Section 2 Flexible Cables and Cords

2

Flexible Cables and Cords

Tri-Rated

105°C 600/1000 V

Application

For the internal wiring appliances and also the wiring of switch, control, metering and instrument panels of power switchgear.

Specifications

- In accordance with BS6231 Type CK
- Conforms to UL subject 758 Appliance Wiring Material (AWM) for styles 1015, 1028, 1283 and 1284 as applicable. RoHS Compliant
- Canadian Standards Association (CSA) approved. Complies with standard C22.2 No.127, Type TEW
- <HAR> Approved to H05V-K/H07V-K in accordance with H05V2-K/H07V2-K, depending on manufacturer
- **Conductors:** Flexible Class 5 conductors to BS EN 60228
- **Insulation:** PVC insulation
- Normal colours available see page 2:3
- Flame retardant to BS EN 60332-1-2 and VW-1
- **Temperature Rating:** BS6231 specifies a maximum continuous conductor operating temperature of 90°C, and for limited use up to 105°C. UL and CSA rated 105°C
- **Voltage Rating:** 600/1000 V (BS), 600 V (UL & CSA) 450/750 V (HAR)

Tri-Rated

105°C 600/1000 V

Anixter Number	Nominal Conductor Area	Nominal Conductor Stranding	Nominal O/D	Approximate Weight	UL Style Number
	mm^2	#/mm	mm	kg/km	
TRI-0005-##	0.5	16/0.2	2.6	12	1015
TRI-0007-##	0.75	24/0.2	2.8	15	1015
TRI-0010-##	1.0	32/0.2	3.0	18	1015
TRI-0015-##	1.5	30/0.25	3.3	23	1015
TRI-0025-##	2.5	50/0.25	3.7	34	1015
TRI-0040-##	4.0	56/0.3	4.4	50	1015
TRI-0060-##	6.0	84/0.3	5.1	71	1015
TRI-0100-##	10	80/0.4	6.9	123	1028
TRI-0160-##	16	126/0.4	8.6	207	1283
TRI-0250-##	25	196/0.4	10.5	303	1283
TRI-0350-##	35	276/0.4	11.9	412	1283
TRI-0500-##	50	396/0.4	14.4	607	1284
TRI-0700-##	70	360/0.5	16.7	837	1284
TRI-0950-##	95	475/0.5	19.0	1080	1284
TRI-1200-##	120	608/0.5	20.5	1280	1284

= colour, -01 = white, -02 = black, -03 = red, -04 = green, -05 = yellow, -06 = blue, -07 = brown, -08 = orange, -09 = grey, -10 = violet, -12 = pink, -60 = green/yellow. etc.
Other colours available upon request.

For more technical information see page 2:50.

Single-Core PVC Insulated H05V-K & H07V-K

70°C 300/500 V 2491X and 450/750 V 6701X

Application

For fixed protected installation inside appliances and in/on light fittings, where increased flexibility is required to assist installation.

Specifications

- In accordance with Cenelec code H05V-K1 and H07V-K1 RoHS Compliant
- **Conductors:** Flexible Class 5 copper conductors to BS EN 60228
- **Insulation:** PVC Insulation Type TI.1 to BS EN 50363-3
- Flame retardant to BS EN 60332-1-2
- **Temperature Rating:** 70°C maximum conductor operating temperature
- **Voltage Rating:** 300/500 V, 450/750 V

For tinned copper cores add suffix T after size letter code. e.g. HCN-K1-AT-##.

Also available in 90°C H05V2-K and H07V2-K versions upon request.

Single-Core PVC Insulated H05V-K & H07V-K

70°C 300/500 V 2491X and 450/750 V 6701X

Anixter Number	Cenelec Code	Nominal Conductor Area	Nominal Conductor Stranding	Insulation Thickness	Maximum O/D	Approximate Weight
		mm^2	#/mm	mm	mm	kg/km
HCN-K1-A-##	H05V-K1	0.5	16/0.2	0.6	2.5	10
HCN-K1-B-##	H05V-K1	0.75	24/0.2	0.6	2.7	13
HCN-K1-C-##	H05V-K1	1.0	32/0.2	0.6	2.8	16
HDN-K1-D-##	H07V-K1	1 .5	30/0.25	0.7	3.4	21
HDN-K1-E-##	H07V-K1	2.5	50/0.25	0.8	4.1	33
HDN-K1-F-##	H07V-K1	4.0	56/0.3	0.8	4.8	50
HDN-K1-G-##	H07V-K1	6.0	84/0.3	0.8	5.3	70
HDN-K1-H-##	H07V-K1	10	80/0.4	1.0	6.8	117
HDN-K1-I-##	H07V-K1	16	126/0.4	1.0	8.1	175
HDN-K1-J-##	H07V-K1	25	196/0.4	1.2	10.2	290
HDN-K1-K-##	H07V-K1	35	276/0.4	1.2	11.7	398
HDN-K1-L-##	H07V-K1	50	396/0.4	1.4	13.9	565
HDN-K1-M-##	H07V-K1	70	360/0.5	1.4	16.0	769
HDN-K1-N-##	H07V-K1	95	475/0.5	1.6	18.2	1010
HDN-K1-P-##	H07V-K1	120	608/0.5	1.6	20.2	1260
HDN-K1-Q-##	H07V-K1	150	765/0.5	1.8	22.5	1570
HDN-K1-R-##	H07V-K1	185	925/0.5	2.0	24.9	1900
HDN-K1-S-##	H07V-K1	240	1221/0.5	2.2	28.4	2500

= colour, -01 = white, -02 = black, -03 = red, -04 = green, -05 = yellow, -06 = blue, -07 = brown, -08 = orange, -09 = grey, -10 = violet, -12 = pink, -60 = green/yellow. etc.
Other colours available upon request.

For further technical information refer to pages 2:45 (H05V-K) and 2:46 (H07V-K).

DEF 61-12 Equipment Wires

Application

For internal wiring of electronic and other equipment.

Specification

- In accordance with DEF 61-12 Part 6 and BS4808 Part 2 RoHS Compliant
- **Conductors:** Tinned copper conductors to BS EN 60228
- **Insulation:** PVC insulation Type 2 to BS7655 (Types 1 and 2 equipment wires)
  - PVC insulation Type TI.1 to BS EN 50363-3 (Types 3, 7, 8, 9, 10 equipment wires)
- Normal colours available: red, blue, green, yellow, black, white, brown, violet, orange, grey, pink
- **Temperature Rating:** 85°C maximum conductor operating temperature
- **Voltage Rating:** 750, 1000, 1500 V a.c. and 3000 V d.c.

DEF 61-12 Equipment Wires

Anixter Number	Nominal Conductor Area	Nominal Conductor Stranding	Insulation Thickness	Minimum O/D	Maximum O/D	Approximate Weight
	mm^2	#/mm	mm	mm	mm	kg/km
Type 1 - PVC hard grade working temp - 15°C to +85°C 750 Vrms						
A4-S01-1013-##	0.13	1/0.4	0.2	0.75	0.85	1.7
A4-S01-1028-##	0.28	1/0.6	0.2	0.95	1.05	3.3
A4-S01-1022-##	0.22	7/0.2	0.2	0.95	1.05	2.8
Type 2 - PVC hard grade working temp - 15°C to +85°C 1000 Vrms						
A4-S01-2013-##	0.13	1/0.4	0.3	0.9	1.1	2.1
A4-S01-2028-##	0.28	1/0.6	0.3	1.1	1.3	3.8
A4-S01-1064-##	0.64	1/0.9	0.3	1.4	1.6	7.4
A4-S01-2022-##	0.22	7/0.2	0.3	1.1	1.3	3.3
A4-S01-1050-##	0.50	16/0.2	0.3	1.45	1.65	6.4
A4-S01-1075-##	0.75	24/0.2	0.45	1.95	2.15	10.3
Type 3 - PVC general purpose working temp - 20°C to +85°C 1500 Vrms						
A4-S01-3028-##	0.28	1/0.6	0.45	1.4	1.6	4.8
A4-S01-1010-##	1.00	1/1.13	0.45	1.95	2.15	12.4
A4-S01-2050-##	0.50	16/0.2	0.6	2.0	2.25	9.0
A4-S01-2075-##	0.75	24/0.2	0.6	2.2	2.45	11.8
A4-S01-2010-##	1.00	32/0.2	0.6	2.4	2.65	14.6
A4-S01-1020-##	2.00	63/0.2	0.6	2.9	3.15	25.3
Type 7 - PVC hard grade working temp - 20°C to +85°C 3000 V d.c.						
A4-S01-1005-##	0.50	16/0.2	0.9	2.6	2.85	12.4

= colour, -02 = black, -03 = red, -04 = green, -05 = yellow, -06 = blue, -07 = brown, -09 = grey, -60 = green/yellow.
Other colours available upon request.

PVC hard grade and general purpose, available screened and PVC sheathed.
For further technical information see page 2:52.
For "LFH" equipment wire refer to DEF 61-12 Part 18 wires in Section 5.

PVC Insulated and Sheathed Flexible Cords H05VV-F*

70°C 300/500 V 318*Y

Application

For external supply connection of portable appliances for medium duties in domestic or office environments.
* denotes number of cores.

Specifications

- In accordance with BS EN 50525-2-11 and Cenelec code H05VV-F
- **Conductors:** Flexible Class 5 conductors to BS EN 60228
- **Insulation:** PVC insulation Type TI.2 to BS EN 50363-3
- **Core Identification:**
  2 core - blue, brown
  3 core - green/yellow, blue, brown
  4 core - green/yellow, brown, black, grey
  5 core - green/yellow, brown, black, grey, blue
- **Sheath:** PVC sheath Type TM.2 to BS EN 50363-4-1 (black or white)
- Flame retardant to BS EN 60332-1-2
- **Temperature Rating:** 70°C maximum conductor operating temperature
- **Voltage Rating:** 300/500 V

PVC Insulated and Sheathed Flexible Cords H05VV-F*

70°C 300/500 V 318*Y

Anixter Number	Cenelec Code	Nominal Conductor Area	Nominal Conductor Stranding	Insulation Thickness	Minimum O/D	Maximum O/D	Approximate Cable Weight
		mm^2	#/mm	mm	mm	mm	kg/km
Twin Core Type 3182Y							
3182Y-0007-##	H05VV-F2	0.75	24/0.20	0.6	5.7	7.2	63
3182Y-0010-##	H05VV-F2	1.0	32/0.20	0.6	5.9	7.5	73
3182Y-0012*-##	-	1.25	40/0.20	0.7	6.3	8.0	84
3182Y-0015-##	H05VV-F2	1.5	30/0.25	0.7	6.8	8.6	95
3182Y-0025-##	H05VV-F2	2.5	50/0.25	0.8	8.4	10.6	145
3182Y-0040-##	H05VV-F2	4.0	56/0.30	0.8	9.7	12.1	200
Three Core Type 3183Y							
3183Y-0007-##	H05VV-F3	0.75	24/0.20	0.6	6.0	7.6	74
3183Y-0010-##	H05VV-F3	1.0	32/0.20	0.6	6.3	8.0	86
3183Y-0012*-##	-	1.25	40/0.20	0.7	6.9	8.7	104
3183Y-0015-##	H05VV-F3	1.5	30/0.25	0.7	7.4	9.4	120
3183Y-0025-##	H05VV-F3	2.5	50/0.25	0.8	9.2	11.4	180
3183Y-0040-##	H05VV-F3	4.0	56/0.30	0.8	10.5	13.1	250
Four Core Type 3184Y							
3184Y-0007-##	H05VV-F4	0.75	24/0.20	0.6	6.6	8.3	78
3184Y-0010-##	H05VV-F4	1.0	32/0.20	0.6	7.1	9.0	110
3184Y-0015-##	H05VV-F4	1.5	30/0.25	0.7	8.4	10.5	150
3184Y-0025-##	H05VV-F4	2.5	50/0.25	0.8	10.1	12.5	220
3184Y-0040-##	H05VV-F4	4.0	56/0.30	0.8	11.5	14.3	305
Five Core Type 3185Y							
3185Y-0007-##	H05VV-F5	0.75	24/0.20	0.6	7.4	9.3	98
3185Y-0010-##	H05VV-F5	1.0	32/0.20	0.6	7.8	9.8	118
3185Y-0015-##	H05VV-F5	1.5	30/0.25	0.7	9.3	11.6	180
3185Y-0025-##	H05VV-F5	2.5	50/0.25	0.8	11.2	13.9	265
3185Y-0040-##	H05VV-F5	4.0	56/0.30	0.8	13.0	16.1	380

= sheath colour, -01 = white, -02 = black.
Other colours available upon request.
* Not a harmonised type (National Type).
For further technical information see page 2:44.
Arctic grades also available. Details upon request.

PVC Insulated and Sheathed Heat Resistant Flexible Cords H05V2V2-F*

90°C 300/500 V 309*Y

Application

For external supply connection of portable or fixed electrical appliances operating in elevated temperature zones.
* denotes number of cores.

Specifications

- In accordance with BS EN 50525-2-11 and Cenelec code H05V2V2-F
- **Conductors:** Flexible Class 5 conductors to BS EN 60228
- **Insulation:** PVC insulation Type TI.3 to BS EN 50363-3
- **Core Identification:**
  2 core - blue, brown
  3 core - green/yellow, blue, brown
  4 core - green/yellow, brown, black, grey
- **Sheath:** PVC sheath Type TM.3 to BS EN 50363-4-1 (white)
- Flame retardant to BS EN 60332-1-2
- **Temperature Rating:** 90°C maximum conductor operating temperature
- **Voltage Rating:** 300/500 V

PVC Insulated and Sheathed Heat Resistant Flexible Cords

H05V2V2-F*

90°C 300/500 V 309*Y

Anixter Number	Nominal Conductor Area	Nominal Conductor Stranding	Insulation Thickness	Minimum O/D	Maximum O/D	Approximate Cable Weight
	mm^2	#/mm	mm	mm	mm	kg/km
Twin Core Type 3092Y						
3092Y-0005-01	0.5	16/0.20	0.6	5.6	7.0	46
3092Y-0007-01	0.75	24/0.20	0.6	5.7	7.2	55
3092Y-0010-01	1.0	32/0.20	0.6	5.9	7.5	65
3092Y-0015-01	1.5	30/0.25	0.7	6.8	8.6	80
3092Y-0025-01	2.5	50/0.25	0.8	8.4	10.6	125
Three Core Type 3093Y						
3093Y-0005-01	0.5	16/0.20	0.6	5.8	7.2	55
3093Y-0007-01	0.75	24/0.20	0.6	6.0	7.6	70
3093Y-0010-01	1.0	32/0.20	0.6	6.3	8.0	80
3093Y-0015-01	1.5	30/0.25	0.7	7.4	9.4	100
3093Y-0025-01	2.5	50/0.25	0.8	9.2	11.4	155
Four Core Type 3094Y						
3094Y-0005-01	0.5	16/0.20	0.6	6.4	7.8	70
3094Y-0007-01	0.75	24/0.20	0.6	6.6	8.3	85
3094Y-0010-01	1.0	32/0.20	0.6	7.1	9.0	100
3094Y-0015-01	1.5	30/0.25	0.7	8.4	10.5	130
3094Y-0025-01	2.5	50/0.25	0.8	10.1	12.5	195

For further technical information see page 2:44.

UL Style Single-Core Cables

1007/1569

Application

These wires are used in small equipment or for data transmission up to 300 Volts. These cables are internationally recognised.

Specifications

- **Conductors:** Flexible tinned copper (Class 5)
- **Insulation:** Nominal wall 0.38mm
- **Standards:** UL 1007
  UL 1569
  CSA TR-64 (90°C)
  VW-1
- **Fire Performance:** Flame retardant to VW-1
- **Temperature Rating:** -10°C minimum operating temperature
  +80°C/105°C (1007/1569) maximum conductor operating temperature
- **Voltage Rating:** 300 V

Anixter Number	Nominal Conductor Size	Nominal Conductor Stranding	Overall Diameter	Approximate Weight
	AWG	#/mm	mm	kg/km
UL 1007/1569 Flexible Tinned Conductors				
1007-26/7-##	26	7/0.16	1.27	2.7
1007-24/7-##	24	7/0.19	1.45	4.2
1007-22/7-##	22	7/0.24	1.57	5.5
1007-20/10-##	20	10/0.25	1.70	7.1
1007-18/16-##	18	16/0.25	2.01	10.4
1007-16/26-##	16	26/0.25	2.31	15.6
1569-14/41-##	14	41/0.25	2.59	23.2
1569-12/65-##	12	65/0.25	3.12	36.8
1569-10/105-##	10	105/0.254	3.68	55.5

Insert appropriate suffix for required colour of core:
0 = black, 1 = brown, 2 = red, 3 = orange, 4 = yellow, 5 = green
6 = blue, 7 = violet, 8 = grey, 9 = white, P = pink, 54 = green/yellow
Above information may vary depending on manufacturer.
Other cable constructions are available on request.

UL Style Single-Core Cables

1015

Application

This range of multi-standard cables is used for wiring in fixed installations of electric and electronic components in switch gear cabinets, up to 600 Volts. These cables are internationally recognised.

Specifications

- **Conductors:** Flexible tinned copper (Class 5)
- **Insulation:** Nominal wall 0.76mm
- **Standards:** UL 1015
  CSA TEW 105°C
  CSA TR-32 90°C
  VW-1
- **Fire Performance:** Flame retardant to VW-1
- **Temperature Rating:** -40°C minimum operating temperature
  +105°C maximum conductor operating temperature
- **Voltage Rating:** 600 V

Anixter Number	Nominal Conductor Size	Nominal Conductor Stranding	Overall Diameter	Approximate Weight
	AWG	#/mm	mm	kg/km
UL 1015 Flexible Tinned Conductors				
1015-24/7-##	24	7/0.19	2.21	7.3
1015-22/7-##	22	7/0.24	2.31	8.8
1015-20/10-##	20	10/0.25	2.51	10.9
1015-18/16-##	18	16/0.25	2.69	14.5
1015-16/26-##	16	26/0.25	2.97	20.2
1015-14/41-##	14	41/0.25	3.35	28.6
1015-12/65-##	12	65/0.25	3.84	42.4
1015-10/105-##	10	105/0.25	4.45	62.8

Insert appropriate suffix for required colour of core:
0 = black, 1 = brown, 2 = red, 3 = orange, 4 = yellow, 5 = green
6 = blue, 7 = violet, 8 = grey, 9 = white, P = pink, 54 = green/yellow
Above information may vary depending on manufacturer.
Other cable constructions are available on request.

UL Style Single-Core Cables

1061

Application

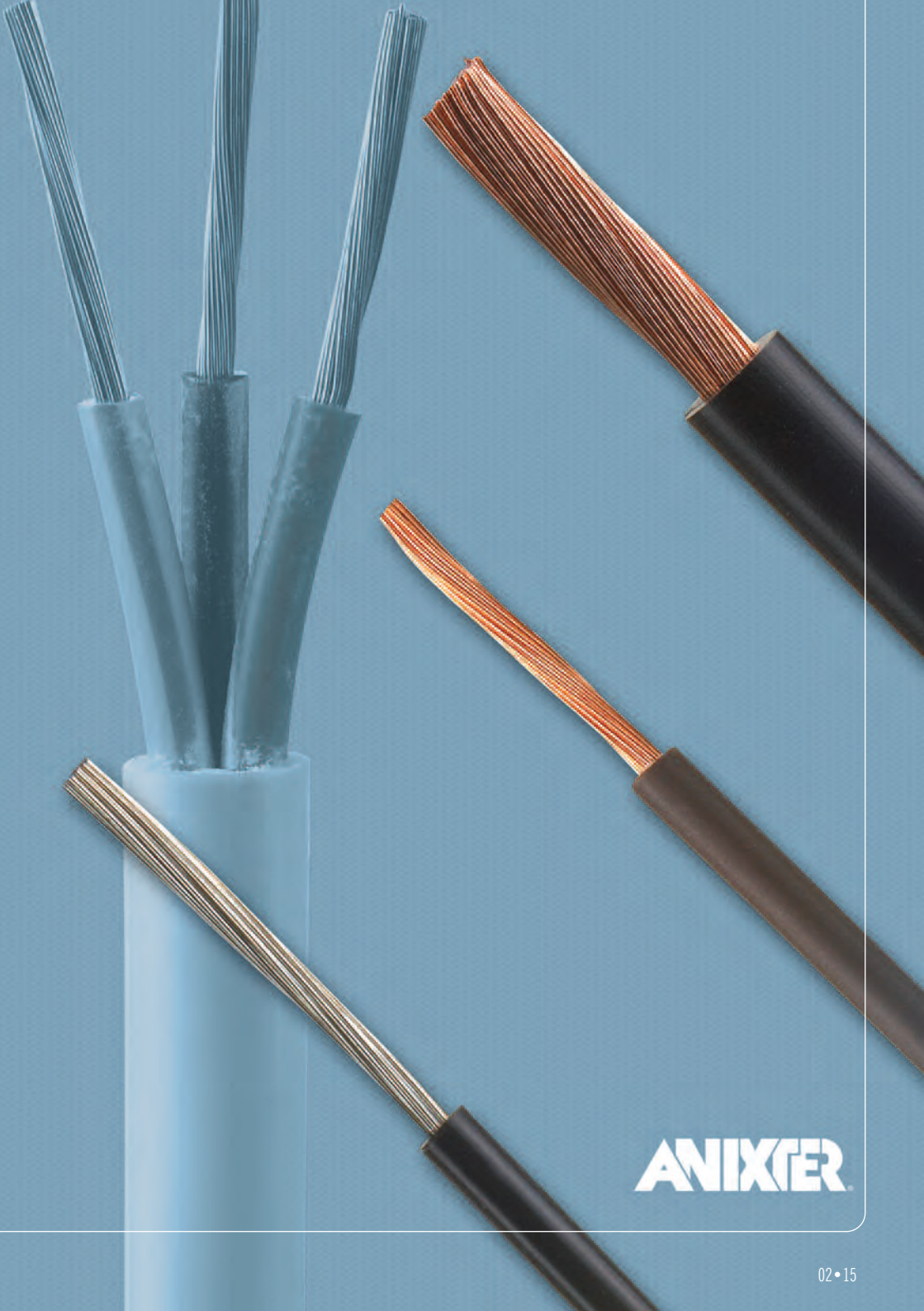
Designed to be used for internal installations and electronic control devices. These cables are internationally recognised.

Specifications

- **Conductors:** Flexible tinned copper (Class 5)
- **Insulation:** Nominal wall 0.23mm (semi-rigid)
- **Standards:** UL 1061
  VW-1
  CSA Type T II SR-PVC
- **Fire Performance:** Flame retardant to VW-1
- **Temperature Rating:** -10°C minimum operating temperature
  +80°C maximum conductor operating temperature
- **Voltage Rating:** 300 V

Anixter Number	Nominal Conductor Size	Nominal Conductor Stranding	Overall Diameter	Approximate Weight
	AWG	#/mm	mm	kg/km
UL 1061 Tinned Flexible Conductor				
1061-24/7-##	24	7/0.19	1.14	3.3
1061-22/7-##	22	7/0.24	1.30	4.9
1061-20/10-##	20	10/0.254	1.47	6.1
1061-18/16-##	18	16/0.254	1.70	9.1
1061-16/26-##	16	26/0.254	1.98	14.0

Insert appropriate suffix for required colour of core:
0 = black, 1 = brown, 2 = red, 3 = orange, 4 = yellow, 5 = green
6 = blue, 7 = violet, 8 = grey, 9 = white, P = pink, 54 = green/yellow
Above information may vary depending on manufacturer.
Other cable constructions are available on request.


ANIXTER

Automotive Wire

SXL - GXL

Application

For use in general wiring circuits in vehicles where severe conditions such as oxidation and high temperatures may be present. These wires are approved for use in motor and vehicle engine compartments.

Specifications

- **Conductors:** Plain stranded copper
- **Insulation:** XLPE
- **Standards:** SAE J1128, MIL085-A, MIL085-B, MS-5919, MS-8900
- **Fire Performance:** Flame retardant to VW-1
- **Temperature Rating:** -51°C minimum operating temperature +125°C maximum conductor operating temperature
- **Nominal Voltage:** 50 V

Anixter Number	Nominal Conductor Size	Overall Diameter	Approximate Weight
	AWG	mm	kg/km
SXL			
6SXL-2001-##	20	2.44	10.4
6SXL-1801-##	18	2.69	13.8
6SXL-1601-##	16	3.02	18.5
6SXL-1401-##	14	3.58	28.1
6SXL-1201-##	12	4.14	40.8
6SXL-1001-##	10	4.97	61.6
GXL			
6GXL-2001-##	20	2.11	9.1
6GXL-1801-##	18	2.34	11.8
6GXL-1601-##	16	2.57	15.6
6GXL-1401-##	14	2.97	23.7
6GXL-1201-##	12	3.56	36.0
6GXL-1001-##	10	4.39	56.2

Insert appropriate suffix for required colour of core:

0 = black 1 = brown 2 = red 3 = orange 4 = yellow 5 = green
6 = blue 7 = violet 8 = grey 9 = white P = pink 54 = green/yellow

Conversion table: See Additional Technical Information on page 2:42 and 2:43.

Other cable constructions are available on request.

Automotive Wire

TXL

Application

For use in general wiring circuits in vehicles where severe conditions such as oxidation and high temperatures may be present. These wires are approved for use in motor and vehicle engine compartments.

Specifications

- **Conductors:** Plain stranded copper
- **Insulation:** XLPE
- **Standards:** SAE J1128, MIL123-A, MS-8288
- **Fire Performance:** Flame retardant to VW-1
- **Temperature Rating:** -51°C minimum operating temperature +125°C maximum conductor operating temperature
- **Nominal Voltage:** 50 V

Anixter Number	Nominal Conductor Size	Overall Diameter	Approximate Weight
	AWG	mm	kg/km
TXL			
6TXL-2001-##	20	1.90	7.6
6TXL-1801-##	18	2.20	10.3
6TXL-1601-##	16	2.40	13.7
6TXL-1401-##	14	2.70	21.4
6TXL-1201-##	12	3.30	34.0
6TXL-1001-##	10	4.00	51.8

Insert appropriate suffix for required colour of core:
0 = black 1 = brown 2 = red 3 = orange 4 = yellow 5 = green
6 = blue 7 = violet 8 = grey 9 = white P = pink 54 = green/yellow

Conversion table: See Additional Technical Information on page 2:42 and 2:43.
Other cable constructions are available on request.

Automotive Wire

FLY - Standard Wall Insulation

Application

Standard wall automotive cables are ideal for use in automotive and marine. The wire's lead free, PVC polymer, offers excellent resistance to petrol, chemicals, and abrasion, and in addition is suitable for both low and high temperature applications.
N.B. Flexible conductors with cross sections above 6mm^2 are also suitable as battery cables.

Specifications

- In accordance with ISO 6722/BS6862 Pt 1 and meeting LV112, BMW 95007-2, VW 60306
- **Conductors:** Flexible Class 5 copper conductors to BS EN 60228 with wires conforming to EN 13602 for CU-ETP-1
- **Insulation:** PVC insulation Class B to ISO 6722 (lead free)
- Flame retardant to BS EN 60332-1-2
- **Temperature Rating:** -40°C to +105°C (3000 hours)
- **Voltage Rating:** 60 V d.c, 25 V a.c. (suitable for 12 Volt & 24 Volt systems)

Anixter Number	Nominal Conductor Area	Nominal Conductor Stranding	Insulation Thickness	Maximum O/D	Approximate Weight	Maximum d.c. Conductor Resistance @ 20°C
	mm^2	#/mm	mm	mm	kg/km	ohm/km
AUTO-005MM-##	0.5	16/0.2	0.6	2.3	9	37.1
AUTO-075 MM-##	0.75	24/0.2	0.6	2.5	12	24.7
AUTO-010MM-##	1.0	32/0.2	0.6	2.7	15	18.5
AUTO-015MM-##	1.5	30/0.25	0.6	3.0	19	12.7
AUTO-020MM-##	2.0	28/0.3	0.6	3.3	26	9.42
AUTO-025MM-##	2.5	50/0.25	0.7	3.6	32	7.60
AUTO-030MM-##	3.0	45/0.3	0.7	3.9	38	6.15

Technical current ratings see page 2:43.

Automotive Wire

FLY - Standard Wall Insulation (continued)

Anixter Number	Nominal Conductor Area	Nominal Conductor Stranding	Insulation Thickness	Maximum O/D	Approximate Weight	Maximum d.c. Conductor Resistance @ 20°C
	mm^2	#/mm	mm	mm	kg/km	ohm/km
AUTO-045MM-##	4.5	56/0.3	0.8	3.4	49	4.71
AUTO-060MM-##	6.0	84/0.3	0.8	5.0	69	3.14
AUTO-100MM-##	10	180/0.4	1.0	6.5	113	1.82
AUTO-160MM-##	16	126/0.4	1.0	8.3	181	1.16
AUTO-250MM-##	25	196/0.4	1.3	10.2	288	0.743
AUTO-350MM-##	35	276/0.4	1.3	10.7	361	0.527
AUTO-500MM-##	50	396/0.4	1.5	13.0	521	0.368
AUTO-700MM-##	70	560/0.4	1.5	15.0	716	0.259
AUTO-950MM-##	95	740/0.4	1.6	16.2	918	0.196
AUTO-120MM-##	120	960/0.4	1.6	19.7	1220	0.153

= colour:
01 = white 02 = black 03 = red 04 = green 05 = yellow 06 = blue
07 = brown 08 = orange 09 = grey 10 = violet 12 = pink 60 = green/yellow

Other colours available upon request.
Technical current ratings see page 2:43.

Automotive Wire

FLRY-B - Thin Wall Insulation

Application

These thin-wall automotive cables are ideal for use in automotive and marine applications where its reduced insulation thickness and higher current carrying capacity both help to reduce weight and volume in complex wiring harnesses. The wire's lead free, PVC polymer, hard grade insulation, also offers excellent resistance to petrol, chemicals, and abrasion, and in addition is suitable for both low and high temperature applications.

Specifications

- In accordance with ISO 6722 and meeting BMW GS 95007-1, VW 60306,DBL 6312/MB 22014, Ford WSK 1A348-A, LV112, MAN 3135, Bosch 5 998 340, Fiat 91107/13, Fiat 91107/18 requirements
- **Conductors:** Flexible Class 5 copper conductors to BS EN 60228 with wires conforming to EN 13602 for CU-ETP-1
- **Insulation:** PVC insulation Class B to ISO 6722 (lead free)
- Flame retardant BS EN 60332-1-2
- **Temperature Rating:** -40°C + 105°C (3000 hours) mobile and fixed installations
- **Nominal Voltage:** 60 V d.c. (suitable for 12 Volt & 24 Volt systems)

Anixter Number	Nominal Conductor Area	Nominal Conductor Stranding	Insulation Thickness	Nominal O/D	Approximate Weight	Maximum d.c. Conductor Resistance @ 20°C
	mm^2	#/mm	mm	mm	kg/km	ohm/km
AUTO-TW005-##	0.5	16/0.2	0.28	1.6	6.6	37.1
AUTO-TW075-##	0.75	24/0.2	0.30	1.9	9	24.7
AUTO-TW010-##	1.0	32/0.2	0.30	2.1	11	18.5
AUTO-TW015-##	1.5	30/0.25	0.30	2.4	16	12.7
AUTO-TW020-##	2.0	28/0.3	0.35	2.8	22.5	9.42
AUTO-TW025-##	2.5	50/0.25	0.35	3.0	26	7.60
AUTO-TW030-##	3.0	45/0.3	0.40	3.2	33.5	6.15
AUTO-TW040-##	4.0	56/0.3	0.40	3.7	42	4.70
AUTO-TW045-##	4.5	65/0.3	0.40	4.0	49	4.26
AUTO-TW060-##	6.0	84/0.3	0.40	4.3	61	3.10
AUTO-TW085-##	8.5	120/0.3	0.50	5.4	90	2.31
AUTO-TW100-##	10	180/0.4	0.60	6.0	108	1.82
AUTO-TW160-##	16	126/0.4	0.65	7.9	170	1.16
AUTO-TW250-##	25	196/0.4	0.65	9.4	265	0.743

= colour:

01 = white 02 = black 03 = red 04 = green 05 = yellow 06 = blue
07 = brown 08 = orange 09 = grey 10 = violet 12 = pink 60 = green/yellow

Other colours available upon request.

Technical current ratings see page 2:43.

Automotive Wire

Extra-Flexible Battery/Starter Cable

Application

These extra flexible automotive cables are ideal for use in automotive and marine applications, range of extra flexible battery/welding cable, using fine stranded copper conductors, Class 5, bare copper rope stranded, with soft PVC insulation, resistant to abrasion, moisture, petrol/diesel, oil and diluted acids.

Specifications

- Generally in accordance with ISO 6722
- **Conductors:** Flexible Class 5 copper conductors to BS EN 60228
- **Insulation:** Flexible grade PVC (chromium, cadmium, lead and mercury free)
- Flame retardant to BS EN 60332-1-2
- **Temperature Rating:** -30°C +70°C fixed installation, +5°C +70°C mobile installation
- **Voltage Rating:** 450/750 V, 600/1000 V fixed and protected installation

Anixter Number	Nominal Conductor Area	Nominal Conductor Stranding	Insulation Thickness	Nominal O/D	Approximate Weight	Maximum d.c. Conductor Resistance @ 20°C
	mm^2	#/mm	mm	mm	kg/km	ohm/km
BATTF-20MM-##	20	264/0.3	1.4	9.2	250	1.03
BATTF-25MM-##	25	324/0.3	1.5	10.5	300	0.850
BATTF-35MM-##	35	444/0.3	1.7	12.0	360	0.595
BATTF-40MM-##	40	564/0.3	1.8	12.6	460	0.470
BATTF-50MM-##	50	636/0.3	1.7	13.8	565	0.419
BATTF-60MM-##	60	780/0.3	1.9	14.8	650	0.340
BATTF-70MM-##	70	900/0.3	1.9	15.9	780	0.297
BATTF-95MM-##	95	1224/0.3	2.0	18.2	1050	0.219
BATTF-120MM-##	120	1548/0.3	2.0	20.1	1300	0.175
BATTF-150MM-##	150	708/0.5	2.8	21.2	1600	0.129

= colour:
01 = white 02 = black 03 = red 04 = green 05 = yellow 06 = blue
07 = brown 08 = orange 09 = grey 10 = violet 12 = pink 60 = green/yellow
Other colours available upon request.
Technical current ratings see page 2:42.

Automotive Wire

FLYYF - Thin Wall Insulation Flat Cable

Application

Two core flat PVC cable with thin wall automotive wire, ideal for use in automotive and marine applications where its reduced insulation thickness and higher current carrying capacity both help to reduce weight and volume in complex wiring harnesses. The wire's lead free, PVC polymer, hard grade insulation, also offers excellent resistance to petrol, chemicals, and abrasion, with a low temperature rating -40°C and high rating +90°C.

Specifications

- In accordance with ISO 6722
- **Conductors:** Flexible Class 5 copper conductors to BS EN 60228 with wires conforming to EN 13602 for CU-ETP-1
- **Insulation:** PVC insulation Class B to ISO 6722 (lead free)
- **Core Identification:** 2 core - red, black or white, black
- **Outer Sheath:** Black, white, red or green PVC sheath Class B to ISO 6722 (lead free)
- Flame retardant to BS EN 60332-1-2
- **Temperature Rating:** -40°C + 105°C (3000 hours) mobile and fixed installations
- **Voltage Rating:** 60 V d.c. (suitable for 12 Volt & 24 Volt systems)

Anixter Number	Insulation Colours	Nominal Conductor Area	Nominal Conductor Stranding	Insulation Thickness	Nominal O/D	Approximate Weight	Maximum d.c. Conductor Resistance @ 20°C
		mm^2	#/mm	mm	mm	kg/km	ohm/km
AUTO-2C-TW1MM-##F-RB	Red, Black	1.0	14/0.3	0.30	6.5 x 4.0	42	18.5
AUTO-2C-TW1MM-##F-WB	White, Black	1.0	14/0.3	0.30	6.5 x 4.0	42	18.5
AUTO-2C-TW15MM-##F-RB	Red, Black	1.5	21/0.3	0.30	7.3 x 4.5	53	12.7
AUTO-2C-TW15MM-##F-WB	White, Black	1.5	21/0.3	0.30	7.3 x 4.5	53	12.7
AUTO-2C-TW2MM-##F-RB	Red, Black	2.0	28/0.3	0.35	7.9 x 4.8	65	9.42
AUTO-2C-TW2MM-##F-WB	White, Black	2.0	28/0.3	0.35	7.9 x 4.8	65	9.42
AUTO-2C-TW25MM-##F-RB	Red, Black	2.5	35/0.3	0.35	9.1 x 5.6	78	7.60
AUTO-2C-TW25MM-##F-RB	White, Black	2.5	35/0.3	0.35	9.1 x 5.6	78	7.60
AUTO-2C-TW3MM-##F-RB	Red, Black	3.0	44/0.3	0.40	9.5 x 5.8	95	6.15
AUTO-2C-TW3MM-##F-RB	White, Black	3.0	44/0.3	0.40	9.5 x 5.8	95	6.15

= sheath colour:
01 = white 02 = black 03 = red 04 = green

Automotive Wire

FLRYY - Thin Wall Insulation Round Cable

Application

Multicore round PVC cable with thin wall automotive wire, ideal for use in automotive and marine applications where its reduced insulation thickness and higher current carrying capacity both help to reduce weight and volume in complex wiring harnesses. The wire's lead free, PVC polymer, hard grade insulation, also offers excellent resistance to petrol, chemicals, and abrasion, with a low temperature rating -40°C and high rating +105°C.

Specifications

- In accordance with ISO 6722
- **Conductors:** Flexible Class 5 copper conductors to BS EN 60228 with wires conforming to EN 13602 for CU-ETP-1
- **Insulation:** PVC insulation Class B to ISO 6722 (lead free)
- **Core Identification:** 3 core - red, black, green
  4 core - red, black, green, white
  5 core - brown, green, red, white, yellow
  7 core - black, red, green, yellow, brown, blue, white
  8 core - red, brown, green, yellow, blue, black, purple
  (7 x 1.0mm^2), white (2.0mm^2)
- **Outer Sheath:** Black PVC sheath Class B to ISO 6722 (lead free)
- Flame retardant to BS EN 60332-1-2
- **Temperature Rating:** -40°C + 105°C (3000 hours) mobile and fixed installations
- **Voltage Rating:** 60 V d.c. (suitable for 12 Volt & 24 Volt systems)

Anixter Number	Number of Cores	Nominal Conductor Area	Nominal Conductor Stranding	Insulation Thickness	Nominal O/D	Approximate Weight	Maximum d.c. Conductor Resistance @ 20°C
		mm^2	#/mm	mm	mm	kg/km	ohm/km
AUTO-3C-TW1MM-02	3	1.0	32/0.2	0.3	5.6	53	18.5
AUTO-3C-TW2MM-02	3	2.0	28/0.3	0.35	7.3	105	9.42
AUTO-4C-TW1MM-02	4	1.0	32/0.2	0.3	6.2	65	18.5
AUTO-4C-TW15MM-02	4	1.5	30/0.25	0.3	6.2	90	12.7
AUTO-5C-TW1MM-02	5	1.0	32/0.2	0.3	6.3	82	18.5
AUTO-7C-TW1MM-02	7	1.0	32/0.2	0.3	7.4	115	18.5
AUTO-8C-COMPOSITE-02	8	1.0 (7C) 2.0 (1C)	32/0.2 28/0.3	0.3 (1.0sqmm) 0.35 (2.0sqmm)	8.5	140	18.5 (1.0sqmm) 9.42 (2.0sqmm)

Automotive Wire

FLYZ - Twin Speaker Cable

Application

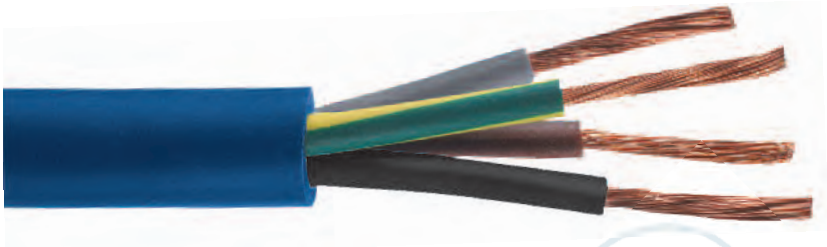
A range of flexible, two core figure 8 speaker cable. With polarity line indicator along one core to indicate the positive tracer, these are ideal for auto/marine loudspeaker connection.

Specifications

- In accordance with ISO 6722
- **Conductors:** Flexible Class 5 copper conductors to BS EN 60228 with wires conforming to EN 13602 for CU-ETP-1
- **Insulation:** PVC insulation Class B to ISO 6722 (lead free)
- Figure "8" construction, available in following colours:- black-black/white, black-black/red, black-black/blue and transparent with coloured tracer
- Flame retardant to BS EN 60332-1-2
- **Temperature Rating:** -40°C + 105°C (3000 hours) mobile and fixed installations
- **Voltage Rating:** 60 V d.c. (suitable for 12 Volt & 24 Volt systems)

Anixter Number	Colour Black-	Nominal Conductor Area	Nominal Conductor Stranding	Insulation Thickness	Nominal O/D	Approximate Weight	Maximum d.c. Conductor Resistance @ 20°C
		mm^2	#/mm	mm	mm	kg/km	ohm/km
SPC12/0.2/BW-P100	Black/White	0.38	12/0.2	0.45	3.60 x 1.70	13	52.0
SPC24/0.2BR-P100	Black/Red	0.75	24/0.2	0.50	4.30 x 2.10	22	24.7
SPC32/0.2BBU-P100	Black/Blue	1.0	32/0.2	0.50	4.60 x 2.30	27	18.5
SPC21/0.3BW-P100	Black/White	1.5	21/0.3	0.60	5.90 x 2.80	40	12.7
SPC35/0.3BW-P100	Black/White	2.5	35/0.3	0.70	6.70 x 3.00	60	7.60
SPC79/0.2/BW-P100	Black/White	2.5	79/0.2	0.70	6.70 x 3.00	60	7.60

WRAS Submersible Pump Cable



Application

Suitable for use with drinking water.

Specifications

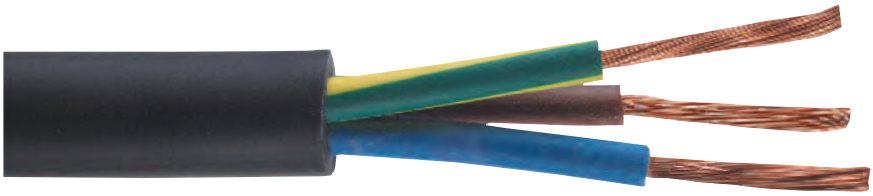
UK - WRAS approved
Germany - KTW approved
France - ACS approved

- **Conductors:** Flexible Class 5 plain annealed copper conductor to IEC60228
- **Insulation:** Cross linked polymer
- **Sheath:** Cross linked rubber. Blue
- **Temperature Rating:** 90°C maximum conductor operating temperature
  -25°C Flexing
  -40°C Fixed
- **Voltage Rating:** 450/750 V
- **Core Colours:**
  4 core: Brown, black, grey, green-yellow

Anixter Number	Nominal Conductor Area mm²	Nominal Outer Diameter mm	Approximate weight kg/km
Single-Core Type			
HYDRO-1C-0350	35	15	444
HYDRO-1C-0500	50	17	618
HYDRO-1C-0700	70	19	831
HYDRO-1C-0950	95	22	1118
HYDRO-1C-1200	120	24	1385
HYDRO-1C-1500	150	25	1630
Four Core Type			
HYDRO-4C-0060	6	17	366
HYDRO-4C-0100	10	23	632
HYDRO-4C-0160	16	26	896
HYDRO-4C-0250	25	31	1369
HYDRO-4C-0350	35	34	1827
HYDRO-4C-0500	50	39	2540
HYDRO-4C-0700	70	41	3640
HYDRO-4C-0950	95	47	4640
Seven Core Type			
HYDRO-7C-0025	2.5	18	460

H07RN-F

60°C 450/750 V



Application

For mains supply or extension leads for portable or fixed equipment operating indoors or outdoors (domestic or industrial) under conditions of frequent handling trailing or flexing. Incorporates heavy duty OFR (Oil resisting Flame Retardant) outer sheath.

Specifications

- In accordance with Cenelec code H07RN-F
- **Conductors:** Flexible Class 5 plain copper conductors to BS EN 60228
- **Insulation:** Rubber insulation Type EI.4 to BS EN 50363-1
- **Core Identification:**
  2 core - blue, brown
  3 core - green/yellow, blue, brown
  4 core - green/yellow, brown, black, grey
  5 core - green/yellow, brown, black, grey, blue
- **Outer Sheath:** Black heavy duty rubber sheath Type EM.2 to BS EN 50363-2-1
- Flame retardant to BS EN 60332-1-2
- **Temperature Rating:** 60°C maximum conductor operating temperature
- **Voltage Rating:** 450/750 V

For further technical information see page 2:44 (up to 2.5sqmm conductor size) and 2:66 (4.0sqmm and above).

H07RN-F

60°C 450/750 V

Anixter Number	Cenelec Code	Nominal Conductor Area mm²	Nominal Conductor Stranding #/mm	Insulation Thickness mm	Minimum O/D mm	Maximum O/D mm	Approximate Cable Weight kg/km
Single-Core Type							
H07RNF-1C-0015	H07RN-F1	1.5	30/0.25	0.8	5.7	7.1	65
H07RNF-1C-0025	H07RN-F1	2.5	50/0.25	0.9	6.3	7.9	82
H07RNF-1C-0040	H07RN-F1	4.0	56/0.3	1.0	7.2	9.0	105
H07RNF-1C-0060	H07RN-F1	6.0	84/0.3	1.0	7.9	9.8	125
H07RNF-1C-0100	H07RN-F1	10	80/0.4	1.2	9.5	11.9	190
H07RNF-1C-0160	H07RN-F1	16	126/0.4	1.2	10.8	13.4	265
H07RNF-1C-0250	H07RN-F1	25	196/0.4	1.4	12.7	15.8	380
H07RNF-1C-0350	H07RN-F1	35	276/0.4	1.4	14.3	17.9	515
H07RNF-1C-0500	H07RN-F1	50	396/0.4	1.6	16.5	20.6	710
H07RNF-1C-0700	H07RN-F1	70	360/0.5	1.6	18.6	23.3	955
H07RNF-1C-0950	H07RN-F1	95	475/0.5	1.8	20.8	26.0	1240
H07RNF-1C-1200	H07RN-F1	120	608/0.5	1.8	22.8	28.6	1540
H07RNF-1C-1500	H07RN-F1	150		2.0	25.2	31.4	1920
H07RNF-1C-1850	H07RN-F1	185	925/0.5	2.2	27.6	34.4	2330
H07RNF-1C-2400	H07RN-F1	240	1221/0.5	2.4	30.6	38.3	3040
H07RNF-1C-3000	H07RN-F1	300	1525/0.5	2.6	33.5	41.9	3720
H07RNF-1C-4000	H07RN-F1	400	2013/0.5	2.8	37.4	46.8	4790
H07RNF-1C-5000	H07RN-F1	500	1769/0.5	3.0	41.3	52.0	5970
Two Core Type							
H07RNF-2C-0010	H07RN-F2	1.0	32/0.20	0.8	7.7	10.0	116
H07RNF-2C-0015	H07RN-F2	1.5	30/0.25	0.8	8.5	11.0	147
H07RNF-2C-0025	H07RN-F2	2.5	50/0.25	0.9	10.2	13.1	210
H07RNF-2C-0040	H07RN-F2	4.0	56/0.3	1.0	11.8	15.1	275
H07RNF-2C-0060	H07RN-F2	6.0	84/0.3	1.0	13.1	16.8	350
H07RNF-2C-0100	H07RN-F2	10	80/0.4	1.2	17.7	22.6	640
H07RNF-2C-0160	H07RN-F2	16	126/0.4	1.2	20.2	25.7	850
H07RNF-2C-0250	H07RN-F2	25	196/0.4	1.4	24.3	30.7	1210

H07RN-F

60°C 450/750 V

Anixter Number	Cenelec Code	Nominal Conductor Area mm²	Nominal Conductor Stranding #/mm	Insulation Thickness mm	Minimum O/D mm	Maximum O/D mm	Approximate Cable Weight kg/km
Three Core Type							
H07RNF-3C-0010	H07RN-F3	1.0	32/0.20	0.8	8.3	10.7	139
H07RNF-3C-0015	H07RN-F3	1.5	30/0.25	0.8	9.2	11.9	176
H07RNF-3C-0025	H07RN-F3	2.5	50/0.25	0.9	10.9	14.0	250
H07RNF-3C-0040	H07RN-F3	4.0	56/0.3	1.0	12.7	16.2	335
H07RNF-3C-0060	H07RN-F3	6.0	84/0.3	1.0	14.1	18.0	425
H07RNF-3C-0100	H07RN-F3	10	80/0.4	1.2	19.1	24.2	785
H07RNF-3C-0160	H07RN-F3	16	126/0.4	1.2	21.8	27.6	1060
H07RNF-3C-0250	H07RN-F3	25	196/0.4	1.4	26.1	33.0	1510
H07RNF-3C-0350	H07RN-F3	35	276/0.4	1.4	29.3	37.1	1970
H07RNF-3C-0500	H07RN-F3	50	396/0.4	1.6	34.1	42.9	2750
H07RNF-3C-0700	H07RN-F3	70	360/0.5	1.6	38.4	48.3	3680
H07RNF-3C-0950	H07RN-F3	95	475/0.5	1.8	43.3	54.0	4750
H07RNF-3C-1200	H07RN-F3	120	608/0.5	1.8	47.4	60.0	5860
H07RNF-3C-1500	H07RN-F3	150	765/0.5	2.0	52.0	66.0	7380
H07RNF-3C-1850	H07RN-F3	185	925/0.5	2.2	57.0	72.0	8960
H07RNF-3C-2400	H07RN-F3	240	1221/0.5	2.4	65.0	82.0	11540
H07RNF-3C-3000	H07RN-F3	300	1525/0.5	2.6	72.0	90.0	14290
Four Core Type							
H07RNF-4C-0010	H07RN-F4	1.0	32/0.20	0.8	9.2	11.9	170
H07RNF-4C-0015	H07RN-F4	1.5	30/0.25	0.8	10.2	13.1	220
H07RNF-4C-0025	H07RN-F4	2.5	50/0.25	0.9	12.1	15.5	295
H07RNF-4C-0040	H07RN-F4	4.0	56/0.3	1.0	14.0	17.9	420
H07RNF-4C-0060	H07RN-F4	6.0	84/0.3	1.0	15.7	20.0	540
H07RNF-4C-0100	H07RN-F4	10	80/0.4	1.2	20.9	26.5	960
H07RNF-4C-0160	H07RN-F4	16	126/0.4	1.2	23.8	30.1	1310
H07RNF-4C-0250	H07RN-F4	25	196/0.4	1.4	29.5	37.5	2020
H07RNF-4C-0350	H07RN-F4	35	276/0.4	1.4	32.5	41.1	2490
H07RNF-4C-0500	H07RN-F4	50	396/0.4	1.6	37.7	47.5	3490
H07RNF-4C-0700	H07RN-F4	70	360/0.5	1.6	42.7	54.0	4670
H07RNF-4C-0950	H07RN-F4	95	475/0.5	1.8	48.4	61.0	6120
H07RNF-4C-1200	H07RN-F4	120	608/0.5	1.8	53.0	66.0	7450
H07RNF-4C-1500	H07RN-F4	150	756/0.5	2.0	58.0	73.0	9400
H07RNF-4C-1850	H07RN-F4	185	925/0.5	2.2	64.0	80.0	11440
H07RNF-4C-2400	H07RN-F4	240	1221/0.5	2.4	72.0	91.0	14750
H07RNF-4C-3000	H07RN-F4	300	1525/0.5	2.6	80.0	101.0	18310

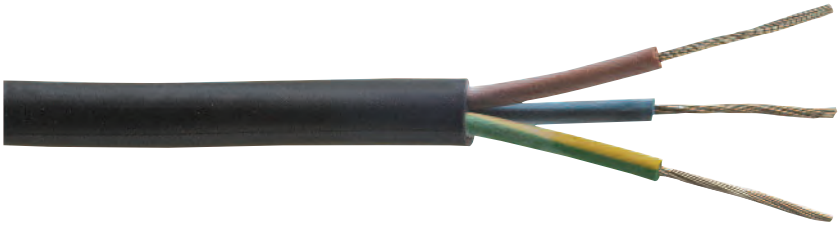
H07RN-F

60°C 450/750 V

Anixter Number	Cenelec Code	Nominal Conductor Area mm²	Nominal Conductor Stranding #/mm	Insulation Thickness mm	Minimum O/D mm	Maximum O/D mm	Approximate Cable Weight kg/km
Five Core Type							
H07RNF-5C-0010	H07RN-F5	1.0	32/0.20	0.8	10.2	13.1	198
H07RNF-5C-0015	H07RN-F5	1.5	30/0.25	0.8	11.2	14.4	255
H07RNF-5C-0025	H07RN-F5	2.5	50/0.25	0.9	13.3	17.0	350
H07RNF-5C-0040	H07RN-F5	4.0	56/0.3	1.0	15.6	19.8	515
H07RNF-5C-0060	H07RN-F5	6.0	84/0.3	1.0	17.5	22.2	660
H07RNF-5C-0100	H07RN-F5	10	80/0.4	1.2	22.9	29.1	1170
H07RNF-5C-0160	H07RN-F5	16	126/0.4	1.2	26.4	33.3	1610
H07RNF-5C-0250	H07RN-F5	25	196/0.4	1.4	32.0	40.0	2350
H07RNF-5C-0350	H07RN-F5	35	276/0.4	1.4	35.7	43.7	2700
H07RNF-5C-0500	H07RN-F5	50	396/0.4	1.6	41.4	49.4	3740
H07RNF-5C-0700	H07RN-F5	70	360/0.5	1.6	45.0	55.0	5700
Seven Core Type							
H07RNF-7C-0015	H07RN-F7	1.5	30/0.25	0.8	13.4	17.2	310
H07RNF-7C-0025	H07RN-F7	2.5	50/0.25	0.9	15.7	20.0	460
Twelve Core Type							
H07RNF-12C-0015	H07RN-F12	1.5	30/0.25	0.8	17.6	22.4	500
H07RNF-12C-0025	H07RN-F12	2.5	50/0.25	0.9	20.6	26.2	750

Rubber Flexible up to 2.5mm EPR Insulated, HOFR Sheathed

90°C 300/500 V 318*TQ



Application

For mains supply or extension lead for portable or fixed equipment operating in high temperature zones. Particularly suitable for applications where contamination by oil and grease may occur.
*denotes number of cores.

Specifications

- In accordance with BS EN 50525-2-21 and Cenelec code H05BN4-F
- **Conductors:** Flexible Class 5 tinned copper conductors to BS EN 60228
- **Insulation:** EPR insulation Type EI.7 to BS7655
- **Core Identification:**
  2 core - blue, brown
  3 core - green/yellow, blue, brown
  4 core - green/yellow, brown, black, grey
  5 core - green/yellow, brown, black, grey, blue
- **Sheath:** H.O.F.R sheath Type EM.7 to BS EN 50363-2-1 (black or white)
- Flame retardant to BS EN 60332-1-2
- **Temperature Rating:** 90°C maximum conductor operating temperature
- **Voltage Rating:** 300/500 V

Rubber Flexible up to 2.5mm² EPR Insulated, HOFR Sheathed

90°C 300/500 V 318*TQ

Anixter Number	Nominal Conductor Area	Nominal Conductor Stranding	Insulation Thickness	Minimum O/D	Maximum O/D	Approximate Cable Weight
	mm²	#/mm	mm	mm	mm	kg/km
Twin Core Type 3182TQ						
3182TQ-0005-##	0.5	16/0.2	0.6	5.4	7.1	51
3182TQ-0007-##	0.75	24/0.2	0.6	5.7	7.4	61
3182TQ-0010-##	1.0	32/0.2	0.6	6.1	8.0	74
3182TQ-0015-##	1.5	30/0.25	0.8	7.6	9.8	110
3182TQ-0025-##	2.5	50/0.25	0.9	9.0	11.6	156
Three Core Type 3183TQ						
3183TQ-0005-##	0.5	16/0.2	0.6	5.7	7.5	60
3183TQ-0007-##	0.75	24/0.2	0.6	6.2	8.1	76
3183TQ-0010-##	1.0	32/0.2	0.6	6.5	8.5	88
3183TQ-0015-##	1.5	30/0.25	0.8	8.0	10.4	132
3183TQ-0025-##	2.5	50/0.25	0.9	9.6	12.4	189
Four Core Type 3184TQ						
3184TQ-0007-##	0.75	24/0.2	0.6	6.8	8.8	91
3184TQ-0010-##	1.0	32/0.2	0.6	7.1	9.3	107
3184TQ-0015-##	1.5	30/0.25	0.8	9.0	11.6	166
3184TQ-0025-##	2.5	50/0.25	0.9	10.7	13.8	240
Five Core Type 3185TQ						
3185TQ-0007-##	0.75	24/0.2	0.6	7.6	9.9	112
3185TQ-0010-##	1.0	32/0.2	0.6	8.0	10.3	131
3185TQ-0015-##	1.5	30/0.25	0.8	9.8	12.7	197
3185TQ-0025-##	2.5	50/0.25	0.9	11.9	15.3	280

For white sheath use suffix -01
For black sheath use suffix -02

H05BN4-F only valid in sizes 0.75 and 1.0sqmm in Two and Three core only.
For further technical information see page 2:44.

EPR Insulated, Heavy Duty HOFR Sheathed Flexible Cables

90°C 450/750 V 638*TQ

Application

For power/lighting services and mains supply or extension leads in situations requiring frequent handling, trailing and flexing applications. Incorporates heavy duty HOFR (Heat resisting Oil resisting Flame Retardant) outer sheath.
*denotes number of cores.

Specifications

- In accordance with BS EN 50525-2-21 and Cenelec code H07BN4-F
- **Conductors:** Flexible Class tinned copper conductors to BS EN 60228
- **Insulation:** EPR insulation Type EI.7 to BS7655
- **Core Identification:**
  2 core - blue, brown
  3 core - green/yellow, blue, brown
  4 core - green/yellow, brown, black, grey
  5 core - green/yellow, brown, black, grey, blue
- **Sheath:** Black heavy duty HOFR Sheath Type EM.7 to BS EN 50363-4-1
- Flame retardant to BS EN 60332-1-2
- **Temperature Rating:** 90°C maximum conductor operating temperature
- **Voltage Rating:** 450/750 V

For further technical information see page 2:53. (Single-Core), and 2:57 (Multicore).

EPR Insulated, Heavy Duty HOFR Sheathed Flexible Cables

90°C 450/750 V 638*TQ

Anixter Number	Nominal Conductor Area	Nominal Conductor Stranding	Insulation Thickness	Minimum O/D	Maximum O/D	Approximate Cable Weight
	mm²	#/mm	mm	mm	mm	kg/km
Single-Core Type 6381TQ						
6381TQ-0040	4.0	56/0.3	1.0	7.2	9.0	107
6381TQ-0060	6.0	84/0.3	1.0	7.9	9.8	145
6381TQ-0100	10	80/0.4	1.2	9.5	11.9	220
6381TQ-0160	16	126/0.4	1.2	10.8	13.4	330
6381TQ-0250	25	196/0.4	1.4	12.7	15.8	425
6381TQ-0350	35	276/0.4	1.4	14.3	17.9	560
6381TQ-0500	50	396/0.4	1.6	16.5	20.6	760
6381TQ-0700	70	360/0.5	1.6	18.6	23.3	1000
6381TQ-0950	95	475/0.5	1.8	20.8	26.0	1300
6381TQ-1200	120	608/0.5	1.8	22.8	28.6	1600
6381TQ-1500	150	756/0.5	2.0	25.2	31.4	2000
6381TQ-1850	185	925/0.5	2.2	27.6	34.4	2400
6381TQ-2400	240	1221/0.5	2.4	30.6	38.3	3050
6381TQ-3000	300	1525/0.5	2.6	33.5	41.9	3750
6381TQ-4000	400	2013/0.5	2.8	37.4	46.8	4850
6381TQ-5000	500	1769/0.5	3.0	41.3	52.0	6000
6381TQ-6300	630	2257/0.6	3.0	45.5	56.5	7450
Two Core Type 6382TQ						
6382TQ-0040	4.0	56/0.3	1.0	11.8	15.1	280
6382TQ-0060	6.0	84/0.3	1.0	13.1	16.8	395
6382TQ-0100	10	80/0.4	1.2	17.7	22.6	680
6382TQ-0160	16	126/0.4	1.2	20.2	25.7	905
6382TQ-0250	25	196/0.4	1.4	24.3	30.7	1300
Three Core Type 6383TQ						
6383TQ-0040	4.0	56/0.3	1.0	12.7	16.2	340
6383TQ-0060	6.0	84/0.3	1.0	14.1	18.0	480
6383TQ-0100	10	80/0.4	1.2	19.1	24.2	840
6383TQ-0160	16	126/0.4	1.2	21.8	27.6	1150
6383TQ-0250	25	196/0.4	1.4	26.1	33.0	1600
6383TQ-0350	35	276/0.4	1.4	29.3	37.1	2100
6383TQ-0500	50	396/0.4	1.6	34.1	42.9	2900
6383TQ-0700	70	360/0.5	1.6	38.4	48.3	3700
6383TQ-0950	95	475/0.5	1.8	43.3	54.0	4850
6383TQ-1200	120	608/0.5	1.8	47.4	60.0	5950
6383TQ-1500	150	756/0.5	2.0	52.0	66.0	7300
6383TQ-1850	185	925/0.5	2.2	57.8	72.0	8800
6383TQ-2400	240	1221/0.5	2.4	65.0	82.0	11450
6383TQ-3000	300	1525/0.5	2.6	72.0	90.0	14000

Continued overleaf...

EPR Insulated, Heavy Duty HOFR Sheathed Flexible Cables

90°C 450/750 V 638*TQ (continued)

Anixter Number	Nominal Conductor Area	Nominal Conductor Stranding	Insulation Thickness	Minimum O/D	Maximum O/D	Approximate Cable Weight
	mm^2	#/mm	mm	mm	mm	kg/km
Four Core Type 6384TQ						
6384TQ-0040	4.0	56/0.3	1.0	14.0	17.9	425
6384TQ-0060	6.0	84/0.3	1.0	15.7	20.0	605
6384TQ-0100	10	80/0.4	1.2	20.9	26.5	1050
6384TQ-0160	16	126/0.4	1.2	23.8	30.1	1400
6384TQ-0250	25	196/0.4	1.4	28.9	36.6	2050
6384TQ-0350	35	276/0.4	1.4	32.5	41.1	2700
6384TQ-0500	50	396/0.4	1.6	37.7	47.5	3650
6384TQ-0700	70	360/0.5	1.6	42.7	54.0	4750
6384TQ-0950	95	475/0.5	1.8	48.4	61.0	6200
6384TQ-1200	120	608/0.5	1.8	53.0	66.0	7600
6384TQ-1500	150	756/0.5	2.0	58.0	73.0	9350
6384TQ-1850	185	925/0.5	2.2	64.0	80.0	11350
6384TQ-2400	240	1221/0.5	2.4	72.0	91.0	14700
Five Core Type 6385TQ						
6385TQ-0040	4.0	56/0.3	1.0	15.6	19.9	490
6385TQ-0060	6.0	84/0.3	1.0	17.5	22.2	660
6385TQ-0100	10	80/0.4	1.2	22.9	29.1	1086
6385TQ-0160	16	126/0.4	1.2	26.4	33.3	1508
6385TQ-0250	25	196/0.4	1.4	32.0	40.4	2350

Welding Cables - Rubber Insulated

85°C 100 V

Application

Primary use is for the secondary (high current) connection to automatic or hand-held metal arc welding electrodes. May also be used for non-welding applications such as earth/return leads, flexible tails on power supplies, busbar connections, etc.

Specification

- In accordance with BS638 Part 4
- Flexible Class 6 copper (plain/tinned) conductors to BS EN 60228
- Paper or p.e.t.p. tape separator
- **Insulation:** May be single or dual layer
  0361TQ Dual layer insulation
  EPR inner layer
  HOFR outer layer
- **Temperature Rating:** 85°C maximum conductor operating temperature. Minimum handling temperature: -20°C
- **Voltage:** 100 V rating when used for welding purposes. For non-welding applications, cables may be used at voltages up to and including 450 Vrms phase - phase provided that the cables are adequately protected from damage to the insulation e.g. in panels etc.

Anixter Number	Nominal Conductor Area	Nominal Conductor Stranding	Thickness of Covering	Minimum O/D	Maximum O/D	Approximate Weight	Colour
	mm^2	#/mm	mm	mm	mm	kg/km	
Type 0361TQ - Tinned Copper Conductors							
WELD-0160-08	16	513/0.2	2.0	8.8	11.0	240	Orange
WELD-0250-08	25	783/0.2	2.0	10.1	12.7	350	Orange
WELD-0350-08	35	1107/0.2	2.0	11.4	14.2	450	Orange
WELD-0500-08	50	1566/0.2	2.2	13.2	16.5	625	Orange
WELD-0700-08	70	2214/0.2	2.4	15.3	19.2	825	Orange
WELD-0950-08	95	2997/0.2	2.6	17.1	21.4	1125	Orange
WELD-1200-08	120	608/0.5	2.8	19.2	24.0	1400	Orange
WELD-1850-08	185	925/0.5	3.2	23.1	28.9	2050	Orange

For further technical information see page 2:63.

Coil Lead

90°C/180°C

Application

Coil leads are designed for direct and permanent connection to coil winding of motors and other electrical apparatus. When used in coil lead applications, cable may also be required to withstand high temperatures or immersion in varnish or compound. May also be used for other applications such as flexible power leads.

Specifications

- In accordance with BS6195
- **Conductors:** Flexible Class 5 tinned copper conductors to BS EN 60228
- **Insulation:**
  Type 3 - Rubber insulation Type OR1 to BS7655 (HOFR Type)
  Type 4 - Composite insulation Type FR1 (Voltage Categories A & C) or Type FR2 (Voltage Categories D, E & F) to BS7655. Inner Layer EPR or Butyl, Outer Layer HOFR)
  Type 5 - Silicone rubber insulation Type EI.2 to BS7655
- **Temperature Rating:** 90°C maximum conductor operating temperature (Types 3 & 4). 180°C maximum conductor operating temperature (Type 5)
- **Voltage Rating:** Voltage ratings for coil leads are divided into categories and define the maximum voltage between conductor and earth, to which the cable is liable to be subjected during a 1 minute test of the equipment to which it is connected

  The nominal voltage rating denotes the continuous operating voltage that the cable may be used at during service.

Voltage Category	Maximum Equipment Test Voltage (a.c. rms)	Nominal Voltage Ratings of Cable Uo/U
A	2.5	300/500 V
C	4.0	600/1000 V
D	9.5	1900/3300 V
E	17	3800/6600 V
F	27	6350/11000 V

Coil Lead

90°C/180°C

Anixter Number*	Nominal Conductor Area mm²	Nominal Conductor Stranding #/mm	Insulation Thickness (mm)	Maximum O/D (mm)	Approximate Cable Weight kg/km
Type 4, Category C					
COIL-4C-0005	0.5	16/0.2	1.4	4.5	21
COIL-4C-0007	0.75	24/0.2	1.4	4.7	25
COIL-4C-0010	1.0	32/0.2	1.4	4.9	29
COIL-4C-0015	1.5	30/0.25	1.4	5.2	36
COIL-4C-0025	2.5	50/0.25	1.4	5.6	47
COIL-4C-0040	4.0	56/0.3	1.4	6.3	65
COIL-4C-0060	6.0	84/0.3	1.5	7.5	93
COIL-4C-0100	10	80/0.4	1.5	8.5	136
COIL-4C-0160	16	126/0.4	1.5	9.6	206
COIL-4C-0250	25	196/0.4	1.6	11.4	300
COIL-4C-0350	35	276/0.4	1.6	12.8	406
COIL-4C-0500	50	396/0.4	1.7	14.8	573
COIL-4C-0700	70	360/0.5	1.8	17.2	793
COIL-4C-0950	95	475/0.5	2.0	19.7	1028
COIL-4C-1200	120	608/0.5	2.2	21.9	1285
COIL-4C-1500	150	756/0.5	2.3	24.1	1562
COIL-4C-1850	185	925/0.5	2.4	26.3	1914
COIL-4C-2400	240	1221/0.5	2.4	28.3	2431
COIL-4C-3000	300	1525/0.5	2.6	33.0	3024
COIL-4C-4000	400	2013/0.5	2.8	37.4	4780

For further technical information see page 2:66.

Single-Core LSZH Insulated H05Z-K and H07ZK

90°C 300/500 V 2491B and 450/750 V 6701B

Application

For use in applications where greater flexibility is required to assist installation. Incorporates low smoke zero halogen insulation for use in areas where dense smoke and toxic fumes may cause a threat to life and equipment.

Specifications

- In accordance with BS EN 50525-3-41 and Cenelec Harmonised codes - H05Z-K (300/500 V cable) RoHS Compliant H07Z-K (450/750 V cable) RoHS Compliant
- **Conductors:** Flexible Class 5 copper conductors to BS EN 60228
- **Insulation:** Low smoke zero halogen thermosetting insulation
  Type EI.5 to BS EN 50363-5, having following characteristics:
  - Minimum oxygen index: 30%
  - Maximum HCL Emission @ 800°C: 0.5%
- Flame retardant to BS EN 60332-2-2 (up to and incl. 1.0mm^2) and BS EN 60332-1-2 (above 1.0mm^2)
- Normal colours available see 2:39
- **Temperature Rating:** 90°C maximum conductor operating temperature
- **Voltage Rating:** Up to and including 1.0mm^2 - 300/500 V 1.5mm^2 and above - 450/750 V

Single-Core LSZH Insulated H05Z-K and H07ZK

90°C 300/500 V 2491B and 450/750 V 6701B

Anixter Number	Cenelec Code	Nominal Conductor Area	Nominal Conductor Stranding	Insulation Thickness	Maximum O/D	Approximate Weight
		mm^2	#/mm	mm	mm	kg/km
A3BS-0005-##	H05Z-K1	0.5	16/0.2	0.6	2.6	10
A3BS-0007-##	H05Z-K1	0.75	24/0.2	0.6	2.8	13
A3BS-0010-##	H05Z-K1	1.0	32/0.2	0.6	2.9	16
A3BS-0015-##	H07Z-K1	1.5	30/0.25	0.7	3.5	22
A3BS-0025-##	H07Z-K1	2.5	50/0.25	0.8	4.3	33
A3BS-0040-##	H07Z-K1	4.0	56/0.3	0.8	4.9	49
A3BS-0060-##	H07Z-K1	6.0	84/0.3	0.8	5.5	69
A3BS-0100-##	H07Z-K1	10	80/0.4	1.0	7.1	116
A3BS-0160-##	H07Z-K1	16	126/0.4	1.0	8.4	175
A3BS-0250-##	H07Z-K1	25	196/0.4	1.2	10.6	273
A3BS-0350-##	H07Z-K1	35	276/0.4	1.2	12.1	367
A3BS-0500-##	H07Z-K1	50	396/0.4	1.4	14.4	474
A3BS-0700-##	H07Z-K1	70	360/0.5	1.4	16.6	749
A3BS-0950-##	H07Z-K1	95	475/0.5	1.6	18.8	987
A3BS-1200-##	H07Z-K1	120	608/0.5	1.6	20.9	1240
A3BS-1500-##	H07Z-K1	150	765/0.5	1.8	23.3	1540
A3BS-1850-##	H07Z-K1	185	925/0.5	2.0	25.8	1860
A3BS-2400-##	H07Z-K1	240	1221/0.5	2.2	29.4	2450

= colour, -01 = white, -02 = black, -03 = red, -04 = green, -05 = yellow, -06 = blue, -07 = brown, -08 = orange, -09 = grey, -10 = violet, -12 = pink, -60 = green/yellow. etc.
Other colours available upon request.

For further technical information see page 2:48.

LSZH Insulated and Sheathed Flexible Cords H05Z1Z1-F

70°C 300/500 V 318*B

Application

For external supply connection of portable appliances for medium duties in domestic or office environments.
* denotes number of cores.

Specifications

- In accordance with BS EN 50525-3.11 and meeting Harmonised code H05Z1Z1-F
- **Conductors:** Flexible Class 5 conductors to BS EN 60228
- **Insulation:** LSZH insulation Type TI.6 to HD 21.14 S1
- **Core Identification:**
  2 core - blue, brown
  3 core - green/yellow, blue, brown
  4 core - green/yellow, brown, black, grey
  5 core - green/yellow, brown, black, grey, blue
- **Sheath:** LSZH sheath Type TM.7 to HD 21.14 S1 (white)
- Flame retardant to BS EN 60332-1-2
- **Temperature Rating:** 70°C maximum conductor operating temperature
- **Voltage Rating:** 300/500 V

LSZH Insulated and Sheathed Flexible Cords H05Z1Z1-F

70°C 300/500 V 318*B

Anixter Number	Nominal Conductor Area	Nominal Conductor Stranding	Insulation Thickness	Minimum O/D	Maximum O/D	Approximate Cable Weight
		mm^2	#/mm	mm	mm	mm
Twin Core Type 3182B						
3182B-0007-##	0.75	24/0.20	0.6	5.7	7.2	63
3182B-0010-##	1.0	32/0.20	0.6	5.9	7.5	73
3182B-0012-##	1.25	40/0.20	0.7	6.3	8.0	84
3182B-0015-##	1.5	30/0.25	0.7	6.8	8.6	95
3182B-0025-##	2.5	50/0.25	0.8	8.4	10.6	145
3182B-0040-##	4.0	56/0.30	0.8	10.1	12.0	200
Three Core Type 3183B						
3183B-0007-##	0.75	24/0.20	0.6	6.0	7.6	74
3183B-0010-##	1.0	32/0.20	0.6	6.3	8.0	86
3183B-0012-##	1.25	40/0.20	0.7	6.9	8.7	104
3183B-0015-##	1.5	30/0.25	0.7	7.4	9.4	120
3182B-0025-##	2.5	50/0.25	0.8	9.2	11.4	180
3183B-0040-##	4.0	56/0.30	0.8	11.0	13.0	250
Four Core Type 3184B						
3184B-0007-##	0.75	24/0.20	0.6	6.6	8.3	78
3184B-0010-##	1.0	32/0.20	0.6	7.1	9.0	110
3184B-0015-##	1.5	30/0.25	0.7	8.4	10.5	150
3184B-0025-##	2.5	50/0.25	0.8	10.1	13.0	220
3184B-0040-##	4.0	56/0.30	0.8	12.0	14.0	305
Five Core Type 3185B						
3185B-0007-##	0.75	24/0.20	0.6	7.4	9.3	98
3185B-0010-##	1.0	32/0.20	0.6	7.8	9.8	118
3185B-0015-##	1.5	30/0.25	0.7	9.3	11.6	180
3185B-0025-##	2.5	50/0.25	0.8	11.2	13.9	265
3185B-0040-##	4.0	56/0.30	0.8	13.5	15.5	380

= sheath colour, -01 = white, -02 = black.
Other colours available upon request.

For further technical information see page 2:44.

Automotive Wire

Current Ratings for Automotive Cables

Current Ratings for Extra-Flexible Battery/Starter Cables

Nominal Conductor Size	Current Rating for Specified Duty Cycle (A)			
mm^2	100%	30%	20%	10%
20	74	135	165	234
25	85	155	190	268
35	106	193	237	335
40	119	217	266	376
50	129	235	288	407
60	143	261	319	452
70	164	299	366	518
95	201	366	449	635
120	229	418	512	724
150	275	502	614	869

The above ratings are based on the following standard conditions:
30°C ambient air temperature
70°C maximum conductor temperature

Current rating for repeat cycle operation based on a 1 minute repeat period: Repeat cycle operation used above is defined as a periodically switched constant load with an on-load period followed by an off-load period, which is repeated. The on-load time period is expressed as a percentage of the repeat period, and is called the percentage duty cycle. For on-load percentage greater than 50%, the 100% rating should be used.

Ratings for other types of automotive wires should be based on the following table:

Nominal Conductor Size mm²	Ambient Air Temperature °C	Approximate Current Rating (90°C Conductor Temp) A	Approximate Current Rating (105°C Conductor Temp) A
0.22	40	8	9.1
0.35	40	10	11.6
0.5	40	13	14.7
0.75	40	16.5	18.8
1.0	40	19.5	22.3
1.5	40	24.5	28.1
2.0	40	30	35
2.5	40	34	38.8
3.0	40	35	40
4.0	40	42	48
4.5	40	44	51
6.0	40	51	58
8.5	40	63	72
10	40	68	78
16	40	88	100
20	40	102	116
25	40	114	130
35	40	136	155
40	40	149	170
50	40	158	180
70	40	184	210
95	40	202	230
120	40	237	270

N.B. Ratings are for guidance only, and assume single cable isolated in free air. If wires are to be grouped and touching, the following rating factors should be applied:

No. cables in group	2	3	4	5	6	7	8
Rating factor	0.80	0.70	0.65	0.60	0.56	0.53	0.50

Technical Specifications for Flexible Cords

Applicable to: 2491X, 218*Y, 318*Y, 309*Y, 318*B, 318*P, 318*TQ, 398*P
H05V-K, H03VV-F, H05VV-F, H05V2V2-F, H05Z1Z1-F, H05RN-F, H05BN4-F, H07RN-F

CORRECTION FACTOR FOR AMBIENT TEMPERATURE

60°C rubber and PVC cords:

Ambient air temp °C	35	40	45	50	55
Rating factor	0.91	0.82	0.71	0.58	0.41

90°C rubber cords having a HOFR sheath or a heat-resisting PVC sheath and for 90°C heat-resisting PVC cords:

Ambient air temp °C	35 - 50	55	60	65	70
Rating factor	1.0	0.96	0.83	0.67	0.47

180°C rubber cords:

Ambient air temp °C	35 - 150	155	160	165	170	175
Rating factor	1.0	0.92	0.82	0.71	0.57	0.40

For cables where four or more cores or loaded, the following factors should be applied:

No. of cores loaded	4	5	6	7	10	12	14	19	24
Rating factor	0.78	0.72	0.67	0.63	0.56	0.53	0.51	0.45	0.42
No. of cores loaded	27	30	37	-	-	-	-	-	-
Rating factor	0.40	0.39	0.36	-	-	-	-	-	-

These factors need not be applied if the number of cores loaded does not exceed the square root of the total number of cores in the cable.

Technical Specifications for Flexible Cords

H05V-K, H03VV-F, H05VV-F, H05V2V2-F, H05Z1Z1-F, H05RN-F, H05BN4-F, H07RN-F

CURRENT CARRYING CAPACITY (Amperes):

Conductor Cross Sectional Area 1	Current Carrying Capacity	
	Single Phase a.c. 2	Three Phase a.c. 3
mm^2	A	A
0.5	3	3
0.75	6	6
1	10	10
1.25	13	-
1.5	16	16
2.5	25	20
4	32	25

VOLTAGE DROP (per Ampere per metre):

Conductor operating temperature: 60°C*

Conductor Cross Sectional Area 1	d.c. or Single Phase a.c. 2	Three Phase a.c. 3
mm^2	mV	mV
0.5	93	80
0.75	62	54
1	46	40
1.25	37	-
1.5	32	27
2.5	19	16
4	12	10

*NOTE: The tabulated values above are for 60°C rubber insulated and PVC-insulated flexible cords and for other types of flexible cords they are to be multiplied by the following factors:
For 90°C rubber or PVC insulated 1.09.
180°C rubber insulated 1.31.

Technical Specifications for H07V-K

CURRENT CARRYING CAPACITY (Amperes):

Conductor Cross Sectional Area	Reference Method A (enclosed in conduit in thermally insulating wall etc.)		Reference Method B (enclosed in conduit on a wall or in trunking etc.)	
	2 Cables, Single Phase a.c. or d.c.	3 or 4 Cables, Three Phase a.c.	2 Cables, Single Phase a.c. or d.c.	3 or 4 Cables, Three Phase a.c.
1	2	3	4	5
mm^2	A	A	A	A
1	11	10.5	13.5	12
1.5	14.5	13.5	17.5	15.5
2.5	20	18	24	21
4	26	24	32	28
6	34	31	41	36
10	46	42	57	50
16	61	56	76	68
25	80	73	101	89
35	99	89	125	110
50	119	108	151	134
70	151	136	192	171
95	182	164	232	207
120	210	188	269	239
150	240	216	300	262
185	273	245	341	296
240	321	286	400	346
300	367	328	458	394
400	-	-	546	467
500	-	-	626	533
630	-	-	720	611

BS6004 - 6701X Types, PVC insulated only.

Ambient temperature: 30°C Conductor operating temperature: 70°C.

Technical Specifications for H07V-K

For ambient air temperatures other than 30°C, the following factors should be applied.

Ambient air temp °C	25	30	35	40	45	50	55	60	65
Rating factor	1.03	1.0	0.94	0.87	0.79	0.71	0.61	0.50	0.35

VOLTAGE DROP (per Ampere per metre):

Conductor Cross Sectional Area	2 Cables d.c.	Reference Methods A & B (enclosed in conduit etc. in or on a wall) 2 Cables Single Phase a.c.			Reference Methods A & B (enclosed in conduit etc. in or on a wall) 3/4 Cables Three Phase a.c.		
1	2	3			4		
mm^2	mV	mV			mV		
1	44	44			38		
1.5	29	29			25		
2.5	18	18			15		
4	11	11			9.5		
6	7.3	7.3			6.4		
10	4.4	4.4			3.8		
16	2.8	2.8			2.4		
		r	x	z	r	x	z
25	1.75	1.80	0.33	1.80	1.50	0.29	1.55
35	1.25	1.30	0.31	1.30	1.10	0.27	1.10
50	0.93	0.95	0.30	1.00	0.81	0.26	0.85
70	0.63	0.65	0.29	0.72	0.56	0.25	0.61
95	0.46	0.49	0.28	0.56	0.42	0.24	0.48
120	0.36	0.39	0.27	0.47	0.33	0.23	0.41
150	0.29	0.31	0.27	0.41	0.27	0.23	0.36
185	0.23	0.25	0.27	0.37	0.22	0.23	0.32
240	0.180	0.195	0.26	0.33	0.17	0.23	0.29
300	0.145	0.160	0.26	0.31	0.14	0.23	0.27
400	0.105	0.130	0.26	0.29	0.12	0.22	0.25
500	0.086	0.110	0.26	0.28	0.10	0.22	0.25
630	0.068	0.094	0.25	0.27	0.08	0.22	0.24

Technical Specifications for 6701B

CURRENT CAPACITY (Amperes):

Conductor Cross Sectional Area	Reference Method A (enclosed in conduit in thermally insulating wall etc.)		Reference Method B (enclosed in conduit on a wall or in trunking etc.)	
	2 Cables, Single Phase a.c. or d.c.	3 or 4 Cables, Three Phase a.c.	2 Cables, Single Phase a.c. or d.c.	3 or 4 Cables, Three Phase a.c.
1	2	3	4	5
mm^2	A	A	A	A
1	14	13	17	15
1.5	19	17	23	20
2.5	26	23	31	28
4	35	31	42	37
6	45	40	54	48
10	61	54	75	66
16	81	73	100	88
25	106	95	133	117
35	131	117	164	144
50	158	141	198	175
70	200	179	253	222
95	241	216	306	269
120	278	249	354	312
150	318	285	393	342
185	362	324	449	384
240	424	380	528	450

BS EN 50525-3-41
Ambient temperature: 30°C Conductor operating temperature: 90°C.

For ambient air temperatures other than 30°C, the following factors should be applied.

Ambient air temp °C	25	30	35	40	45	50	55	60
Rating factor	1.04	1.0	0.96	0.91	0.87	0.82	0.76	0.71

Ambient air temp °C	65	70	75	80	85
Rating factor	0.65	0.58	0.50	0.41	0.29

Technical Specifications for 6701B

VOLTAGE DROP (per Ampere per metre):

Conductor Cross Sectional Area	2 Cables d.c.	Reference Methods 3 & 4 (enclosed in conduit etc. in or on a wall) 2 Cables Single Phase a.c.			Reference Methods 3 & 4 (enclosed in conduit etc. in or on a wall) 3/4 Cables Three Phase a.c.		
1	2	3			4		
mm^2	mV	mV			mV		
1	46	46			40		
1.5	31	31			27		
2.5	19	19			16		
4	12	12			10		
6	7.9	7.9			6.8		
10	4.7	4.7			4.0		
16	2.9	2.9			2.5		
		r	x	z	r	x	z
25	1.85	1.85	0.31	1.90	1.60	0.27	1.65
35	1.35	1.35	0.29	1.35	1.15	0.25	1.15
50	0.99	1.00	0.29	1.05	0.87	0.25	0.90
70	0.68	0.70	0.28	0.75	0.60	0.24	0.65
95	0.49	0.51	0.27	0.58	0.44	0.23	0.50
120	0.39	0.41	0.26	0.48	0.35	0.23	0.42
150	0.32	0.33	0.26	0.43	0.29	0.23	0.37
185	0.25	0.27	0.26	0.37	0.23	0.23	0.32
240	0.190	0.21	0.26	0.33	0.185	0.22	0.29

Technical Specifications for Tri-Wire

Nominal Conductor Area	Nominal Conductor Stranding	Current Rating	Nominal Voltage Drop*
mm^2	#/mm	A	mV/A/m
0.5	16/0.2	11	46.0
0.75	24/0.2	14	31.0
1.0	32/0.2	17	22.0
1.5	30/0.25	21	15.0
2.5	50/0.25	30	9.1
4.0	56/0.3	41	5.7
6.0	84/0.3	53	3.8
10	80/0.4	75	2.2
16	126/0.4	100	1.4
25	196/0.4	136	0.89
35	276/0.4	167	0.64
50	396/0.4	204	0.45
70	360/0.5	259	0.32
95	475/0.5	321	0.24
120	608/0.5	374	0.19
150	756/0.5	429	0.15
185	925/0.5	496	0.13
240	1221/0.5	595	0.092

Current ratings are based on a conductor operating temperature of 85°C and an ambient air temperature of 45°C and assumes single cable isolated in free air.
The ratings do not apply if the cable is protected by a semi-enclosed fuse to BS3036.
For further guidance refer to the BS7671 Requirements for Electrical Installations (IEE Wiring Regulations - latest edition).
For ambient air temperature other than 45°C the following rating factors should be applied:

Ambient air temp °C	45	50	55	60	65	70	75
Rating factor	1.0	0.97	0.90	0.82	0.73	0.63	0.52

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

No of cables in group	2	3	4	5	6	7	8
Rating factor	0.80	0.70	0.65	0.60	0.56	0.53	0.50

* The voltage drop figures quoted are for one cable only. For other circuit arrangements they should be adjusted as follows: Single phase 50Hz a.c. or 2-wire d.c. x 2 Three phase a.c. x 1.732.

Technical Specifications for Equipment Wires

The upper temperature limits in the table opposite refer to the maximum continuous temperature of the conductor due to the combination of ambient temperature and temperature rise due to current flow. The lower values quoted are the minimum temperatures for equipment wire, which may be subject to slight flexing during their normal operating life.

The current carrying capacities quoted are for wires carrying a continuous current in free air at an ambient temperature.

NOTE: Current carrying capacities will depend on circumstances but for general guidance the quoted current values will give a temperature rise of about 15°C, in ambient temperatures up to 70°C for single, freely ventilated, insulated wires. Different values will apply when equipment wires are bunched.

Technical Specifications for Equipment Wires

Type of Equipment Wire	Description	Maximum	
		a.c. (rms)	d.c.
1	Hard PVC insulated	750	-
2	Hard PVC insulated	1,000	-
2SB	As Type 2, screened	1,000	-
2SBM	As Type 2SB, with PVC sheath	1,000	-
3	General purpose PVC insulated	1,500	-
3SB	As Type 3, screened	1,500	-
3SBM	As Type 3SB with PVC sheath	1,500	-
4	Polyethylene insulated	1,500	-
4SB	As Type 4, screened	1,500	-
5	Silicone rubber insulated	750	-
5SB	As Type 5, screened	750	-
7	General purpose PVC insulated	-	3,000
8	General purpose, PVC insulated	-	5,000
9	General purpose, PVC insulated	-	10,000
10	General purpose, PVC insulated	-	15,000
11	Polyethylene insulated	-	7,500
12	Polyethylene insulated	-	15,000
13	Polyethylene insulated	-	30,000
14	Silicone rubber insulated	-	12,000

Type of Insulation	Temperature Range	Current Ratings	
PVC Hard grade	-15° to +85°C	1/0.4	0.8A
PVC General purpose	-20° to +85°C	7/0.2	1.4A
Polyethylene	-50° to +85°C	1/0.6	1.8A
Silicone rubber	-60° to +150°C	16/0.2	3.0A
-	-	1/0.9	4.0A
-	-	24/0.2	4.5A
-	-	1/1.13	6.0A
-	-	32/0.2	6.0A
-	-	63/0.2	11.0A

Technical Specifications for 6381TQ

Single-Core, EPR insulated, HOFR sheathed. BS EN 50525-2-21 - 6381TQ.
Ambient temperature: 30°C Conductor operating temperature: 90°C.

CURRENT CARRYING CAPACITY (Amperes):

Conductor Cross Sectional Area	Reference Method B (enclosed in conduit etc. in or on a wall)		Reference Method C (clipped direct)	
	2 Cables, Single Phase a.c. or d.c.	3 or 4 Cables, Three Phase a.c.	2 Cables, Single Phase a.c. or d.c. flat and touching	3 or 4 Cables, Three Phase a.c. flat and touching or trefoil
1	2	3	4	5
mm^2	A	A	A	A
4	40	35	44	39
6	51	46	56	51
10	72	64	78	71
16	96	84	104	95
25	127	112	137	124
35	158	139	170	155
50	198	175	228	209
70	250	219	290	265
95	294	259	342	314
120	343	302	400	367
150	383	334	465	425
185	431	369	524	481
240	510	434	622	569
300	580	494	715	655
400	669	572	850	777
500	760	647	961	878
630	891	756	1118	1022

Technical Specifications for 6381TQ

Ratings do not apply if the cable is protected by a semi-enclosed fuse to BS3036. For further guidance refer to the BS7671. Requirements for Electrical Installations (IEE Wiring Regulations - latest edition).
For ambient air temperatures other than 30°C, the following factors should be applied.

Ambient air temp °C	25	30	35	40	45	50	55	60	65	70	75	80	85
Rating factor	1.04	1.0	0.95	0.91	0.86	0.82	0.76	0.70	0.64	0.57	0.50	0.40	0.28

Reference Method F (on a perforated cable tray) Horizontal or Vertical		Reference Method G (Free Air)		
2 Cables, Single Phase a.c. or d.c. Flat and Touching	3 or 4 Cables, Three Phase a.c. Flat and Touching	Single Phase a.c. or d.c. 3 or 4 Cables, Three Phase a.c. Flat Horizontal (H) or Vertical (V)		3 Cables Trefoil Three Phase a.c.
6	7	Horizontal (H)	Vertical (V)	9
A	A	A		A
-	-	-		-
-	-	-		-
-	-	-	-	-
-	-	-	-	-
154	135	174	154	129
193	170	218	194	163
234	216	275	246	207
310	276	349	314	265
373	329	414	374	316
421	387	484	439	371
488	453	563	514	433
561	512	635	582	490
655	612	754	694	586
754	708	868	802	676
921	850	1063	987	806
1052	969	1217	1135	919
1241	1139	1439	1348	1077

Ratings shown in Column 9, also apply to cables in trefoil formation on a perforated cable tray, Reference Method F.

Technical Specifications for 6381TQ

(continued)

VOLTAGE DROP (per Amperes per metre):

2 Cables - Single Phase a.c.										
Conductor Cross Sectional Area	2 Cables d.c.	Reference Method B (enclosed in conduit etc. in or on a wall)			Reference Methods C & F (clipped direct or on trays, touching)			Reference Method G (spaced*)		
1	2	3			4			5		
mm²	mV	mV			mV			mV		
4	13.2	13.2			13.2			-		
6	8.5	8.5			8.5			-		
10	5.1	5.1			5.1			-		
16	3.2	3.2			3.2			-		
		r	x	z	r	x	z	r	x	z
25	2.03	2.03	0.31	2.05		0.19	2.04	2.03	0.28	2.05
35	1.42	1.44	0.29	1.47	1.44	0.21	1.46	1.44	0.27	1.47
50	1.00	1.07	0.29	1.11	1.00	0.21	1.02	1.01	0.27	1.05
70	0.71	0.72	0.28	0.77	0.71	0.20	0.73	0.70	0.26	0.75
95	0.54	0.55	0.27	0.61	0.54	0.195	0.57	0.53	0.26	0.59
120	0.42	0.44	0.26	0.51	0.42	0.190	0.46	0.42	0.25	0.49
150	0.35	0.34	0.26	0.44	0.34	0.190	0.39	0.34	0.25	0.42
185	0.27	0.29	0.26	0.39	0.27	0.190	0.33	0.27	0.25	0.37
240	0.21	0.23	0.25	0.34	0.21	0.185	0.28	0.21	0.25	0.33
300	0.167	0.188	0.25	0.31	0.173	0.180	0.25	0.167	0.25	0.30
400	0.127	0.146	0.25	0.29	0.132	0.175	0.22	0.130	0.24	0.27
500	0.100	0.127	0.25	0.28	0.107	0.170	0.20	0.104	0.24	0.26
630	0.074	0.102	0.25	0.27	0.085	0.170	0.19	0.080	0.24	0.25

* Spaced by one cable diameter.

Conductor operating temperature: 90°C.

Technical Specifications for 6381TQ

3 or 4 Cables - Three Phase a.c.											
Reference Method B (enclosed in conduit etc. in or on a wall)			Reference Methods C, F & G (in trefoil touching)			Reference Methods C & F (flat touching)			Reference Method G (flat spaced*)		
6			7			8			9		
mV			mV			mV			mV		
11.4			11.4			11.4			-		
7.4			7.4			7.4			-		
4.4			4.4			4.4			-		
2.8			2.8			2.8			-		
r	x	z	r	x	z	r	x	z	r	x	z
1.73	0.27	1.75	1.73	0.180	1.74	1.73	0.190	1.74	1.73	0.27	1.75
1.23	0.25	1.26	1.23	0.180	1.24	1.23	0.180	1.24	1.23	0.26	1.26
0.88	0.25	0.91	0.86	0.170	0.88	0.86	0.180	0.88	0.86	0.26	0.90
0.62	0.24	0.66	0.61	0.170	0.63	0.61	0.175	0.63	0.61	0.25	0.66
0.47	0.23	0.52	0.46	0.165	0.49	0.46	0.170	0.49	0.46	0.25	0.52
0.37	0.23	0.44	0.36	0.165	0.40	0.36	0.165	0.40	0.36	0.24	0.43
0.30	0.23	0.38	0.29	0.165	0.33	0.29	0.165	0.33	0.29	0.24	0.38
0.25	0.23	0.34	0.24	0.160	0.29	0.24	0.165	0.29	0.24	0.24	0.34
0.20	0.22	0.30	0.182	0.160	0.24	0.182	0.165	0.25	0.182	0.24	0.30
0.162	0.22	0.27	0.150	0.150	0.21	0.145	0.160	0.22	0.145	0.24	0.28
0.130	0.22	0.26	0.115	0.150	0.19	0.115	0.160	0.20	0.115	0.24	0.27
0.106	0.22	0.24	0.095	0.150	0.18	0.093	0.160	0.19	0.090	0.24	0.26
0.090	0.21	0.23	0.076	0.150	0.17	0.072	0.160	0.18	0.069	0.23	0.24

Technical Specifications for 638*TQ

CURRENT CARRYING CAPACITY (Amperes):

Conductor Cross Sectional Area	d.c. or Single Phase a.c. (1 Two Core cable, with or without protective conductor)	Three Phase a.c. (1 Three Core, Four Core or Five Core cable)	Single Phase a.c. or d.c. 2 Single-Core Cables Touching
mm^2	A	A	A
4	42	37	-
6	55	49	-
10	76	66	-
16	103	89	-
25	136	119	-
35	-	146	200
50	-	177	250
70	-	225	310
95	-	273	369
120	-	316	432
150	-	363	497
185	-	414	564
240	-	487	673
300	-	560	773
400	-	-	924
500	-	-	1062
630	-	-	1242

Technical Specifications for 638*TQ

The ratings do not apply if the cable is protected by a semi-enclosed fuse to BS3036.
For further guidance refer to the BS7671 Requirements for Electrical Installations (IEE Wiring Regulations - latest edition).
For ambient air temperature other than 30°C the following rating factors should be applied:

Ambient air temp °C	25	30	35	40	45	50	55	60	65	70	75	80	85
Rating factor	1.04	1.0	0.95	0.91	0.86	0.82	0.76	0.70	0.64	0.57	0.50	0.30	0.28

Ambient temperature: 30°C.

Conductor operating temperature: 90°C.

NOTE: The current ratings tabulated are for cables in free air but may also be used for cables resting on a surface.

See page 2:59 for Voltage Drops.

Technical Specifications for 638*TQ

(continued)

VOLTAGE DROP (per Ampere per metre):

Conductor Cross Sectional Area	1 Two Core or two Single-Core Cables d.c.	Two Core Cable Single Phase a.c.			1 Three Core, Four Core or Five Core Cable Three Phase a.c.		
mm²	mV	mV			mV		
4	13.2	13			11.1		
6	8.5	8.5			7.4		
10	5.1	5.1			4.4		
16	3.2	3.2			2.7		
		r	x	z	r	x	z
25	2.03	2.03	0.175	2.04	1.73	0.150	1.73
35	1.42	-	-	-	1.22	0.150	1.23
50	1.0	-	-	-	0.91	0.145	0.93
70	0.71	-	-	-	0.62	0.140	0.64
95	0.54	-	-	-	0.47	0.135	0.49
120	0.42	-	-	-	0.37	0.135	0.39
150	0.34	-	-	-	0.29	0.130	0.32
185	0.27	-	-	-	0.24	0.130	0.27
240	0.21	-	-	-	0.188	0.130	0.23
300	0.167	-	-	-	0.147	0.125	0.195
400	0.127	-	-	-	-	-	-
500	0.100	-	-	-	-	-	-
630	0.074	-	-	-	-	-	-

* A larger voltage drop will result if cables are spaced.

Conductor operating temperature: 90°C.

Technical Specifications for 638*TQ

Two Single-Core Cables Touching, Single Phase a.c.*		
mV		
-		
-		
-		
-		
r	x	z
-	-	-
1.44	0.21	1.46
1.00	0.21	1.02
0.71	0.20	0.73
0.54	0.195	0.57
0.42	0.190	0.46
0.34	0.190	0.39
0.27	0.190	0.33
0.21	0.185	0.28
0.173	0.180	0.25
0.132	0.175	0.22
0.107	0.170	0.20
0.085	0.170	0.190

Technical Specifications for "H07RN-F"

The ratings do not apply if the cable is protected by a semi-enclosed fuse to BS3036.
For further guidance refer to the BS7671 Requirements for Electrical Installations (IEE Wiring Regulations - latest edition).
For ambient air temperature other than 30°C the following rating factors should be applied:

Ambient air temp °C	25	30	35	40	45	50	55
Rating factor	1.04	1.0	0.91	0.82	0.71	0.58	0.41

Ambient temperature: 30°C.
Conductor operating temperature: 60°C.
NOTE: The current ratings tabulated are for cables in free air but may also be used for cables resting on a surface.

VOLTAGE DROP (per Ampere per metre):

Conductor Cross Sectional Area	Two Core Cable d.c.	Two Core Cable Single Phase a.c.			1 Three Core, Four Core or Five Core Cable Three Phase a.c.		
mm^2	mV	mV			mV		
4	12	12			10		
6	7.8	7.8			6.7		
10	4.6	4.6			4.0		
16	2.9	2.9			2.5		
		r	x	z	r	x	z
25	1.80	1.80	0.175	1.85	1.55	0.150	1.55
35	-	-	-	-	1.10	0.150	1.15
50	-	-	-	-	0.83	0.145	0.84
70	-	-	-	-	0.57	0.140	0.58
95	-	-	-	-	0.42	0.135	0.44
120	-	-	-	-	0.33	0.135	0.36
150	-	-	-	-	0.27	0.130	0.30
185	-	-	-	-	0.22	0.130	0.26
240	-	-	-	-	0.170	0.130	0.21
300	-	-	-	-	0.135	0.125	0.185
400	-	-	-	-	-	-	-
500	-	-	-	-	-	-	-
630	-	-	-	-	-	-	-

Technical Specifications for “H07RN-F”

CURRENT CAPACITY (per Ampere per metre):

Conductor Cross Sectional Area	Single Phase a.c. or d.c. (1 two core cable, with or without protective conductor)	Three Phase a.c. (1 three core, four core or five core cable)	Single Phase a.c. or d.c. 2 Single-Core Cables Touching
mm^2	A	A	A
4	30	26	-
6	39	34	-
10	51	47	-
16	73	63	-
25	97	83	-
35	-	102	140
50	-	124	175
70	-	158	216
95	-	192	258
120	-	222	302
150	-	255	347
185	-	291	394
240	-	343	471
300	-	394	541
400	-	-	644
500	-	-	738
630	-	-	861

Two Single-Core Cables Touching			
d.c.	Single Phase a.c.*		
mV	mV		
-	-		
-	-		
-	-		
-	-		
	r	x	z
-	-	-	-
1.31	1.31	0.21	1.32
0.91	0.91	0.21	0.93
0.64	0.64	0.20	0.67
0.49	0.49	0.195	0.53
0.38	0.38	0.190	0.43
0.31	0.31	0.190	0.36
0.25	0.25	0.190	0.32
0.190	0.195	0.185	0.27
0.150	0.155	0.180	0.24
0.115	0.120	0.175	0.21
0.090	0.099	0.170	0.20
0.068	0.079	0.170	0.185

* A larger voltage drop will result if cables are spaced.

Technical Specifications for Welding Cables

Welding cables are now used for many duties ranging from automatic welding machines where the current is carried continuously, to hand welding equipment which is used intermittently and where the cable has time to cool between the periods on load.

In order to provide current ratings for intermittently loaded cables, the term 'duty cycle', sometimes called 'arcing time factor' or 'load factor' has been introduced. Duty cycle is defined as the ratio of the duration of operation under load, to the duration of a complete cycle. This ratio, lying between 0 and 1, may be expressed as a percentage.

For example, if a cable carries its load current for six minutes followed by a period of four minutes off load and this cycle is repeated, every ten minutes, this gives a duty cycle of 60%.

Welding equipment to BS638 is rated for repeat cycle operation based on a ten minute period. When authorised, a repeat cycle based on a five minute period may be used.

The current rating tables give ratings corresponding to various duty cycles in common use. The following are typical duty cycles for various welding processes and applications.

Automatic welding up to	100%
Semi-Automatic welding	30-85%
Manual welding	30-60%
Very intermittent or occasional welding up to	20%

Technical Specifications for Welding Cables

CURRENT RATINGS OF CABLES WITH COPPER CONDUCTORS FOR REPEAT CYCLE BASED ON A 10 MINUTE PERIOD

Nominal Cross Sectional Area of Cond.	Current Rating at a Maximum Duty Cycle of						
	100%	85%	80%	60%	35%	20%	8%
mm²	A	A	A	A	A	A	A
16	135	136	136	139	150	174	243
25	180	182	183	190	213	254	366
35	225	229	231	243	279	338	497
50	285	293	296	316	371	457	681
70	355	367	373	403	482	602	908
95	430	448	456	498	606	765	1164
120	500	524	534	587	721	917	1404
150	580	610	622	689	853	1090	1676
185	665	702	717	797	995	1277	1971

Ambient air temperature 25°C Conductor operating temperature: 85°C

Derating factors for higher ambient temperatures:

30°C	35°C	40°C	45°C
0.96	0.91	0.87	0.82

NOTE: Cables operating at conductor temperatures of 85°C, with the outer surface of the covering approximately 5°C lower, could cause injury if carelessly handled after a period of use at the maximum rated current.

CURRENT RATINGS OF CABLES WITH COPPER CONDUCTORS FOR REPEAT CYCLE BASED ON A 5 MINUTE PERIOD

Nominal Cross Sectional Area of Cond.	Current Rating at a Maximum Duty Cycle of						
	100%	85%	80%	60%	35%	20%	8%
mm²	A	A	A	A	A	A	A
16	135	138	140	148	173	212	314
25	180	186	189	204	244	305	460
35	225	235	239	260	317	400	608
50	285	299	305	336	415	529	811
70	355	375	383	426	531	682	1053
95	430	456	467	523	658	850	1319
120	500	532	545	613	776	1006	1565
150	580	619	634	716	911	1184	1845
185	665	711	729	826	1054	1374	2145

Ambient air temperature 25°C Conductor operating temperature: 85°C

Derating factors for higher ambient temperatures:

30°C	35°C	40°C	45°C
0.96	0.91	0.87	0.82

NOTE: Cables operating at conductor temperatures of 85°C, with the outer surface of the covering approximately 5°C lower, could cause injury if carelessly handled after a period of use at the maximum rated current.

Technical Specifications for Welding Cables

VOLTAGE DROP IN COPPER CONDUCTORS AT NORMAL AND ELEVATED TEMPERATURES

Nominal Cross Sectional Area of Cond.	d.c.* Voltage Drop/100A/10m of Cable at		
	20°C	60°C	85°C
mm^2	V	V	V
16	1.24	1.430	1.560
25	0.795	0.920	0.998
35	0.565	0.654	0.709
50	0.393	0.455	0.493
70	0.277	0.321	0.348
95	0.210	0.243	0.264
120	0.164	0.190	0.206
185	0.108	0.125	0.136

The voltage drop values given above are for 10 metres of cable carrying 100 amperes. For longer lengths of cable and heavier currents, the voltage drop value should be increased proportionally.

*The corresponding values when using a.c. may be much higher depending on the inductance of the circuit.

Technical Specifications for Coil Leads

For ambient air temperatures other than 40/100°C, the following factors should be applied.

Types 3 and 4:

Ambient temp °C	25	30	35	40	45	50	55	60	65	70	75	80
Rating factor	1.14	1.10	1.05	1.0	0.945	0.89	0.835	0.775	0.705	0.603	0.545	0.445

Type 5:

Ambient temp °C	80	85	90	95	100	105	110	115	120	125	130	135
Rating factor	1.18	1.14	1.10	1.05	1.0	0.945	0.89	0.835	0.775	0.705	0.63	0.545

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

Number of cables in group	2	3	4	5	6	7	8
Rating factor	0.8	0.7	0.65	0.6	0.56	0.53	0.5

Ambient air temperature 40°C, Conductor operating temperature 90°C.

Nominal Conductor Area	Nominal Conductor Stranding	Maximum d.c. Resistance at 20°C	Maximum Continuous Current Ratings (BS6195) Types
mm^2	#/mm	ohm/km	amp
0.5	16/0.20	38.2	13
0.75	24/0.20	25.4	17
1.0	32/0.20	19.1	20
1.5	30/0.25	13.0	26
2.5	50/0.25	7.82	36
4	56/0.30	4.85	49
6	84/0.30	3.23	64
10	80/0.40	1.85	90
16	126/0.40	1.18	120
25	196/0.40	0.757	163
35	276/0.40	0.538	203
50	396/0.40	0.375	267
70	360/0.50	0.264	324
95	475/0.50	0.200	391
120	608/0.50	0.156	455
150	756/0.50	0.126	525
185	925/0.50	0.103	600
240	1121/0.50	0.0778	725
300	1525/0.50	0.0623	840
400	2013/0.50	0.0472	1010

GUIDE TO MINIMUM BENDING RADII ON FLEXIBLE CORDS AND CABLES

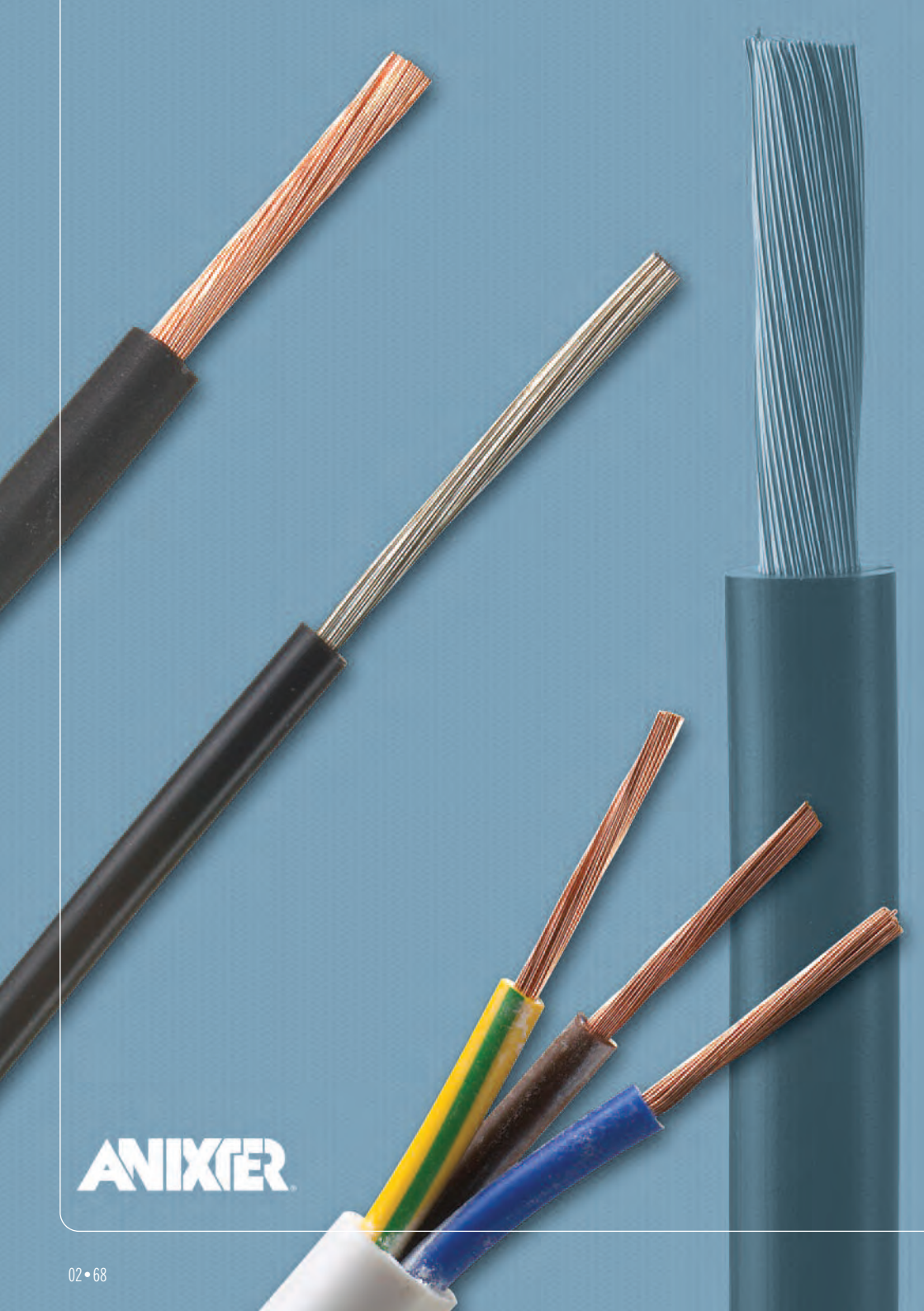
Cable Type	Cable Diameter (mm)			
	≤ 8 ≤	>8 ≤ 12	>12 ≤ 20	>20
	M.B.R. (Minimum Bending Radius)			
Flexible Cable Thermoplastic (e.g. PVC)				
Fixed installation	3D	3D	4D	4D
Free movement*	5D	5D	6D	6D
Flexible Cable Elastomeric (e.g. rubber)				
Fixed installation	3D	3D	4D	4D
Free movement*	4D	4D	5D	6D

Where D = cable diameter.

The above values are based on recommendations given in BS7540 “Use of cables with a rated voltage not exceeding 450/750 V”.

*These values do not apply to cables used on festoon, reeling drum, cranes, robotics, etc., where repetitive flexing and/or twisting is anticipated.

For further details refer to BS7540.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