USE IN AREAS CONTAMINATED WITH PHOSPHATE ESTER HYDRAULIC FLUID AND OTHER SYNTHETIC FLUIDS. EXCELLENT OZONE RESISTANCE. NOT RESISTANT TO PETROLEUM BASED FLUIDS. COLOR SHALL BE SOLID PURPLE.

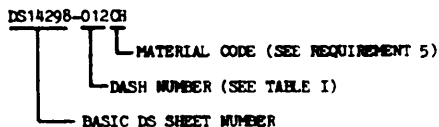
5. MATERIAL CODES:

CODES INDICATE BAND AND CUSHION MATERIALS. DO NOT SPECIFY BAND AND CUSHION COMBINATIONS NOT LISTED. MAXIMUM RECOMMENDED TEMPERATURE IS INDICATED IN PARENTHESIS.

- CE = CRCS BAND WITH ETHYLENE-PROPYLENE CUSHION (135°C)
- CF = CRCS BAND WITH NITRILE CUSHION (100°C)
- CG = CRCS BAND WITH CHLOROPRENE CUSHION (100°C)
- CH = CRCS BAND WITH SILICONE CUSHION (204°C)
- CJ = CRCS BAND WITH FLUOROSILICONE, CUSHION (232°C)
- CI = CRCS BAND WITH PTFE CUSHION (260°C)
- DE = ALUMINUM BAND WITH ETHYLENE PROPYLENE CUSHION (100°C)
- DF = ALUMINUM BAND WITH NITRILE CUSHION (100°C)
- DG = ALUMINUM BAND WITH CHLOROPRENE CUSHION (100°C)

6. PART NUMBER: THE PART NUMBER SHALL CONSIST OF THE BASIC DS SHEET NUMBER FOLLOWED BY A DASH NUMBER TAKEN FROM TABLE 1, FOLLOWED BY APPLICABLE MATERIAL CODE LETTERS.

EXAMPLE:



DS14298-012CH INDICATES CLAMP ASSEMBLY, CUSHIONED SADDLE, METRIC; RIGID TUBE NOMINAL OD 12 mm, 1.0 mm THICK CRCS BAND WITH SILICONE CUSHION (204°C).

NOTES:

1. DIMENSIONS ARE IN MILLIMETERS.
2. UNLESS OTHERWISE SPECIFIED TOLERANCE SHALL BE  $\pm 0.4$  mm. TOLERANCE ON CUSHION THICKNESS SHALL BE  $\pm 0.5$ , -0.
3. WITH CLAMP ASSEMBLED TO TUBE, NO GAP IS PERMITTED BETWEEN CUSHION AND TUBE FOR UPPER HALF OF STRAP AND CUSHIONED LENGTH OF SADDLE.
4. TOLERANCE ON THICKNESSES OF BAND MATERIAL SHALL BE AS FOLLOWS:  
CRCS - IN ACCORDANCE WITH ANSI/ASTM A109M-77.  
ALUMINUM ALLOY - IN ACCORDANCE WITH ANSI H35.2M-78.
5. METAL BANDS SHALL BE FREE OF BURRS AND SHARP EDGES.
6. EACH BAND SHALL BE PERMANENTLY AND LEGIBLY MARKED ON THE BAND WITH THE MANUFACTURER'S NAME OR TRADEMARK AND THE COMPLETE DS PART NUMBER.
7. CLAMP AND SADDLE SHALL BE JOINED BY SUITABLE MEANS, AT ONE HOLE, OR INDIVIDUALLY BAGGED IN SETS, FOR SHIPPING AND STOCKING PURPOSES.
8. THE "G" DIMENSION IS FOR THICKNESS OF SHRIM REQUIRED TO INSPECT ASSEMBLED CLAMP.
9. REFERENCED DOCUMENTS SHALL BE OF THE ISSUE IN EFFECT ON THE DATE OF INVITATIONS FOR BIDS OR REQUEST FOR PROPOSAL, EXCEPT THAT REFERENCED ADOPTED INDUSTRY DOCUMENTS SHALL GIVE THE DATE OF THE ISSUE ADOPTED.
10. FOR DESIGN FEATURE PURPOSES, THIS STANDARD TAKES PRECEDENCE OVER PROCUREMENT DOCUMENTS REFERENCED HEREIN.

REVISED

APPROVED 15 OCT 84

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	99 AR			<b>DS14298</b>
PROCUREMENT SPECIFICATION <b>MIL-C-8603</b>	SUPERSEDES		PAGE 2 OF 3	

USER ACTIVITIES:  
ARMY - NH

REVIEWER ACTIVITIES:  
ARMY - AT, AV, GL  
NAVY - EC, MC, YD  
AIR FORCE - II  
DLA - 1B

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TABLE I. DASH NUMBERS AND DIMENSIONS

DASH NO	NOMINAL TUBE SIZE OD	DIMENSIONS						
		A ±0.4	B ±1.5	C	F (RADIUS)	G (SEE NOTE 8)	N (RADIUS)	T (STOCK) (SEE NOTE 4)
014	14	37.0	12.0	5.5	9.6	.51 ±.03	2.3	1.0
016	16	39.0	↓	↓	↓		↓	↓
018	18	41.0	↓	↓	↓		↓	↓
020	20	43.0	↓	↓	↓	.76 ±.03	2.3	1.0
022	22	45.0	↓	↓	↓		↓	↓
025	25	48.0	12.0	5.5	9.6		2.7	1.3
028	28	53.8	16.0	6.4	12.7		↓	↓
032	32	57.8	↓	↓	↓		↓	↓
036	36	61.8	↓	↓	↓		↓	↓
038	38	63.8	↓	↓	↓		↓	↓
040	40	65.8	↓	↓	↓		↓	↓
045	45	70.8	↓	↓	↓		2.7	1.3
050	50	75.8	↓	↓	↓		↓	↓
056	56	81.8	↓	↓	↓	3.2	1.6	
060	60	85.8	↓	↓	↓	↓	↓	
063	63	88.8	↓	↓	↓	↓	↓	
070	70	95.8	↓	↓	↓	↓	↓	
080	80	105.8	↓	↓	↓	↓	↓	
090	90	115.8	↓	↓	↓	↓	↓	
100	100	125.8	16.0	6.4	12.7	↓	↓	

USER ACTIVITIES  
ARMY-MI

REVIEWER ACTIVITIES  
ARMY-AT, AV, GL  
NAVY-EC, MC, YD  
AIR FORCE-11  
DLA-IS

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