



FED SUP CLASS  
5935

TABLE III Separation forces

TABLE II Operating voltage.		Shell size	Straight pull (lbs) max (see note 5)	15 degree pull (lbs) max (see note 6)	Separation forces (lbs) max after cold soak	Separation forces (lbs) min
Service rating	Operating voltage (sea level)	11	15	20	150	5.5
		13	20	25	150	5.5
		15	25	30	150	12.0
M	400	17	30	35	150	12.0
	550	19	35	45	150	2.0
	1250	21	45	55	150	12.0
		23	65	65	250	12.0
		25	65	75	250	12.0

INCHES	MM	INCHES	MM	INCHES	MM	INCHES	MM	INCHES	MM
.002	.05	.483	12.27	.969	24.613	1.562	39.67	2.078	52.78
.003	.08	.5	13	1.0625	26.988	1.594	40.49	2.188	55.58
.007	.18	.5625	14.288	1.094	27.79	1.672	42.47	2.203	55.96
.012	.30	.575	14.60	1.1875	30.162	1.703	43.26	2.297	58.34
.014	.36	.594	15.09	1.219	30.96	1.766	44.86	2.328	59.13
.019	.48	.6875	17.462	1.3125	33.338	1.812	46.02	2.469	62.71
.024	.61	.719	18.26	1.344	34.138	1.843	46.81	2.594	65.89
.204	5.18	.8125	20.638	1.437	36.50	1.938	49.23	2.703	68.66
.25	6.4	.844	21.44	1.4375	36.512	1.969	50.01	6.250	158.75
		.9375	23.812	1.469	37.31	2.062	52.37		

NOTES

- Dimensions are in inches.
- For design feature purposes, this standard takes precedence over procurement documents referenced herein.
- 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.
- A point at which a gage pin, having the same basic diameter as the mating contact and a square face, touches the contact spring.
- Operating voltages are listed in table II for guidance.
- Increase values by 50 percent for arrangements having contacts size 22, 22M, and 22D

REQUIREMENTS

- Lanyard Coupling design optional.
  - .062 diameter, 7 strands of stainless steel capable of withstanding 200 pounds pull test after assembly with connector.
  - Cable shall be covered with a suitable protective sleeving to preclude possible chaffing of wires.
- Durability and separation The number of cycles of normal mating and unmating shall be 200. This shall be followed by 50 cycles of normal mating and straight pull. Following this, the connector shall be subjected to the below separation test. The pull rate shall be 5 inches/second max and each pull test shall be performed within 3 minutes of removal from the temperature chamber. Connector to be in chamber for 1 hour min. Separation values shall be within those listed in table III.

REVISED ① FOR CHANGES SEE PAGES 1, 2 & 3

APPROVED 14 Nov 72

Part AF-85	Intergovernmental interest	TITLE	MILITARY STANDARD
Other Cost Army - CR Navy - AS		CONNECTOR, PLUG, ELECTRICAL, CRIMP TYPE, LANYARD RELEASE, FAIL-SAFE, SERIES I	MS2766I
MIL-C-38999	SUPERSIDES		PAGE 2 OF 3

Review activities of Army - AR, MI Navy - EC, MC, OS Air Force - 11, 15, 99, 17 DLA - ES  
 Department and Agencies of the Department of Defense Selection for all uses concerning and design applications and for repair shall be made from this document when applicable

SEPARATION TEST

	<u>Step 1</u>	<u>Step 2</u>	<u>Step 3</u>
Straight pull	Room ambient	-65°C	Max temp. of connector
15° pull	Room ambient	-65°C	Max temp. of connector

3. Vibration (qualification only) Wired mated connectors shall meet the vibration requirements of MIL-C-38999 when subjected to the random vibration test specified in method 214 of MIL-STD-202. The following details and exceptions apply
- (a) Receptacles shall be mounted on the vibration fixture by normal means. The wire bundle shall be clamped to nonvibrating points at least 8 inches from the rear of the connector.
  - (b) Test condition II, letter E shall be used.
  - (c) All contacts shall be wired in a series circuit and 100 to 150 milliamperes of current allowed to flow through the circuit during the test.
  - (d) Duration of the test shall be 8 hours in the longitudinal axis and 8 hours in the perpendicular axis.
  - (e) An extender adapter, Bendix part no. 10-494596-xx (xx-applicable shell size) or equivalent, shall be used with M85049/49-2 strain relief. Only the M85049/49-2 strain relief needs to be used on the mating receptacle
4. Shock (qualification only): Wired, mated connectors shall meet the shock requirements of MIL-C-38999 with the following exception.
- The pulse shall be approximately half sine wave of 150 G ±15% magnitude with a duration of 3 ±1 milliseconds.
5. Connector shall disengage from any coupling condition including partially mated.
6. Connector design shall incorporate a swivel action for the lanyard to prevent twisting of the cable.
- (D) 7. Maximum separation force lanyard not operational The maximum straight pull force required to separate mated plug and receptacle connectors when lanyard is broken or not hooked up is 950 pounds.

This military standard is approved for use by all Departments and Agencies of the Department of Defense. Selection for all new engineering and design applications and for replacement shall be made from this document when applicable.

Review activities: Army - AR, MI Navy - EC, MC, OS Air Force - 11, 15, 99, 17 DLA - ES

User activities: Army Navy Air Force

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P. N. AF - 85  Other Cust Army - CR Navy - AS	International Interest	TITLE  CONNECTOR, PLUG, ELECTRICAL, CRIMP TYPE, LANYARD RELEASE, FAIL-SAFE, SERIES I	MILITARY STANDARD
			MS27661
P. N. General Specification MIL-C- 38999	SUPERSEDES		PAGE 3 OF 3