ABHAR CABLE CO.

QUALITY MANAGEMENT GLC SYSTEMS
ISO 9002
Certificate No.
QS-1147HH

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Dutch Council for
Accreditation

AC ABHAR CABLE

ABHAR CABLE

Instrumentation cables

Instrumentation cables are used to transmit and receive control system, analogue and digital signals to and from sensors and equipments.

These cables mostly operate at voltage levels of 24 to 110 v and/ or at 4-20 mA current rating. Instrumentation cables should be isolated from external electrical interferences.

AC manufactures a wide varity of instrumentation cables suitable for use in different types of industries, especially power generation and distribution plants and the petrochemical industries.

ABHAR CABLE

INSTRUMENTATION CABLES

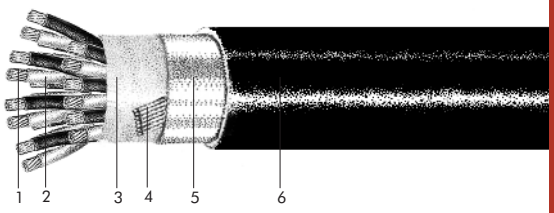
CONTENTS

ABHAR CABLE

Cu/PVC/OSCR/PVC

BS 5308-2

Description:
Unarmoured instrumentation cable with copper conductor & PVC insulation, cores form pairs, pairs twisted in concentric layers, overall screen.



No. of Cores & Cross Section +No. of Drain Wires & Cross Section mm²	Insulation Thickness mm	Sheath Thickness mm	Cable Diameter Approx. mm	Total Weight Approx. kg/km
1 x 2 x 1 + 1 x 0.5 RM	0.6	0.8	7.8	65
2 x 2 x 1 + 1 x 0.5 RM	0.6	0.9	12.0	119
4 x 2 x 1 + 1 x 0.5 RM	0.6	1.1	14.3	203
6 x 2 x 1 + 1 x 0.5 RM	0.6	1.2	17.4	288
12 x 2 x 1 + 1 x 0.5 RM	0.6	1.3	22.2	504
16 x 2 x 1 + 1 x 0.5 RM	0.6	1.5	25.5	669
24 x 2 x 1 + 1 x 0.5 RM	0.6	1.7	30.8	975
37 x 2 x 1 + 1 x 0.5 RM	0.6	2.0	37.8	1474
1 x 2 x 1.5 + 1 x 0.5 RM	0.6	0.8	8.3	78
2 x 2 x 1.5 + 1 x 0.5 RM	0.6	1.1	13.3	159
4 x 2 x 1.5 + 1 x 0.5 RM	0.6	1.2	15.8	259
6 x 2 x 1.5 + 1 x 0.5 RM	0.6	1.3	19.0	369
12 x 2 x 1.5 + 1 x 0.5 RM	0.6	1.5	24.4	668
16 x 2 x 1.5 + 1 x 0.5 RM	0.6	1.5	27.6	851
24 x 2 x 1.5 + 1 x 0.5 RM	0.6	1.7	33.5	1246
37 x 2 x 1.5 + 1 x 0.5 RM	0.6	2.0	41.1	1889

1-Stranded Circular or Solid Conductor 2-PVC Insulation 3-Polyester Tape 4-Tinned Drain Wire 5-Aluminium Polyester Tape 6-PVC Sheathing

(Colour: Black, for intrinsically Safe Systems Blue).

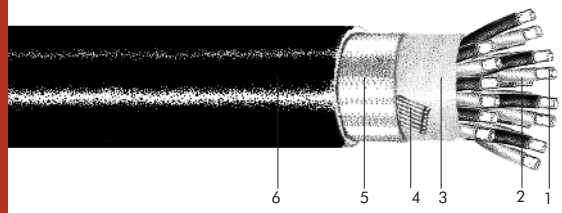
Maximum conductor temperature: 70°C

Drain wire identical to conductor cross-section is also available.

Electrical Data

Electrical Properties	Character	Unit	Values			
Conductor size	nom.	mm^2	0.5	0.75	1	1.5
Conductor resistance	max.	ohm/km	36.8	26.5	18.4	12.3
Insulation resistance	min.	M ohm.km	25			
Mutual capacitance 1KHz	max.	nF/km	250			
Capacitance between any core or screen at 1 kHz	max.	nF/km	450			
L/R(ratio)	max.	µH/ohm	25	25	25	40
Test voltage U_{rms} core:core		V	1000			
U_{rms} core:screen		V	1000			
Rated voltage U_0/U	max.	V	300/500			

ABHAR CABLE



BS 5308-1 Cu/XLPE/OSCR/PVC

Description:
Unarmoured instrumentation cable with copper conductor & XLPE insulation, cores form pairs, pairs twisted in concentric layers, overall screen.

No. of Cores & Cross Section +No. of Drain Wires & Cross Section mm²	Insulation Thickness mm	Sheath Thickness mm	Cable Diameter Approx. mm	Total Weight Approx. kg/km
1 x 2 x 1.5 + 1 x 0.5 RE	0.6	0.8	7.8	71
2 x 2 x 1.5 + 1 x 0.5 RE	0.6	0.9	12.1	132
4 x 2 x 1.5 + 1 x 0.5 RE	0.6	1.2	14.7	235
6 x 2 x 1.5 + 1 x 0.5 RE	0.6	1.2	17.5	325
12 x 2 x 1.5 + 1 x 0.5 RE	0.6	1.3	22.4	577
16 x 2 x 1.5 + 1 x 0.5 RE	0.6	1.5	25.7	766
24 x 2 x 1.5 + 1 x 0.5 RE	0.6	1.7	31.1	1120
37 x 2 x 1.5 + 1 x 0.5 RE	0.6	2.0	38.2	1696

1-Stranded Circular or Solid Conductor 2-XLPE Insulation 3-Polyester Tape 4-Tinned Drain Wire 5-Aluminium Polyester Tape 6-PVC Sheathing (Colour: Black, for intrinsically Safe Systems Blue).

Maximum conductor temperature: 90°C

Drain wire identical to conductor cross-section is also available.

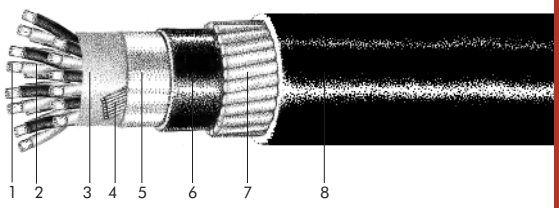
Electrical Data

Electrical Properties	Character	Unit	Values			
Conductor size	nom.	mm^2	0.5	0.75	1	1.5
Conductor resistance	max.	ohm/km	36.8	26.5	18.4	12.3
Insulation resistance	min.	Mohm.km	5000			
Mutual capacitance 1KHz	max.	nF/km	75	75	75	85
Capacitance between any core or screen at 1 kHz	max.	pF/250m	250			
L/R(ratio)	max.	µH/ohm	25	25	25	40
Test voltage U_{rms} core:core		V	1000			
U_{rms} core:screen		V	1000			
Rated voltage U_0/U	max.	V	300/500			

ABHAR CABLE

Cu/PVC/OSCR/Bd/SWA/PVC **BS 5308-2**

Description:
Wire armoured instrumentation cable with copper conductor & PVC insulation, cores form pairs, pairs twisted in concentric layers, overall screen.



No. of Cores & Cross Section +No. of Drain Wires & Cross Section mm²	Insulation Thickness mm	Armour Diameter mm	Sheath Thickness mm	Cable Diameter Approx. mm	Total Weight Approx. kg/km
1 x 2 x 1 + 1 x 0.5 RE	0.6	0.9	1.4	12.6	264
2 x 2 x 1 + 1 x 0.5 RE	0.6	0.9	1.5	16.7	416
4 x 2 x 1 + 1 x 0.5 RE	0.6	1.25	1.5	19.6	647
6 x 2 x 1 + 1 x 0.5 RE	0.6	1.25	1.6	22.8	822
12 x 2 x 1 + 1 x 0.5 RE	0.6	1.6	1.8	28.3	1348
16 x 2 x 1 + 1 x 0.5 RE	0.6	1.6	1.8	30.9	1577
24 x 2 x 1 + 1 x 0.5 RE	0.6	2.0	2.0	37.0	2333
37 x 2 x 1 + 1 x 0.5 RE	0.6	2.0	2.1	43.6	3067
1 x 2 x 1.5 + 1 x 0.5 RE	0.6	0.9	1.4	13.1	290
2 x 2 x 1.5 + 1 x 0.5 RE	0.6	0.9	1.5	17.6	457
4 x 2 x 1.5 + 1 x 0.5 RE	0.6	1.25	1.5	20.9	739
6 x 2 x 1.5 + 1 x 0.5 RE	0.6	1.6	1.7	24.9	1085
12 x 2 x 1.5 + 1 x 0.5 RE	0.6	1.6	1.8	30.0	1545
16 x 2 x 1.5 + 1 x 0.5 RE	0.6	1.6	1.9	33.5	1877
24 x 2 x 1.5 + 1 x 0.5 RE	0.6	2.0	2.1	40.1	2772
37 x 2 x 1.5 + 1 x 0.5 RE	0.6	2.0	2.2	47.4	3732

1-Stranded Circular or Solid Conductor 2-PVC Insulation 3-Polyester Tape 4-Tinned Drain Wire 5-Aluminium Polyester Tape 6-Extruded Bedding PVC

7-Galvanized Steel Wire Armour 8-PVC Sheathing (Colour: Black, for intrinsically Safe Systems Blue).

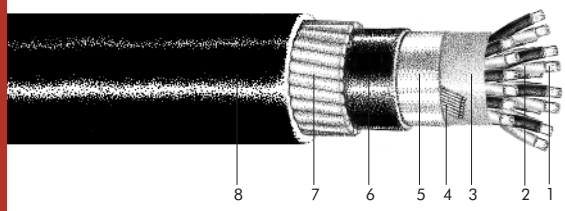
Maximum conductor temperature: 70°C

Drain wire identical to conductor cross-section is also available.

Electrical Data

Electrical Properties	Character	Unit	Values			
Conductor size	nom.	mm^2	0.5	0.75	1	1.5
Conductor resistance	max.	ohm/km	36.8	26.5	18.4	12.3
Insulation resistance	min.	M ohm.km	25			
Mutual capacitance 1KHz	max.	nF/km	250			
Capacitance between any core or screen at 1 kHz	max.	pF/km	450			
L/R(ratio)	max.	µH/ohm	25	25	25	40
Test voltage U_{rms} core:core		V	1000			
U_{rms} core:screen		V	1000			
Rated voltage U_0/U	max.	V	300/500			

ABHAR CABLE



BS 5308-1 Cu/XLPE/OSCR/Bd/SWA/PVC

Description:
Wire armoured instrumentation cable with copper conductor & XLPE insulation, cores form pairs, pairs twisted in concentric layers, overall screen.

No. of Cores & Cross Section +No. of Drain Wires & Cross Section mm^2	Insulation Thickness mm	Armour Diameter mm	Sheath Thickness mm	Cable Diameter Approx. mm	Total Weight Approx. kg/km
1 x 2 x 1.5 + 1 x 0.5 RE	0.6	0.9	1.4	13.1	288
2 x 2 x 1.5 + 1 x 0.5 RE	0.6	0.9	1.5	17.6	453
4 x 2 x 1.5 + 1 x 0.5 RE	0.6	1.25	1.5	20.9	730
6 x 2 x 1.5 + 1 x 0.5 RE	0.6	1.6	1.7	24.9	1071
12 x 2 x 1.5 + 1 x 0.5 RE	0.6	1.6	1.8	30.0	1515
16 x 2 x 1.5 + 1 x 0.5 RE	0.6	1.6	1.9	33.5	1836
24 x 2 x 1.5 + 1 x 0.5 RE	0.6	2.0	2.1	40.1	2710
37 x 2 x 1.5 + 1 x 0.5 RE	0.6	2.0	2.2	47.4	3635

1-Stranded Circular or Solid Conductor 2-XLPE Insulation 3-Polyester Tape 4-Tinned Drain Wire 5-Aluminium Polyester Tape 6-Extruded Bedding PVC

7-Galvanized Steel Wire Armour 8-PVC Sheathing (Colour: Black, for intrinsically Safe Systems Blue).

Maximum conductor temperature: 90°C

Drain wire identical to conductor cross-section is also available.

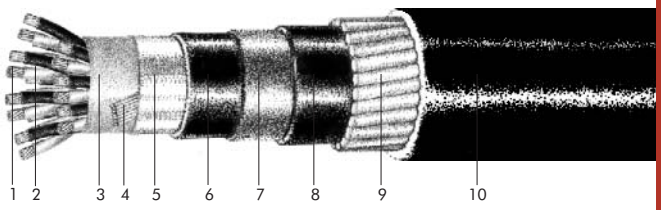
Electrical Data

Electrical Properties	Character	Unit	Values			
Conductor size	nom.	mm^2	0.5	0.75	1	1.5
Conductor resistance	max.	ohm/km	36.8	26.5	18.4	12.3
Insulation resistance	min.	M ohm.km	5000			
Mutual capacitance 1KHz	max.	nF/km	75	75	75	85
Capacitance between any core or screen at 1 kHz	max.	pF/250m	250			
L/R(ratio)	max.	µH/ohm	25	25	25	40
Test voltage U_{rms} core:core		V	1000			
U_{rms} core:screen		V	1000			
Rated voltage U_0/U	max.	V	300/500			

ABHAR CABLE

Cu/PVC/OSCR/Bd/Lsh/Bd/SWA/PVC **BS 5308-2**

Description:
Wire armoured instrumentation cable with lead sheath, copper conductor & PVC insulation, cores form pairs, pairs twisted in concentric layers, overall screen.



No. of Cores & Cross Section +No. of Drain Wires & Cross Section mm²	Insulation Thickness mm	Lead Thickness mm	Armour Diameter mm	Sheath Thickness mm	Cable Diameter Approx. mm	Total Weight Approx. kg/km
1 x 2 x 1 + 1x0.5 RM	0.6	1.1	1.25	1.5	18.9	895
2 x 2 x 1 + 1x0.5 RM	0.6	1.1	1.25	1.6	23.4	1275
4 x 2 x 1 + 1x0.5 RM	0.6	1.1	1.6	1.7	26.7	1705
6 x 2 x 1 + 1x0.5 RM	0.6	1.2	1.6	1.8	30.4	2148
12 x 2 x 1 + 1x0.5 RM	0.6	1.4	2.0	2.0	37.2	3272
16 x 2 x 1 + 1x0.5 RM	0.6	1.4	2.0	2.1	40.8	3816
24 x 2 x 1 + 1x0.5 RM	0.6	1.6	2.0	2.2	47.1	4963
37 x 2 x 1 + 1x0.5 RM	0.6	1.8	2.5	2.5	56.5	7166
1 x 2 x 1.5 + 1x0.5 RM	0.6	1.1	1.25	1.5	19.4	955
2 x 2 x 1.5 + 1x0.5 RM	0.6	1.1	1.6	1.7	25.7	1578
4 x 2 x 1.5 + 1x0.5 RM	0.6	1.2	1.6	1.8	28.8	1981
6 x 2 x 1.5 + 1x0.5 RM	0.6	1.3	1.6	1.8	32.4	2464
12 x 2 x 1.5 + 1x0.5 RM	0.6	1.4	2.0	2.0	39.5	3681
16 x 2 x 1.5 + 1x0.5 RM	0.6	1.5	2.0	2.1	43.3	4354
24 x 2 x 1.5 + 1x0.5 RM	0.6	1.6	2.5	2.4	51.2	6059
37 x 2 x 1.5 + 1x0.5 RM	0.6	1.9	2.5	2.6	60.4	8243

1-Stranded Circular or Solid Conductor 2-PVC Insulation 3-Polyester Tape 4-Tinned Drain Wire 5-Aluminium Polyester Tape 6-Extruded Bedding PVC

7-Lead Sheath 8-Extruded Bedding PVC 9-Galvanized Steel Wire Armour 10-PVC Sheathing (Colour: Black, for intrinsically Safe Systems Blue).

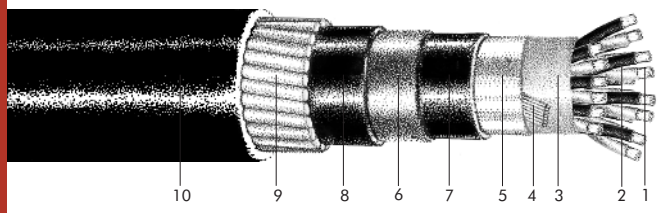
Maximum conductor temperature: 70°C

Drain wire identical to conductor cross-section is also available.

Electrical Data

Electrical Properties	Character	Unit	Values			
Conductor size	nom.	mm^2	0.5	0.75	1	1.5
Conductor resistance	max.	ohm/km	36.8	26.5	18.4	12.3
Insulation resistance	min.	M ohm.km	25			
Mutual capacitance 1KHz	max.	nF/km	250			
Capacitance between any core or screen at 1 kHz	max.	nF/km	450			
L/R(ratio)	max.	μH/ohm	25	25	25	40
Test voltage U_{rms} core:core		V	1000			
U_{rms} core:screen		V	1000			
Rated voltage U_0/U	max.	V	300/500			

ABHAR CABLE



BS 5308-1 Cu/XLPE/OSCR/Bd/Lsh/Bd/SWA/PVC

Description:
Wire armoured instrumentation cable with lead sheath, copper conductor & XLPE insulation, cores form pairs, pairs twisted in concentric layers, overall screen.

No. of Cores & Cross Section +No. of Drain Wires & Cross Section mm²	Insulation Thickness mm	Lead Thickness mm	Armour Diameter mm	Sheath Thickness mm	Cable Diameter Approx. mm	Total Weight Approx. kg/km
1 x 2 x 1.5 + 1x0.5 RE	0.6	1.1	1.25	1.5	18.9	915
2 x 2 x 1.5 + 1x0.5 RE	0.6	1.1	1.25	1.6	23.5	1294
4 x 2 x 1.5 + 1x0.5 RE	0.6	1.1	1.6	1.7	27.1	1776
6 x 2 x 1.5 + 1x0.5 RE	0.6	1.2	1.6	1.8	30.5	2194
12 x 2 x 1.5 + 1x0.5 RE	0.6	1.4	2.0	2.0	37.4	3360
16 x 2 x 1.5 + 1x0.5 RE	0.6	1.4	2.0	2.1	41.0	3930
24 x 2 x 1.5 + 1x0.5 RE	0.6	1.6	2.0	2.2	47.4	5156
37 x 2 x 1.5 + 1x0.5 RE	0.6	1.8	2.5	2.5	56.9	7459

1-Stranded Circular or Solid Conductor 2-XLPE Insulation 3-Polyester Tape 4-Tinned Drain Wire 5-Aluminium Polyester Tape 6-Extruded Bedding PVC

7-Lead Sheath 8-Extruded Bedding PVC 9-Galvanized Steel Wire Armour 10-PVC Sheathing (Colour: Black, for intrinsically Safe Systems Blue).

Maximum conductor temperature: 90°C

Drain wire identical to conductor cross-section is also available.

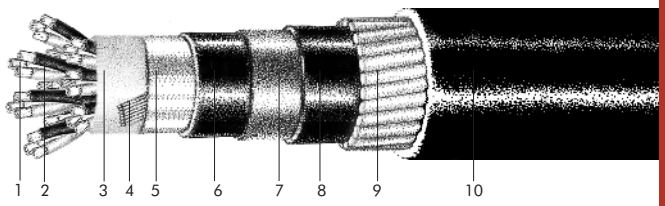
Electrical Data

Electrical Properties	Character	Unit	Values			
Conductor size	nom.	mm^2	0.5	0.75	1	1.5
Conductor resistance	max.	ohm/km	36.8	26.5	18.4	12.3
Insulation resistance	min.	M ohm.km	5000			
Mutual capacitance 1KHz	max.	nF/km	75	75	75	85
Capacitance between any core or screen at 1 kHz	max.	pF/250m	250			
L/R(ratio)	max.	µH/ohm	25	25	25	40
Test voltage U_{rms} core:core		V	1000			
U_{rms} core:screen		V	1000			
Rated voltage U_0/U	max.	V	300/500			

ABHAR CABLE

Cu/PVC/OSCR/Bd/LSH/Bd/SWA/PVC **BS 5308-2**

Description:
Wire armoured instrumentation cable with lead sheath, copper conductor & PVC insulation, cores form triples, triples twisted in concentric layers, overall screen.



No. of Cores & Cross Section +No. of Drain Wires & Cross Section mm²	Insulation Thickness mm	Lead Thickness mm	Armour Diameter mm	Sheath Thickness mm	Cable Diameter Approx. mm	Total Weight Approx. kg/km
1 x 3 x 1 + 1x0.5 RE	0.6	1.1	1.25	1.5	18.8	906
2 x 3 x 1 + 1x0.5 RE	0.6	1.1	1.6	1.7	25.2	1524
4 x 3 x 1 + 1x0.5 RE	0.6	1.1	1.6	1.7	27.4	1892
6 x 3 x 1 + 1x0.5 RE	0.6	1.3	1.6	1.8	32.2	2440
12 x 3 x 1 + 1x0.5 RE	0.6	1.4	2.0	2.0	38.4	3575
16 x 3 x 1 + 1x0.5 RE	0.6	1.5	2.0	2.1	42.5	4291
24 x 3 x 1 + 1x0.5 RE	0.6	1.6	2.5	2.3	50.0	5914
37 x 3 x 1 + 1x0.5 RE	0.6	1.8	2.5	2.6	58.8	7938
1 x 3 x 1.5 + 1x0.5 RE	0.6	1.1	1.25	1.5	19.4	968
2 x 3 x 1.5 + 1x0.5 RE	0.6	1.1	1.6	1.7	26.3	1660
4 x 3 x 1.5 + 1x0.5 RE	0.6	1.2	1.6	1.8	29.1	2088
6 x 3 x 1.5 + 1x0.5 RE	0.6	1.3	1.6	1.9	33.8	2695
12 x 3 x 1.5 + 1x0.5 RE	0.6	1.4	2.0	2.1	41.0	4041
16 x 3 x 1.5 + 1x0.5 RE	0.6	1.6	2.0	2.2	45.8	5012
24 x 3 x 1.5 + 1x0.5 RE	0.6	1.8	2.5	2.4	54.3	7152
37 x 3 x 1.5 + 1x0.5 RE	0.6	2.0	2.5	2.7	63.2	9445

1-Stranded Circular or Solid Conductor 2-PVC Insulation 3-Polyester Tape 4-Tinned Drain Wire 5-Aluminium Polyester Tape 6-Extruded Bedding PVC

7-Lead Sheath 8-Extruded Bedding PVC 9-Galvanized Steel Wire Armour 10-PVC Sheathing (Colour: Black, for intrinsically Safe Systems Blue).

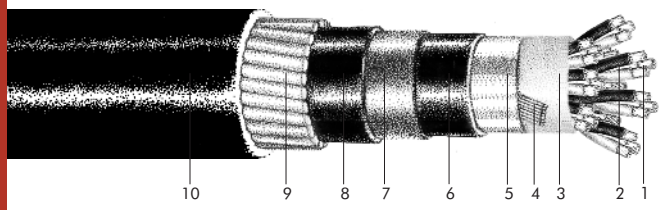
Maximum conductor temperature: 70°C

Drain wire identical to conductor cross-section is also available.

Electrical Data

Electrical Properties	Character	Unit	Values			
Conductor size	nom.	mm^2	0.5	0.75	1	1.5
Conductor resistance	max.	ohm/km	36.8	26.5	18.4	12.3
Insulation resistance	min.	M ohm.km	25			
Mutual capacitance 1KHz	max.	nF/km	250			
Capacitance between any core or screen at 1 kHz	max.	nF/km	450			
L/R(ratio)	max.	µH/ohm	25	25	25	40
Test voltage U_{rms} core:core		V	1000			
U_{rms} core:screen		V	1000			
Rated voltage U_0/U	max.	V	300/500			

ABHAR CABLE



BS 5308-1

Cu/XLPE/OSCR/Bd/Lsh/Bd/SWA/PVC

Description:
Wire armoured instrumentation cable with lead sheath, copper conductor & XLPE insulation, cores form triples, triples twisted in concentric layers, overall screen.

No. of Cores & Cross Section +No. of Drain Wires & Cross Section mm^2	Insulation Thickness mm	Lead Thickness mm	Armour Diameter mm	Sheath Thickness mm	Cable Diameter Approx. mm	Total Weight Approx. kg/km
1 x 3 x 1.5 + 1x0.5 RE	0.6	1.1	1.25	1.5	19.4	965
2 x 3 x 1.5 + 1x0.5 RE	0.6	1.1	1.6	1.7	26.3	1654
4 x 3 x 1.5 + 1x0.5 RE	0.6	1.2	1.6	1.8	29.1	2074
6 x 3 x 1.5 + 1x0.5 RE	0.6	1.3	1.6	1.9	33.8	2673
12 x 3 x 1.5 + 1x0.5 RE	0.6	1.4	2.0	2.1	41.0	3996
16 x 3 x 1.5 + 1x0.5 RE	0.6	1.6	2.0	2.2	45.8	4951
24 x 3 x 1.5 + 1x0.5 RE	0.6	1.8	2.5	2.4	54.3	7060
37 x 3 x 1.5 + 1x0.5 RE	0.6	2.0	2.5	2.7	63.2	9306

1-Stranded Circular or Solid Conductor 2-XLPE Insulation 3-Polyester Tape 4-Tinned Drain Wire 5-Aluminium Polyester Tape 6-Extruded Bedding PVC 7-Lead Sheath 8-Extruded Bedding PVC 9-Galvanized Steel Wire Armour 10-PVC Sheathing (Colour: Black, for intrinsically Safe Systems Blue).

Maximum conductor temperature: 90°C

Drain wire identical to conductor cross-section is also available.

Electrical Data

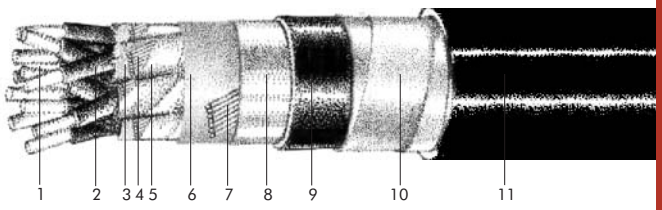
Electrical Properties	Character	Unit	Values			
Conductor size	nom.	mm^2	0.5	0.75	1	1.5
Conductor resistance	max.	ohm/km	36.8	26.5	18.4	12.3
Insulation resistance	min.	M ohm.km	5000			
Mutual capacitance 1KHz	max.	nF/km	75	75	75	85
Capacitance between any core or screen at 1 kHz	max.	pF/250m	250			
L/R(ratio)	max.	µH/ohm	25	25	25	40
Test voltage U_{rms} core:core		V	1000			
U_{rms} core:screen		V	1000			
Rated voltage U_0/U	max.	V	300/500			

ABHAR CABLE

Cu/PVC/ISCR/OSCR/Bd/DTA/PVC

BS 5308-2

Description:
Tape armoured instrumentation cable with copper conductor & PVC insulation, cores form pairs, pairs twisted in concentric layers, individual & overall screen.



No. of Cores & Cross Section +No. of Drain Wires & Cross Section mm²	Insulation Thickness mm	Tape Armour Thickness mm	Sheath Thickness mm	Cable Diameter Approx. mm	Total Weight Approx. kg/km
6 x 2 x 1 + 7 x 0.5 RE	0.6	0.2	1.6	22.3	621
12 x 2 x 1 + 13 x 0.5 RE	0.6	0.2	1.7	27.1	962
16 x 2 x 1 + 17 x 0.5 RE	0.6	0.2	1.8	30.5	1214
24 x 2 x 1 + 25 x 0.5 RE	0.6	0.2	2.0	36.0	1686
37 x 2 x 1 + 38 x 0.5 RE	0.6	0.5	2.1	43.9	2644
4 x 2 x 1.5 + 5 x 0.5 RE	0.6	0.2	1.5	20.4	545
6 x 2 x 1.5 + 7 x 0.5 RE	0.6	0.2	1.6	23.6	715
12 x 2 x 1.5 + 13 x 0.5 RE	0.6	0.2	1.8	29.0	1143
24 x 2 x 1.5 + 25 x 0.5 RE	0.6	0.5	2.0	39.4	2225
37 x 2 x 1.5 + 38 x 0.5 RE	0.6	0.5	2.2	47.1	3165

1-Stranded Circular or Solid Conductor 2-PVC Insulation 3-Polyester Tape 4-Tinned Drain Wire 5-Aluminium Polyester Tape 6-Polyester Tape 7-Tinned Drain Wire 8-Aluminium Polyester Tape 9-Extruded Bedding PVC 10-Galvanized Steel Tape Armour 11-PVC Sheathing (Colour: Black, for intrinsically Safe Systems Blue).

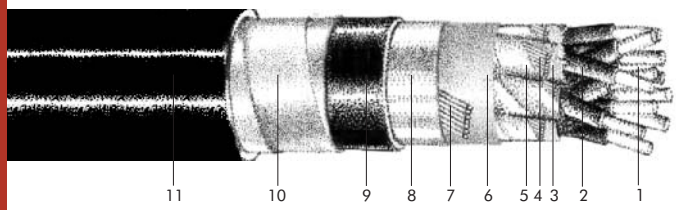
Maximum conductor temperature: 70°C

Drain wire identical to conductor cross-section is also available.

Electrical Data

Electrical Properties	Character	Unit	Values			
Conductor size	nom.	mm^2	0.5	0.75	1	1.5
Conductor resistance	max.	ohm/km	36.8	26.5	18.4	12.3
Insulation resistance	min.	M ohm.km	25			
Mutual capacitance 1KHz	max.	nF/km	250			
Capacitance between any core or screen at 1 kHz	max.	nF/km	450			
L/R(ratio)	max.	µH/ohm	25	25	25	40
Test voltage U_{rms} core:core		V	1000			
U_{rms} core:screen		V	1000			
Rated voltage U_0/U	max.	V	300/500			

ABHAR CABLE



BS 5308-1 Cu/XLPE/ISCR/OSCR/Bd/DTA/PVC

Description:
Tape armoured instrumentation cable with copper conductor & XLPE insulation, cores form pairs, pairs twisted in concentric layers, individual & overall screen.

No. of Cores & Cross Section +No. of Drain Wires & Cross Section mm^2	Insulation Thickness mm	Tape Armour Thickness mm	Sheath Thickness mm	Cable Diameter Approx. mm	Total Weight Approx. kg/km
4 x 2 x 1.5 + 5 x 0.5 RE	0.6	0.2	1.5	20.4	536
6 x 2 x 1.5 + 7 x 0.5 RE	0.6	0.2	1.6	23.6	700
12 x 2 x 1.5 + 13 x 0.5 RE	0.6	0.2	1.8	29.0	1113
16 x 2 x 1.5 + 17 x 0.5 RE	0.6	0.2	1.8	32.4	1393
24 x 2 x 1.5 + 25 x 0.5 RE	0.6	0.5	2.0	39.4	2163
37 x 2 x 1.5 + 38 x 0.5 RE	0.6	0.5	2.2	47.1	3069

1-Stranded Circular or Solid Conductor 2-XLPE Insulation 3-Polyester Tape 4-Tinned Drain Wire 5-Aluminium Polyester Tape 6-Polyester Tape 7-Tinned Drain Wire 8-Aluminium Polyester Tape 9-Extruded Bedding PVC 10-Galvanized Steel Tape Armour 11-PVC Sheathing (Colour: Black, for intrinsically Safe Systems Blue).

Maximum conductor temperature: 90°C

Drain wire identical to conductor cross-section is also available.

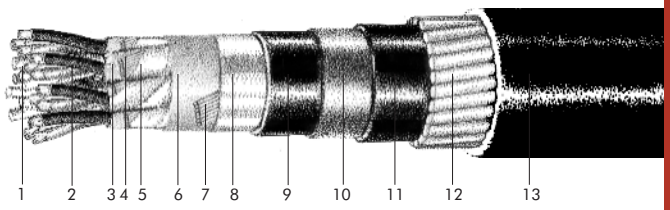
Electrical Data

Electrical Properties	Character	Unit	Values			
Conductor size	nom.	mm^2	0.5	0.75	1	1.5
Conductor resistance	max.	ohm/km	36.8	26.5	18.4	12.3
Insulation resistance	min.	M ohm.km	5000			
Mutual capacitance 1KHz	max.	nF/km	115	115	115	120
Capacitance between any core or screen at 1 kHz	max.	pF/250m	250			
L/R(ratio)	max.	µH/ohm	25	25	25	40
Test voltage U_{rms} core:core		V	1000			
U_{rms} core:screen		V	1000			
Rated voltage U_0/U	max.	V	300/500			

ABHAR CABLE

Cu/PVC/ISCR/OSCR/Bd/LSH/Bd/SWA/PVC **BS 5308-2**

Description:
Wire armoured instrumentation cable with lead sheath, copper conductor & PVC insulation , cores form triples, triples twisted in concentric layers,individual & overall screen.



No. of Cores & Cross Section +No. of Drain Wires & Cross Section mm^2	Insulation Thickness mm	Lead Thickness mm	Armour Diameter mm	Sheath Thickness mm	Cable Diameter Approx. mm	Total Weight Approx. kg/km
2 x 3 x 1 + 3x0.5 RE	0.6	1.1	1.6	1.7	25.6	1580
4 x 3 x 1 + 5x0.5 RE	0.6	1.2	1.6	1.8	28.4	1987
6 x 3 x 1 + 7x0.5 RE	0.6	1.3	1.6	1.9	32.9	2563
12 x 3 x 1 + 13x0.5 RE	0.6	1.4	2.0	2.0	39.6	3808
16 x 3 x 1 + 17x0.5 RE	0.6	1.5	2.0	2.1	43.4	4524
24 x 3 x 1 + 25x0.5 RE	0.6	1.7	2.5	2.4	51.7	6491
37 x 3 x 1 + 38x0.5 RE	0.6	1.9	2.5	2.6	60.5	8633
2 x 3 x 1.5 + 3x0.5 RE	0.6	1.1	1.6	1.7	26.6	1716
4 x 3 x 1.5 + 5x0.5 RE	0.6	1.2	1.6	1.8	29.6	2152
6 x 3 x 1.5 + 7x0.5 RE	0.6	1.3	1.6	1.9	34.4	2804
12 x 3 x 1.5 + 13x0.5 RE	0.6	1.4	2.0	2.1	41.7	4232
16 x 3 x 1.5 + 17x0.5 RE	0.6	1.6	2.0	2.2	46.7	5281
24 x 3 x 1.5 + 25x0.5 RE	0.6	1.8	2.5	2.5	55.6	7537
37 x 3 x 1.5 + 38x0.5 RE	0.6	2.0	2.5	2.7	65.0	10077

1-Stranded Circular or Solid Conductor 2-PVC Insulation 3-Polyester Tape 4-Tinned Drain Wire 5-Aluminium Polyester Tape 6-Polyester Tape 7-Tinned Drain Wire 8-Aluminium Polyester Tape 9-ExtrudedBedding PVC 10-Lead Sheath 11-Extrude Bedding PVC 12-Galvanized Steel Wire Armour 13-PVC Sheathing (Colour: Black, for intrinsically Safe Systems Blue).

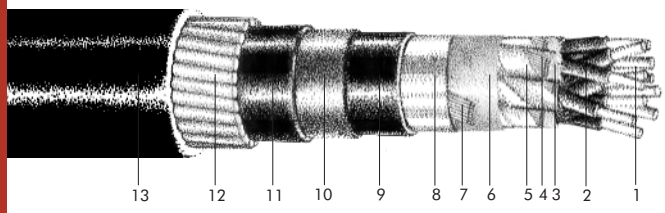
Maximum conductor temperature: 70°C

Drain wire identical to conductor cross-section is also available.

Electrical Data

Electrical Properties	Character	Unit	Values			
Conductor size	nom.	mm^2	0.5	0.75	1	1.5
Conductor resistance	max.	ohm/km	36.8	26.5	18.4	12.3
Insulation resistance	min.	M ohm.km	25			
Mutual capacitance 1KHz	max.	nF/km	250			
Capacitance between any core or screen at 1 kHz	max.	nF/km	450			
L/R(ratio)	max.	μH/ohm	25	25	25	40
Test voltage U_{rms} core:core		V	1000			
U_{rms} core:screen		V	1000			
Rated voltage U_0/U	max.	V	300/500			

ABHAR CABLE



BS 5308-1 Cu/XLPE/ISCR/OSCR/Bd/Lsh/Bd/SWA/PVC

Description:
Wire armoured instrumentation cable with lead sheath, copper conductor & XLPE insulation, cores form pairs, pairs twisted in concentric layers, individual & overall screen.

No. of Cores & Cross Section +No. of Drain Wires & Cross Section mm²	Insulation Thickness mm	Lead Thickness mm	Armour Diameter mm	Sheath Thickness mm	Cable Diameter Approx. mm	Total Weight Approx. kg/km
2 x 2 x 1.5 + 3x0.5 RE	0.6	1.1	1.6	1.7	25.1	1528
4 x 2 x 1.5 + 5x0.5 RE	0.6	1.2	1.6	1.8	28.2	1948
6 x 2 x 1.5 + 7x0.5 RE	0.6	1.2	1.6	1.8	31.1	2297
12 x 2 x 1.5 + 13x0.5 RE	0.6	1.4	2.0	2.0	38.2	3569
16 x 2 x 1.5 + 17x0.5 RE	0.6	1.4	2.0	2.1	41.8	4182
24 x 2 x 1.5 + 25x0.5 RE	0.6	1.6	2.5	2.3	49.6	5918
37 x 2 x 1.5 + 38x0.5 RE	0.6	1.8	2.5	2.5	58.1	7942

1-Stranded Circular or Solid Conductor 2-XLPE Insulation 3-Polyester Tape 4-Tinned Drain Wire 5-Aluminium Polyester Tape 6-Polyester Tape 7-Tinned Drain Wire 8-Aluminium Polyester Tape 9-Extruded Bedding PVC 10-Lead Sheath 11-Extrude Bedding PVC 12-Galvanized Steel Wire Armour 13-PVC Sheathing (Colour: Black, for intrinsically Safe Systems Blue).

Maximum conductor temperature: 90°C
Drain wire identical to conductor cross-section is also available.

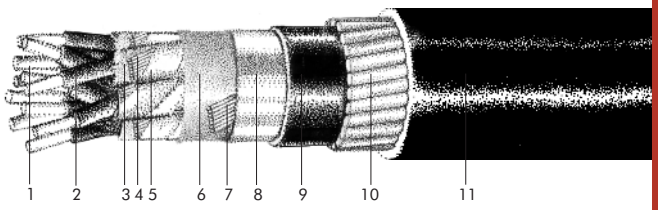
Electrical Data

Electrical Properties	Character	Unit	Values			
Conductor size	nom.	mm^2	0.5	0.75	1	1.5
Conductor resistance	max.	ohm/km	36.8	26.5	18.4	12.3
Insulation resistance	min.	M ohm.km	5000			
Mutual capacitance 1KHz	max.	nF/km	115	115	115	120
Capacitance between any core or screen at 1 kHz	max.	pF/250m	250			
L/R(ratio)	max.	µH/ohm	25	25	25	40
Test voltage U_{rms} core:core U_{rms} core:screen		V V	1000 1000			
Rated voltage U_0/U	max.	V	300/500			

ABHAR CABLE

Cu/XLPE/ISCR/OSCR/Bd/SWA/LSPVC **BS 5308-1**

Description:
Wire armoured instrumentation cable with copper conductor, XLPE insulation & low smoke PVC sheathing,cores form pairs, pairs twisted in concentric layers, individual & overall screen.



No. of Cores & Cross Section +No. of Drain Wires & Cross Section mm²	Insulation Thickness mm	Armour Diameter mm	Sheath Thickness mm	Cable Diameter Approx. mm	Total Weight Approx. kg/km
2 x 2 x 1.5 + 3 x 0.5 RE	0.6	1.25	1.5	19.0	620
4 x 2 x 1.5 + 5 x 0.5 RE	0.6	1.25	1.6	21.7	803
6 x 2 x 1.5 + 7 x 0.5 RE	0.6	1.6	1.7	25.5	1164
12 x 2 x 1.5 + 13 x 0.5 RE	0.6	1.6	1.8	30.7	1669
16 x 2 x 1.5 + 17 x 0.5 RE	0.6	1.6	1.9	34.3	2050
24 x 2 x 1.5 + 25 x 0.5 RE	0.6	2.0	2.1	41.1	3002
37 x 2 x 1.5 + 38 x 0.5 RE	0.6	2.5	2.3	49.8	4545

1-Stranded Circular or Solid Conductor 2-XLPE Insulation 3-Polyester Tape 4-Tinned Drain Wire 5-Aluminium Polyester Tape 6-Polyester Tape 7-Tinned Drain Wire 8-Aluminium Polyester Tape 9-Extruded Bedding PVC 10-Galvanized Steel Wire Armour 11-LSPVC Sheathing (Colour: Black, for intrinsically Safe Systems Blue).

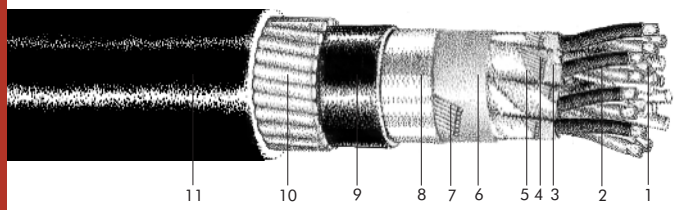
Maximum conductor temperature: 90°C

Drain wire identical to conductor cross-section is also available.

Electrical Data

Electrical Properties	Character	Unit	Values			
Conductor size	nom.	mm^2	0.5	0.75	1	1.5
Conductor resistance	max.	ohm/km	36.8	26.5	18.4	12.3
Insulation resistance	min.	M ohm.km	5000			
Mutual capacitance 1KHz	max.	nF/km	115	115	115	120
Capacitance between any core or screen at 1 kHz	max.	pF/250m	250			
L/R(ratio)	max.	µH/ohm	25	25	25	40
Test voltage U_{rms} core:core		V	1000			
U_{rms} core:screen		V	1000			
Rated voltage U_0/U	max.	V	300/500			

ABHAR CABLE



BS 5308-1 Cu/XLPE/ISCR/OSCR/Bd/SWA/LSPVC

Description:
Wire armoured instrumentation cable with copper conductor, XLPE insulation & low smoke PVC sheathing,cores form triples, triples twisted in concentric layers, individual & overall screen.

No. of Cores & Cross Section +No. of Drain Wires & Cross Section mm²	Insulation Thickness mm	Armour Diameter mm	Sheath Thickness mm	Cable Diameter Approx. mm	Total Weight Approx. kg/km
2 x 3 x 1.5 + 3 x 0.5 RE	0.6	1.25	1.5	20.4	704
4 x 3 x 1.5 + 5 x 0.5 RE	0.6	1.25	1.6	23.1	933
6 x 3 x 1.5 + 7 x 0.5 RE	0.6	1.6	1.8	28.4	1414
12 x 3 x 1.5 + 13 x 0.5 RE	0.6	1.6	1.9	34.2	2086
16 x 3 x 1.5 + 17 x 0.5 RE	0.6	2.0	2.0	39.2	2833
24 x 3 x 1.5 + 25 x 0.5 RE	0.6	2.0	2.2	46.1	3789
37 x 3 x 1.5 + 38 x 0.5 RE	0.6	2.5	2.5	55.8	5648

1-Stranded Circular or Solid Conductor 2-XLPE Insulation 3-Polyester Tape 4-Tinned Drain Wire 5-Aluminium Polyester Tape 6-Polyester Tape 7-Tinned Drain Wire 8-Aluminium Polyester Tape 9-Extruded Bedding PVC 10-Galvanized Steel Wire Armour 11-LSPVC Sheathing (Colour: Black, for intrinsically Safe Systems Blue).

Maximum conductor temperature: 90°C

Drain wire identical to conductor cross-section is also available.

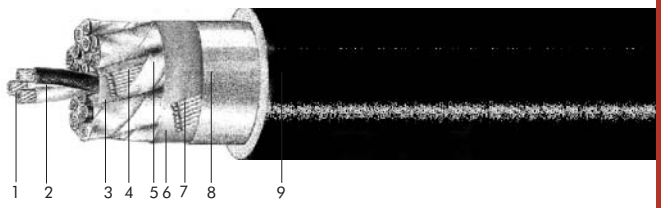
Electrical Data

Electrical Properties	Character	Unit	Values			
Conductor size	nom.	mm^2	0.5	0.75	1	1.5
Conductor resistance	max.	ohm/km	36.8	26.5	18.4	12.3
Insulation resistance	min.	M ohm.km	5000			
Mutual capacitance 1KHz	max.	nF/km	115	115	115	120
Capacitance between any core or screen at 1 kHz	max.	pF/250m	250			
L/R(ratio)	max.	µH/ohm	25	25	25	40
Test voltage U_{rms} core:core		V	1000			
U_{rms} core:screen		V	1000			
Rated voltage U_0/U	max.	V	300/500			

ABHAR CABLE

Cu/PVC/ISCR/OSCR/OPVC **BS 5308-2**

Description:
Unarmoured instrumentation cable with copper conductor, PVC insulation & oil resistant PVC sheathing, cores form triples, triples twisted in concentric layers, individual & overall screen.



No. of Cores & Cross Section +No. of Drain Wires & Cross Section mm²	Insulation Thickness mm	Sheath Thickness mm	Cable Diameter Approx. mm	Total Weight Approx. kg/km
2x 3 x 1 + 3 x 0.5 RM	0.6	1.1	14.1	188
4 x 3 x 1 + 5 x 0.5 RM	0.6	1.2	16.4	314
6 x 3 x 1 + 7 x 0.5 RM	0.6	1.3	20.7	457
12 x 3 x 1 + 13 x 0.5 RM	0.6	1.5	26.2	836
16 x 3 x 1 + 17 x 0.5 RM	0.6	1.7	30.2	1106
24 x 3 x 1 + 25 x 0.5 RM	0.6	2.0	36.6	1636
37 x 3 x 1 + 38 x 0.5 RM	0.6	2.0	44.2	2400
2 x 3 x 1.5 + 3 x 0.5 RM	0.6	1.2	15.5	235
4 x 3 x 1.5 + 5 x 0.5 RM	0.6	1.2	17.7	386
6 x 3 x 1.5 + 7 x 0.5 RM	0.6	1.3	22.3	564
12 x 3 x 1.5 + 13 x 0.5 RM	0.6	1.5	28.4	1043
16 x 3 x 1.5 + 17 x 0.5 RM	0.6	1.7	32.7	1381
24 x 3 x 1.5 + 25 x 0.5 RM	0.6	2.0	39.6	2048
37 x 3 x 1.5 + 38 x 0.5 RM	0.6	2.2	45.0	2927

1-Stranded Circular or Solid Conductor 2-PVC Insulation 3-Polyester Tape 4-Tinned Drain Wire 5-Aluminium Polyester Tape 6-Polyester Tape 7-Tinned Drain Wire 8-Aluminium Polyester Tape 9-OPVC Sheathing (Colour: Black, for intrinsically Safe Systems Blue).

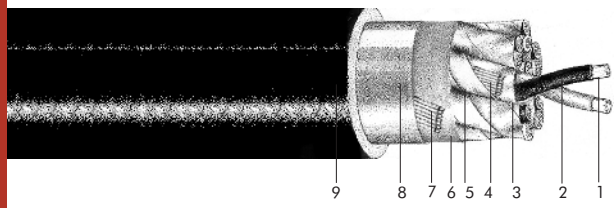
Maximum conductor temperature: 70°C

Drain wire identical to conductor cross-section is also available.

Electrical Data

Electrical Properties	Character	Unit	Values			
Conductor size	nom.	mm^2	0.5	0.75	1	1.5
Conductor resistance	max.	ohm/km	36.8	26.5	18.4	12.3
Insulation resistance	min.	M ohm.km	25			
Mutual capacitance 1KHz	max.	nF/km	250			
Capacitance between any core or screen at 1 kHz	max.	nF/km	450			
L/R(ratio)	max.	µH/ohm	25	25	25	40
Test voltage U_{rms} core:core		V	1000			
U_{rms} core:screen		V	1000			
Rated voltage U_0/U	max.	V	300/500			

ABHAR CABLE



BS 5308-1

TiCu/XLPE/ISCR/OSCR/PVC

Description:
Unarmoured instrumentation cable with tinned copper conductor & XLPE insulation, cores form pairs, pairs twisted in concentric layers, individual & overall screen.

No. of Cores & Cross Section +No. of Drain Wires & Cross Section mm²	Insulation Thickness mm	Sheath Thickness mm	Cable Diameter Approx. mm	Total Weight Approx. kg/km
2 x 2 x 1.5 + 3 x 0.5 RE	0.6	1.1	12.8	166
4 x 2 x 1.5 + 5 x 0.5 RE	0.6	1.2	15.2	275
6 x 2 x 1.5 + 7 x 0.5 RE	0.6	1.2	18.1	384
12 x 2 x 1.5 + 13 x 0.5 RE	0.6	1.3	23.1	693
16 x 2 x 1.5 + 17 x 0.5 RE	0.6	1.5	26.5	921
24 x 2 x 1.5 + 25 x 0.5 RE	0.6	1.7	32.1	1351
37 x 2 x 1.5 + 38 x 0.5 RE	0.6	2.0	39.4	2052

1-Stranded Circular or Solid Conductor 2-XLPE Insulation 3-Polyester Tape 4-Tinned Drain Wire 5-Aluminium Polyester Tape 6-Polyester Tape 7-Tinned Drain Wire 8-Aluminium Polyester Tape 9-PVC Sheathing (Colour: Black, for intrinsically Safe Systems Blue).

Maximum conductor temperature: 90°C

Drain wire identical to conductor cross-section is also available.

Electrical Data

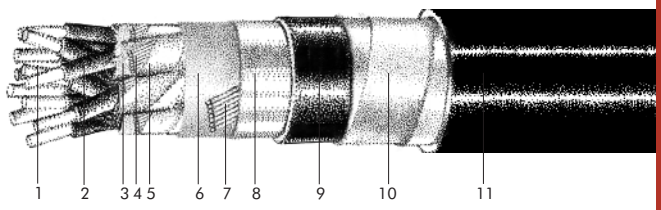
Electrical Properties	Character	Unit	Values			
Conductor size	nom.	mm^2	0.5	0.75	1	1.5
Conductor resistance	max.	ohm/km	36.8	26.5	18.4	12.3
Insulation resistance	min.	M ohm.km	5000			
Mutual capacitance 1KHz	max.	nF/km	115	115	115	120
Capacitance between any core or screen at 1 kHz	max.	pF/250m	250			
L/R(ratio)	max.	µH/ohm	25	25	25	40
Test voltage U_{rms} core:core		V	1000			
U_{rms} core:screen		V	1000			
Rated voltage U_0/U	max.	V	300/500			

ABHAR CABLE

TiCu/XLPE/ISCR/OSCR/Bd/DTA/PVC

BS 5308-1

Description:
Tape armoured instrumentation cable with tinned copper conductor & XLPE insulation,cores form pairs,pairs twisted in concentric layers, individual & overall screen.



No. of Cores & Cross Section +No. of Drain Wires & Cross Section mm²	Insulation Thickness mm	Tape Armour Thickness mm	Sheath Thickness mm	Cable Diameter Approx. mm	Total Weight Approx. kg/km
4 x 2 x 1.5 + 5 x 0.5 RE	0.6	0.2	1.5	20.4	537
6 x 2 x 1.5 + 7 x 0.5 RE	0.6	0.2	1.6	23.6	702
12 x 2 x 1.5 + 13 x 0.5 RE	0.6	0.2	1.8	29.0	1117
16 x 2 x 1.5 + 17 x 0.5 RE	0.6	0.2	1.8	32.4	1399
24 x 2 x 1.5 + 25 x 0.5 RE	0.6	0.5	2.0	39.4	2172
37 x 2 x 1.5 + 38 x 0.5 RE	0.6	0.5	2.2	47.1	3083

1-Stranded Circular or Solid Conductor 2-XLPE Insulation 3-Polyester Tape 4-Tinned Drain Wire 5-Aluminium Polyester Tape 6-Polyester Tape 7-Tinned Drain Wire 8-Aluminium Polyester Tape 9-Extruded Bedding PVC 10-Galvanized Steel Tape Armour 11-PVC Sheathing (Colour: Black, for intrinsically Safe Systems Blue).

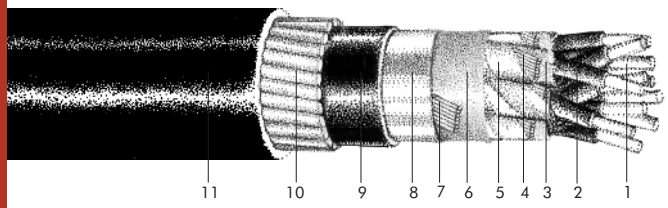
Maximum conductor temperature: 90°C

Drain wire identical to conductor cross-section is also available.

Electrical Data

Electrical Properties	Character	Unit	Values			
Conductor size	nom.	mm²	0.5	0.75	1	1.5
Conductor resistance	max.	ohm/km	36.8	26.5	18.4	12.3
Insulation resistance	min.	M ohm.km	5000			
Mutual capacitance 1KHz	max.	nF/km	115	115	115	120
Capacitance between any core or screen at 1 kHz	max.	pF/250m	250			
L/R(ratio)	max.	µH/ohm	25	25	25	40
Test voltage U_{rms} core:core		V	1000			
U_{rms} core:screen		V	1000			
Rated voltage U_0/U	max.	V	300/500			

ABHAR CABLE



BS 5308-1

TiCu/XLPE/ISCR/OSCR/Bd/SWA/PVC

Description:
Wire armoured instrumentation cable with tinned copper conductor & XLPE insulation, cores form pairs, pairs twisted in concentric layers, individual & overall screen.

No. of Cores & Cross Section +No. of Drain Wires & Cross Section mm²	Insulation Thickness mm	Armour Diameter mm	Sheath Thickness mm	Cable Diameter Approx. mm	Total Weight Approx. kg/km
2 x 2 x 1.5 + 3 x 0.5 RE	0.6	1.25	1.5	19.0	611
4 x 2 x 1.5 + 5 x 0.5 RE	0.6	1.25	1.6	21.7	792
6 x 2 x 1.5 + 7 x 0.5 RE	0.6	1.6	1.7	25.5	1150
12 x 2 x 1.5 + 13 x 0.5 RE	0.6	1.6	1.8	30.7	1653
16 x 2 x 1.5 + 17 x 0.5 RE	0.6	1.6	1.9	34.3	2030
24 x 2 x 1.5 + 25 x 0.5 RE	0.6	2.0	2.1	41.1	2975
37 x 2 x 1.5 + 38 x 0.5 RE	0.6	2.5	2.3	49.8	4510

1-Stranded Circular or Solid Conductor 2-XLPE Insulation 3-Polyester Tape 4-Tinned Drain Wire 5-Aluminium Polyester Tape 6-Polyester Tape 7-Tinned Drain Wire 8-Aluminium Polyester Tape 9-Extruded Bedding PVC 10-Galvanized Steel Wire Armour 11-PVC Sheathing (Colour: Black, for intrinsically Safe Systems Blue).

Maximum conductor temperature: 90°C

Drain wire identical to conductor cross-section is also available.

Electrical Data

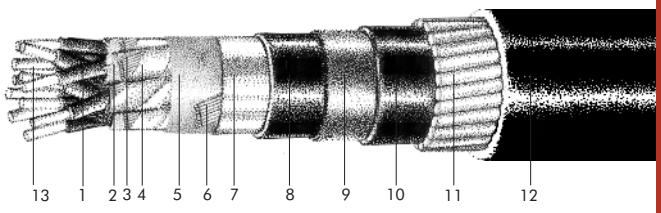
Electrical Properties	Character	Unit	Values			
Conductor size	nom.	mm^2	0.5	0.75	1	1.5
Conductor resistance	max.	ohm/km	36.8	26.5	18.4	12.3
Insulation resistance	min.	M ohm.km	5000			
Mutual capacitance 1KHz	max.	nF/km	115	115	115	120
Capacitance between any core or screen at 1 kHz	max.	pF/250m	250			
L/R(ratio)	max.	µH/ohm	25	25	25	40
Test voltage U_{rms} core:core		V	1000			
U_{rms} core:screen		V	1000			
Rated voltage U_0/U	max.	V	300/500			

ABHAR CABLE

TiCu/XLPE/ISCR/OSCR/Bd/Lsh/Bd/SWA/PVC

BS 5308-1

Description:
Wire armoured instrumentation cable with lead sheath, tinned copper conductor & XLPE insulation, cores form pairs, pairs twisted in concentric layers, individual & overall screen.



No. of Cores & Cross Section +No. of Drain Wires & Cross Section mm^2	Insulation Thickness mm	Lead Thickness mm	Armour Diameter mm	Sheath Thickness mm	Cable Diameter Approx. mm	Total Weight Approx. kg/km
2 x 2 x 1.5 + 3x0.5 RE	0.6	1.1	1.6	1.7	25.1	1529
4 x 2 x 1.5 + 5x0.5 RE	0.6	1.2	1.6	1.8	28.2	1950
6 x 2 x 1.5 + 7x0.5 RE	0.6	1.2	1.6	1.8	31.1	2300
12 x 2 x 1.5 + 13x0.5 RE	0.6	1.4	2.0	2.0	38.2	3573
16 x 2 x 1.5 + 17x0.5 RE	0.6	1.4	2.0	2.1	41.8	4188
24 x 2 x 1.5 + 25x0.5 RE	0.6	1.6	2.5	2.3	49.6	5927
37 x 2 x 1.5 + 38x0.5 RE	0.6	1.8	2.5	2.5	58.1	7956

1-Stranded Circular or Solid Conductor 2-XLPE Insulation 3-Polyester Tape 4-Tinned Drain Wire 5-Aluminium Polyester Tape 6-Polyester Tape 7-Tinned Drain Wire 8-Aluminium Polyester Tape 9-Extruded Bedding PVC 10-Lead Sheath 11-Extrude Bedding PVC 12-Galvanized Steel Wire Armour 13-PVC Sheathing (Colour: Black, for intrinsically Safe Systems Blue).

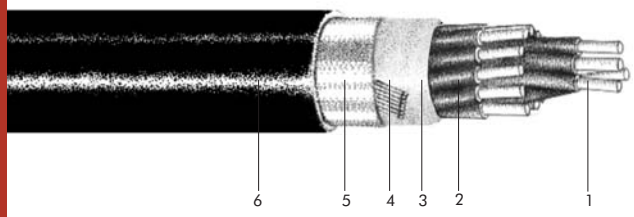
Maximum conductor temperature: 90°C

Drain wire identical to conductor cross-section is also available.

Electrical Data

Electrical Properties	Character	Unit	Values			
Conductor size	nom.	mm^2	0.5	0.75	1	1.5
Conductor resistance	max.	ohm/km	36.8	26.5	18.4	12.3
Insulation resistance	min.	M ohm.km	5000			
Mutual capacitance 1KHz	max.	nF/km	115	115	115	120
Capacitance between any core or screen at 1 kHz	max.	pF/250m	250			
L/R(ratio)	max.	µH/ohm	25	25	25	40
Test voltage U_{rms} core:core		V	1000			
U_{rms} core:screen		V	1000			
Rated voltage U_0/U	max.	V	300/500			

ABHAR CABLE



Cu/PVC/OSCR/PVC **BS 5308-1**

Description:
Unarmoured control cable with copper conductor and PVC insulation.

No. of Cores & Cross Section +No. of Drain Wires & Cross Section mm²	Insulation Thickness mm	Sheath Thickness mm	Cable Diameter Approx. mm	Total Weight kg/km
2 x 0.5 RM +1x 0.5	0.6	1.0	6.8	60
3 x 0.5 RM +1x 0.5	0.6	1.0	7.1	70
4 x 0.5 RM +1x 0.5	0.6	1.0	7.7	80
6 x 0.5 RM +1x 0.5	0.6	1.0	9.0	100
10 x 0.5 RM +1x0.5	0.6	1.0	11.2	150
20 x 0.5 RM +1x 0.5	0.6	1.0	14.5	260
40 x 0.5 RM +1x 0.5	0.6	1.0	19.3	470
80 x 0.5 RM +1x 0.5	0.6	1.0	26.6	880
2 x 0.75 RM +1x 0.5	0.6	1.0	7.2	60
3 x 0.75 RM +1x 0.5	0.6	1.0	7.6	80
4 x 0.75 RM +1x 0.5	0.6	1.0	8.2	90
6 x 0.75 RM +1x 0.5	0.6	1.0	9.6	120
10 x 0.75 RM +1x 0.5	0.6	1.0	12.0	180
20 x 0.75 RM +1x 0.5	0.6	1.0	15.6	320
40 x 0.75 RM +1x 0.5	0.6	1.0	20.8	590
80 x 0.75 RM +1x 0.5	0.6	1.0	29.3	1140

1-Copper Conductor 2- PVC Insulation 3- Polyester Tape 4-Tinned Drain Wire
5- Aluminium Polyester Tape 6- PVC Overall Sheath

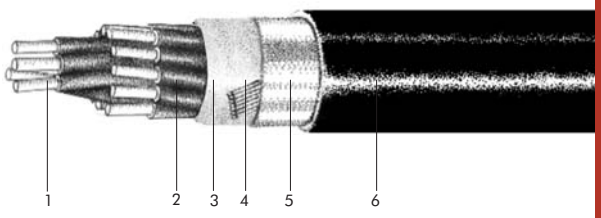
Electrical Data

Electrical properties	Character	Unit	Values			
Conductor size	nom.	mm2	0.5	0.75	1	1.5
Conductor resistance	max.	ohm/km	39.0	26.0	18.4	12.1
Insulation resistance	min.	M ohm.km	25			
Mutual capacitance 1KHz	max.	nF/km	250			
Capacitance between any core or screen at 1 kHz	max.	nF/km	450			
L/R(ratio)	max.	µH/ohm	25	25	25	40
Test voltage U_{rms} core:core U_{rms} core:screen		V V	1000 1000			
Rated voltage U_0/U	max.	V	300/500			

ABHAR CABLE

Cu/PVC/OSCR/PVC **BS 5308-2**

Description:
Unarmoured control cable with copper conductor and PVC insulation.



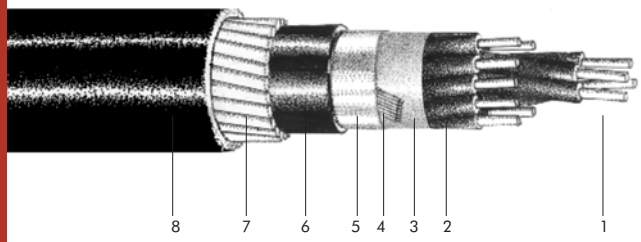
No. of Cores & Cross Section +No. of Drain Wires & Cross Section mm²	Insulation Thickness mm	Sheath Thickness mm	Cable Diameter mm	Total Weight kg/km
2 x 1 RM +1x 0.5	0.6	1.0	7.6	70
3 x 1 RM +1x 0.5	0.6	1.0	8.0	90
4 x 1 RM +1x 0.5	0.6	1.0	8.7	110
6 x 1 RM +1x 0.5	0.6	1.0	10.2	140
10 x 1 RM +1x 0.5	0.6	1.0	13.0	220
20 x 1 RM +1x 0.5	0.6	1.0	16.7	390
40 x 1 RM +1x 0.5	0.6	1.0	22.3	720
80 x 1 RM +1x 0.5	0.6	1.0	31.4	1400
2 x 1.5 RM +1x 0.5	0.6	1.0	8.2	80
3 x 1.5 RM +1x 0.5	0.6	1.0	8.6	110
4 x 1.5 RM +1x 0.5	0.6	1.0	9.4	130
6 x 1.5 RM +1x 0.5	0.6	1.0	11.1	180
10 x 1.5 RM +1x 0.5	0.6	1.0	14.4	280
20 x 1.5 RM +1x 0.5	0.6	1.0	18.7	510
40 x 1.5 RM +1x 0.5	0.6	1.0	25.0	960
80 x 1.5 RM +1x 0.5	0.6	1.0	34.5	1830

1-Copper Conductor 2- PVC Insulation 3- PolyesterTape 4- Tinned Drain Wire
5- Aluminium Polyester Tape 6- PVC Overall Sheath

Electrical Data

Electrical properties :	Character	Unit	Values			
Conductor size	nom.	mm2	0.5	0.75	1	1.5
Conductor resistance	max.	ohm/km	39.0	26.0	18.4	12.1
Insulation resistance	min.	M ohm.km	25			
Mutual capacitance 1KHz	max.	nF/km	250			
Capacitance between any core or screen at 1 kHz	max.	nF/km	450			
L/R(ratio)	max.	µH/ohm	25	25	25	40
Test voltage U_{rms} core:core U_{rms} core:screen		V V	1000 1000			
Rated voltage U_0/U	max.	V	300/500			

ABHAR CABLE



BS 5308-2 **Cu/PVC/OSCR/Bd/SWA/PVC**

Description:
Wire armoured control cable with copper conductor and PVC insulation.

No. of Cores & Cross Section +No. of Drain Wires & Cross Section mm²	Insulation Thickness mm	Armour Diameter mm	Sheath Thickness mm	Cable Diameter. mm	Total Weight kg/km
2 x 0.5 RM +1x 0.5	0.6	0.80	1.3	11.5	250
3 x 0.5 RM +1x 0.5	0.6	0.80	1.3	11.8	260
4 x 0.5 RM +1x 0.5	0.6	0.80	1.4	12.6	290
6 x 0.5 RM +1x 0.5	0.6	0.80	1.4	13.9	330
10 x 0.5 RM +1x 0.5	0.6	0.80	1.4	16.1	420
20 x 0.5 RM +1x 0.5	0.6	1.25	1.5	20.8	770
40 x 0.5 RM +1x 0.5	0.6	1.60	1.7	26.7	1290
80 x 0.5 RM +1x 0.5	0.6	1.60	1.9	34.7	2020
2 x 0.75 RM +1x 0.5	0.6	0.80	1.3	11.9	270
3 x 0.75 RM +1x 0.5	0.6	0.80	1.4	12.5	290
4 x 0.75 RM +1x 0.5	0.6	0.80	1.4	13.1	320
6 x 0.75 RM +1x 0.5	0.6	0.80	1.4	14.5	360
10 x 0.75 RM +1x 0.5	0.6	0.80	1.5	17.1	480
20 x 0.75 RM +1x 0.5	0.6	1.25	1.6	22.1	880
40 x 0.75 RM +1x 0.5	0.6	1.60	1.8	28.4	1490
80 x 0.75 RM +1x 0.5	0.6	2.00	2.0	38.5	2670

1- Copper Conductor 2- PVC Insulation 3- Polyester Tape 4- Tinned Drain Wire
5- Aluminium Polyester Tape 6- Bedding 7- Galvanized Steel Wire Armour 8- PVC Overall Sheath

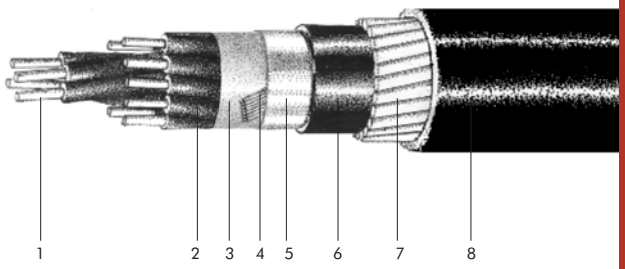
Electrical Data

Electrical properties	Character	Unit	Values			
Conductor size	nom.	mm2	0.5	0.75	1	1.5
Conductor resistance	max.	ohm/km	39.0	26.0	18.4	12.1
Insulation resistance	min.	M ohm.km	25			
Mutual capacitance 1KHz	max.	nF/km	250			
Capacitance between any core or screen at 1 kHz	max.	nF/km	450			
L/R(ratio)	max.	µH/ohm	25	25	25	40
Test voltage U_{rms} core:core U_{rms} core:screen		V V	1000 1000			
Rated voltage U_0/U	max.	V	300/500			

ABHAR CABLE

Cu/PVC/OSCR/Bd/SWA/PVC **BS 5308-2**

Description:
Wire armoured cable with copper conductor and PVC insulation.



No. of Cores & Cross Section +No. of Drain Wires & Cross Section mm²	Insulation Thickness mm	Armour Diameter mm	Sheath Thickness mm	Cable Diameter. mm	Total Weight kg/km
2 x 1 RM +1x 0.5	0.6	0.80	1.4	12.5	290
3 x 1 RM +1x 0.5	0.6	0.80	1.4	12.9	310
4 x 1 RM +1x 0.5	0.6	0.80	1.4	13.6	350
6 x 1 RM +1x 0.5	0.6	0.80	1.4	15.1	400
10 x 1 RM +1x 0.5	0.6	1.25	1.5	19.3	680
20 x 1 RM +1x 0.5	0.6	1.25	1.6	23.2	970
40 x 1 RM +1 x 0.5	0.6	1.60	1.8	30.1	1680
80 x 1 RM +1x 0.5	0.6	2.00	2.1	40.8	3040
2 x 1.5 RM +1x 0.5	0.6	0.80	1.0	13.1	320
3 x 1.5 RM +1x 0.5	0.6	0.80	1.4	13.5	350
4 x 1.5 RM +1x 0.5	0.6	0.80	1.4	14.3	390
6 x 1.5 RM +1x 0.5	0.6	0.80	1.4	16	450
10 x 1.5 RM +1x 0.5	0.6	1.25	1.5	20.7	790
20 x 1.5 RM +1x 0.5	0.6	1.60	1.7	26.1	1320
40 x 1.5 RM +1x 0.5	0.6	1.60	1.9	33.1	2040
80 x 1.5 RM +1x 0.5	0.6	2.00	2.1	43.9	3630

1-Copper Conductor 2- PVC Insulation 3-Polyester Tape 4-Tinned Drain Wire
5- Aluminium Polyester Tape 6- Bedding 7- Galvanized Steel Wire Armour 8- PVC Overall Sheath

Electrical Data

Electrical properties	Character	Unit	Values			
Conductor size	nom.	mm2	0.5	0.75	1	1.5
Conductor resistance	max.	ohm/km	39.0	26.0	18.4	12.1
Insulation resistance	min.	M ohm.km	25			
Mutual capacitance 1KHz	max.	nF/km	250			
Capacitance between any core or screen at 1 kHz	max.	nF/km	450			
L/R(ratio)	max.	µH/ohm	25	25	25	40
Test voltage U_{rms} core:core U_{rms} core:screen		V V	1000 1000			
Rated voltage U_0/U	max.	V	300/500			

ABHAR CABLE

TECHNICAL DATA

ABHAR CABLE

IEC & AWC Abbriviations

Cu	**Copper**
Al	**Aluminium**
AA	**Aluminium Alloy**
TiCu	**Tinned Copper**
SiCu	**Silver Coated copper**
RM	**Stranded Circular**
SM	**Shaped Stranded**
SE	**Shaped Solid**
RE	**Solid Circular**
RF	**Flexible Circular**
RMS	**Stranded Segmental (Milliken)**
CTS	**Copper Tape Screen**
CWS	**Copper Wire Screen**
CuB	**Copper Wire Braided Screen**
ICTS	**Individual Copper Tape Screen**
ICWS	**Individual Copper Wire Screen**
ISCR	**Individual Screen Formed by Polyester + Tinned Drain Wire + Aluminium Backed Polyester + Polyester**
ISCRC	**Individual Screen Formed by Polyester + Tinned Drain Wire + Copper Backed Polyester + Polyester**
OSCR	**Overall Screen Form ium Backed Polyester**
OSCRC	**Overall Screen Form r Backed Polyester**
TCB	**Tinned Copper Wire**
CW	**Communication Wire**
ATA	**Double Aluminium Tape Armour**
STA	**Double Galv. Steel Tape Armour**
AWA	**Aluminium Wire Armour**
AWAT	**Aluminium Wire Armour + Counter Herlix**
SWA	**Galv. Steel Wire Armour**
SWAT	**Galv. Steel Wire Armour + Counter Helix**
SSWA	**Stainless Steel Wire Armour**
DAWA	**Double Aluminum Wire Armour**
DSWA	**Double Galv. Steel Wire Armour**
TCWA	**Tinned Copper Wire Armour**
AWB	**Aluminium Wire Braided**
SWB	**Galv. Steel Wire Braided**
BWB	**Bronze Wire Braided**
SSWB	**Stainless Steel Wire Braided**
LSh	**Lead Sheath**
AlPE	**Aluminium Copolymer Coated**

ABHAR CABLE

Bd	**Bedding**
BT	**Brass tape**
BHT	**Bituminized Hessian Tape**
BPT	**Bitumen Coated Paper Tape**
BdT	**Bedding Tape (PVC or PE)**
BrT	**Bronze Tape**
MGT	**Mica Glass Tape**
PPT	**Polypropylene Tape**
SCT	**Semi Conductive Tape**
WBT	**Water Blocking Tape**
Pet	**Polyester Tape (Mylar)**
SCWBT	**Semi-Conductive Water Blocking Tape**
PPY	**Polypropylene Yarn**
WBY	**Water Blocking Yarn**
SCYF	**Semi-conductive Yarn Filler**
GC	**Graphite Coating**
GFB	**Glass Fiber Braided**
FPE	**Foamed Polyethylene (Cellular)**
TPU	**Thermoplastic Polyurethene**
SC	**Ext. Polymer Semi Conductive**
TPE	**Thermoplastic Elastomer**
PVC	**Polyvinylchloride**
XLPE	**Cross Linked Polyethylene**
SIR	**Silicone Rubber**
PE	**Polyethylene**
EVA	**Ethylene Vinyl Acetate**
XEVA	**Cross Linked EVA**
HDPE	**High Density Polyethylene**
HEPR	**Hard Grade Ethylene Propylene Rubber**
LDPE	**Low Density Polyethylene**
MDPE	**Medium Density Polyethylene**
LSFOH	**Low Smoke Flame Retardant Zero Halogen**
EPR	**Ethylene Propylene Rubber**
PVCE	**High Temperature PVC (90°C)**
PVCH	**High temperature Sheathing Compound equal to IEC ST2 ,VDE YM5 (90°C)**
APVC	**Anti Termite PVC**
APVCE	**Anti Termite High Temperature PVC (90°C)**
APVCH	**Anti Termite & High Temperature Sheathing Compound equal to IEC ST2 ,VDE YM5 (90°C)**
XPVC	**Cross Linked PVC**
OPVC	**Oil, Acid & Hydrocarbon Resistance Sheathing Compound**
OPVCH	**Oil Resistant & High Temperature Sheathing Compound equal to IEC ST2 ,VDE YM5 (90°C)**

ABHAR CABLE

FORMULAS

1- Inductance

$$L = K + 0.2Ln(2D/d) \qquad (mH/km)$$

K : Constant relating to conductor structure
D : Axial cable spacing (mm)
d : Conductor diameter (mm)

K	Strands
0	1
0.078	3
0.0642	7
0.0554	19
0.0528	37
0.0514	61 & over

2- Maximum Pulling Tension

Unarmoured :

$T = K S$ (N)

K = 50 for copper
K = 30 for aluminium

Armoured :

$T = K'D^2$ (N)

K' = 9 for wire armour
K'= 3 for tape armour,lead sheath

S : Conductor cross section (mm^2)
D : Cable diameter (mm)

ABHAR CABLE

FORMULAS

3-Capacitance

2 conductors: $$C_m = \frac{12.10\varepsilon}{\log(\frac{D_m}{kd_m} + \sqrt{(\frac{D_m}{kd_m})^2 - 1})}$$

Twisted Pair in Air: $$C_m = \frac{7.25\varepsilon}{\log\frac{1.3D_m}{kd_m}}$$

Shielded Twisted Pair: $$C_m = \frac{12.10\varepsilon}{\log\frac{1.2D_m}{kd_m}}$$

Cabled Twisted Pair $$C_m = \frac{9.61\varepsilon}{\log\frac{1.5Dm}{kdm}}$$

4-Characteristic Impedance

$$Z_o = \frac{3334.5\sqrt{\varepsilon}}{C_m}$$

ε = dielectric constant

D_m = insulated diameter (mm)

d_m = conductor diameter (mm)

k = stranding factor:

1.000 For 1 strand
0.939 For 7 strands
0.970 For 19 strands
0.980 For 37 strands

Z_o= characteristic impedance (Ω)

C_m = capacitance in (pF/m or nF/Km)

ABHAR CABLE

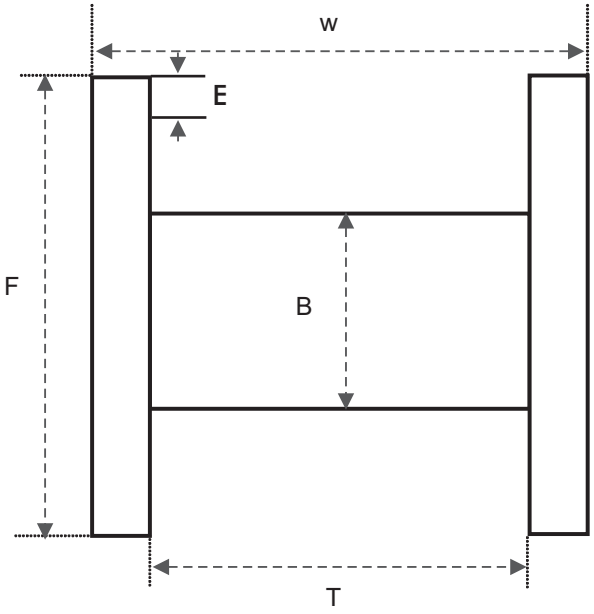
Max Cable length in meters on standard drums

Drum Sizes

Cable Dia.mm	6	8	10	12	14	16	18	20	22	24	26	30	Cable Dia.mm
6	1326	3961											6
7	975	2910											7
8	746	2228	4391										8
9	590	1760	3470										9
10	478	1426	2810	4566									10
11	395	1178	2323	3774									11
12	332	990	1952	3171	4912								12
13	283	844	1663	2702	4185								13
14		727	1434	2330	3609	4934							14
15		634	1249	2029	3144	4298							15
16		557	1098	1784	2763	3777							16
17		493	972	1580	2448	3346	4858						17
18		440	867	1409	2183	2985	4333	4643					18
19		395	778	1265	1959	2679	3889	4167	4722				19
20		356	703	1142	1768	2417	3510	3760	4262				20
21		323	637	1035	1604	2193	3183	3411	3866				21
22		295	581	943	1461	1998	2901	3108	3522	4815			22
23		270	531	863	1337	1828	2654	2843	3223	4406			23
24			488	793	1228	1679	2437	2611	2960	4046			24
25			450	731	1132	1547	2246	2407	2728	3729			25
26			416	675	1046	1430	2077	2225	2522	3448			26
27			386	626	970	1326	1926	2063	2338	3197			27
28			358	582	902	1233	1791	1919	2174	2973			28
29			334	543	841	1150	1669	1789	2027	2771	4826		29
30			312	507	786	1074	1560	1671	1894	2590	4510		30
31			292	475	736	1006	1461	1565	1774	2425	4224		31
32			274	446	691	944	1371	1469	1665	2276	3964		32
33			258	419	650	888	1289	1381	1565	2140	3727	4999	33
34				395	612	836	1214	1301	1475	2016	3511	4709	34
35				373	577	789	1146	1228	1392	1903	3313	4444	35
36				352	546	746	1083	1161	1315	1798	3132	4200	36
37				334	517	706	1026	1099	1245	1702	2965	3976	37
38				316	490	670	972	1042	1181	1614	2811	3770	38
39				300	465	636	923	989	1121	1532	2669	3579	39
40				285	442	604	877	940	1065	1457	2537	3402	40
41				272	421	575	835	895	1014	1386	2415	3238	41
42				259	401	548	796	853	966	1321	2301	3086	42
43					383	523	759	814	922	1260	2195	2944	43
44					365	499	725	777	881	1204	2097	2812	44
45					349	478	693	743	842	1151	2004	2688	45
46					334	457	663	711	806	1101	1918	2573	46
47					320	438	636	681	772	1055	1837	2464	47
48					307	420	609	653	740	1012	1762	2363	48
49					295	403	585	626	710	971	1691	2267	49
50					283	387	562	602	682	932	1624	2178	50
51					272	372	540	578	655	896	1561	2093	51
52					262	358	519	556	630	862	1501	2013	52
53					252	344	500	535	607	830	1445	1938	53
54						332	481	516	585	799	1392	1867	54
55						320	464	497	564	770	1342	1800	55
56						308	448	480	544	743	1294	1736	56
57						298	432	463	525	717	1249	1676	57
58						287	417	447	507	693	1207	1618	58
59						278	403	432	490	670	1166	1564	59
60						269	390	418	474	647	1127	1512	60
61						260	377	404	458	626	1091	1463	61
62						252	365	391	443	606	1056	1416	62
63							354	379	430	587	1023	1372	63
64							343	367	416	569	991	1329	64
65							332	356	403	552	961	1288	65
66							322	345	391	535	932	1250	66
67							313	335	380	519	904	1213	67
68							304	325	369	504	878	1177	68
69							295	316	358	490	853	1143	69
70							287	307	348	476	828	1111	70
71							278	298	338	462	805	1080	71
72							271	290	329	450	783	1050	72
73							263	282	320	437	762	1022	73
74							256	275	311	426	741	994	74
75							250	267	303	414	722	968	75
76								260	295	403	703	942	76
77								254	288	393	685	918	77
78									280	383	667	895	78
79									273	373	650	872	79
80									266	364	634	851	80
81									260	355	619	830	81
82									254	347	604	810	82
83										338	589	790	83
84										330	575	772	84
85										323	562	753	85
86										315	549	736	86
87										308	536	719	87
88										301	524	703	88
89										294	512	687	89
90										288	501	672	90
91										281	490	657	91
92										275	480	643	92
93										269	469	629	93
94										264	459	616	94
95										258	450	603	95
96										253	440	591	96
97											431	579	97
98											423	567	98
99											414	555	99
100											406	544	100

ABHAR CABLE

Drum size	Flange Dia. F	Barrel Dia. B	Traverse T	Width overall W	Drum weight Kg
6	600	300	400	430	20
8	800	350	520	600	30
10	1000	450	620	700	50
12	1200	600	720	820	70
14	1400	700	790	920	125
16	1600	900	900	1028	175
18	1800	1100	1120	1248	290
20	2000	1200	1120	1248	330
22	2200	1400	1120	1248	450
24	2400	1600	1370	1570	595
26	2600	1600	1700	1900	645
30	3000	2000	1900	2100	770



$$L_T = \frac{\pi NP\ (B + PD)}{1000}$$

$$P = \frac{F - B - 2E}{2D}$$

$$N = 0.95\ \frac{T}{D}$$

L_T = Length of Cable (m)
F = Flange Dia. (mm)
B = Barrel Dia. (mm)
D = Cable Dia. (mm)
T = Traverse (mm)
E = Empty Space (mm)

ABHAR CABLE