

#### APPLICATION

-For Transmission of analogue and digital signals in instrument and control systems; where it is required to maintain a very low levels of smoke and toxic fumes and no acid gas when exposed to fire, they are often specified for indoor use, especially in public areas, across tunnels, underground rail networks and in other hazardous environments and poorly ventilated areas.  
- Fire Resistant type with Circuit Integrity during Fire Conditions and LSZH sheathed to reduce toxic smoke and fume emission.

#### STANDARDS

PLTC TO UL 13	Power-limited tray cable, per NFPA 70, NEC Article 725
ITC TO UL2250	Instrumentation tray cable, per NFPA 70, NEC Article 727.
IEC 60331	Tests for electric cables under fire conditions
BS 6387 CWZ	Test method for resistance to fire of cables required to maintain circuit integrity under fire conditions

#### CONSTRUCTION DETAILS

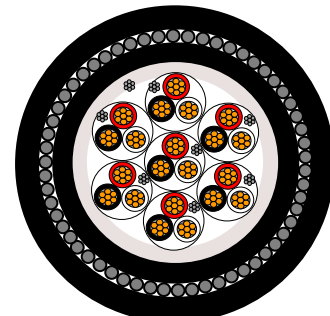
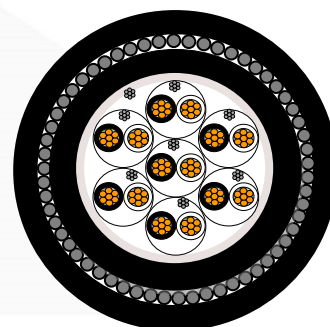
<b>CONDUCTOR</b>	Stranded, circular copper, per ASTM B3, 7 strands minimum; tinned, per ASTM B33
<b>FIRE WRAP MATERIAL</b>	Each conductor is wrap with MICA FIRE RESISTANT TAPE.
<b>INSULATION</b>	Thermoset crosslinked Polyethylene (XLPE) rated 90°C
<b>COLOR CODES</b>	-Pairs : Black/White with successive numbers on each core. -Triads: Black/White/Red with successive numbers on each core.
<b>PAIRS/TRIADS</b>	Two or Three cores are twisted into Pairs/Triads, in nominal lay length of 50 to 60 mm.
<b>INDIVIDUAL SHIELDING</b>	Aluminum-Polyester (AL-PET foil) laminated tape with 100% coverage and suitable overlap, metal side out in contact with stranded tinned copper drain wire.
<b>ASSEMBLY</b>	The required number of pairs/triads are assembled with non-hygroscopic fillers (if required) and wrapped with a polyester binder tape
<b>OVERALL SHIELDING</b>	Aluminum-Polyester (AL-PET foil) laminated tape with 100% coverage and suitable overlap, metal side out in contact with stranded tinned copper drain wire.
<b>INNER JACKET</b>	Low Smoke Zero Halogen
<b>ARMOR</b>	Spirally applied soft Galvanized Round Steel Wires
<b>OUTER JACKET</b>	Extruded Low Smoke Zero Halogen (LSZH).

#### ELECTRICAL PROPERTIES

CONDUCTOR (DC) RESISTANCE @ 20°C(Ω/Km)	MATERIAL TYPE	UNIT	CONDUCTOR SIZE (AWG)			
			18	16	14	12
	PLAIN Cu	Ω/Km	≤21.80	≤13.70	≤8.620	5.41
	TINNED Cu	Ω/Km	≤22.70	≤14.30	≤8.96	5.61
Insulation Resistance (min.)		MΩ/Km	10	10	10	10
Mutual Capacitance	XLPE	nF/Km	150	150	150	150
	PVC	nF/Km	250	250	250	250
Inductance to Resistance Ratio	L/R	μH/Ω	25	40	60	100
Voltage Test	1.5 Kv AC (2 sec)					
Voltage Rating	300V					

#### PHYSICAL & ENVIRONMENTAL PROPERTIES

Fire Resistant	IEC 60331, BS 6387 CWZ
Smoke density	IEC 61034
Gases toxicity	No toxicity to IEC 60754-1
Gases corrosivity	Low IEC 60754-2
Limiting Oxygen Index (LOI)	Min. 30% (ASTM D2863)
Minimum Bending Radius	≥ 10xCable Outside Diameter
Temperature Range	-30°C to 90°C



### DIMENSIONS AND WEIGHTS

ASH CABLES ITEM CODE	Cross Sectional Area (AWG) (No. of wire X SIZE mm)	NO. OF PAIRS/ TRIAD	Dia. Of Armor Wire (mm)	Jacket Thickness (nom.) (mm)	Overall diameter Approx. (mm)	Net Weight Approx. (Kg/km)
IAFM-02P18AWG-WXXXX	18 (7X0.388)	2P	1.25	1.27	20.50	620
IAFM-04P18AWG-WXXXX		4P	1.60	1.27	24.20	970
IAFM-06P18AWG-WXXXX		6P	1.60	1.27	26.70	1210
IAFM-08P18AWG-WXXXX		8P	2.00	1.27	30.50	1625
IAFM-10P18AWG-WXXXX		10P	2.00	1.27	33.20	1900
IAFM-12P18AWG-WXXXX		12P	2.00	1.27	35.10	2005
IAFM-16P18AWG-WXXXX		16P	2.50	1.27	38.60	2560
IAFM-24P18AWG-WXXXX		24P	2.50	1.52	47.60	3615
IAFM-02T18AWG-WXXXX	18 (7X0.388)	2T	1.60	1.27	23.50	920
IAFM-04T18AWG-WXXXX		4T	1.60	1.27	26.30	1010
IAFM-06T18AWG-WXXXX		6T	2.00	1.27	31.60	1630
IAFM-08T18AWG-WXXXX		8T	2.00	1.27	34.60	1930
IAFM-10T18AWG-WXXXX		10T	2.50	1.27	39.30	2550
IAFM-12T18AWG-WXXXX		12T	2.50	1.27	40.80	2820
IAFM-16T18AWG-WXXXX		16T	2.50	1.52	45.10	3330
IAFM-24T18AWG-WXXXX		24T	2.50	1.52	54.50	4510
IAFM-02P16AWG-WXXXX	16 (7X0.488)	2P	1.25	1.27	21.30	710
IAFM-04P16AWG-WXXXX		4P	1.60	1.27	25.10	1000
IAFM-06P16AWG-WXXXX		6P	1.60	1.27	28.80	1275
IAFM-08P16AWG-WXXXX		8P	2.00	1.27	32.50	1750
IAFM-10P16AWG-WXXXX		10P	2.00	1.27	35.70	2105
IAFM-12P16AWG-WXXXX		12P	2.00	1.27	36.80	2280
IAFM-16P16AWG-WXXXX		16P	2.50	1.52	42.60	3100
IAFM-24P16AWG-WXXXX		24P	2.50	1.52	48.50	4150
IAFM-02T16AWG-WXXXX	16 (7X0.488)	2T	1.60	1.27	24.70	930
IAFM-04T16AWG-WXXXX		4T	1.60	1.27	28.80	1230
IAFM-06T16AWG-WXXXX		6T	2.00	1.27	33.40	1840
IAFM-08T16AWG-WXXXX		8T	2.00	1.27	36.40	2170
IAFM-10T16AWG-WXXXX		10T	2.50	1.52	42.80	3000
IAFM-12T16AWG-WXXXX		12T	2.50	1.52	44.00	3250
IAFM-16T16AWG-WXXXX		16T	2.50	1.52	47.90	3820
IAFM-24T16AWG-WXXXX		24T	2.50	1.52	58.00	5200

Dimensions and Weights are subject for manufacturing Tolerance.

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IAFM-02P14AWG-WXXXX	14(7X0.615)	2P	1.60	1.27	24.00	950
IAFM-04P14AWG-WXXXX		4P	1.60	1.27	27.10	1220
IAFM-06P14AWG-WXXXX		6P	2.00	1.27	32.20	1800
IAFM-08P14AWG-WXXXX		8P	2.00	1.27	35.10	2100
IAFM-10P14AWG-WXXXX		10P	2.50	1.27	40.20	2750
IAFM-12P14AWG-WXXXX		12P	2.50	1.27	41.50	3005
IAFM-16P14AWG-WXXXX		16P	2.50	1.52	45.10	3550
IAFM-24P14AWG-WXXXX		24P	2.50	1.52	54.20	4900
IAFM-02T14AWG-WXXXX	14(7X0.615)	2T	1.60	1.27	26.20	1050
IAFM-04T14AWG-WXXXX		4T	2.00	1.27	31.00	1650
IAFM-06T14AWG-WXXXX		6T	2.00	1.27	35.70	2100
IAFM-08T14AWG-WXXXX		8T	2.50	1.27	40.50	3150
IAFM-10T14AWG-WXXXX		10T	2.50	1.27	45.50	3490
IAFM-12T14AWG-WXXXX		12T	2.50	1.27	47.20	3800
IAFM-16T14AWG-WXXXX		16T	2.50	1.52	52.00	4700
IAFM-24T14AWG-WXXXX		24T	2.50	1.52	58.50	6400
IAFM-02P12AWG-WXXXX	12 (7X0.775)	2P	1.60	1.27	27.10	1000
IAFM-04P12AWG-WXXXX		4P	1.60	1.27	28.20	1360
IAFM-06P12AWG-WXXXX		6P	2.00	1.27	33.80	2005
IAFM-08P12AWG-WXXXX		8P	2.00	1.52	37.20	2390
IAFM-10P12AWG-WXXXX		10P	2.50	1.52	43.50	3280
IAFM-12P12AWG-WXXXX		12P	2.50	1.52	44.70	3570
IAFM-16P12AWG-WXXXX		16P	2.50	1.52	48.70	4140
IAFM-24P12AWG-WXXXX		24P	2.50	1.52	57.90	5750
IAFM-02T12AWG-WXXXX	12 (7X0.775)	2T	1.60	1.27	28.10	1230
IAFM-04T12AWG-WXXXX		4T	2.00	1.27	33.20	1980
IAFM-06T12AWG-WXXXX		6T	2.50	1.27	39.60	2850
IAFM-08T12AWG-WXXXX		8T	2.50	1.52	44.70	3540
IAFM-10T12AWG-WXXXX		10T	2.50	1.52	49.60	4150
IAFM-12T12AWG-WXXXX		12T	2.50	1.52	50.70	4620
IAFM-16T12AWG-WXXXX		16T	2.50	1.52	56.50	5500
IAFM-24T12AWG-WXXXX		24T	2.50	1.52	59.80	7500

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