

TECHNICAL DATA SHEET

AEI FIRETEC IMPACT POWER

Manufacturing Standard

BS7846

Fire Performance

BS7846 F120 – LPCB

BS6387 C-W-Z – LPCB

BS EN50200 PH120

BS8434-2

BS8519:2020 Power & Control CAT 1, 2 & 3

BS8491 F120

Additional Fire Performance

BS EN50267 – IEC60754 – Acid Gas Emission

BS EN50268 – IEC61034 - Smoke Emission

BS EN50265, 50266

BS EN / IEC 60332-1 Flame Propagation

BS EN / IEC60332-3 Categories A, B & C Flame Propagation



Construction

- Class 2 Plain Annealed Copper Conductor to BS EN60228
- Mica Glass Taping
- XLPE Insulated
- Low Smoke Zero Halogen (LSZH) Bedding + Glass Fibre Tape
- Galvanised Steel Wire Armour
- Low Smoke Zero Halogen (LSZH) Sheathed

Voltage Rating 600/1000 Volt

Bend Radius 6 x Overall Diameter for Circular and 8 x Overall Diameter for Sector Shaped Conductors.

Operating Temp -10°C to +90°C

Short Circuit Temp +250°C

Core Colours

2 Core Brown & Blue

3 Core Brown, Black & Grey

4 Core Brown, Blue, Black & Grey

Sheath Colour

Black as Standard

AEI FIRETEC IMPACT POWER

TECHNICAL DATA FOR 2 CORE CABLES

Nominal Conductor Area	Approximate Diameter			Approximate cable Weight	Max Conductor Resistance at 20°C	Max Armour Resistance at 20°C	Current Rating **	Voltage Drop
	Under Armour	Over Armour	Overall Diameter					
mm ²	mm	mm	mm	Kg/Km	Ohm/Km	Ohm/Km	Amp	mV/A/m
4*	15.98	18.80	20.90	996	4.61	7.90	52	12
6*	16.06	18.88	21.10	1064	3.08	7.00	66	7.90
10*	16.66	19.50	21.80	1134	1.83	6.00	90	4.70
16*	17.78	20.40	22.70	1184	1.15	3.70	152	2.60
25*	21.48	24.10	26.58	1514	0.727	3.70	152	1.90
35*	23.68	26.96	29.62	1828	0.524	2.60	188	1.35
50	20.42	23.70	26.70	1749	0.387	2.30	228	1.00
70	23.02	26.30	29.40	2000	0.268	2.00	291	0.69
95	25.42	29.50	32.80	2384	0.193	1.40	354	0.52
120	29.92	34.00	37.60	2915	0.153	1.30	410	0.42
150	31.92	36.00	39.80	3267	0.124	1.20	472	0.35
185	34.12	39.18	43.40	3964	0.0991	0.82	539	0.29
240	39.42	44.48	48.62	4518	0.0754	0.73	636	0.24
300	43.28	48.34	53.40	5135	0.0601	0.67	732	0.21
400	48.88	53.94	60.10	6481	0.047	0.59	847	0.18

* Circular Conductors, all others are sector shaped

** Current Ratings based on perforated cable tray/free air

Installation Conditions for above Rating:

- Ambient Air Temperature 30°C
- Conductor Operating Temperature 90°C

AEI FIRETEC IMPACT POWER

TECHNICAL DATA FOR 3 CORE CABLES

Nominal Conductor Area	Approximate Diameter			Approximate cable Weight	Max Conductor Resistance at 20°C	Max Armour Resistance at 20°C	Current Rating **	Voltage Drop
	Under Armour	Over Armour	Overall Diameter					
mm ²	mm	mm	mm	Kg/Km	Ohm/Km	Ohm/Km	Amp	mV/A/m
4*	15.90	18.50	20.80	887	4.61	3.31	55	10
6*	17.20	20.00	22.50	1009	3.08	3.10	69	6.80
10*	18.80	21.60	24.30	1244	1.83	2.81	92	4.00
16*	17.90	20.30	22.80	1237	1.15	2.86	115	2.60
25*	22.30	25.40	28.50	1942	0.727	1.81	150	1.60
35*	24.70	27.80	31.10	2171	0.524	2.30	162	1.20
50	25.90	29.00	31.80	2680	0.387	2.00	197	0.87
70	27.80	30.90	33.90	3385	0.268	1.80	251	0.61
95	31.60	35.50	38.90	4560	0.193	1.30	304	0.45
120	34.80	38.70	42.30	5450	0.153	1.20	353	0.36
150	38.80	43.70	47.40	6910	0.124	0.78	406	0.30
185	43.10	48.00	51.90	8285	0.0991	0.71	463	0.25
240	47.40	52.30	56.60	10210	0.0754	0.63	546	0.21
300	53.90	58.80	63.30	12390	0.0601	0.58	628	0.19
400	59.20	64.10	68.90	15155	0.047	0.52	728	0.17

* Circular Conductors, all others are sector shaped

** Current Ratings based on perforated cable tray/free air

Installation Conditions for above Rating:

- Ambient Air Temperature 30°C
- Conductor Operating Temperature 90°C

AEI FIRETEC IMPACT POWER

TECHNICAL DATA FOR 4 CORE CABLES

Nominal Conductor Area	Approximate Diameter			Approximate cable Weight	Max Conductor Resistance at 20°C	Max Armour Resistance at 20°C	Current Rating **	Voltage Drop
	Under Armour	Over Armour	Overall Diameter					
mm ²	mm	mm	mm	Kg/Km	Ohm/Km	Ohm/Km	Amp	mV/A/m
4*	17.20	20.00	22.50	991	4.61	3.10	55	10
6*	18.50	21.30	24.00	1142	3.08	2.86	69	6.80
10*	20.40	23.20	25.90	1401	1.83	2.56	92	4.00
16*	19.40	21.80	24.70	1363	1.15	2.66	115	2.60
25*	25.20	28.50	31.20	2083	0.727	1.60	150	1.60
35*	28.90	32.40	35.70	3107	0.524	1.38	180	1.20
50	27.50	30.60	33.60	3230	0.387	2.30	197	0.87
70	31.70	35.60	39.00	4520	0.268	2.00	251	0.61
95	35.40	39.30	42.90	5700	0.193	1.80	304	0.45
120	39.00	43.90	47.60	7260	0.153	1.20	353	0.36
150	43.70	48.60	52.50	8610	0.124	1.10	406	0.30
185	48.20	53.10	57.40	10370	0.0991	0.76	463	0.25
240	53.50	58.40	62.90	12960	0.0754	0.68	546	0.21
300	59.40	64.30	69.10	15690	0.0601	0.61	628	0.19
400	67.80	73.90	79.30	20300	0.047	0.54	728	0.17

* Circular Conductors, all others are sector shaped

** Current Ratings based on perforated cable tray/free air

Installation Conditions for above Rating:

- Ambient Air Temperature 30°C
- Conductor Operating Temperature 90°C

INSTALLATION GUIDELINES

It is anticipated that many of the “in air” installations will be in buildings, and the ratings are therefore given in accordance with the IEE Wiring Regulations for Electrical Installations, BS7671.

It should be noted that all ratings for cables run in free air have been based on the assumption that they are shielded from the direct rays of the sun without restriction of ventilation. The rating for cables subjected to direct sunlight should be reduced to take into account this factor and further guidance on this subject is available on request.

In order to maintain circuit integrity under fire conditions, it should be ensured that all accessories and fixings used on the installation of Firetec Power and Firetec Impact Power are also fire rated.

Rating Factor for Ambient Air Temperatures

Air Temperature	25°C	30°C	35°C	40°C	45°C	50°C	55°C
Rating Factors	1.02	1.00	0.96	0.91	0.87	0.82	0.76