Single Core Rubber Insulated Cables for Traction & Rolling Stock

Application

This Anixter range of cables is designed for use in protected or exposed installation on traction and rolling stock within vehicles, or jumper connections between vehicles, and may also find applications in the connection of coil windings and flexible power leads.

Construction

All cables incorporate a flexible conductor with dual layer insulation comprising of an EPR inner layer and HOFR outer layer.

Specifications

- In accordance with BRB/LUL/RIA specification No. 21 (these cables were formerly covered in BRB/RIA 7 and BRB/RIA 11).
- **Conductors:** Flexible class five tinned copper conductors to BS EN 60228.
- **Insulation:** Composite rubber insulation Type FR1 or FR2 (1900/3300v grade only) to BS7655. The composite rubber insulation employs an EPR inner layer and a CSP outer layer, the two layers being applied simultaneously in a dual extrusion process.
- **Flame Retardant** to BS EN 60332-1-2.
- **Voltage Rating:** 300/500V, 600/1000V and 1900/3300V.
- **Temperature Rating:** 85ºC maximum conductor operating temperature.

Single Core Rubber Insulated Cables for Traction & Rolling Stock

PADS (BR) Catalogue Number	Anixter Number	Conductor			Maximum Outer Diameter	Nominal Weight	Minimum Bending Radius Fixed Bend	*RIA Item Number
		Number and Nominal Diameter of Strands #/mm	Nominal Conductor Area mm²	Thickness of covering mm	mm	kg/km	mm	
300/500V Cables for Protected Installations								
6/101365	A4CY1-0010-02	32/0.2	1.0	0.80	3.70	23	8	1
6/101600	A4CY1-0015-02	30/0.25	1.5	0.80	4.00	29	8	2
6/101900	A4CY1-0025-02	50/0.25	2.5	0.90	4.60	42	10	3
6/102200	A4CY1-0040-02	56/0.3	4.0	1.00	5.40	61	11	4
6/102400	A4CY1-0060-02	84/0.3	6.0	1.00	6.50	89	13	5
6/102800	A4CY1-0100-02	80/0.4	10	1.20	7.90	141	16	6
6/103030	A4CY1-0160-02	126/0.4	16	1.20	9.00	204	18	7
600/1000V Cables for Protected Installations								
6/104800	A4CY2-0015-02	30/0.25	1.5	1.40	5.20	41	11	8
6/105192	A4CY2-0025-02	50/0.25	2.5	1.40	5.60	53	12	9
6/105600	A4CY2-0040-02	56/0.3	4	1.40	6.30	73	13	10
6/105950	A4CY2-0060-02	84/0.3	6	1.50	7.50	104	15	11
6/106870	A4CY2-0100-02	80/0.4	10	1.50	8.50	152	17	12
6/108155	A4CY2-0160-02	126/0.4	16	1.50	9.60	217	20	13
6/108500	A4CY2-0250-02	196/0.4	25	1.60	11.40	322	40	14
6/108790	A4CY2-0350-02	276/0.4	35	1.60	12.80	430	40	15
6/109028	A4CY2-0500-02	396/0.4	50	1.70	14.80	596	50	16
6/109330	A4CY2-0700-02	360/0.5	70	1.80	17.20	807	60	17
6/109580	A4CY2-0950-02	475/0.5	95	2.00	19.70	1054	60	18
6/109680	A4CY2-1200-02	608/0.5	120	2.20	21.90	1345	70	19
6/109900	A4CY2-1500-02	756/0.5	150	2.30	24.10	1648	80	20
6/110200	A4CY2-1850-02	925/0.5	185	2.40	26.30	1992	80	21
	A4CY2-2400-02	1221/0.5	240	2.40	29.30	2567	90	22
1900/3300V Cables for Protected Installations								
6/121350	A4CY3-0025-02	50/0.25	2.5	2.80	8.50	100	17	23
6/121400	A4CY3-0100-02	80/0.4	10	2.80	11.30	216	40	24
6/121680	A4CY3-0160-02	126/0.4	16	2.80	12.40	288	40	25
6/108504	A4CY3-0250-02	196/0.4	25	2.80	13.80	392	50	26
6/108790	A4CY3-0350-02	276/0.4	35	2.80	15.20	509	50	27
6/109040	A4CY3-0500-02	396/0.4	50	2.80	17.10	682	60	28
6/109346	A4CY3-0700-02	360/0.5	70	2.80	19.20	894	60	29
6/109585	A4CY3-0950-02	475/0.5	95	3.00	22.00	1168	70	30
6/109685	A4CY3-1200-02	608/0.5	120	3.00	23.50	1433	80	31
6/109990	A4CY3-1500-02	756/0.5	150	3.00	25.50	1734	110	32
6/110205	A4CY3-1850-02	925/0.5	185	3.00	27.50	2073	110	33
6/110385	A4CY3-2400-02	1221/0.5	240	3.00	30.50	2657	130	34
6/110450	A4CY3-3000-02	1525/0.5	300	3.00	33.80	3279	140	35
6/110510	A4CY3-4000-02	2013/0.5	400	3.00	37.80	4229	150	36
1900/3300V Cables for Exposed Installations								
6/122505	A4CY4-0700-02	360/0.5	70	5.0	24.20	1141	80	37
6/122810	A4CY4-0950-02	475/0.5	95	5.0	26.30	1404	110	38
6/123105	A4CY4-1200-02	608/0.5	120	5.0	27.80	1685	120	39
6/123295	A4CY4-1500-02	756/0.5	150	5.0	29.80	2011	120	40
6/123455	A4CY4-1850-02	925/0.5	185	5.0	32.10	2385	130	41
6/123805	A4CY4-2400-02	1221/0.5	240	5.0	35.10	3001	150	42
6/123965	A4CY4-3000-02	1525/0.5	300	5.0	38.10	3631	160	43
6/124155	A4CY4-4000-02	2013/0.5	400	5.0	42.10	4621	170	44

*RIA = Railway Industry Association.

Technical Specifications

Nominal Conductor Area mm²	1.0	1.5	2.5	4.0	6.0	10	16	25	35	50	70
Continuous Current Ratings A	23	28	38	52	68	96	128	171	215	270	337

Nominal Conductor Area mm²	404	478	549	627	756	883	1070
Continuous Current Ratings A	95	120	150	185	240	300	400

The above ratings are based on a single cable isolated in free air and assumes ambient air temperature of 30ºC and conductor operating temperature of 85ºC.

Where cables are to be used in ambient temperatures other than 30°C the following rating factors should be applied:

Ambient air temp ºC	25	30	35	40	45	50	55	60	65	70	75	80
Rating factor	1.02	1.0	0.95	0.90	0.85	0.80	0.74	0.67	0.60	0.52	0.43	0.30

Where cables are to be grouped, the following factors should be applied:

No. of cable grouped and touching	2	3	4	5	6	7	8
Rating factor	0.8	0.7	0.65	0.6	0.56	0.53	0.5

- Item numbers 26-36 inclusive may also be used in exposed installations but only when rated at 600/1000V.
- Cables below 25mm² shall not be used in exposed installations and will normally be installed in ducts, conduit, cabinets, etc.