



Specification AD4

High Performance, Irradiation Cross-linked Modified Polyalkene/PVDF Temperature Rating: -65°C to 150°C (Tin Coated),

Marmon Aerospace & Defense is the leader in irradiation cross-linked polymer technology. The materials used for AD4 provides unique properties at a reasonable cost.

Wire Processing

The wire provides for good mechanical protection during installation, and retains flexibility for easy routing. It is also very easy to mark with a laser, or ink jet. The insulation is also readily strippable.

Environmental

The material is highly chemically resistant allowing it to be used in many harsh environments. It can be used in direct contact with fuels, propellants, coolants, lubricants and oils. It also can be used where exposed to UV or salt water. It also allows for use in a wide range of temperatures, from -65°C to +150°C.

Constructions

AD4 is manufactured to provide a comprehensive range of product types for users. It is available in a wide range of conductor AWG sizes, as well as insulation thicknesses.

AD4 is also manufactured in cable versions of 1 to 60 conductors, unshielded or shielded, unjacketed or jacketed.

Part Identification

Part identification shall include both the Marmon part number and cage code number. Marks shall be at intervals not exceeding 12 inches between legends.

Wire shall be identified by a printed marking on the outer surface of the wire.

Cable (unshielded-unjacketed, or shielded-unjacketed) shall be identified by printed making on the outer surface of wire number one.

Cable (unshielded-jacketed, or shielded-jacketed) shall be identified by printed marking on the outer surface of the jacket.

All print shall be of a contrasting color for easy identification.



Part Number Designation

SPEC Number - AWG Insulation Type No. of Cond Shield Type Jacket Type Identification Code
 AD4 - 20 L 2 T 08 - A

Insulation Types

Conductor	Light Weight 600V	Medium Weight 1000V	Normal Weight 1500V
Tin Copper	L	H	E
Silver Alloy	M	J	F
Silver Copper	K	G	D
Nickel Copper	A	B	C

Shield Designations

Shield Material	Single Shield	Double Shield
UnShielded	U	-
Tin Copper	T	V
Silver Copper	S	W
Nickel Copper	N	Y

Jacket Designations

Jacket Material	Single Jacket	Double Jacket
Unjacketed	00	-
XL PVDF (White)	08	58
ETFE (White)	14	64
XL ETFE (White)	23	73

Component Identification Code

Singles				
	Solid color Designators			Stripes
Use number color designators	0 = Black 1 = Brown 2 = Red 3 = Orange	4 = Yellow 5 = Green 6 = Blue 7 = Violet	8 = Grey 9 = White	9/6 = White / Blue Stripe 9/0 = White / Black Stripe
Cables				
Identification Symbol	Number of Components	Colors		
A	1 – 15	White with stripes 9, 9/6, 9/3, 9/5, 9/2, 9/0, 9/4, 9/8, 9/1, 9/6/6, 9/3/3, 9/5/5, 9/2/2, 9/0/0		
B	1 – 4	Solid colors 9, 0, 2, 5 The colors must follow the sequence		



Mission Critical Connectivity Systems

		3-Conductor = 9,0,2 4-Conductor = 9,0,2,5
C	1 – 60	White with printed numbers 1 - 60
D	1 – 15	Per Designation Example – D – 9/90 - 9 Equal White & White/Black Pair with White Jacket

Typical Singles Constructions

Part Number	Size (AWG)	Stranding	Material and Plating	Wire Dia. (nom.)	No. of Conductors	Shield	Jacket
AD4-26L1U00-9	26	19	Tin Copper	.034	1	NONE	NONE
AD4-24L1U00-9	24	19	Tin Copper	.040	1	NONE	NONE
AD4-22L1U00-9	22	19	Tin Copper	.047	1	NONE	NONE
AD4-20L1U00-9	20	19	Tin Copper	.055	1	NONE	NONE
AD4-18L1U00-9	18	19	Tin Copper	.065	1	NONE	NONE
AD4-16L1U00-9	16	19	Tin Copper	.072	1	NONE	NONE
AD4-14L1U00-9	14	19	Tin Copper	.089	1	NONE	NONE
AD4-12L1U00-9	12	37	Tin Copper	.108	1	NONE	NONE
AD4-24H1U00-9	24	19	Tin Copper	.054	1	NONE	NONE
AD4-22H1U00-9	22	19	Tin Copper	.062	1	NONE	NONE
AD4-20H1U00-9	20	19	Tin Copper	.070	1	NONE	NONE
AD4-18H1U00-9	18	19	Tin Copper	.080	1	NONE	NONE
AD4-16H1U00-9	16	19	Tin Copper	.089	1	NONE	NONE
AD4-14H1U00-9	14	19	Tin Copper	.108	1	NONE	NONE
AD4-12H1U00-9	12	37	Tin Copper	.126	1	NONE	NONE
AD4-10H1U00-9	10	37	Tin Copper	.155	1	NONE	NONE
AD4-8H1U00-9	8	133	Tin Copper	.214	1	NONE	NONE
AD4-24E1U00-9	24	19	Tin Copper	.057	1	NONE	NONE
AD4-22E1U00-9	22	19	Tin Copper	.069	1	NONE	NONE
AD4-20E1U00-9	20	19	Tin Copper	.078	1	NONE	NONE
AD4-18E1U00-9	18	19	Tin Copper	.088	1	NONE	NONE
AD4-16E1U00-9	16	19	Tin Copper	.097	1	NONE	NONE
AD4-14E1U00-9	14	19	Tin Copper	.115	1	NONE	NONE
AD4-12E1U00-9	12	37	Tin Copper	.131	1	NONE	NONE
AD4-10E1U00-9	10	37	Tin Copper	.161	1	NONE	NONE
AD4-8E1U00-9	8	133	Tin Copper	.219	1	NONE	NONE
AD4-6E1U00-9	6	133	Tin Copper	.269	1	NONE	NONE
AD4-4E1U00-9	4	133	Tin Copper	.325	1	NONE	NONE



Component Performance Characteristics:

Accelerated Aging:	7 hrs. at 300°C
Blocking:	4 hrs. at 150°C
Flammability:	FAR 25
Humidity Resistance:	5,000 meg-ohms min.
Insulation Resistance;	5000 meg-ohms min.
Immersion:	Tested per AS81044 Pass
Insulation Diameter:	Per above
Life Cycle:	500 hrs. at 200°C
Low Temperature Bend:	4 hrs. at -65°C, No cracks
Markability:	Ink Jet – 125 min cycles
Markability:	Laser – 70% min. contrast
Shrinkage:125" max. 4 hrs. at 230°C
Smoke:	150°C No visible smoke
Solderability:	Pass
Spark Test:	5700 Volts RMS (600V rated)
Spark Test:	5700 Volts RMS (600V rated)
Stripability:	Pass
Wrap Test:	150C – 4X mandrel – Pass



Mission Critical Connectivity Systems

Typical Cable Constructions

Part Number	Size (AWG)	Stranding	Material and Plating	Wire Dia. (nom.)	No. of Conds	Comp. Colors	Shield	Jacket
AD4-26L1T08-A	26	19	Tin Copper	.034	1	9	TC	XLPVDF
AD4-24L1T08-A	24	19	Tin Copper	.040	1	9	TC	XLPVDF
AD4-22L1T08-A	22	19	Tin Copper	.047	1	9	TC	XLPVDF
AD4-20L1T08-A	20	19	Tin Copper	.055	1	9	TC	XLPVDF
AD4-18L1T08-A	18	19	Tin Copper	.065	1	9	TC	XLPVDF
AD4-16L1T08-A	16	19	Tin Copper	.072	1	9	TC	XLPVDF
AD4-14L1T08-A	14	19	Tin Copper	.089	1	9	TC	XLPVDF
AD4-12L1T08-A	12	37	Tin Copper	.108	1	9	TC	XLPVDF
AD4-26L2T08-A	26	19	Tin Copper	.034	2	9 & 9/6	TC	XLPVDF
AD4-24L2T08-A	24	19	Tin Copper	.040	2	9 & 9/6	TC	XLPVDF
AD4-22L2T08-A	22	19	Tin Copper	.047	2	9 & 9/6	TC	XLPVDF
AD4-20L2T08-A	20	19	Tin Copper	.055	2	9 & 9/6	TC	XLPVDF
AD4-18L2T08-A	18	19	Tin Copper	.065	2	9 & 9/6	TC	XLPVDF
AD4-16L2T08-A	16	19	Tin Copper	.072	2	9 & 9/6	TC	XLPVDF
AD4-14L2T08-A	14	19	Tin Copper	.089	2	9 & 9/6	TC	XLPVDF
AD4-12L2T08-A	12	37	Tin Copper	.108	2	9 & 9/6	TC	XLPVDF
AD4-26L2T08-B	26	19	Tin Copper	.034	2	9 & 0	TC	XLPVDF
AD4-24L2T08-B	24	19	Tin Copper	.040	2	9 & 0	TC	XLPVDF
AD4-22L2T08-B	22	19	Tin Copper	.047	2	9 & 0	TC	XLPVDF
AD4-20L2T08-B	20	19	Tin Copper	.055	2	9 & 0	TC	XLPVDF
AD4-18L2T08-B	18	19	Tin Copper	.065	2	9 & 0	TC	XLPVDF
AD4-16L2T08-B	16	19	Tin Copper	.072	2	9 & 0	TC	XLPVDF
AD4-14L2T08-B	14	19	Tin Copper	.089	2	9 & 0	TC	XLPVDF
AD4-12L2T08-B	12	37	Tin Copper	.108	2	9 & 0	TC	XLPVDF