FEDERAL SUPPLY CLASS
6145

RATIONALE

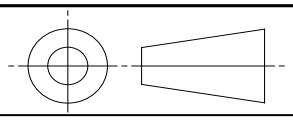
AS85485/9 IS BEING STABILIZED BECAUSE THE COMMITTEE DOES NOT ANTICIPATE FUTURE TECHNICAL CHANGES. FILTERLINE CABLES ARE CONSIDERED WELL-ESTABLISHED PRODUCTS. QUALIFIED SUPPLIERS ARE STILL MAINTAINED. REFERENCE CHANGES NOTED BY THE SUPPLIERS WHICH RESULTS IN A PRODUCT CHANGE WILL BE ADDRESSED BY A NEW REVISION.

STABILIZED NOTICE

THIS DOCUMENT HAS BEEN DECLARED "STABILIZED" BY THE SAE AE-8D WIRE AND CABLE COMMITTEE AND WILL NO LONGER BE SUBJECTED TO PERIODIC REVIEWS FOR CURRENCY. USERS ARE RESPONSIBLE FOR VERIFYING REFERENCES AND CONTINUED SUITABILITY OF TECHNICAL REQUIREMENTS. NEWER TECHNOLOGY MAY EXIST.

ISSUED 2004-06 REVISED 2016-08 STABILIZED 2021-07

THIRD ANGLE PROJECTION



For more information on this standard, visit
https://www.sae.org/standards/content/AS85485/9B/

CUSTODIAN: AE-8/AE-8D

PROCUREMENT SPECIFICATION: AS85485

SAE INTERNATIONAL

AEROSPACE STANDARD

CABLE, ELECTRIC, FILTER LINE, SMALL DIAMETER COMPONENT WIRE, TIN-COATED COPPER CONDUCTOR, RADIO FREQUENCY, ABSORPTIVE, 150 °C, 600-VOLT

AS85485™/9

REV. B

TO PLACE A DOCUMENT ORDER: **Tel: 877-606-7323 (inside USA and Canada)** **Tel: +1 724-776-4970 (outside USA)**
Fax: 724-776-0790 **Email: CustomerService@sae.org** **SAE WEB ADDRESS: http://www.sae.org**

NOTICE

THE COMPLETE REQUIREMENTS FOR PROCURING THE PRODUCT DESCRIBED HEREIN SHALL CONSIST OF THIS DOCUMENT AND THE LATEST ISSUE OF AS85485.

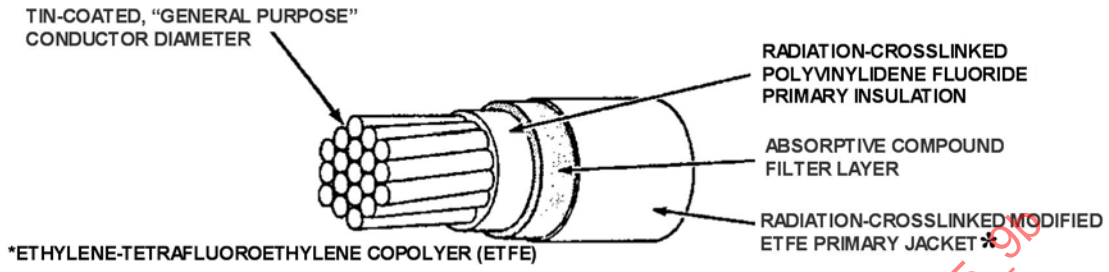


FIGURE 1 - AS85485/9 POLYVINYLIDENE FLUORIDE CONFIGURATION

TABLE 1 - CONSTRUCTION DETAILS

PART NO. M85485/9 1/	WIRE SIZE	STRANDING (NUMBER OF STRANDS X AWG GAUGE OF STRANDS)	DIAMETER OF STRANDED CONDUCTOR (INCHES)		FINISHED WIRE		
			(MIN)	(MAX)	RESISTANCE AT 20 °C (68 °F) (OHMS/1000 FT) (MAX)	DIAMETER (INCHES)	WEIGHT (LB/1000 FT) (MAX)
-22-*	22	19 X 34	.029	.033	16.2	.051 ± .003	4.0
-20-*	20	19 X 32	.037	.041	9.88	.059 ± .003	5.8
-18-*	18	19 X 30	.046	.051	6.23	.070 ± .003	8.7
-16-*	16	19 X 29	.052	.058	4.81	.078 ± .004	11.2
-14-*	14	19 X 27	.065	.073	3.06	.095 ± .004	16.1
-12-*	12	37 X 28	.084	.090	2.02	.112 ± .004	24.0
-10-*	10	37 X 26	.106	.114	1.26	.136 ± .006	37.0

1/ PART NO.: THE ASTERISKS IN THE PART NUMBER COLUMN SHALL BE REPLACED BY COLOR CODE DESIGNATORS IN ACCORDANCE WITH AS85485 (SEE PIN BELOW).

TABLE 2 - PERFORMANCE DETAILS

PART NO. M85485/9 1/	BEND TESTING			
	MANDREL DIAMETER (INCHES) (±3%)		TEST LOAD (LB) (±3%)	
	CROSSLINKING PROOF, IMMERSION AND LIFE CYCLE TESTS	COLD BEND TEST	CROSSLINKING PROOF, IMMERSION AND LIFE CYCLE TESTS	COLD BEND TEST
22-*	.500	2.00	.75	3.00
-20-*	.750	2.50	1.25	4.00
-18-*	1.00	3.00	1.75	4.00
-16-*	1.00	3.00	2.00	5.00
-14-*	1.00	5.00	2.00	5.00
-12-*	1.50	6.00	2.50	5.00
-10-*	1.50	8.00	2.50	5.00

1/ THE ASTERISKS IN THE PART NUMBER COLUMN SHALL BE REPLACED BY COLOR CODE DESIGNATORS IN ACCORDANCE WITH AS85485 (SEE PIN BELOW).

REQUIREMENTS: ALL REQUIREMENTS SHALL CONSIST OF THIS DOCUMENT AND THE LATEST ISSUE OF AS85485.

1. CONFIGURATION AND MATERIAL

   WIRE CONFIGURATION AND MATERIAL SHALL BE IN ACCORDANCE WITH FIGURE 1 AND TABLE 1.

2. RATINGS:

   TEMPERATURE RATING: 150 °C (302 °F) MAXIMUM CONTINUOUS CONDUCTOR TEMPERATURE

   VOLTAGE RATING: IN ACCORDANCE WITH AS85485.

3. BLOCKING: 200 °C ± 3 °C (392 °F ± 5 °F) FOR 6 HOURS

4. IDENTIFICATION MARKING:

   PART IDENTIFICATION NUMBER (PIN) MARK SHALL BE AS FOLLOWS:

```
M85485   /9   -22   -7L   6
   I      I     I     I    I
   I      I     I     I    I__   COLOR STRIPE (AS APPLICABLE)
   I      I     I     I______    PRIMARY JACKET COLOR (LIGHT VIOLET)
   I      I     I___________     WIRE SIZE (SEE TABLE 1)
   I      I_________________     DETAIL SPECIFICATION NUMBER (SEE FIGURE 1)
   I________________________     PART NUMBER DESIGNATION "M" AND BASIC SPECIFICATION NUMBER
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   COMPONENT WIRE PIN MARKING: A COMPONENT WIRE PIN SUPPLIED AS A FINISHED PART SHALL BE MARKED ON THE OUTER SURFACE OF THE COMPONENT WIRE. THE PRIMARY JACKET COLOR CODE AND STRIPE CODE IS NOT REQUIRED, BUT IF INCLUDED ALL INFORMATION SHALL BE INCLUDED.

   CABLE MARKING: COMPONENT WIRE USED AS A COMPONENT IN CABLE (I.E., AS85485/11 OR /12 CABLE) SHALL BE MARKED IN ACCORDANCE WITH THE CABLE REQUIREMENTS.

   COMPONENT WIRE IDENTIFICATION MARKING AND COLOR STRIPE DURABILITY: 125 CYCLES (250 STROKES) MINIMUM, 500 GRAMS WEIGHT.

   COLOR:

   PRIMARY INSULATION - NATURAL
   FILTER LAYER - BLACK (SEE APPLICATION NOTES)
   PRIMARY JACKET - LIGHT VIOLET (-7L)

5. CONCENTRICITY: PRIMARY INSULATION - 50% (MIN); FINISHED WIRE - 70% MINIMUM

6. CROSSLINKING PROOF TEST: 7 HOURS AT 300 °C ± 3 °C (572 °F ± 5 °F) USING THE MANDRELS AND WEIGHTS SPECIFIED IN TABLE 2.

7. FLAMMABILITY: 3 SECONDS MAXIMUM AND 3 INCHES MAXIMUM

8. HUMIDITY RESISTANCE: INSULATION RESISTANCE 5000 MEGOHMS FOR 1000 FEET MINIMUM

9. IMMERSION: DIAMETER INCREASE PERMITTED SHALL BE 5% MAXIMUM. THERE SHALL BE NO CRACKING, OR DIELECTRIC BREAKDOWN (VOLTAGE WITHSTAND) WHEN SUBJECTED TO THE BEND TEST WITH THE WEIGHT AND MANDREL SIZES SPECIFIED IN TABLE 2.

10. INSULATION ELONGATION AND TENSILE STRENGTH (PRIMARY INSULATION, FILTER LAYER AND JACKET SHALL BE PULLED TOGETHER):

    ELONGATION - 50% MINIMUM
    TENSILE STRENGTH - 3000 lbf/ in^2 MINIMUM

11. INSULATION FLAWS:

    PRIMARY INSULATION ONLY:

    SPARK TEST; 1.5 KILOVOLTS (rms), 60 Hz
    IMPULSE DIELECTRIC TEST; 6.0 KILOVOLTS (PEAK)

    FINISHED WIRE:

    SPARK TEST; 3.0 KILOVOLTS (rms), 60 Hz
    IMPULSE DIELECTRIC TEST; 8.0 KILOVOLTS (PEAK)

12. INSULATION RESISTANCE: 5000 MEGOHMS FOR 1000 FEET MINIMUM

13. INSULATION THICKNESS:

    PRIMARY INSULATION; .002 INCH MINIMUM
    FILTER LAYER; AVERAGE .0025 INCH MINIMUM
    PRIMARY JACKET; .0035 INCH MINIMUM

14. LIFE CYCLE: 168 HOURS AT 200 °C ± 3 °C (392 °F ± 5 °F). THERE SHALL BE NO CRACKING OR DIELECTRIC BREAKDOWN (VOLTAGE WITHSTAND) WHEN SUBJECTED TO THE BEND TEST WITH THE WEIGHT AND MANDREL SIZES SPECIFIED IN TABLE 2.

15. LOW TEMPERATURE-COLD BEND: -65 °C ± 2 °C (-85 °F ± 4 °F) FOR 4 HOURS. THERE SHALL BE NO CRACKING OR DIELECTRIC BREAKDOWN (VOLTAGE WITHSTAND) WHEN SUBJECTED TO THE BEND TEST WITH THE WEIGHT AND MANDREL SIZES SPECIFIED IN TABLE 2.

16. SHRINKAGE: .125 INCH MAXIMUM AT 200 °C ± 3 °C (392 °F ± 5 °F)

17. SMOKE: 200 °C ± 2 °C (392 °F ± 4 °F), NO VISIBLE SMOKE

18. SURFACE RESISTANCE: 500 MEGOHM - INCHES MINIMUM INITIAL AND FINAL READINGS

19. THERMAL SHOCK RESISTANCE: OVEN TEMPERATURE, 150 °C ± 3 °C (302 °F ± 5 °F). THE MAXIMUM CHANGE IN MEASUREMENTS SHALL BE .060 INCH.

20. VOLTAGE WITHSTAND (POST-ENVIRONMENTAL): 1500 VOLTS (rms) 60 Hz

21. WRAP TEST: 6 HOURS AT 200 °C ± 3 °C (392 °F ± 5 °F); NO CRACKING

22. ATTENUATION: THE TIN COATED COPPER WIRE ATTENUATION SHALL BE IN ACCORDANCE WITH TABLE 3 WHEN TESTED IN A M85485/12 ONE COMPONENT WIRE, TIN COATED COPPER SHIELDED CONFIGURATION (SEE APPLICATION NOTE).

TABLE 3 - AS85485/9 ATTENUATION

M85484/12 ONE CONDUCTOR CONFIGURATION		PASS BAND (db/ft)			TRANSITION BAND (db/ft)			STOP BAND (db/ft)
WIRE SIZE	WIRE TYPE	1.0 MHz	10.0 MHz		100 MHz	500 MHz	1000 MHz	1 TO 12 GHz
		(MAX)	(MIN)	(MAX)	(MIN)	(MIN)	(MIN)	(MIN)
-22	AS85485/9	.02	.06	.20	1.3	12	30	30
-20								
-18						13	33	33
-16								
-14								
-12			.04			12	30	30
-10								

23. THERMAL STABILITY (QUALIFICATION ONLY): 1250 HOURS AT 180 °C ± 3 °C (356 °F ± 5 °F). THE SAMPLE SHALL BE M85485/12 ONE COMPONENT, TIN COATED-COPPER SHIELDED CONFIGURATION IN CONDUCTOR SIZE 22 THRU SIZE 16. AFTER EXPOSURE THE VOLTAGE WITHSTAND (DIELECTRIC) SHALL BE 1500 VOLTS (rms) 60 Hz AND THE STOP BAND ATTENUATION SHALL BE AS SPECIFIED IN TABLE 3.

24. QUALIFICATION SAMPLE: TWO SPECIMENS ARE REQUIRED. ONE SPECIMEN SHALL INCLUDE THE PIN MARKING AND ONE SPECIMEN SHALL INCLUDE THE STRIPE MARKING. EITHER SPECIMEN MAY BE USED TO COMPLETE THE REMAINING AS85485 QUALIFICATION REQUIREMENTS.