Table 2A SCREENING REQUIREMENTS FOR INSULATED WIRE

INSPECTION/TEST	TEST METHODS, CONDITIONS AND REQUIREMENTS	SAMPLE QUANTITY (NO REJECTS ALLOWED)			
		GRADE 1	GRADE 2	GRADE 3	GRADE 4
Visual 3/	Inspect for proper marking, insulation, and color per reference specification. Check workmanship for insulation cracks, splits. Use 3x magnification and high intensity lighting.	1 Foot Sample per Spool	1 Foot Sample per Spool	1 Foot Sample per Spool	
Mechanical 1/, 3/	Verify finished wire diameter per reference specification, verify proper number of wire strands and AWG of strands, verify weight as necessary. Inspect for discoloration or corrosion of the strands. Wire plating finish shall not flake off from normal flexing.	1 Foot Sample per Spool	1 Foot Sample per Spool		
Impulse Dielectric Test (Chain Electrode Spark Test)	FED-STD-228 Method 6211.1 or MIL-STD-2223 method 3002. Finished wire shall be passed through an electrode head chain electrode head which will give initimate metallic contact with the wire insulation surface. Voltage potential as specified shall be applied between the electrode and conductor. Wire lengths with failed insulation shall be removed.	Entire Length 2/	Entire Length 2/	Entire Length 2/	
Wrap Test 3/ (Extruded Insulations)	MIL-W-22759, paragraph 4.6.3.3. Wire shall be bent back on itself, and one end shall be wound tightly around the other as a mandrell for four close turns. Sample shall be baked for 2 hours at the specified temperature. After cooling, the sample shall be examined for cracked insulation.	1 Foot Sample per Spool	1 Foot Sample per Spool		
Lamination Sealing Test 3/ (Tape Sintered Insulations)	MIL-W-81381, paragraph 4.7.4.10. Sample shall be baked at the specified temperature for 48 hours. After cooling, visually examine for delamination of the insulation.	1 Foot Sample per Spool	1 Foot Sample per Spool		
DC Resistance	FED-STD-228, Method 6021. Measurements shall conform to MIL-W-22759, Table II. Wire shall be tested dry without immersion.	Each Spool	Each Spool	Each Spool	

Notes:

1/ A certificate of compliance from the manufacturer shall be delivered with the wire to certify that the proper conductor material and finish were used in the manufacture of the wire.

2/ Test is used as a 100% screening test of finished wire during final winding of the wire on spools or reels by the manufacturer. A certificate of compliance from the manufacturer that all wire delivered to the user was subjected to and passed the impulse dielectric test is sufficient to meet this requirement. Otherwise, wire shall be screened as an incoming inspection test by the user or user designated test facility.

3/ Differential scanning calorimetry per ASTM-E794 may be performed in lieu of wrap back test for Teflon insulated wire.

Table 2B SCREENING REQUIREMENTS FOR COATED MAGNET WIRE

INSPECTION/TEST	TEST METHODS, CONDITIONS AND REQUIREMENTS	SAMPLE QUANTITY (NO REJECTS ALLOWED)			
		GRADE 1	GRADE 2	GRADE 3	GRADE 4
Visual	Inspect coating for workmanship. Coating shall be complete without porosity, blisters, wrinkles or runs. No portion of the conductor shall be exposed.	1 Foot Sample per Spool	1 Foot Sample per Spool	1 Foot Sample per Spool	
Mechanical 1/	Verify finish wire dimensions per reference specification.	1 Foot Sample per Spool	1 Foot Sample per Spool	1 Foot Sample per Spool	
Adherence and Flexibility 2/	a. Clamp 10 inches apart, elongate and examine for insulation separation as specified. 3/ b. Wind around mandrel and examined for cracks as specified. For wire smaller than AWG 30, a 1/64 inch drill bit may be substituted. 3/	1 Foot Sample per Spool	1 Foot Sample per Spool		
Heat Shock 2/	Bake at maximum rated temperature for 30 minutes. Examine for cracks at specified magnification. 3/	1 Foot Sample per Spool	1 Foot Sample per Spool		

Notes:

1/ A certificate of compliance from the manufacturer shall be delivered with the wire to certify that the proper conductor material and resin coating were used in the manufacture of the wire.

2/ Required for non-military, non-NEMA magnet wire only. Otherwise a certificate of compliance shall be supplied with wire. Heat shock test must follow adherrence and flexibility test.

3/ **Elongation Requirements**

AWG Size	Elongation Rate	Minimum Elongation, %	Mandrel Diameter	Examined With
Copper		30	none	normal vision
4-9	12 ± 1 in./min (300 ± 25 mm/min)	25	5X	normal vision
10-13	12 ± 1 in/min (300 ± 25 mm/min)	20	3X	normal vision
14-30	sudden jerk			
31-44	sudden jerk	20^	3X	6x-10x magnification

Table 2C SCREENING REQUIREMENTS FOR COAXIAL CABLE

INSPECTION/TEST	TEST METHODS, CONDITIONS AND REQUIREMENTS	SAMPLE QUANTITY (NO REJECTS ALLOWED)			
		GRADE 1	GRADE 2	GRADE 3	GRADE 4
Visual	Inspect for proper marking. Check outer jacket for cracks, splits. Use 3X magnification and high intensity lighting.	1 Foot Sample per Spool	1 Foot Sample per Spool	1 Foot Sample per Spool	
Mechanical 1/	Verify dimensions per reference spec. Verify quantity and AWG of inner conductor and shield strands. Verify weight as necessary.	1 Foot Sample per Spool	1 Foot Sample per Spool		
Spark Test (Not Applicable to Copper Clad Semi-rigid Cable)	FED-STD-228 Method 6211.1 or MIL-STD-2223 method 3002. Finished cable shall be passed through an energized bead chain electrode head which will give intimate metallic contact with the cable outer jacket. A voltage as specified in the reference specification at a frequency of 60Hz or 3K Hz shall be applied between the shield and electrode. Cable lengths which failed shall be removed.	Entire Length 2/	Entire Length 2/	Entire Length 2/	
Voltage Withstanding	FED-STD-228, Method 6111, except cable shall be tested dry without immersion. Apply voltage (potential as specified) between inner conductor and shield with the shield grounded.	Each Spool 2/	Each Spool 2/	Each Spool 2/	
Continuity	Apply 25 V DC max to both ends of center conductor, followed by both ends of shield through an indicator (meter, light, or buzzer)	Each Spool	Each Spool	Each Spool	

Notes:

1/ A certificate of compliance from the manufacturer shall be delivered with the wire to certify that the proper inner conductor, shield materials and finish were used in the manufacture of the wire.

2/ Test is used as a 100% screening test of finished cable during final winding of the wire on spools or reels by the manufacturer. A certificate of compliance from the manufacturer that all cable delivered to the user was subjected to and passed the spark test or voltage withstanding test is sufficient to meet this requirement. Otherwise, cable shall be screened as an incoming inspection test by the user or user designated test facility.

Table 2D SCREENING REQUIREMENTS FOR MULTICONDUCTOR CABLE

INSPECTION/TEST	TEST METHODS, CONDITIONS AND REQUIREMENTS	SAMPLE QUANTITY (NO REJECTS ALLOWED)			
		GRADE 1	GRADE 2	GRADE 3	GRADE 4
Visual	Inspect for proper marking. Check outer jacket for cracks, splits. Use 3X magnification and high intensity lighting.	1 Foot Sample per Spool	1 Foot Sample per Spool	1 Foot Sample per Spool	
Mechanical 1/	Verify number of conductors, AWG and stranding of conductors, color coding or special marking of conductor insulations (as required). Inspect shield for corrosion or other discoloration, and inspect for mechanical damage or flaking of the finish. Measure jacket thickness.	1 Foot Sample per Spool	1 Foot Sample per Spool		
Dielectric Withstanding Voltage	FED-STD-228, Method 6111. Immersion is not required. Each conductor shall be tested against all others tied together with the shield (as applicable). Testing voltage shall be 1500V RMS for 600V rated conductors and 2,500V for 1000V rated conductors. Time of applied voltage shall be between 15 and 30 seconds.	Each Spool 2/	Each Spool 2/	Each Spool 2/	

Notes:

1/ A certificate of conformance from the manufacturer shall be delivered with the cable to certify that the proper conductor finish, insulations and jacket materials were used. The manufacturer shall also certify that the shield material, finish and shield coverage are correct as specified in the reference specification or SCD.

2/ Test is used as a 100% screening test of finished cable during final winding of the cable on spools or reels by the manufacturer. A certificate of compliance from the manufacturer that all cable delivered to the user was subjected to and passed the voltage withstanding test is sufficient to meet this requirement. Otherwise, cable shall be screened as an incoming inspection test by the user or user designate test facility.