

ATTN JENNY SAYLER

P/N DB1929W15T-9

# SHIELDED INSTRUMENT CABLE

MIL-C-27072

National Wire & Cable Corp. manufactures a line of shielded instrument cables for MILITARY and UL applications.

All insulated wires use double-insulated (i.e. Nylon-armored over PVC vinyl primary insulation) stranded tinned copper wires per MIL-W-16878/17. (BN) All 19 strand. Shields are full Military 80% min. coverage tinned copper braid. Overall sheath is tough, flexible white PVC compound.

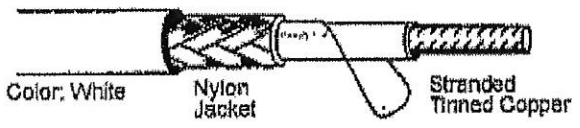
Meets MIL-C-27072 as subcable. \*\*(+105°C, 600 volt) Standard putups: 500 & 1000 ft. on no-deposit reels. Special lengths to order.

\*\*Using type I wire, shielded, with Class B jacket

NOTE: Can be supplied cabled into highly flexible multicables with overall shield and sheath. See our type NTS/NTP cable families. Meets MIL-W-16878/17 UL Style 1004 for 80°C Service, and UL Style 1005 for 90°C Service, except where noted.

### TECHNICAL SPECIFICATIONS

Military:	800 VAC Working
UL Agency:	300 VAC Working
Spark Test:	Passes 2400 VAC Stress on every wire.
HiPot Test:	Passes 1500 VAC as finished cable.
Puncture:	Nominal 5000 VAC as insulated.
Temp:	Military: working -40°C to +105°C UL Agency: working -40°C to +30°C
Cold Bend:	Cables can be formed into a circle diameter of 6 cable diameters to temperatures as low as -20°C. Recommended flex diameters should be greater than 20 cable diameters for bending at -40°C.
Leakage:	200 megohm/1000 feet min. @ 500 VDC from any conductor to all else in cable. (@25°C)
Capacitance	See tables below



## SINGLE CONDUCTOR SHIELDED AND JACKETED

- -54°C to +105°C
- 600 Volts (Working)

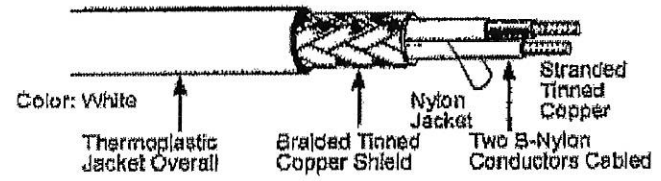
Thermoplastic Jacket Overall    Braided Tinned Copper Shield    Thermoplastic Insulation

CONDUCTOR INSULATION COLOR: WHITE

GAUGE OF CONDUCTORS	PART NO.	NUMBER OF STRANDS PER COND.	GAUGE OF STRANDS	NOM. DIAM. OF STRANDED CONDUCTOR		NOMINAL VALUES OF CAPACITANCE PER FOOT		NOM. WT.	
				IN.	mm	WIRE-WIRE pF/FT	WIRE-SHIELD pF/FT	LBS per 1000-ft	Kg/Km
26	NB1938N1SJ	19	38	.087	2.21	-	65.1	6.2	9.2
24	NB1936N1SJ	19	36	.097	2.46	-	74.8	8.1	12.1
22	NB1934N1SJ	19	34	.110	2.79	-	82.9	9.5	14.3
20	NB1932N1SJ	19	32	.120	3.05	-	101.0	15.1	22.5
18	NB1930N1SJ	19	30	.123	3.12	-	115.0	15.1	22.5
16	NB1928N1SJ	19	29	.134	3.40	-	123.0	18.0	26.8

## TWO CONDUCTOR, TWISTED SHIELDED AND JACKETED

- -54°C to +105°C
- 600 Volts (Working)



CONDUCTOR INSULATION COLORS: BLACK & WHITE or RED & BLUE

GAUGE OF CONDUCTORS	PART NO.	NUMBER OF STRANDS PER COND.	GAUGE OF STRANDS	NOM. DIAM. OF STRANDED CONDUCTOR		NOMINAL VALUES OF CAPACITANCE PER FOOT		NOM. WT.	
				IN.	mm	WIRE-WIRE pF/FT	WIRE-SHIELD pF/FT	LBS per 1000-ft	Kg/Km
28	NB1938N2SJ	19	38	.150	3.81	31.2	56.9	14.	20.8
24	NB1936N2SJ	19	36	.155	3.94	35.9	65.5	18.	26.8
22	NB1934N2SJ	19	34	.170	4.32	39.7	72.4	21.	31.2
20	NB1932N2SJ	19	32	.190	4.83	48.5	88.4	27.	40.2
18	NB1930N2SJ	19	30	.215	5.46	55.1	101.0	32.	47.6
16	NB1928N2SJ	19	29	.235	5.99	59.0	123.0	35.	52.1

\*Note: Other conductor combinations available on request

NATIONAL WIRE & CABLE custom cable manufacturing & molding • www.nationalwire.com Order Desk 323-225-5611 4-1

INCH-POUND  
MIL-DTL-27072/16D  
w/AMENDMENT 1  
20 May 2016  
SUPERSEDING  
MIL-DTL-27072/16D  
12 March 2012

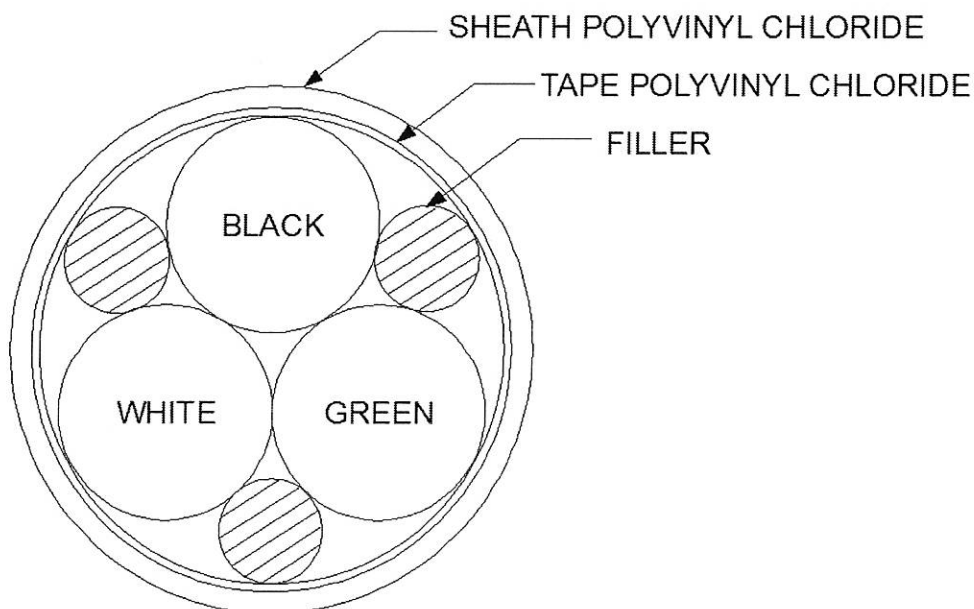
DETAIL SPECIFICATION SHEET

CABLE, SPECIAL PURPOSE, ELECTRICAL, MULTICONDUCTOR  
(3 CONDUCTORS),  
M27072/16DBAA\*

This specification is approved for use by all Departments  
and Agencies of the Department of Defense.

The requirements for acquiring the product described herein shall consist of this specification sheet and MIL-DTL-27072.

REQUIREMENTS:



NOTE: The complete Part or Identifying Number (PIN) requires a color code designator (see table I).

FIGURE 1. Cable configuration.

AMSC N/A

FSC 6145



MIL-DTL-27072/16D  
w/AMENDMENT 1

Design and construction:	See figure 1
Number of conductors:	3
Temperature rating:	105 °C
Components:	
Basic wire:	NEMA HP 7-CN-BLE* (see table I)
Conductor:	Tinned copper
Primary insulation:	Polyvinyl chloride
Colors:	Black Green White
Jacket over insulation:	Polyamide
Color:	Natural
Filler:	
Material:	In accordance with MIL-DTL-27072
Lay:	3.0 inches
Cabling:	Not applicable
Binder tape material:	Polyvinyl chloride
Shield:	Not applicable
Jacket undershield:	Not applicable
Sheath:	
Material:	Polyvinyl chloride
Wall thickness:	.050 inch (1.27 mm) nominal
Tensile strength:	In accordance with MIL-DTL-27072
Accelerated aging:	In accordance with MIL-DTL-27072
Ultimate elongation:	In accordance with MIL-DTL-27072
Color:	See MIL-DTL-27072
Finished cable:	See table I
Cold bend:	Mandrel size in accordance with MIL-DTL-27072
Dielectric withstanding voltage:	3,000 V rms
Conductor resistance:	In accordance with basic wire specification

TABLE I. Construction data.

PIN 27072/16	Basic wire except color NEMA HP 7-CN-BLE* <sup>1/2/</sup> (reference)				Finished cable diameter inch(mm) ±10%
	Wire size (AWG)	Number of strands	Strand size	Nominal diameter inch(mm)	
DBAA*	12	19	25	.134(3.40)	.486(12.34)

1/ Asterisks (\*) shall be replaced by the appropriate color designator.

2/ Dimensions are in inches. Metric equivalents are given for information only.

MIL-DTL-27072/16D  
w/AMENDMENT 1

Amendment notations. The margins of this specification are marked with vertical lines to indicate modifications generated by this amendment. This was done as a convenience only and the Government assumes no liability whatsoever for any inaccuracies in these notations. Bidders and contractors are cautioned to evaluate the requirements of this document based on the entire content irrespective of the marginal notations.

Referenced document. This document references MIL-DTL-27072.

CONCLUDING MATERIAL

Custodians:  
Army - CR  
Navy - SH  
Air Force - 85  
DLA – CC

Preparing activity:  
DLA - CC  
  
(Project 6145-2016-016)

NOTE: The activities listed above were interested in this document as of the date of this document. Since organizations and responsibilities can change, you should verify the currency of this information above using the ASSIST Online database at <https://assist.dla.mil>.