



MARMON AEROSPACE & DEFENSE

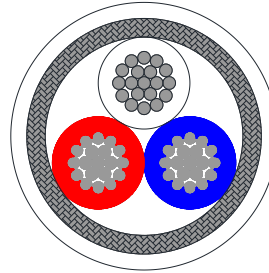
RSCC Aerospace & Defense™

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**Marmon A&D
Part Number
DN-10196**

**NEMA WC27500
Part Number (Modified)
M27500U20SB3T23**

Section View



Singles (M22759/32-20)	Dimensions (Nom.)
Conductor: 22 AWG Tin-Copper – 19 Strands per AS29606	.0375"
Insulation: Irradiation Cross-linked ETFE – .006" Nom. Wall	.050"
Twist: Three singles twisted together with a 1.25" Nom. Lay	.108"
Shield: 38 AWG Tin-Copper Braided Shield – 85% Min. Coverage	.126"
Jacket: Irradiation Cross-linked ETFE – .005" Min. to .010" Max. Wall	.141"

Finished Diameter: N/R Min. – .141" Nom. – .150" Max.

Component Print Legend: NONE

Cable Print Legend: NONE

Component Colors: White, Blue, Red

Electricals:

Voltage Rating: 600V

Spark Test (Jacket Flaws): 1500V

Voltage Withstand: 1500V

Testing shall be in accordance with SAE AS22759/32 (newest revision) for singles and NEMA WC27500 (newest revision) for the finished cable.

Customer:	Drawn By: Kyle Coderre	Approved By: Kevin Coderre	Revision: 0	Date: 12-10-19
Changes	Made By: Kyle Coderre	Approved By: Kevin Coderre	Revision: 1	Date: 12-11-19

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A MARMON WIRE & CABLE / BERKSHIRE HATHAWAY COMPANY

Drawing Number

DN-10196

Test	Requirement	
Singles (IAW SAE AS22759/32)		
Conductor Construction	20 AWG TC	
Conductor Elongation	10% Min.	
Conductor Stranding	19 X 32	
Conductor Diameter	0.0365" Min. – 0.0394" Max.	
Conductor Resistance	9.88 Ω / kft. Max. @ 20°C	
Insulation Material	XLETFE	
Removability of Insulation	Readily Removable	
Identification Marking	NONE	
Insulation Resistance	5000 M Ω / kft. Min.	
Insulation Diameter	0.0480" Min. – 0.0520" Max.	
Finished Wire Weight	4.3 lbs. / kft. Max.	
Insulation Concentricity	70% Min.	
Insulation Wall Thickness	0.0050" Min.	
Conductor Solderability	95% Min.	
Insulation Shrinkage	0.125" Max. @ 200°C	
Low Temp. (Cold Bend)	4 hrs @ -65°C, 0.750" Mandrel, 1.0 lb. Load, 2.5 kV Voltage	No Cracking
		No Breakdown
Thermal Shock Resistance	No Flaring	
	0.060" Max. @ 150°C	
Insulation Cross-link Proof	7 hrs @ 300°C, 0.500" Mandrel, 0.50 lb. Load, 2.5 kV Voltage	No Cracking
		No Breakdown
Insulation Wrap Back Bend	200°C, 2.5 kV Voltage	No Cracking
		No Breakdown
Wire Final Insulation Flaws	Spark Test – 5.7 kV – 100% Test	
Insulation Tensile Strength	5000 PSI Min.	
Insulation Elongation	75 % Min.	
Flammability	3" Max. Length, 3 Second Self Extinguish Time	
Cable (IAW NEMA WC27500)		
Component Colors	WHITE, BLUE, RED	
Cable Lay-up	0.65" Min. – 1.72" Max. LHL	
Shield Material	38 AWG TC	
Shield Coverage	85% Min.	
Braid Angle	18° Min. – 40° Max.	
Identification of Product	NONE	
Jacket Material & Color	XLETFE / White	
Jacket Wall Thickness	0.0050" Min. to 0.0100" Max.	
Jacket Concentricity	70% Min.	
Cable Jacket Removability	Removable without adherence to underlying shield or cable	
Cable Diameter	0.150" Max.	
Cable Weight	26.0 lbs. / kft. Max.	
Low Temp. (Cold Bend)	4 hrs @ -55°C,	No Cracking

	1.0 kV Voltage	No Breakdown
Jacket Tensile Strength	5000 PSI Min.	
Jacket Elongation	50% Min.	
Jacket Blocking	No Sticking 200°C, 6" Mandrel	
Flammability	3" Max. Length, 30 Seconds Max. Time	
Crosslinked Verification	6 hrs @ 300°C, 0.75 lb. Load, 1.0 kV Voltage	No Cracking
		No Breakdown
Shield Solderability	95% Min.	
Dielectric Withstand – Component Wires	1500V RMS Min.	Cond. – Cond.
		Cond. – Shield
Spark Test	1500V RMS Min.	