



# BUILDING WIRES



FIBRA CABLES



# BUILDING WIRES

## CONTENTS

P3

**GENERAL**  
INTRODUCTION

P4

**AMERICAN STANDARD**  
WIRE TYPES THHN-THWN

P5

**BRITISH STANDARD**  
WIRES

P6

TYPE H07V2-R STRANDED CONDUCTOR

P7

TYPE H07V2-U SOLID CONDUCTOR

P8

**BRITISH STANDARD**  
FLEXIBLE CABLES







Bahra Cables Company was established in 2008 to serve Saudi & GCC Markets. It is based in Bahra industrial city located 25km from Jeddah. Bahra Cables Factory occupies over 500,000 square meters of prime manufacturing space together with associated design offices, laboratories and storage area. It specializes in Manufacturing and Distributing Electric Cables.

Bahra Cables Company is committed to the production of the best product quality and service, utilizing cutting edge European Technology in its manufacturing. The core technologies in production processes, material applications and logistic procedures were provided by German experts with key functions being managed by German engineers.

The organization has a lean vertical management structure which is designed to integrate with a highly developed IT-based structure. This partnership allows the rapid flow of information through the management chain and facilitates timely response in the best traditions of 'hands on' management. Bahra Cables Company has the flexibility to provide a versatile product range to serve the construction, electric utilities, distribution, industrial, oil & gas and petrochemical sectors. The cables produced comply with both American standards ( CSA , ANSI and ICEA ) and European standards ( IEC, BS, NF and VDE specifications.)

The scope of this catalogue is to provide an in depth view of the technical information of the Low Voltage wires with PVC insulation.

## AREA

Bahra Cables Company has a total land area of about 500,000 sqm at disposal. The built-up area, including offices and manufacturing plants, is more than 97,500 sqm. The factory extension currently under construction measures over 47,000 sqm. The allocated area for material and products' storage is more than 89,000 sqm.



# AMERICAN STANDARD

THHN - THWN | 600V



Annealed Copper Wires / PVC Insulation / Nylon Jacket, UL 83, 105 °C Insulation grade

(i)	Catalogue Code	Size Awg	Conductor Construction No. of Wires X Nominal Wire Diameter mm	Awg Equivalent mm <sup>2</sup>	Maximum Conductor Resistance ohm/km at 20°C	Insulation Thickness mm	Nylon Thickness mm	Nominal Outer Diameter mm	Current Carrying Capacity (Amp)	
									THHN 90°C	THWN 75°C
1	11100010	16	19x0.298	1.31	13.1	0.38	0.1	2.48	24	10
2	11101010	16	19x0.298	1.31	13.1	0.38	0.1	2.48	24	10
1	11100020	14	13x0.4+6x0.3	2.08	8.62	0.38	0.1	2.8	35	30
2	11101020	14	13x0.4+6x0.3	2.08	8.62	0.38	0.1	2.8	35	30
1	11100030	12	13x0.50+6x0.40	3.31	5.43	0.38	0.1	3.29	40	35
2	11101030	12	13x0.50+6x0.40	3.31	5.43	0.38	0.1	3.29	40	35
1	11100040	10	13x0.64+6x0.47	5.26	3.409	0.51	0.1	4.13	55	50
2	11101040	10	13x0.64+6x0.47	5.26	3.409	0.51	0.1	4.13	55	50
1	11100050	8	13x0.8+6x0.60	8.37	2.144	0.76	0.13	5.45	80	70
2	11101050	8	13x0.8+6x0.60	8.37	2.144	0.76	0.13	5.45	80	70
1	11100060	6	13x1.01+6x0.74	13.3	1.35	0.76	0.13	6.3	105	95
2	11101060	6	13x1.01+6x0.74	13.3	1.35	0.76	0.13	6.3	105	95

\* **NOTE :** 1 refer to packaging 500 Feet/Coil  
2 refer to packaging 500Feet/Spool

\* Allowable maximum current carrying in Free Air, based on ambient temperature 30°C ref(Table 310.17, NEC NFPA-70)

\*\* For 10-14 AWG Sizes, Refer to National Electrical Code ® Section 240.4 (D) for conductor overcurrent protection limitations.

#### SPECIFICATION:

Building wires types THHN/ THWN according to American standards UL 83 & UL 1581

#### CONDUCTOR:

19 wire combination of round unilay stranded conductor provides more flexibility and optimal shape with less diameter

#### INSULATION:

Thermoplastic PVC insulation suitable for 105 °C dry and 75 °C wet location according to UL 83 & UL 1581  
Wires are complying to Vertical Flame test requirements VW-1

#### JACKETING:

Polyamide Nylon PA6 over the PVC insulation provides an excellent protection against scratch, abrasion and resistance to oil and gasoline.

#### IDENTIFICATION ON THE WIRE:

BAHRA CABLES CO. KSA THHN / THWN 12 AWG 600 VOLTS  
VW-1 GASOLINE & OIL RESISTANT II 105 DEG C

#### PACKING:

Very modern packing with standard length 500 feet coils



or with standard length 500 Feet Spool



(or according to the requirement) with strong wrapping plastic easy to open and easy to use up to the last meter, Light weight environment friendly.

#### COLOR:

Available colors for wires

Red, yellow, blue, black, brown, green, green/ yellow, white & grey.

Other colors are available upon request

The fourth digit of the product catalogue code number is for wire color identification.

Color Codes:

0	1	2
3	4	5
6	7	8
9		

# BRITISH STANDARD

## H0 7 V2 -R STRANDED CONDUCTOR | 450/750 V



Annealed Stranded Copper Wires / PVC Insulation Rated 90 °C

Designation Type 60227 IEC 01 & BS EN 50525-2-31 and SASO 1320

Catalogue Code	Size mm <sup>2</sup>	Conductor Construction No. of Wires X Nominal Wire Diameter mm	Maximum Conductor Resistance ohm/km at 20°C	Insulation Thickness mm	Nominal Outer Diameter mm	Current Carrying Capacity Amp		Packaging
						70 °C	90 °C	
12163130	1.5	7 X 0.52	12.1	0.7	2.94	17.5	21	100 Yard/Coil
12163140	2.5	7 X 0.67	7.41	0.8	3.58	24	29	100 Yard/Coil
12163150	4	7 X 0.85	4.61	0.8	4.07	32	38	100 Yard/Coil
12163160	6	7 X 1.04	3.08	0.8	4.61	41	49	100 Yard/Coil
12163170	10	7 X 1.35	1.83	1.0	6.0	57	68	100 Yard/Coil
12163180	16	7 X 1.7	1.15	1.0	7.05	76	91	100 Yard/Coil
12163190	25	7 X 2.25	0.727	1.2	9.08	101	121	100 Yard/Coil
12163200	35	7 X 2.5	0.542	1.2	9.90	125	149	100 Yard/Coil
12164130	1.5	7 X 0.52	12.1	0.7	2.94	17.5	21	1000 Meter/Drum
12164140	2.5	7 X 0.67	7.41	0.8	3.58	24	29	1000 Meter/Drum
12164150	4	7 X 0.85	4.61	0.8	4.07	32	38	1000 Meter/Drum
12164160	6	7 X 1.04	3.08	0.8	4.61	41	49	1000 Meter/Drum
12164170	10	7 X 1.35	1.83	1.0	6.0	57	68	1000 Meter/Drum
12164180	16	7 X 1.7	1.15	1.0	7.05	76	91	1000 Meter/Drum
12164190	25	7 X 2.25	0.727	1.2	9.08	101	121	1000 Meter/Drum
12164200	35	7 X 2.5	0.542	1.2	9.90	125	149	1000 Meter/Drum
12164210	50	19 X 1.78	0.387	1.4	11.82	151	180	1000 Meter/Drum
12164220	70	19 X 2.13	0.268	1.4	13.44	192	229	1000 Meter/Drum
12164230	95	19 X 2.5	0.193	1.6	15.68	232	277	1000 Meter/Drum
12164240	120	37 X 2.02	0.153	1.6	17.31	269	321	1000 Meter/Drum
12164250	150	37 X 2.23	0.124	1.8	19.71	300	359	1000 Meter/Drum
12164260	185	37 X 2.5	0.0991	2.0	21.45	341	407	1000 Meter/Drum
12164270	240	61 X 2.25	0.0754	2.2	24.59	400	478	1000 Meter/Drum
12164280	300	61 X 2.54	0.0601	2.4	27.59	458	547	1000 Meter/Drum
12164290	400	61 X 2.85	0.047	2.6	30.63	546	652	1000 Meter/Drum
12164300	500	61 X 3.2	0.0366	2.8	34.15	626	748	1000 Meter/Drum
12164310	630	61 X 3.79	0.0286	2.8	36.14	720	860	1000 Meter/Drum

\* NOTE : Current carrying capacity based on IEE wiring regulation method B,2 cables single phase AC or DC, enclosed in conduit on a wall or in trunking etc. at 30 °C ambient temperature". ref(IEE Wiring Regulations 17th edition Table 4D1A)

### SPECIFICATION:

International standard 60227 IEC 01 & BS EN 50525-2-31 and SASO 1320  
Flame Retardant to IEC 60332-1 Vertical Flame Propagation Test

### CONDUCTOR:

Soft annealed copper to BS-EN 60228, class 2 stranded conductor

### INSULATION:

Thermoplastic insulation type PVC/E according to IEC 60227 90 °C & wire heat resistant type TI - 3 to BS EN 50363-3 also 70 °C PVC type TI - 1 to BS EN 50363-3 is available.

### IDENTIFICATION ON THE WIRE:

BAHRA CABLES CO. KSA 1.5 MM<sup>2</sup> CU/PVC 90 DEG C 450/750 V H07V2-R BS EN 50525 - 2-31 SASO 1320 TYPE 60227 IEC 01 FR IEC 60332-1

Note: BS EN 50525-2-31 is the updated replacement for BS 6004

### PACKING:

Very modern packing with standard length 100 yards coils or 1000m drums (or according to the requirement) with strong wrapping plastic easy to open and easy to use up to the last meter, Light weight environment friendly.



### COLOR:

Available colors for wires  
Red, yellow, blue, black, brown, green, green/ yellow, white & grey.  
Other colors are available upon request

The fourth digit of the product catalogue code number is for wire color identification.

Color Codes:

0	1	2
3	4	5
6	7	8
9		

# BRITISH STANDARD

H0 7 V2 - U SOLID CONDUCTOR | 450/750 V



Annealed Solid Copper Conductor / PVC Insulation Rated 90 °C

Designation Type 60227 IEC 01 & BS EN 50525-2-31 and SASO 1320

Catalogue Code	Size mm <sup>2</sup>	Conductor Construction No. of Wires X Nominal Wire Diameter mm	Maximum Conductor Resistance ohm/km at 20°C	Insulation Thickness mm	Nominal Outer Diameter mm	Current Carrying Capacity Amp	
						70 °C	90 °C
12120040	1.5	1 X 1.38	12.1	0.7	2.79	17.5	21
12120050	2.5	1 X 1.78	7.41	0.8	3.38	24.0	29
12120060	4.0	1 X 2.25	4.61	0.8	3.85	32.0	38
12120070	6.0	1 X 2.76	3.08	0.8	4.36	41.0	49
12120080	10	1 X 3.57	1.83	1.0	5.57	57.0	68

**\* NOTE :** Current carrying capacity based on IEE wiring regulation method B,2 cables single phase AC or DC, enclosed in conduit on a wall or in trunking etc. at 30 °C ambient temperature". ref (IEE Wiring Regulation 17th edition Table 4D1A)

#### SPECIFICATION:

International standard 60227 IEC 01 & BS EN 50525 -2-31 and SASO 1320  
Flame Retardant to IEC 60332-1 Vertical Flame Propagation Test

#### CONDUCTOR:

Soft annealed copper to BS-EN 60228 , class 1 solid conductor

#### INSULATION:

Thermoplast insulation type PVC/E according to IEC 60227 90° C & wire heat resistant type TI - 3 to BS EN 50363-3, also 70° C PVC type TI-1 to BS EN 50363-3 is available

#### IDENTIFICATION ON THE WIRE:

BAHRA CABLES CO.KSA 1.5 mm<sup>2</sup> CU/PVC 90 DEG C 450/750 V H07V2-U BS EN 50025-2-31 SASO 1320 TYPE 60227 IEC 01 FR IEC 60332-1

Formerly (BAHRA CABLES CO .KSA 1.5mm<sup>2</sup> cu/pvc (450/750V) 90 DEG C , SASO 1320 type 60227 IEC 01, FR IEC 60332-1)

#### PACKING:

Very modern packing with standard length 100 yards coils (or according to the requirement) with strong wrapping plastic easy to open and easy to use up to the last meter.  
Light weight environment friendly.



#### COLOR:

Available colors for wires  
Red, yellow, blue, black, brown, green, green/ yellow, white & grey.  
Other colors are available upon request

The fourth digit of the product catalogue code number is for wire color identification.

Color Codes:

0	1	2
3	4	5
6	7	8
9		

NOTE: BS EN 50525-2-31 is the updated replacement for BS 6004



# BRITISH STANDARD

H0 7 V2 - K FLEXIBLE WIRES | 450/750 V



Annealed Copper Wire / PVC Insulation Rated 90 °C

Designation type 60227 IEC 02 & BS EN 50525 -2-31 AND SASO 1320

Catalogue Code	Size mm <sup>2</sup>	Conductor Construction No. of Wires X Nominal Wire Diameter mm	Maximum Conductor Resistance ohm/km at 20°C	Insulation Thickness mm	Nominal Outer Diameter mm	Current Carrying Capacity Amp	
						70 °C	90 °C
12140520	1.0	28 X 0.20	19.5	0.6	2.2	13.6	16
12140530	1.5	28X 0.25	13.3	0.7	3.0	17.5	21
12140540	2.5	47X 0.25	7.98	0.8	3.65	24	29
12140550	4.0	49 X 0.3	4.95	0.8	4.2	32	38
12140560	6.0	77 X 0.3	3.3	0.8	4.8	41	49
12140570	10	77 X 0.4	1.91	1.0	6.15	57	68
12140580	16	119 X 0.4	1.21	1.0	7.3	76	91
12140590	25	175 X 0.4	0.78	1.2	8.9	101	121
12140600	35	259 X 0.4	0.554	1.2	10	125	149
12140610	50	371 X 0.4	0.386	1.4	12	151	180
12140620	70	337 X 0.5	0.272	1.4	14	192	229

**\* NOTE :** Current carrying capacity based on IEE wiring regulation method B,2 cables single phase AC or DC, enclosed in conduit on a wall or in trunking etc. at 30 °C ambient temperature". ref ( IEE Wiring regulation 17th edition Table 4D1A)

#### SPECIFICATION:

Designation type 60227 IEC 02 & BS EN 50525-2-31 and SASO 1320 Flame Retardant to IEC 60332-1 Vertical Flame Propagation Test

#### CONDUCTOR:

Soft annealed copper to BS-EN 60228 , class 5 flexible conductor

#### INSULATION:

Thermoplastic insulation type PVC/E according to IEC 60227 90° C & wire heat resistant type TI-3 to BS EN 50363 -3 also 70°C PVC type TI -2 to BS EN 50363-3 is available.

#### IDENTIFICATION ON THE WIRE:

BAHRA CABLES CO. K.S.A 1.5 mm<sup>2</sup> CU/PVC 90 DEG C 450/750 V H07V2-K BS EN 50525-2-31 SASO 1320 TYPE 60227 IEC 02 FR IEC 60332-1

FORMERLY (BAHRA CABLES CO.KSA 1.5 mm<sup>2</sup> CU/PVC (450/750V) 90 DEG C, SASO 1320 FLEX TYPE 60227 IEC 02 FR IEC 60332-1)

#### PACKING:

Very modern packing with standard length 100 yards coils (or according to the requirement) with strong wrapping plastic easy to open and easy to use up to the last meter. Light weight environment friendly.



#### COLOR:

Available colors for wires

Red, yellow, blue, black, brown, green, green/ yellow, white & grey.

Other colors are available upon request

The fourth digit of the product catalogue code number is for wire color identification.

Color Codes:

0	1	2
3	4	5
6	7	8
9		

NOTE: BS EN 50525-2-31 is the updated replacement for BS 6004

# BRITISH STANDARD

FLEXIBLE CABLES | 300/500 V



Annealed Copper Wires / PVC Insulation / PVC Sheathing according to 60227 IEC 53 , BS EN 50525 -2-11 and SASO 1321

Catalogue Code	Conductor			Number of Cores	Nominal Insulation Thickness	Nominal Sheath Thickness	Nominal Outer Diameter mm
	Size	Cons.	Resistance				
	mm <sup>2</sup>	No. x mm		No.	mm	mm	mm
13011001				2	0.7	0.8	7.6
13011002	1.5	30 X 0.25	13.3	3	0.7	0.9	8.3
13011003				4	0.7	1.0	9.3
13011004				2	0.8	1.0	9.3
13011005	2.5	50 X 0.25	7.98	3	0.8	1.0	9.9
13011006				4	0.8	1.1	11.3
13011007				2	0.8	1.2	10.8
13011008	4.0	56 X 0.3	4.95	3	0.8	1.2	11.5
13011009				4	0.8	1.4	13.0
13011010				2	0.8	1.2	12.0
13011011	6.0	84 X 0.3	3.3	3	0.8	1.4	13.15
13011012				4	0.8	1.4	14.4
13011013				2	1.0	1.4	15.2
13011014	10	80 X 0.4	1.91	3	1.0	1.4	16.1
13011015				4	1.0	1.4	17.7
13011016				2	1.0	1.4	17.3
13011017	16	126 X 0.4	1.21	3	1.0	1.4	18.4
13011018				4	1.0	1.4	20.2

#### SPECIFICATION:

Designation type 60227 IEC 53, BS EN 50525-2-11 & SASO 1321  
Flame Retardant to IEC 60332-1 Vertical Flame Propagation Test

#### CONDUCTOR:

Annealed flexible copper as per BS EN 60228 class 5 flexible conductor

#### INSULATION:

PVC type T1 - 3 to BS EN 50363-3 rated 90 °C

#### CORE IDENTIFICATION:

2 cores brown - blue  
3 cores green / yellow - blue - brown  
4 cores green / yellow - blue - black - brown

#### ASSEMBLING:

Two, three or four insulated cores laid together (more cores are available on request)

#### SHEATHING:

White color or on request

#### IDENTIFICATION ON THE WIRE:

BAHRA CABLES CO. KSA 2X2.5mm<sup>2</sup> CU/PVC/PVC (Flex) 300/500V  
H05V2V2-F BS EN50525-2-11 FR IEC 60332-1 (60227 IEC 53)

#### PACKING:

100 yards coils or on request



NOTE: BS EN 50525 -2-11 is the updated replacement for BS 6500

# LOCATION MAP



**Bahra Advanced Cable Manufacture Co. Ltd.**

ص.ب. ٥٩٨٩ جدة ٢١٤٣٢. المملكة العربية السعودية. هاتف: ١١١٥ ١١١٥ +٩٦٦ ١٢ ٥٩١ ١١١٥ فاكس: ٥٦٨٣ ٥٩١ ١٢ ٥٩١ +٩٦٦ ١٢ ٥٩١  
P O Box 5989, Jeddah 21432, Saudi Arabia, Tel: +966 12 591 1115, Fax: +966 12 591 5683  
[sales@bahra-cables.com](mailto:sales@bahra-cables.com)

**شركة بحرة المتطورة لصناعة الكابلات المحدودة ش.م.م**

**CUSTOMER SERVICE: +966 92 001 1127 / 800 124 8111**