



# JOHNSON

## Mfg. of Cables & Wires

An ISO 9001:2015 Certified Company

Reliable Quality  
Strong Performance



**JOHNSON CAB ELECTRICALS PVT. LTD.**  
(Unit : JOHNSON CABLES)

[sales@johnsoncables.com](mailto:sales@johnsoncables.com)



**JOHNSON  
CABLES**





## INTRODUCTION

WELCOME TO JOHNSON CAB ELECTRICALS PVT. LTD. (UNIT : JOHNSON CABLES)  
JOHNSON CABLES An ISO 9001:2015, ISO 14001:2015, ISO 45001:2018, TUV RHEINLAND CERTIFICATE No. R 60160536 Certified Company,

“JOHNSON CABLES” is one of the largest manufacture of variety of cable.

“JOHNSON CABLES” are trusted for wide variety of applications throughout the country and abroad in manufacture of 3 Core Submersible Flat Cables, 3 Core Submersible Flat XLPE Cables, PVC Insulated Industrial Flexible Single Core Cables, PVC Insulated Industrial, Multicore Cables, FR/FR-LSH PVC Insulated Wires (House Wire), VIR Cable, LT Power & Control Cables, Rubber Flat & Rubber Round (H07RN-F) Cables, Welding Cable, Solar Cable E-Beam Cables etc.

The company's strength is its deep roots and a wide experience of more than 35 years in the field. The construction design and quality of these cables are best suited for the intended application.

For ever three decades “JOHNSON CABLES” aim is manufacture cable of highest quality and to provide customer satisfaction that is unequaled country, “JOHNSON CABLES” is committed towards its products quality, reliability, safety and excellent customer service.

## MISSION & VISION

- ☛ Build exceptional standard and system for productivity, performance, safely, environment and quality.
- ☛ Maintain high standards of quality as per IS : 694, IS 7098 P-1, CE, TUV, RoHS
- ☛ Maintain powerful position in the business through excellence and innovation.
- ☛ Expand manufacturing facility and distribution network to cater to all over the world.
- ☛ Continue to maintain focus on committed delivery every time.

## QUALITY POLICY

The quality assurance policy of the company is an intrinsic part of overall company's management strategy. The company believes in achieving complete customer satisfaction by providing products & service of consistent quality stringent quality control measures are taken at every step of its production process so that the customer can rest assured for complete safety and value for money.





## HOUSE WIRE (JOHNSON FIRE RATARDANT BUILDING WIRES)

FLAME RETARDANT PVC INSULATED SINGLE CORE UNSHEATHED FLEXIBLE COPPER CABLES (UP TO 1100 VOLTS)

### PRODUCT DESIGN

**APPLICABLE STANDARD** : IS 694:2010

**CONDUCTOR** : THE CONDUCTORS DRAWN FROM 99.97 % BRIGHT ELECTROLYTIC GRADE COPPER WITH MORE THAN 100 % CONDUCTIVITY ARE ANNEALED AND BUNCHED TOGETHER.

### TYPE INSULATION

**HRFR PVC COMPOUND** : THE BUNCH CONDUCTORS ARE INSULATED WITH SPECIALLY FORMULATED HEAT RESISTANCE FLAME RETARDANT PVC COMPOUND WITH A HIGH INSULATION RESISTANCE VALUE. THE INSULATION PROCESS IS CARRIED OUT ON MODERN HIGH SPEED EXTRUSION LINES, WHICH ENSURES HIGH ACCURACY AND CONSISTENCY IN PERFORMANCE

**FRLS COMPOUND** : THE BUNCH CONDUCTORS ARE INSULATED WITH SPECIALLY FORMULATED FLAME RETARDANT LOW SMOKE COMPOUND. DURING A FIRE SITUATION, THE FR-LSH COMPOUND RESTRICTS THE SPREAD OF FLAME. THE SMOKE EMISSION IS ALSO MINIMAL

**ZHFR COMPOUND** : THE BUNCH CONDUCTORS ARE INSULATED WITH SPECIALLY FORMULATED GRADE OF HALOGEN FREE FLAME RETARDANT (HFFR) COMPOUND IS USED.  
THE INSULATION DOES NOT MELT OR DROP IN CASE OF FIRE. THE SMOKE EMITTED IS TRANSPARENT, NON-TOXIC AND MINIMAL

**OPERATING TEMPERATURE RANGE**: TEMP -15°C TO MAX. +70°C / +85°C

**COLOUR** : RED, YELLOW, BLUE, BLACK, GREEN, GRAY (AND ALSO OTHER COLOUR REQUEST ON CUSTOMER)



**PACKING** : COILS 90m, 100m, 180m, 270m BOXES, REELS

**MARKING** : THE CABLES ARE PRINTED WITH GENERIC MARKING " JOHNSON HRFR "

**APPLICATION** : THIS IS A PREMIUM PRODUCT OF ELECTRICAL WIRES FROM " JOHNSON ". THESE CABLES ARE IDEALS FOR WIRING IN RESIDENTIAL AND COMMERCIAL COMPLEXES, HIGH-RISE BUILDING, HOTELS, HOSPITALS, SCHOOL, COLLEGES ETC. WHERE DENSITY OF PEOPLE IS HIGH. DURING A FIRE THESE CABLES NOT ONLY EMIT LESS SMOKE AND TOXIC HYDROCHLORIC ACID GAS BUT ALSO RETARD THE SPREAD OF FIRE ENABLING THOSE TRAPPED INSIDE TO ESCAPE SAFELY

**FEATURE** : - MANUFACTURED FROM BRIGHT ANNEALED 99.97 % PURE COPPER CONDUCTORS THESE CABLES HAVE LOW CONDUCTOR RESISTANCE RESULTING IN POWER SAVING.  
-THESE WIRES ARE INSULATED WITH A SPECIAL GRADE PVC COMPOUND FORMULATED AND MANUFACTURED IN-HOUSE.  
-THE INSULATION IS FAR SUPERIOR IN TERMS OF CRITICAL OXYGEN AND TEMPERATURE INDEX, ALSO IN LIGHT TRANSMISSION AND ACID GAS GENERATION.  
-THE SKIN COLORATION OFFER HIGH INSULATION RESISTANCE AND LONG LIFE.

**ISO CERTIFICATION** : ISO 9001 : 2015, ISO 45001 : 2018, ISO 14001 : 2015, CE, RoHS

**PRODUCT CERTIFICATION** : IS 694 : 2010  IS 7098 P-1  , TUV RHEINLAND CERTIFICATE No. R 60160536

# HOUSE WIRE



## Technical Data

### SIZE DIMENSIONS AND RATING

NOMINAL CROSS SECTIONAL AREA	NUMBER/ NOMINAL DIA OF WIRES* (NOM.)	NOMINAL THICKNESS OF INSULATION	APPROX OVERALL DIA (+/- 0.2 mm)	MAXIMUM DC RESISTANCE OF CONDUCTOR AT 20° C	MAX. CURRENT CARRYING CAPACITY AMPS	
					CASING	CONCEALED
0.5	16/0.2 **	0.6	2.10	39.00	4	4
0.75	24/0.2 **	0.6	2.30	26.00	7	6
1	14/0.3 *	0.6	2.70	18.10	12	11
1.5	22/0.3 *	0.7	3.00	12.10	16	13
2.5	36/0.3 *	0.8	3.50	7.41	22	18
4	56/0.3 **	0.8	4.10	4.95	29	24
6	84/0.3 **	0.8	5.10	3.30	37	31

### TEST DETAILS

FR			FRLS			ZHFR		
TEST	SPECIFICATION	SPECIFIED VALUE	TEST	SPECIFICATION	SPECIFIED VALUE	TEST	SPECIFICATION	SPECIFIED VALUE
CRITICAL OXYGEN INDEX	ASTM-D 2863	29 % MINIMUM	CRITICAL OXYGEN INDEX	ASTM-D2863	29 % MINIMUM	CRITICAL OXYGEN INDEX	ASTM-D2863	29 % MINIMUM
			TEMPERATURE INDEX	ASTM-D2863	250 ° C MINIMUM	TEMPERATURE INDEX	ASTM-D2863	250 ° C MINIMUM
TEMPERATURE INDEX	ASTM-D 2863	250 ° C MINIMUM	ACID GAS GENERATION	IEC 60754-1	20 % MAXIMUM	ACID GAS GENERATION	IEC 60754-1	< 0.5%
			SMOKE DENSITY RATING	ASTM-D2843	60 % MAXIMUM	SMOKE DENSITY RATING	ASTM-D2843	60 % MAXIMUM

NOTE : \* CLASS 2 STRANDED CONDUCTOR, \*\* CLASS 5 FLEXIBLE CONDUCTOR

THE NUMBER OF WIRES AND DIAMETER MENTIONED IN THE TABLE ARE APPROXIMATE AND NOMINAL, HOWEVER THEY SHALL MEET THE REQUIREMENTS OF CONDUCTOR RESISTANCE AS PER STANDARDS, IS 8130

THE ABOVE DATA IS INDICATIVE AND MAY BE REVISED WITHOUT PRIOR INTIMATION. JOHNSON CABLES WILL NOT BE LIABLE FOR ANY DAMAGES ARISING OUT OF INCORRECT APPLICATION.



## JOHNSON GOLD E-BEAM (FR/LSOH/FRLS-H) HOUSE WIRE

E-BEAM XL HEAT RESISTANCE FLAME RETARDANT PVC INSULATED SINGLE CORE UNSHEATHED FLEXIBLE COPPER CABLES (UP TO 1100 VOLTS)

### PRODUCT DESIGN

#### APPLICABLE STANDARD

: IS 694:2010

#### CONDUCTOR

: THE CONDUCTORS DRAWN FROM 99.97 % BRIGHT ELECTROLYTIC GRADE COPPER WITH MORE THAN 100 % CONDUCTIVITY ARE ANNEALED AND BUNCHED TOGETHER.

#### EBXL HRFR PVC COMPOUND

: THE BUNCH CONDUCTORS ARE INSULATED WITH SPECIALLY FORMULATED E-BEAM XL HEAT RESISTANCE FLAME RETARDANT PVC COMPOUND WITH A HIGH INSULATION RESISTANCE VALUE.

THESE CABLES ARE INSULATED WITH SPECIALLY FORMULATED & IN-HOUSE MANUFACTURED FR/LSOH/FRLS-H COMPOUND AND INCORPORATING EB TECHNOLOGY THAT ENHANCES ELECTRICAL, THERMAL, FIRE AND MECHANICAL PROPERTY OF JOHNSON GOLD E-BEAM WIRE & CABLES.

OPERATING TEMPERATURE RANGE : UP TO TO MAX. +105 °C

#### COLOUR

: RED, YELLOW, BLUE, BLACK, GREEN, GRAY (AND ALSO OTHER COLOUR REQUEST ON CUSTOMER)

#### PACKING

: STANDARD LENGTH 90 METERS , OTHER LENGTH AVAILABLE ON DEMAND

#### MARKING

: THE CABLES ARE PRINTED WITH GENERIC MARKING "JOHNSON GOLD E-BEAM"

#### JOHNSON GOLD E-BEAM FEATURES :

- MANUFACTURED FROM BRIGHT ANNEALED 99.97 % PURE COPPER CONDUCTORS THESE CABLES HAVE LOW CONDUCTOR RESISTANCE RESULTING IN POWER SAVING.
- THESE WIRES ARE INSULATED WITH A SPECIAL GRADE E-BEAM XL HRFR PVC COMPOUND FORMULATED AND MANUFACTURED IN-HOUSE. THE INSULATION IS FAR SUPERIOR IN TERMS OF CRITICAL OXYGEN AND TEMPERATURE INDEX.
- ALSO IN LIGHT TRANSMISSION AND ACID GAS GENERATION. THE SKIN COLORATION OFFER HIGH INSULATION RESISTANCE AND LONG LIFE.
- CONTINUOUSLY WITHSTAND INSULATION HIGHER CONDUCTOR TEMPERATURE OF UP TO 105 DEGREE C COMPARED TO CONVENTION CABLES WHICH ARE CAPABLE TO WORK AT MAXIMUM 70 DEGREE.
- SUPERIOR ABRASION PROPERTIES REDUCES THE DAMAGE TO WIRE INSULATION DURING INSTALLATION
- "JOHNSON GOLD E-BEAM" WIRES & CABLES TO CARRY DOUBLE THE RATED CURRENT (OF CONVENTIONAL WIRES) BESIDES IMPROVING THE CABLE LIFE MORE THAN DOUBLE
- HIGH TEMPERATURE WITHSTANDING CAPACITY UP TO 105 °C
- HIGHER THERMAL AGEING AND ENDURANCE.
- IMPROVED FLAME RETARDANT PROPERTIES COMPARED TO SPECIFIED PROPERTIES
- HIGH CURRENT CARRYING CAPACITY
- LONGER OPERATING LIFE SPAN

#### TECHNICAL FEATURE

: OXYGEN INDEX : >29%, TEMPERATURE INDEX : 250%, SMOKE DENSITY RATING : 75%, ACID GAS GENERATION : 20%, SERVICE LIFE : >50 Years

# HOUSE WIRE (E-BEAM)



## Technical Data

### SIZE DIMENSIONS AND RATING

NOMINAL CROSS SECTIONAL AREA	NUMBER/ NOMINAL DIA OF WIRES* (NOM.)	NOMINAL THICKNESS OF INSULATION	APPROX OVERALL DIA (+/- 0.2 mm)	MAXIMUM DC RESISTANCE OF CONDUCTOR AT 20° C	MAX. CURRENT RATING IN AMPS	
					IN CONDUIT/ TRUNKING	UNENCLOSED-CLIPPED DIRECTLY TO SURFACE OR ON CABLE TRAY
0.75	24/0.20	0.6	2.30	26.00	9	14
1	32/0.20	0.6	2.50	19.50	16	24
1.5	30/0.25	0.7	2.85	13.30	20	32
2.5	50/0.25	0.8	3.40	7.98	27	44
4	56/0.30	0.8	4.10	4.95	36	58
6	84/0.30	0.8	5.10	3.30	47	74


#### NOTE :

- CLASS 5 CONDUCTOR
- THE NUMBER OF WIRES AND DIAMETER MENTIONED IN THE TABLE ARE APPROXIMATE AND NOMINAL, HOWEVER THEY SHALL MEET THE REQUIREMENTS OF CONDUCTOR RESISTANCE AS PER STANDARDS, IS 8130
- THE ABOVE DATA IS INDICATIVE AND MAY BE REVISED WITHOUT PRIOR INTIMATION. JOHNSON CABLES WILL NOT BE LIABLE FOR ANY DAMAGES ARISING OUT OF INCORRECT APPLICATION.
- AVAILABLE IN LSOH AND FRLS-H INSULATION AS PER CUSTOMER DEMAND



## SINGLE CORE (JOHNSON INDUSTRIAL CABLE) PVC INSULATED UNSHEATHED FLEXIBLE COPPER CABLES (UP TO 1100 VOLTS)

### PRODUCT DESIGN

- APPLICABLE STANDARD** : IS 694:2010
- CONDUCTOR** : THE CONDUCTORS DRAWN FROM 99.97 % BRIGHT ELECTROLYTIC GRADE COPPER WITH MORE THAN 100 % CONDUCTIVITY ARE ANNEALED AND BUNCHED TOGETHER. (CLASS 5)
- TYPE INSULATION**
- TYPE A PVC COMPOUND** : THE BUNCH CONDUCTORS ARE INSULATED WITH SPECIALLY FORMULATED FLAME RETARDANT PVC COMPOUND WITH A HIGH INSULATION RESISTANCE VALUE. THE INSULATION PROCESS IS CARRIED OUT ON MODERN HIGH SPEED EXTRUSION LINES, WHICH ENSURES HIGH ACCURACY AND CONSISTENCY IN PERFORMANCE
- TYPE C HR COMPOUND** : JOHNSON CABLES OFFER INSULATION WITH (HR) HEAT RESISTANCE PROPERTIES WHICH SUITABLE TO BEAR A TEMPERATURE UP TO 85° C. AND ALSO HIGH INSULATION RESISTANCE OF THIS SPECIAL HR COMPOUND. THIS FEATURE JOHNSON CABLES ARE CAPABLE TO CARRY HIGHER CURRENT AND BETTER ELECTRICAL AND MECHANICAL PERFORMANCE AT HIGHER TEMPERATURES. HR PROPERTY SUITABLE FOR OPERATION AT HIGH TEMPERATURES.
- OPERATING TEMPERATURE RANGE** : TEMP -15°C TO MAX. +70°C/+85°C
- COLOUR** : RED, YELLOW, BLUE, BLACK, GREEN, GRAY (AND ALSO OTHER COLOUR REQUEST ON CUSTOMER)
- PACKING** : COILS/REELS 100m,200m,300m,500m & 1000m. (+/- 5%) HIGHER LENGTH AVAILABLE ON REQUEST.
- MARKING** : THE CABLES ARE PRINTED WITH GENERIC MARKING " JOHNSON CABLES "
- APPLICATION** : THIS IS A PREMIUM PRODUCT OF ELECTRICAL INDUSTRIAL CABLES FROM " JOHNSON CABLES ". THESE CABLES ARE IDEALS FOR WIRING IN CONTROL PANELS, MACHINES AND VARIOUS ELECTRICAL INSTALLATION IN SMALL, MEDIUM AND LARGE INDUSTRIES.
- FEATURE** :
- MANUFACTURED FROM BRIGHT ANNEALED 99.97 % PURE COPPER CONDUCTORS AND HENCE, OFFER LOW CONDUCTOR RESISTANCE.
  - THESE WIRES ARE INSULATED WITH A SPECIAL GRADE PVC COMPOUND FORMULATED AND MANUFACTURED IN-HOUSE. PVC COMPOUND WITH A HIGH INSULATION RESISTANCE VALUE
  - EXCELLENT MECHANICAL AND ELECTRICAL PROPERTIES.
  - PROGRESSIVE SEQUENTIAL LENGTH MARKING ON EVERY METER.
- ISO CERTIFICATION** : ISO 9001: 2015, ISO 45001: 2018, ISO 14001: 2015, CE, RoHS
- PRODUCT CERTIFICATION** : IS 694: 2010  IS 7098 P-1  TUV RHEINLAND CERTIFICATE No. R 60160536

# INDUSTRIAL CABLES



## Technical Data

### SIZE DIMENSIONS AND RATING

NOMINAL CROSS SECTIONAL AREA	NUMBER/ NOMINAL DIA OF WIRES (MAX)	THICKNESS OF INSULATION (NOMINAL)	APPROX OVERALL DIA	MAXIMUM DC RESISTANCE OF CONDUCTOR AT 20° C	MAX. CURRENT CARRYING CAPACITY
mm <sup>2</sup>	Number/mm	mm	mm	Ω/km	Amps
10	140/0.3	1.0	6.20	1.91	40
16	224/0.3	1.0	7.80	1.21	55
25	354/0.3	1.2	9.80	0.780	70
35	495/0.3	1.2	10.80	0.554	90
50	703/0.3	1.4	12.80	0.386	120
70	988/0.3	1.4	15.00	0.272	190
95	1349/0.3	1.6	17.50	0.206	250
120	608/0.5	1.6	19.00	0.161	290
150	760/0.5	1.8	20.80	0.129	340
185	931/0.5	2.0	24.00	0.106	380
240	1216/0.5	2.2	27.00	0.0801	460

1. THE NUMBER OF WIRES AND DIAMETER MENTIONED IN THE TABLE ARE APPROXIMATE AND NOMINAL, HOWEVER THEY SHALL MEET THE REQUIREMENTS OF CONDUCTOR RESISTANCE AS PER STANDARDS, IS 8130
2. TOLERANCE: ABOVE 10 SQ.MM +/- 1.2 MM
3. THE ABOVE DATA IS INDICATIVE AND MAY BE REVISED WITHOUT PRIOR INFORMATION. JOHNSON CABLES WILL NOT BE LIABLE FOR ANY DAMAGES ARISING OUT OF INCORRECT APPLICATION.



## 2 CORE PVC FLAT CABLES (JOHNSON TWIN CORE FLAT CABLES) PVC INSULATED AND PVC SHEATHED FLAT FLEXIBLE COPPER CABLES (UP TO 1100 VOLTS)

### PRODUCT DESIGN

**APPLICABLE STANDARD** : IS 694:2010

**CONDUCTOR** : THE CONDUCTORS ARE DRAW FROM 99.97 % BRIGHT ELECTROLYTIC GRADE COPPER WITH MORE THAN 100 % CONDUCTIVITY ARE ANNEALED AND BUNCHED TOGETHER ( CLASS 2 & 5)

**INSULATION PVC** : THE BUNCH CONDUCTORS ARE INSULATED WITH SPECIALLY FORMULATED PVC COMPOUND WITH A HIGH INSULATION RESISTANCE VALUE.  
THE INSULATION PROCESS IS CARRIED OUT ON MODERN HIGH SPEED EXTRUSION LINES, WHICH ENSURES HIGH ACCURACY AND CONSISTENCY IN PERFORMANCE

**SHEATH PVC** : THE OUTER SHEATH OF THE CABLE IS MADE FROM A SPECIAL GRADE OF ABRASION RESISTANT PVC COMPOUND IMPERVIOUS TO WATER, GREASE, OIL ETC.

**OPERATING TEMPERATURE RANGE** : TEMP -15°C TO MAX. +70°C / +85°C

**COLOUR** : BLACK, GRAY (AND ALSO OTHER COLOUR REQUEST ON CUSTOMER)

**PACKING** : 100m., 500m & 1000m. (+/- 5%) HIGHER LENGTH AVAILABLE ON REQUEST.

**MARKING** : THE CABLES ARE PRINTED WITH GENERIC MARKING " JOHNSON CABLES 2 CORE FLAT CABLES"

**APPLICATION** : THIS TYPE OF CABLES OF SUITABLE FOR WIRING IN RESIDENTIAL AND COMMERCIAL INFRASTRUCTURE PROJECT.

**FEATURE** : - MANUFACTURED FROM BRIGHT ANNEALED 99.97 % PURE COPPER CONDUCTORS AND HENCE, OFFER LOW CONDUCTOR RESISTANCE.  
- OUTER SHEATH CONSISTS OF HIGHLY ABRASION RESISTANT PVC COMPOUND IMPERVIOUS TO GREASE, OIL AND WATER ETC  
- EXCELLENT MECHANICAL AND ELECTRICAL PROPERTIES.  
- PROGRESSIVE SEQUENTIAL LENGTH MARKING ON EVERY METER.

**ISO CERTIFICATION** : ISO 9001 : 2015, ISO 45001 : 2018, ISO 14001 : 2015, CE, RoHS

**PRODUCT CERTIFICATION** : IS 694 : 2010  IS 7098 P-1  , TUV RHEINLAND CERTIFICATE No. R 60160536

## 2 CORE PVC FLAT CABLES



### Technical Data

#### SIZE DIMENSIONS AND RATING

NOMINAL CROSS SECTIONAL AREA	NUMBER/ NOMINAL DIA OF WIRES (MAX.)	NOMINAL THICKNESS OF INSULATION	NOMINAL THICKNESS OF SHEATH	OVERALL DIMENSION (W X H)		MAXIMUM DC RESISTANCE OF CONDUCTOR AT 20° C	MAX. CURRENT CARRYING CAPACITY
mm <sup>2</sup>	Nos./mm	mm	mm	WIDTH (mm)	HEIGHT (mm)	Ω/km	Amps
1*	14/0.3	0.6	0.9	7.80	4.90	18.1	12
1.5*	22/0.3	0.6	0.9	8.40	5.20	12.1	14
2.5*	36/0.3	0.7	1.0	9.70	6.00	7.41	18
4.0	56/0.3	0.8	1.0	11.30	7.00	4.95	26
6.0	84/0.3	0.8	1.1	13.30	8.00	3.30	31
10.0	140/0.3	1.0	1.4	16.00	9.60	1.91	42

NOTE : \* 1 SQ MM TO 2.5 SQ MM CLASS 2 CONDUCTOR & OTHER CLASS 5



1. THE NUMBER OF WIRES AND DIAMETER MENTIONED IN THE TABLE ARE APPROXIMATE AND NOMINAL, HOWEVER THEY SHALL MEET THE REQUIREMENTS OF CONDUCTOR RESISTANCE AS PER STANDARDS, IS 8130
2. TOLERANCE: UP TO 4.0 SQ MM +/- 0.5 MM, 6.0 SQ MM & 10 SQ MM +/- 1.0 MM
3. THE ABOVE DATA IS INDICATIVE AND MAY BE REVISED WITHOUT PRIOR INFORMATION, JOHNSON CABLES WILL NOT BE LIABLE FOR ANY DAMAGES ARISING OUT OF INCORRECT APPLICATION.



## 3 CORE PVC FLAT CABLES (JOHNSON REGULAR)

PVC INSULATED AND PVC SHEATHED FLAT FLEXIBLE COPPER CABLES (UP TO 1100 VOLTS)

### PRODUCT DESIGN

- APPLICABLE STANDARD** : IS 694:2010
- CONDUCTOR** : THE CONDUCTORS ARE DRAW FROM 99.97 % BRIGHT ELECTROLYTIC GRADE COPPER WITH MORE THAN 100 % CONDUCTIVITY ARE ANNEALED AND BUNCHED TOGETHER (CLASS 2 & 5) IS 8130
- INSULATION PVC** : THE BUNCH CONDUCTORS ARE INSULATED WITH SPECIALLY FORMULATED PVC COMPOUND WITH A HIGH INSULATION RESISTANCE VALUE.  
THE INSULATION PROCESS IS CARRIED OUT ON MODERN HIGH SPEED EXTRUSION LINES, WHICH ENSURES HIGH ACCURACY AND CONSISTENCY IN PERFORMANCE
- SHEATH PVC** : THE OUTER SHEATH OF THE CABLE IS MADE FROM A SPECIAL GRADE OF ABRASION RESISTANT PVC COMPOUND IMPERVIOUS TO WATER, GREASE, OIL ETC.
- OPERATING TEMPERATURE RANGE** : TEMP -15°C TO MAX. +70°C / +85°C
- COLOUR** : BLACK, GRAY (AND ALSO OTHER COLOUR REQUEST ON CUSTOMER)
- PACKING** : 500m & 1000m. (+/- 5%) HIGHER LENGTH AVAILABLE ON REQUEST.
- MARKING** : THE CABLES ARE PRINTED WITH GENERIC MARKING " JOHNSON CABLES 3 CORE FLAT CABLES"
- APPLICATION** : - A SUBMERSIBLE PUMP CABLE IS A SPECIALIZED PRODUCT TO BE USED FOR SUBMERSIBLE PUMPS IN A DEEP WELL.  
- JOHNSON CABLES 3 CORE SUBMERSIBLE FLAT CABLES ARE MANUFACTURED FOR DESIGNED FOR USE IN UNDERGROUND, UNDER-WATER OR ON WET SURFACE.
- FEATURE** : - MANUFACTURED FROM BRIGHT ANNEALED 99.97 % PURE COPPER CONDUCTORS AND HENCE, OFFER LOW CONDUCTOR RESISTANCE.  
- OUTER SHEATH CONSISTS OF HIGHLY ABRASION RESISTANT PVC COMPOUND IMPERVIOUS TO GREASE, OIL AND WATER ETC  
- VERY GOOD INSULATION PROPERTIES WHEN SUBMERGED IN WATER  
- EXCELLENT MECHANICAL AND ELECTRICAL PROPERTIES.  
- PROGRESSIVE SEQUENTIAL LENGTH MARKING ON EVERY METER.
- ISO CERTIFICATION** : ISO 9001:2015, ISO 45001:2018, ISO 14001:2015, CE, RoHS
- PRODUCT CERTIFICATION** : IS 694:2010  IS 7098 P-1  TUV RHEINLAND CERTIFICATE No. R 60160536

## 3 CORE PVC FLAT CABLES



### Technical Data

#### SIZE DIMENSIONS AND RATING

NOMINAL CROSS SECTIONAL AREA	NUMBER/ NOMINAL DIA OF WIRES (MAX.)	NOMINAL THICKNESS OF INSULATION	NOMINAL THICKNESS OF SHEATH	OVERALL DIMENSION (W X H)		MAXIMUM DC RESISTANCE OF CONDUCTOR AT 20° C	MAX. CURRENT CARRYING CAPACITY
mm <sup>2</sup>	Nos./mm	mm	mm	WIDTH (mm)	HEIGHT (mm)	Ω/km	Amps
1*	14/0.3	0.6	0.9	10.50	4.90	18.1	12
1.5*	22/0.3	0.6	0.9	11.40	5.20	12.1	14
2.5*	36/0.3	0.7	1.0	13.20	6.00	7.41	18
4.0	56/0.3	0.8	1.0	15.40	7.00	4.95	26
6.0	84/0.3	0.8	1.1	18.40	8.00	3.30	31
10.0	140/0.3	1.0	1.4	22.20	9.60	1.91	42
16.0	224/0.3	1.0	1.4	27.40	11.60	1.21	57
25.0	354/0.3	1.2	2.0	34.10	14.30	0.780	72
35.0	495/0.3	1.2	2.0	37.60	15.80	0.554	90
50.0	703/0.3	1.4	2.2	44.00	18.20	0.386	115
70.0	988/0.3	1.4	2.2	51.20	21.00	0.272	143

NOTE : \* 1 SQ MM TO 2.5 SQ MM CLASS 2 CONDUCTOR & OTHER CLASS 5

1. THE NUMBER OF WIRES AND DIAMETER MENTIONED IN THE TABLE ARE APPROXIMATE AND NOMINAL, HOWEVER THEY SHALL MEET THE REQUIREMENTS OF CONDUCTOR RESISTANCE AS PER STANDARDS. IS 8130
2. TOLERANCE: UP TO 4.0 SQ MM +/- 0.5 MM. 6.0 SQ MM & 10 SQ MM +/- 1.0 MM AND ABOVE 10 SQ MM +/- 1.2 MM
3. THE ABOVE DATA IS INDICATIVE AND MAY BE REVISED WITHOUT PRIOR INFORMATION. JOHNSON CABLES WILL NOT BE LIABLE FOR ANY DAMAGES ARISING OUT OF INCORRECT APPLICATION.



## 3 CORE FLEXIBLE ALUMINIUM PVC FLAT CABLES



### TECHNICAL DETAILS & DIMENSION

Size (mm <sup>2</sup> )	No. of Strands/ Dia in mm (Nom.)	Width (mm)	Height (mm)	Amps
3C x 2.5	13/0.5	13.20	6.00	14
3C x 4	21/0.5	15.40	7.00	18
3C x 6	31/0.5	18.40	8.00	26
3C x 8	42/0.5	20.70	8.90	31
3C x 10	51/0.5	22.20	9.60	36
3C x 12	64/0.5	24.00	10.20	42
3C x 16	84/0.5	27.40	11.60	49
3C x 25	126/0.5	34.10	14.30	65
3C x 35	175/0.5	37.60	15.80	78
3C x 50	266/0.5	44.00	18.20	100
3C x 70	357/0.5	51.20	21.00	120

NOTE :

1. THE NUMBER OF WIRES AND DIAMETER MENTIONED IN THE TABLE ARE APPROXIMATE AND NOMINAL, HOWEVER THEY SHALL MEET THE REQUIREMENTS OF CONDUCTOR RESISTANCE AS PER STANDARDS. IS 8130
2. TOLERANCE: UP TO 4.0 SQ MM +/- 0.5 MM, 6.0 SQ MM & 10 SQ MM +/- 1.0 MM AND ABOVE 10 SQ MM +/- 1.2 MM
3. THE ABOVE DATA IS INDICATIVE AND MAY BE REVISED WITHOUT PRIOR INFORMATION. JOHNSON CABLES WILL NOT BE LIABLE FOR ANY DAMAGES ARISING OUT OF INCORRECT APPLICATION.

## JOHNSON MULTICORE ROUND INDUSTRIAL & CONTROL CABLES

PVC INSULATED AND PVC SHEATHED ROUND FLEXIBLE COPPER CABLES (UP TO 1100 VOLTS)

### PRODUCT DESIGN

- APPLICABLE STANDARD** : IS 694:2010
- CONDUCTOR** : THE CONDUCTORS ARE DRAW FROM 99.97 % BRIGHT ELECTROLYTIC GRADE COPPER WITH MORE THAN 100 % CONDUCTIVITY ARE ANNEALED AND BUNCHED TOGETHER ( CLASS- 2 & 5)
- PVC INSULATION** : THE BUNCH CONDUCTORS ARE INSULATED WITH SPECIALLY FORMULATED PVC COMPOUND WITH A HIGH INSULATION RESISTANCE VALUE.  
THE INSULATION PROCESS IS CARRIED OUT ON MODERN HIGH SPEED EXTRUSION LINES, WHICH ENSURES HIGH ACCURACY AND CONSISTENCY IN PERFORMANCE
- PVC SHEATH** : THE SHEATHING MATERIAL PROVIDED RESISTANCE TO OIL, AND MOISTURE AND SUPERIOR MECHANICAL STRENGTH WITHOUT LOSING ITS FLEXIBILITY
- OPERATING TEMPERATURE RANGE**: TEMP -15 °C TO MAX. +70 °C / +85 °C
- SHEATH COLOUR** : BLACK (AND ALSO OTHER COLOUR REQUEST ON CUSTOMER)
- PACKING** : 100m, 500m & 1000m. (+/- 5%) HIGHER LENGTH AVAILABLE ON REQUEST.
- MARKING** : THE CABLES ARE PRINTED WITH GENERIC MARKING " JOHNSON CABLES "
- APPLICATION** : THIS TYPE OF CABLES USED FOR WIRING IN MACHINES, CONTROL PANELS, ELECTRIC POWER SUPPLY, MODERN ELECTRIC APPLIANCES AND EQUIPMENTS
- FEATURE** : MANUFACTURED FROM BRIGHT ANNEALED 99.97 % PURE COPPER CONDUCTORS AND HENCE, OFFER LOW CONDUCTOR RESISTANCE.  
OUTER SHEATH CONSISTS OF HIGHLY ABRASION RESISTANT PVC COMPOUND IMPERVIOUS TO GREASE, OIL AND WATER ETC  
EXCELLENT MECHANICAL AND ELECTRICAL PROPERTIES.  
PROGRESSIVE SEQUENTIAL LENGTH MARKING ON EVERY METER.
- CORE COLOUR** : 2 CORE : RED, BLACK  
3 CORE : RED, BLACK, GREEN  
4 CORE : RED, YELLOW, BLACK, GREEN  
5 CORE : RED, YELLOW, BLUE, BLACK, GREEN
- ISO CERTIFICATION** : ISO 9001 : 2015, ISO 45001 : 2018, ISO 14001 : 2015, CE, RoHS
- PRODUCT CERTIFICATION** : IS 694 : 2010  IS 7098 P-1  , TUV RHEINLAND CERTIFICATE No. R 60160536



# MULTICORE FLEXIBLE CABLES



## Technical Data

### SIZE DIMENSIONS AND RATING

NOMINAL CROSS SECTIONAL AREA	NUMBER/ NOMINAL DIA OF WIRES (MAX.)	NOMINAL THICKNESS OF INSULATION	THICKNESS OF SHEATH (NOM.)				APPROX OVERALL DIA				D.C. RESISTANCE MAX. AT 20° C	MAX. CURRENT CARRYING CAPACITY
			2 CORE	3 CORE	4 CORE	5 CORE	2 CORE	3 CORE	4 CORE	5 CORE		
Sq. mm	Number/mm	mm	mm	mm	mm	mm	mm	mm	mm	mm	Ω/km	Amps
0.5	16/0.2	0.6	0.90	0.90	0.90	0.90	6.00	6.30	6.80	7.60	39	4
0.75	24/0.2	0.6	0.90	0.90	0.90	0.90	6.30	6.70	7.30	8.20	26	7
1.0*	14/0.3	0.6	0.90	0.90	0.90	1.00	7.10	7.60	8.20	9.60	18.10	12
1.5*	22/0.3	0.6	0.90	0.90	1.00	1.00	7.70	8.10	9.60	11.00	12.10	16
2.5*	36/0.3	0.7	1.00	1.00	1.00	1.00	8.80	9.50	10.60	12.50	7.41	22
4	56/0.3	0.8	1.00	1.00	1.00	1.10	10.20	11.20	12.20	14.60	4.95	29
6	84/0.3	0.8	1.10	1.20	1.20	-	12.50	13.50	15.30	-	3.30	37
10	140/0.3	1.0	1.30	1.40	1.40	-	16.40	17.00	19.20	-	1.91	40
16	224/0.3	1.0	1.40	1.40	1.40	-	19.40	20.60	22.90	-	1.21	55
25	354/0.3	1.2	1.40	1.50	1.60	-	23.80	25.00	28.00	-	0.780	70
35	495/0.3	1.2	1.60	1.60	1.70	-	27.20	28.00	30.80	-	0.554	90
50	703/0.3	1.4	2.00	2.00	2.00	-	32.00	32.50	37.00	-	0.386	120

ALL ARE CLASS 5 CONDUCTOR \*CLASS 2

1. THE NUMBER OF WIRES AND DIAMETER MENTIONED IN THE TABLE ARE APPROXIMATE AND NOMINAL, HOWEVER THEY SHALL MEET THE REQUIREMENTS OF CONDUCTOR RESISTANCE AS PER STANDARDS, IS 8130  
TOLERANCE: UP TO 4.0 SQ MM +/- 0.5 MM, 6.0 SQ MM AND 10 SQ MM +/- 1.0 MM AND ABOVE 10 SQ MM +/- 1.2 MM
2. THE ABOVE DATA IS INDICATIVE AND MAY BE REVISED WITHOUT PRIOR INFORMATION. JOHNSON CABLES WILL NOT BE LIABLE FOR ANY DAMAGES ARISING OUT OF INCORRECT APPLICATION.

## ROUND CONTROL CABLES



### Technical Data

#### SIZE DIMENSIONS AND RATING

NOMINAL CROSS SECTIONAL AREA OF CONDUCTOR Sq. mm	NUMBER/ NOMINAL DIA OF WIRES (NOM.) Number/mm	THICKNESS OF INSULATION (NOM.) mm	THICKNESS OF SHEATH (NOM.)								APPROX OVERALL DIA							D.C. RESISTANCE MAX. AT 20° C Ω/km	MAX. CURRENT CARRYING CAPACITY Amps
			6	7	10	12	16	19	24	6	7	10	12	16	19	24			
			CORE	CORE	CORE	CORE	CORE	CORE	CORE	CORE	CORE	CORE	CORE	CORE	CORE	CORE	CORE		
0.5	16/0.2*	0.6	0.9	0.9	1.0	1.0	1.1	1.1	1.2	9.20	9.20	11.50	12.20	13.30	14.00	16.40	39	4	
0.75	24/0.2*	0.6	1.0	1.0	1.1	1.1	1.2	1.2	1.3	9.80	9.80	12.50	13.00	14.40	15.10	17.80	26	7	
1.0	14/0.3	0.6	1.0	1.0	1.1	1.1	1.2	1.3	1.4	10.50	10.50	14.20	14.70	16.40	17.30	20.20	18.10	12	
1.5	22/0.3	0.6	1.0	1.0	1.1	1.1	1.2	1.3	1.4	12.40	12.40	15.80	16.20	18.00	19.30	22.90	12.10	16	
2.5	36/0.3	0.7	1.1	1.1	1.3	1.3	1.4	1.4	1.5	14.20	14.20	18.50	19.20	21.50	23.30	27.00	7.41	22	

CLASS 5 CONDUCTOR\*, OTHER CLASS 2

1. THE NUMBER OF WIRES AND DIAMETER MENTIONED IN THE TABLE ARE APPROXIMATE AND NOMINAL, HOWEVER THEY SHALL MEET THE REQUIREMENTS OF CONDUCTOR RESISTANCE AS PER STANDARDS, IS 8130
2. THE ABOVE DATA IS INDICATIVE AND MAY BE REVISED WITHOUT PRIOR INFORMATION. JOHNSON CABLES WILL NOT BE LIABLE FOR ANY DAMAGES ARISING OUT OF INCORRECT APPLICATION.



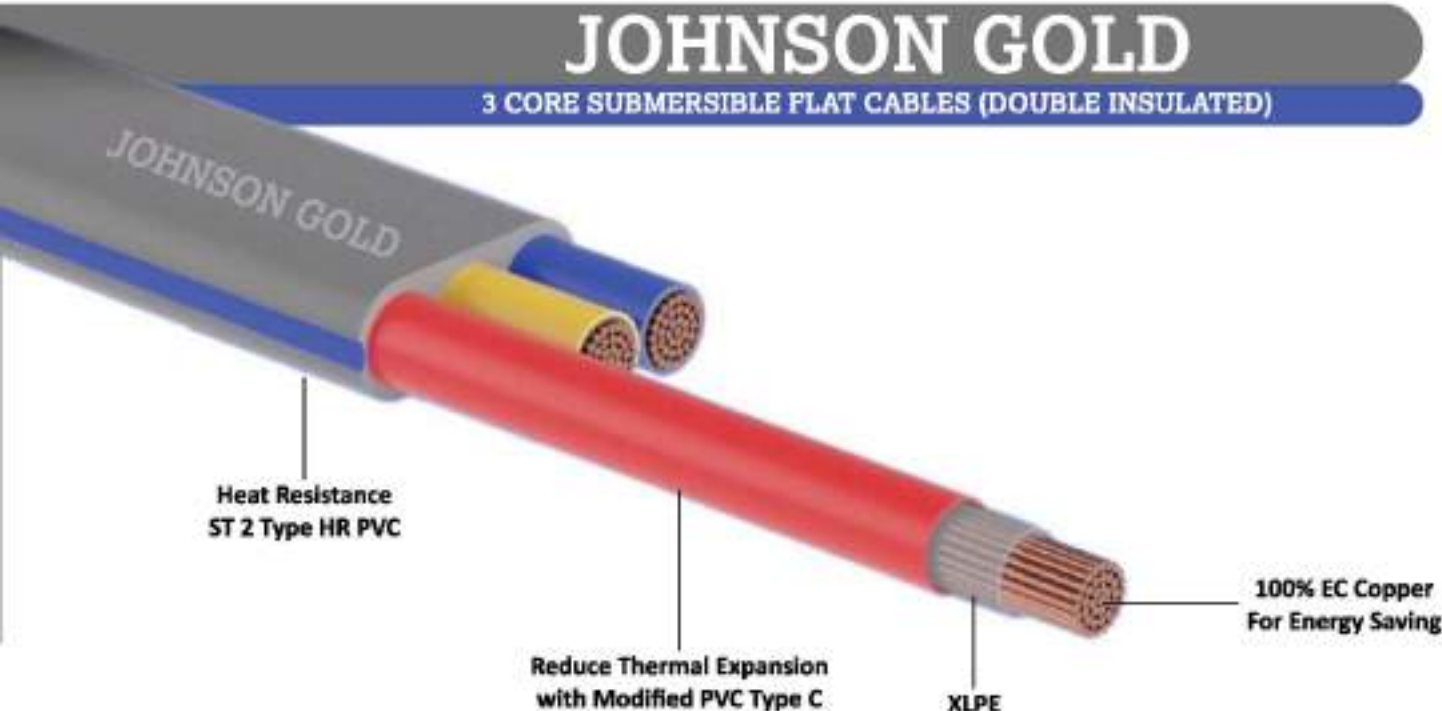
## JOHNSON GOLD

### 3 CORE SUBMERSIBLE FLAT CABLES (DOUBLE INSULATED)

<b>TYPES OF CABLES</b>	: SUBMERSIBLE FLEXIBLE FLAT CABLE (DOUBLE INSULATED)
<b>DESIGNATION</b>	: DOUBLE INSULATED WITH XLPE OVER PVC TYPE C AND ST 2 HR PVC SHEATHED FLAT FLEXIBLE EC GRADE COPPER CABLES
<b>CABLE DESIGN:</b>	
<b>COPPER CONDUCTOR</b>	: ANNEALED COPPER WITH FLEXIBLE BUNCH EC GRADE COPPER AS PER CLASS 2 OR 5 (IS 8130, IEC 60228)
<b>INSULATION</b>	: CROSS LINKED POLYETHYLENE (XLPE)
<b>INNER SHEATH</b>	: REDUCED THERMAL EXPANSION WITH MODIFIED PVC TYPE C (OVER XLPE INSULATION CORE)
<b>SHEATH</b>	: HEAT & MOISTURE RESISTANCE TYPE ST-2 HR PVC (AS PER IS 5831)
<b>MECHANICAL PROPERTY (INSULATION-XLPE):</b>	
<b>TENSILE STRENGTH</b>	: 12.5 N/MM <sup>2</sup> (Min.)
<b>ELONGATION</b>	: 200% (Min.)
<b>MECHANICAL PROPERTY (SHEATH-ST 2 HR PVC):</b>	
<b>TENSILE STRENGTH</b>	: 12.5 N/MM <sup>2</sup> (Min.)
<b>ELONGATION</b>	: 150% (Min.)
<b>TEMP. RANGE</b>	: (-20° C to +90° C)
<b>TEST VOLTAGE</b>	: 3 KV FOR 5 MINUTE (ELECTRICAL PROPERTY)
<b>VOLUME RESISTIVITY INSULATION (ELECTRICAL PROPERTY) :</b>	
	- 1 X 10 <sup>14</sup> (Min.) Ω-cm AT 27 ° C TEMP.
	- 1 X 10 <sup>12</sup> (Min.) Ω-cm AT 90 ° C TEMP.
<b>REF. STD</b>	: IS 694, IS 8130, IS 5831, IS 7098 P-1, IEC 60228
<b>RATED VOLTAGE</b>	: 1100 V
<b>SHEATH COLOUR</b>	: GRAY
<b>CORE COLOR DOUBLE INSULATED</b>	: RED, YELLOW, BLUE
<b>INSULATION (XLPE)</b>	: JOHNSON CABLES MAKE THREE CORE FLAT CABLES ARE BEST SUITED FOR SUBMERSIBLE APPLICATION AND MANUFACTURED WITH CONDUCTOR USING ANNEALED COPPER WIRES OF ELECTROLYTIC GRADE, BUNCHED PROPERLY TO ENSURED DESIRED FLEXIBILITY. THE CONDUCTOR IS FURTHER INSULATED WITH THERMOSET TYPE CROSS LINKED POLYETHYLENE (XLPE) INSULATION WITH UNIFORM THICKNESS WITH EACH OF THE CORE COLORS IN RED, YELLOW AND BLUE BY USING MOST MODERN MACHINERY AND EXTRUSION TECHNIQUES.
<b>SHEATH (ST 2 HR PVC)</b>	: THE SHEATH WITH UNIFORM THICKNESS OF HEAT AND MOISTURE RESISTANCE TYPE PVC GRADE ST 2 HR PVC COMPOUND FORMULATED AND MANUFACTURED IN HOUSE, IS EXTRUDED OVER THESE COLORED IN A FLAT FORMATION. THE COLOR OF THE SHEATH IS GRAY.
<b>CABLES FEATURES</b>	: - HIGHER CURRENT RATING. - HIGHER OVERLOAD CAPACITY - HIGHER SHORT CIRCUIT RATING - LOWER DI-ELECTRIC CONSTANT AND POWER FACTOR - BETTER IMPACT, ABRASION, CORROSION RESISTANCE - VERY GOOD CURRENT CARRYING CAPACITY - THE CABLES ARE AVAILABLE PROGRESSIVE SEQUENTIAL MARKING , COMPANY NAME AND SIZE PRINTED ON SHEATH
<b>APPLICATION</b>	: THESE CABLES ENJOY LONGER AND TROUBLE FREE LIFE ARE IDEALLY SUITABLE FOR GIVING THE POWER CONNECTION IN SUBMERSIBLE PUMP MOTORS USED . MAINLY FOR AGRICULTURE PURPOSE.
<b>ISO CERTIFICATION</b>	: ISO 9001:2015, RoHS, ISO 14001 : 2015, ISO 45001 : 2018, CE
<b>PRODUCT CERTIFICATION</b>	: IS 694:2010, IS 7098P-1, TUV RHEINLAND CERTIFICATE No. R 60160536

# JOHNSON GOLD

3 CORE SUBMERSIBLE FLAT CABLES (DOUBLE INSULATED)



## TECHNICAL DETAILS FOR JOHNSON CABLES 1.1 KV

### JOHNSON GOLD - 3 CORE FLAT CABLES

SIZE	CABLE	CLASS OF CONDUCTOR	NOS. & DIA OF WIRE/Nom (MAX.)	NOM. INSULATION THICKNESS	NOM. SHEATH THICKNESS	APPROX OVERALL DIMENSION (MM)		MAX. D.C C.R @ 20° C (COPPER)	MAX. CURRENT CARRYING CAPACITY
mm <sup>2</sup>	TYPE	CLASS	Nos./mm	mm	mm	WIDTH	HEIGHT	Ω / km	AMPS
3C X 1.5	FLAT -2XY-Y	CLASS 2	22/0.3	0.70	1.10	13.40	6.00	12.1	19
3C X 2.5	FLAT -2XY-Y	CLASS 2	36/0.3	0.70	1.15	14.40	6.40	7.41	24
3C X 4	FLAT -2XY-Y	CLASS 5	56/0.3	0.70	1.20	17.60	7.60	4.95	35
3C X 6	FLAT -2XY-Y	CLASS 5	84/0.3	0.70	1.30	19.60	8.40	3.30	42
3C X 8	FLAT -2XY-Y	CLASS 5	112/0.3	0.70	1.40	21.90	9.30	2.48	49
3C X 10	FLAT -2XY-Y	CLASS 5	140/0.3	0.70	1.60	23.70	10.10	1.91	56
3C X 12	FLAT -2XY-Y	CLASS 5	168/0.3	0.70	1.60	26.10	10.90	1.61	65
3C X 16	FLAT -2XY-Y	CLASS 5	224/0.3	0.70	1.80	28.00	11.80	1.21	75
3C X 25	FLAT -2XY-Y	CLASS 5	354/0.3	0.90	2.20	34.80	14.60	0.780	105
3C X 35	FLAT -2XY-Y	CLASS 5	495/0.3	0.90	2.40	38.80	16.20	0.554	130
3C X 50	FLAT -2XY-Y	CLASS 5	703/0.3	1.00	2.70	44.80	18.60	0.386	160

**NOTE :**

- THE NUMBER OF STRAND & STRANDS DIAMETER SHALL BE SUCH THAT IT MEETS THE CONDUCTOR RESISTANCE AS PER RELEVANT STANDARD.
- THE ABOVE DATA IS INDICATIVE AND MAY BE REVISED WITHOUT PRIOR INFORMATION. JOHNSON CABLES WILL NOT BE LIABLE FOR ANY DAMAGES ARISING OUT OF IN CORRECT APPLICATION.
- TOLERANCE: UP TO 4.0 SQ MM +/- 0.5 MM. 6.0 SQ MM & 10 SQ MM +/- 1.0 MM AND ABOVE 10 SQ MM +/- 1.2 MM



## JOHNSON PREMIUM

### 3 CORE SUBMERSIBLE FLAT CABLES (DOUBLE SHEATHED)

- TYPES OF CABLES** : SUBMERSIBLE FLEXIBLE FLAT CABLE (DOUBLE SHEATHED)
- DESIGNATION** : XLPE INSULATED (RESISTANCE TO OZONE & U.V. RAYS) AND WATER TIGHT DESIGN WITH MODIFIED POLYMER TPR SHEATHED FLAT FLEXIBLE EC GRADE COPPER CABLES

#### CABLES DESIGN

- COPPER CONDUCTOR** : ANNEALED COPPER WITH FLEXIBLE BUNCH EC GRADE COPPER AS PER CLASS 2 OR 5 (IS 8130)
- INSULATION** : XLPE (RESISTANCE TO OZONE & U.V. RAYS) DOUBLE INSULATED.
- INNER SHEATH** : REDUCED THERMAL EXPANSION WITH MODIFIED POLYMER
- SHEATH** : WEATHERING STABILITY WITH MODIFIED TPR SHEATH

**MECHANICAL PROPERTY (INSULATION-XLPE)** : TENSILE STRENGTH 12.5 N/MM<sup>2</sup> (Min.) ELONGATION: 200% (Min.)

**MECHANICAL PROPERTY (SHEATH-TPR)** : TENSILE STRENGTH 12.5 N/MM<sup>2</sup> (Min.) ELONGATION: 150% (Min.)

**TEMP. RANGE** : (-20° C to +90° C)

**TEST VOLTAGE** : 3 KV FOR 5 MINUTE (ELECTRICAL PROPERTY)

**CORE COLOR DOUBLE INSULATED** : 3 CORE : RED, YELLOW, BLUE

**VOLUME RESISTIVITY INSULATION (ELECTRICAL PROPERTY)** :

- $1 \times 10^{24}$  (Min.)  $\Omega$ -cm AT 27 ° C TEMP.
- $1 \times 10^{22}$  (Min.)  $\Omega$ -cm AT 90 ° C TEMP.

**REF. STD** : IS 694, IS 8130, IS 7098-P-1

**RATED VOLTAGE** : 1100 V

**SHEATH COLOUR** : GREEN

**DESCRIPTION** : JOHNSON CABLES INTRODUCES " JOHNSON PREMIUM" SUBMERSIBLE CABLE WITH PERFORMING INSULATION AND SHEATH. THIS IS A FLEXIBLE FLAT CABLE WITH LOW WATER ABSORPTION RATE FOLLOWING FEATURES.

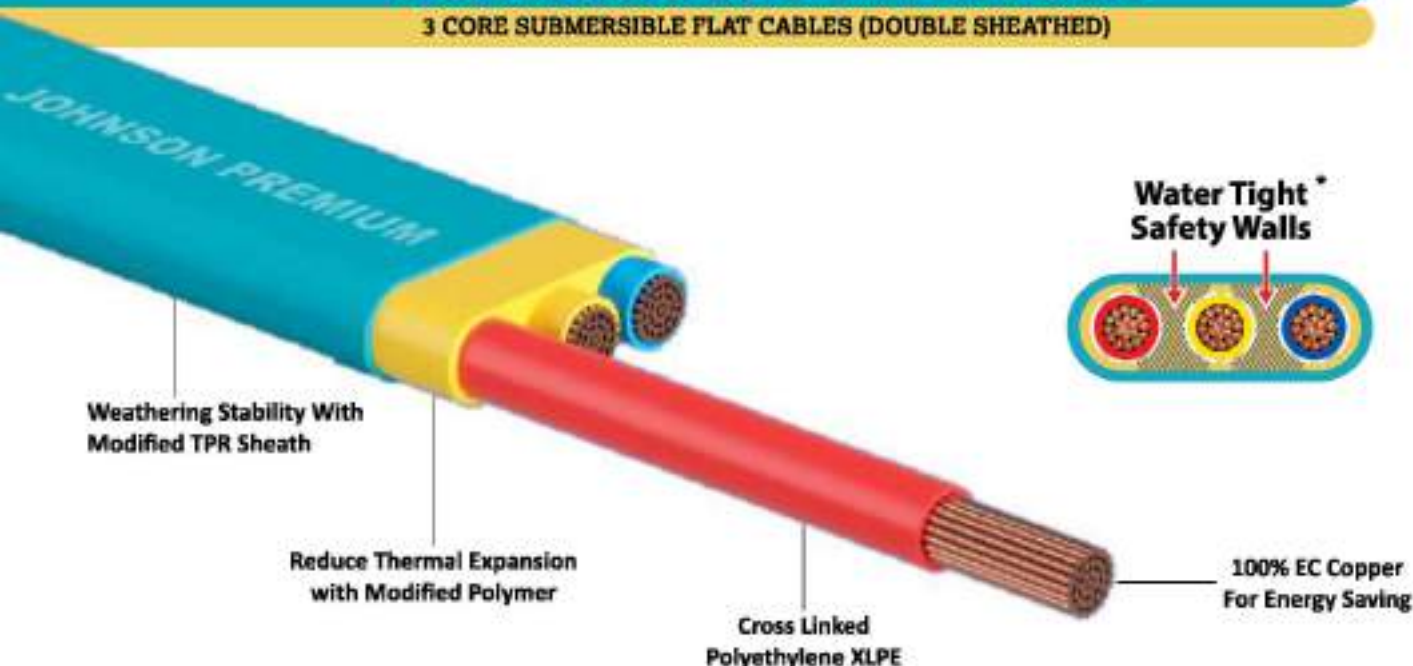
- CABLES FEATURES** :
- WATER TIGHT DESIGN WITH " RESISTANT WATER TREEING " PROPERTIES.
  - FLEXIBLE COPPER WITH DOUBLE SHEATHED
  - SHEATH RESISTANCE TO OZONE, U.V. RAYS, MOISTURE, OIL AND CHEMICALS IN SOIL.
  - REDUCED THERMAL EXPANSION AND GOOD WEATHERING STABILITY.
  - POLYMERS FOR ENHANCED ELECTRICAL PERFORMANCE.
  - HIGH DIELECTRIC VALUE INSULATION
  - VERY GOOD CURRENT CARRYING CAPACITY

**ISO CERTIFICATION** : ISO 9001:2015, CE, RoHS, ISO 14001:2015, ISO 45001:2018

**PRODUCT CERTIFICATION** : IS 694:2010, IS 7098P-1, TUV RHEINLAND CERTIFICATE No. R 60160536

# JOHNSON PREMIUM

3 CORE SUBMERSIBLE FLAT CABLES (DOUBLE SHEATHED)



## TECHNICAL DETAILS FOR JOHNSON CABLES 1.1 KV

### JOHNSON PREMIUM - 3 CORE FLAT CABLES

SIZE	CABLE	CLASS OF CONDUCTOR	NOS. & DIA OF WIRE (MAX.)	NOM. INSULATION THICKNESS	NOM. SHEATH THICKNESS	APPROX OVERALL DIMENSION (MM)		MAX. D.C.R. @ 20° C (COPPER)	MAX. CURRENT CARRYING CAPACITY
mm <sup>2</sup>	TYPE	CLASS	Nos./mm	mm	mm	WIDTH	HEIGHT	Ω / km	AMPS
3C X 1.5	FLAT -2X-YN	CLASS 2	22/0.3	0.70	1.00	11.30	4.90	12.1	18
3C X 2.5	FLAT -2X-YN	CLASS 2	36/0.3	0.70	1.10	13.40	5.80	7.41	22
3C X 4	FLAT -2X-YN	CLASS 5	56/0.3	0.70	1.20	15.80	6.60	4.95	31
3C X 6	FLAT -2X-YN	CLASS 5	84/0.3	0.70	1.30	18.60	7.80	3.30	38
3C X 8	FLAT -2X-YN	CLASS 5	112/0.3	0.70	1.40	21.40	8.80	2.48	44
3C X 10	FLAT -2X-YN	CLASS 5	140/0.3	0.70	1.50	23.00	9.30	1.91	50
3C X 12	FLAT -2X-YN	CLASS 5	168/0.3	0.70	1.60	25.20	10.20	1.61	57
3C X 16	FLAT -2X-YN	CLASS 5	224/0.3	0.70	1.70	28.40	11.20	1.21	65
3C X 25	FLAT -2X-YN	CLASS 5	354/0.3	0.90	2.10	35.40	14.20	0.780	100
3C X 35	FLAT -2X-YN	CLASS 5	495/0.3	0.90	2.20	38.60	15.40	0.554	120
3C X 50	FLAT -2X-YN	CLASS 5	703/0.3	1.00	2.40	45.50	17.90	0.386	150

**NOTE :**

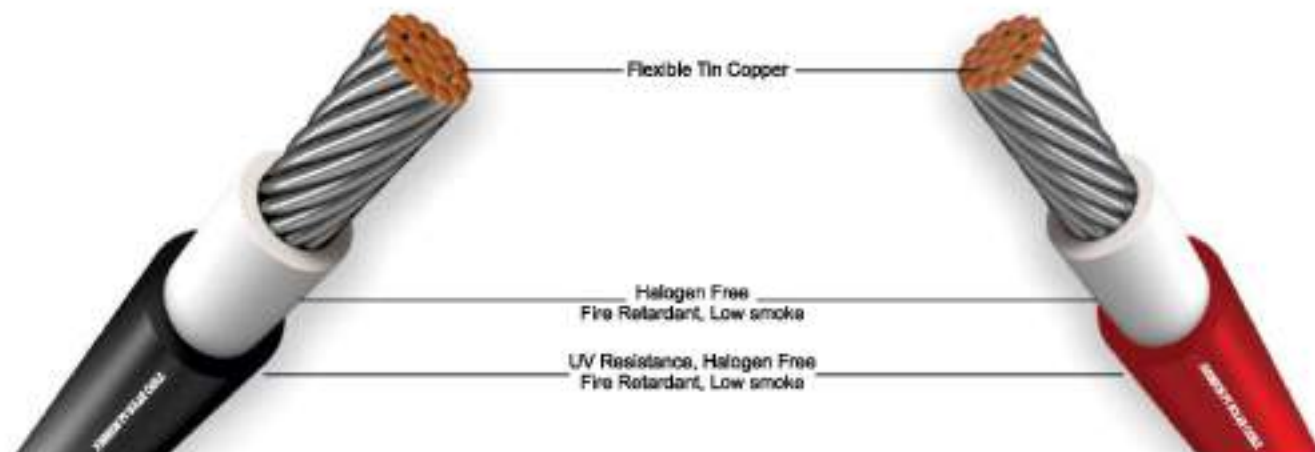
- THE NUMBER OF STRAND & STRANDS DIAMETER SHALL BE SUCH THAT IT MEETS THE CONDUCTOR RESISTANCE AS PER RELEVANT STANDARD.
- THE ABOVE DATA IS INDICATIVE AND MAY BE REVISED WITHOUT PRIOR INFORMATION. JOHNSON CABLES WILL NOT BE LIABLE FOR ANY DAMAGES ARISING OUT OF IN CORRECT APPLICATION.
- TOLERANCE: UP TO 4.0 SQ MM +/- 0.5 MM. 6.0 SQ MM & 10 SQ MM +/- 1.0 MM AND ABOVE 10 SQ MM +/- 1.2 MM



## PHOTOVOLTAIC CABLES (SOLAR XLR-R)

<b>TITLE</b>	: SOLAR ENERGY IS THE MOST SOURCE OF ENERGY ON OUR PLANET. SOLAR ENERGY IS CONVERTED IN TO ELECTRICAL ENERGY ITS MEANS OF ARRAYS OF PHOTOVOLTAIC MODULES. VERY SPECIALLY DESIGNED PHOTOVOLTAIC CABLES ARE USED IN THESES MODULES.
<b>TYPES OF CABLES</b>	: SINGLE CORE ANNEALED TINNED FLEXIBLE COPPER CABLES (DOUBLE INSULATED) PV1-F & H1Z2Z2-K
<b>DESIGNATION</b>	: UV RESISTANCE POLYOLEFIN COPOLYMER HALOGEN FREE FIRE RETARDANT LOW SMOKE DOUBLE INSULATED ROUND FLEXIBLE TIN COPPER CABLES
<b>CABLES DESIGN:</b>	
<b>TIN COPPER CONDUCTOR</b>	: FLEXIBLE TINNED COPPER CONDUCTOR (IEC 60228)
<b>INSULATION</b>	: POLYOLEFIN COPOLYMER HALOGEN FREE FIRE RETARDANT LOW SMOKE COMPOUND
<b>SHEATH</b>	: HIGHLY WEATHER & UV RESISTANCE , POLYOLEFIN COPOLYMER HALOGEN FREE FIRE RETARDANT LOW SMOKE COMPOUND
<b>MECHANICAL PROPERTY (INSULATION-HFFR)</b>	
<b>TENSILE STRENGTH</b>	: 6.5 N/MM <sup>2</sup> (Min.) ACCORDING TO EN 60811-1-1
<b>ELONGATION</b>	: 125% (Min.) ACCORDING TO EN 60811-1-1
<b>MECHANICAL PROPERTY (SHEATH-HFFR)</b>	
<b>TENSILE STRENGTH</b>	: 8.0 N/MM <sup>2</sup> (Min.) ACCORDING TO EN 60811-1-1
<b>ELONGATION</b>	: 125% (Min.) ACCORDING TO EN 60811-1-1
<b>TEMP. RANGE</b>	: (-40° C to +90° C)
<b>TEST VOLTAGE</b>	: 6.5 KV FOR 5 MINUTE (AC)
<b>VOLUME RESISTIVITY INSULATION (ELECTRICAL PROPERTY) EN 50395</b>	<ul style="list-style-type: none"> <li>- 1 X 10<sup>14</sup> (Min.) Ω-cm AT 20 ° C TEMP.</li> <li>- 1 X 10<sup>11</sup> (Min.) Ω-cm AT 90 ° C TEMP.</li> </ul>
<b>CORE COLOR</b>	: WHITE
<b>SHEATH COLOR</b>	: RED, BLACK, RED WITH BLACK STRIP, BLACK WITH RED STRIP
<b>ELECTRICAL CHARACTERISTICS</b>	: RATED VOLTAGE : 0.6/1 KV AC, RATED VOLTAGE : 1.5 KV DC
<b>CABLES FEATURES</b>	<ul style="list-style-type: none"> <li>: HIGH THERMAL RATING TO WITHSTAND EXTREME TEMPERATURES.</li> <li>: SPECIALLY DESIGNED TO WITHSTAND EXTREME WEATHER CONDITIONS.</li> <li>: UV RESISTANCE ACCORDING TO HD 605 / A 1</li> <li>: FLAME RETARDANT TO IEC 60332-1-2</li> <li>: HALOGEN FREE ACCORDANCE WITH BS EN 50525-1</li> <li>: LOW SMOKE DENSITY ACCORDANCE WITH IEC 61034-2</li> <li>: EXCELLENT ABRASION AND NOTCH RESISTANT</li> <li>: VERY GOOD CURRENT CARRYING CAPACITY OF ACCORDING TO REQUIREMENT FOR PV CABLE SYSTEMS</li> <li>: THE CABLES ARE AVAILABLE PROGRESSIVE SEQUENTIAL MARKING , BRAND NAME AND SIZE PRINTED ON SHEATH</li> </ul>
<b>APPLICATION</b>	: JOHNSON U-PV SOLAR CABLES ARE DESIGNED FOR USE IN PHOTOVOLTAIC POWER SUPPLY SYSTEMS BOTH FOR INDOOR AND/OR OUTDOOR SOLAR ENERGY APPLICATIONS.
<b>REF. STD.</b>	: 2Pfg 1169/08.2007 , EN 50618-2014 , IEC 60228
<b>APPROVAL</b>	: TUV RHEINLAND CERTIFICATE NO. R 60160536 (PV1-F, H1Z2Z2-K)
<b>ISO CERTIFICATION</b>	: ISO 9001:2015, ISO 14001:2015, ISO 45001:2018, CE, RoHS
<b>PRODUCT CERTIFICATION</b>	: IS 694:2010, IS 7098 P-1, CE, TUV RHEINLAND CERTIFICATE No. R 60160536

# PHOTOVOLTAIC CABLES (SOLAR XLR-R)



## TECHNICAL DETAILS & DIMENSION AS PER TUV 2Pfg 1169/08.2007 (PV1-F)

NUMBER AND NOMINAL CROSS SECTIONAL AREA OF CONDUCTORS	NOS. & DIA OF WIRE (MAX.)	MIN. INSULATION THICKNESS	MIN. SHEATH THICKNESS	NOMINAL OVERALL DIMENSION	TINNED COPPER MAXIMUM DC RESISTANCE @ at 20 ° C	MAX. CURRENT CARRING CAPACITY (AIR) AT at 60° C	MAX. CURRENT CARRING CAPACITY (SURFACE) AT at 60° C
mm <sup>2</sup>	mm	mm	mm	mm	Ω / km	Amps	Amps
1 x 2.5	36/0.3	0.50	0.50	4.70	7.56	41	39
1 x 4	56/0.3	0.50	0.50	5.20	5.09	55	52
1 x 6	84/0.3	0.50	0.50	5.70	3.39	70	67

## TECHNICAL DETAILS & DIMENSION AS PER TUV SPECIFICATION - EN 50618:2014 (H12222-K)

NUMBER AND NOMINAL CROSS SECTIONAL AREA OF CONDUCTORS	NOS. & DIA OF WIRE (MAX.)	NOMINAL INSULATION THICKNESS	NOMINAL SHEATH THICKNESS	NOMINAL OVERALL DIMENSION	TINNED COPPER MAXIMUM DC RESISTANCE @ at 20 ° C	MAX. CURRENT CARRING CAPACITY (AIR) AT at 60° C	MAX. CURRENT CARRING CAPACITY (SURFACE) AT at 60° C
mm <sup>2</sup>	Nos./mm	mm	mm	mm	Ω / km	Amps	Amps
1 x 2.5	36/0.3	0.7	0.8	5.30	7.56	41	39
1 x 4	56/0.3	0.7	0.8	5.80	5.09	55	52
1 x 6	84/0.3	0.7	0.8	6.30	3.39	70	67
1 x 10	140/0.3	0.7	0.8	7.90	1.95	98	93
1 x 16	224/0.3	0.7	0.9	9.20	1.24	132	125
1 x 25	350/0.3	0.9	1.0	11.20	0.795	176	167
1 x 35	490/0.3	0.9	1.1	12.60	0.565	218	207
1 x 50	703/0.3	1.0	1.2	14.50	0.393	276	262
1 x 70	988/0.3	1.1	1.2	16.50	0.277	347	330
1 x 95	1349/0.3	1.1	1.3	18.70	0.21	416	395
1 x 120	608/0.5	1.2	1.3	21.00	0.164	488	464

NOTE : AT : AMBIENT TEMPERATURE

TOLERANCE ON DIAMETER 2.5 SQ MM TO 16 SQ MM +/- 0.40 MM AND 25 SQ MM TO 120 SQ MM +/- 0.60 MM

THE NO. OF STRAND & STRANDS DIAMETER SHALL BE SUCH THAT IT MEETS THE CONDUCTOR RESISTANCE AS PER RELEVANT STANDARD



## WELDING CABLES (SINGLE SHEATHED)

WELDING CABLES IS KNOWN FOR ITS FLEXIBILITY AND DURABILITY AND MANY AUTOMATIC AND MANUAL WELDING APPLICATIONS REQUIRE THE CABLE TO HOLD UP TO REPEATED MOVEMENT OVER ROUGH SURFACES.

TYPE OF CABLES	: SINGLE CORE ULTRA FLEXIBLE ANNEALED PLAIN ELECTROLYTIC GRADE COPPER WELDING CABLES
DESIGNATION	: NBR SINGLE SHEATHED ROUND ULTRA FLEXIBLE COPPER WELDING CABLES
COPPER	: ULTRA FLEXIBLE ANNEALED EC COPPER CONDUCTOR (CLASS 6 & CLASS 5) IEC 60228, IS 8130
SEPARATOR	: POLYESTER TAPE
COVERING	: NBR SINGLE SHEATHED ULTRA FLEXIBLE NITRILE BUTADIENE RUBBER (IS 6380/1984)

### MECHANICAL PROPERTY (NBR)

TENSILE STRENGTH	: 10.0 N/MM <sup>2</sup> (Min.)
ELONGATION	: 300% (Min.)
TEMP. RANGE	: (-30° C to +90° C)
TEST VOLTAGE	: 2500 V (ELECTRICAL PROPERTY)
SHEATH COLOR	: ORANGE, BLACK
MIN. BENDING RADIUS	: 6 X CABLE DIAMETER
FLAME PROPAGATION	: FLAME RETARDANT ACCORDING TO AS PER IEC 60332-1

### ELECTRICAL CHARACTERISTICS DUTY CYCLE AND CURRENT CARRYING CAPACITY

- : THE CURRENT CARRYING CAPACITY OF A WELDING CABLE DEPEND ON THE LENGTH OF THE DUTY CYCLE. THE DUTY CYCLE IS THE LENGTH OF TIME DURING WHICH A LOADED CURRENT PASSES THROUGH THE CABLE OVER AN OPERATION PERIOD OF 5 MINUTES, EXPRESSED AS A PERCENTAGE OF THAT PERIOD.

STANDARD LENGTH	: 100, 200, 300 AND 500 METER. ALSO HIGHER LENGTH AVAILABLE ON YOUR REQUEST (+/- 5%)
-----------------	--

CABLES FEATURES	: FLEXIBILITY UNDER ROUGH, OPEN DRY, DAMP CONDITIONS. OIL RESISTANT TO DIN EN 60811-2-1. HIGH PERFORMANCE ULTRA FLEXIBLE WELDING LEAD SINGLE SHEATHED SPECIALLY DESIGNED TO EXCELLENT WEATHER RESISTANCE FLAME RETARDANT TO IEC 60332-1 EXCELLENT ULTRA FLEXIBLE TO LAST LONGER IN FLEX HIGH RESISTANCE TO CUTS, TEAR AND ABRASION VERY GOOD CURRENT CARRYING CAPACITY OF ACCORDING TO REQUIREMENT FOR WELDING CABLES THE CABLES ARE AVAILABLE PROGRESSIVE SEQUENTIAL MARKING, BRAND NAME AND SIZE PRINTED ON SHEATH
-----------------	--

APPLICATION	: SPECIFICALLY DESIGNED FOR MACHINE WELDING AND HAND WELDING TO WORK IN DRY, DAMP, WET LOCATIONS AND OUTDOORS.
-------------	--

REF. STD	: IEC 60228, IEC 60245-6, BS 638-4, IS 6380/84, IS 8130, IS 9857, DIN VDE 0295
----------	--

ISO CERTIFICATION	: ISO 9001:2015, CE, RoHS, ISO 14001:2015, ISO 45001:2018
-------------------	---

PRODUCT CERTIFICATION	: IS 694:2010, IS 7098 P-1, TUV RHEINLAND CERTIFICATE No. R 60160536
-----------------------	--

## WELDING CABLES (SINGLE SHEATHED)



### TECHNICAL DETAILS & DIMENSION CURRENT RATING AT VARIOUS DUTY CYCLES

NUMBER AND NOMINAL CROSS SECTIONAL AREA OF CONDUCTORS	TOTAL NO. OF STRANDS/MAX. DIA OF WIRE	NOMINAL RADIAL THICKNESS OF COVERING	NOMINAL SHEATH DIA	COPPER MAXIMUM DC RESISTANCE @ at 20 ° C	RATED CURRENT - DUTY CYCLE				
					100%	85%	60%	30%	20%
mm <sup>2</sup>	Nos./mm	mm	mm	Ω / km	Amps	Amps	Amps	Amps	Amps
1 x 10	322/0.2	2.00	8.20	1.91	100	110	125	180	225
1 x 16	511/0.2	2.00	9.20	1.21	135	145	170	245	300
1 x 25	798/0.2	2.00	10.70	0.780	180	195	230	325	400
1 x 35	1121/0.2	2.00	11.90	0.554	225	245	285	410	500
1 x 50	1596/0.2	2.20	13.80	0.386	285	305	365	520	630
1 x 70	2220/0.2	2.40	16.80	0.272	355	385	455	640	790
1 x 95	1349/0.3	2.60	18.30	0.206	430	465	555	780	950
1 x 120	608/0.5	3.00	21.70	0.161	500	540	640	910	1110
1 x 150	760/0.5	3.00	24.00	0.129	580	620	740	1040	1290
1 x 185	931/0.5	3.40	26.30	0.106	665	715	850	1200	1470
1 x 240	1216/0.5	3.50	29.20	0.0801	710	770	910	1290	1580
1 x 300	1501/0.5	3.60	31.80	0.0641	800	850	1030	1450	1780
1 x 400	2035/0.5	3.80	36.00	0.0486	920	1000	1190	1680	2060

### REDUCTION FACTORS FOR WELDING CABLE USED AT HIGHER AMBIENT TEMPERATURE

AMBIENT AIR TEMPERATURE (°C)	25	30	35	40	45	50	55	60
RATING FACTORS	1.0	0.96	0.91	0.87	0.82	0.76	0.69	0.64

### TYPICAL GUIDANCE VALES FOR DIFFERENT WELDING PROCESSES ARE AS FOLLOWS

FULLY AUTOMATIC WELDING 100% | SEMI-AUTOMATIC WELDING 65-85% | MANUAL WELDING 30-60% | VERY INFREQUENT OR OCCASIONAL WELDING 20%

NOTE : THE NO. OF STRAND & STRANDS DIAMETER SHALL BE SUCH THAT IT MEETS THE CONDUCTOR RESISTANCE AS PER RELEVANT STANDARD

THE ABOVE DATA IS INDICATIVE AND MAY BE REVISED WITHOUT PRIOR INFORMATION. JOHNSON CABLES WILL NOT BE LIABLE FOR ANY DAMAGES ARISING OUT OF INCORRECT APPLICATION.



## WELDING CABLES (DOUBLE SHEATHED)

WELDING CABLES IS KNOWN FOR ITS FLEXIBILITY AND DURABILITY AND MANY AUTOMATIC AND MANUAL WELDING APPLICATIONS REQUIRE THE CABLE TO HOLD UP TO REPEATED MOVEMENT OVER ROUGH SURFACES.

TYPE OF CABLES	: SINGLE CORE ULTRA FLEXIBLE ANNEALED PLAIN ELECTROLYTIC GRADE COPPER WELDING CABLES
DESIGNATION	: NBR DOUBLE SHEATHED ROUND ULTRA FLEXIBLE COPPER WELDING CABLES
COPPER	: ULTRA FLEXIBLE ANNEALED EC COPPER CONDUCTOR (CLASS 6 & CLASS 5) IEC 60228, IS 8130
SEPARATOR	: POLYESTER TAPE
COVERING	: NBR DOUBLE SHEATHED ULTRA FLEXIBLE NITRILE BUTADIENE RUBBER (IS 6380/1984)
<b>MECHANICAL PROPERTY (NBR)</b>	
TENSILE STRENGTH	: 10.0 N/MM <sup>2</sup> (Min.)
ELONGATION	: 300% (Min.)
TEMP. RANGE	: (-30° C to +90° C)
TEST VOLTAGE	: 2500 V (ELECTRICAL PROPERTY)
CORE COLOR	: WHITE
SHEATH COLOR	: ORANGE, BLACK
MIN. BENDING RADIUS:	6 X CABLE DIAMETER
FLAME PROPAGATION	: FLAME RETARDANT ACCORDING TO AS PER IEC 60332-1
<b>ELECTRICAL CHARACTERISTICS DUTY CYCLE AND CURRENT CARRYING CAPACITY</b>	
	: THE CURRENT CARRYING CAPACITY OF A WELDING CABLE DEPEND ON THE LENGTH OF THE DUTY CYCLE. THE DUTY CYCLE IS THE LENGTH OF TIME DURING WHICH A LOADED CURRENT PASSES THROUGH THE CABLE OVER AN OPERATION PERIOD OF 5 MINUTES, EXPRESSED AS A PERCENTAGE OF THAT PERIOD.
STANDARD LENGTH	: 100, 200, 300 AND 500 METER. ALSO HIGHER LENGTH AVAILABLE ON YOUR REQUEST (+/- 5%)
<b>CABLES FEATURES</b>	
	: FLEXIBILITY UNDER ROUGH, OPEN DRY, DAMP CONDITIONS.
	: OIL RESISTANT TO DIN EN 60811-2-1
	: HIGH PERFORMANCE ULTRA FLEXIBLE WELDING LEAD DOUBLE SHEATHED
	: SPECIALLY DESIGNED TO EXCELLENT WEATHER RESISTANCE
	: FLAME RETARDANT TO IEC 60332-1
	: EXCELLENT ULTRA FLEXIBLE TO LAST LONGER IN FLEX
	: HIGH RESISTANCE TO CUTS, TEAR AND ABRASION
	: VERY GOOD CURRENT CARRYING CAPACITY OF ACCORDING TO REQUIREMENT FOR WELDING CABLES
	: THE CABLES ARE AVAILABLE PROGRESSIVE SEQUENTIAL MARKING, BRAND NAME AND SIZE PRINTED ON SHEATH
APPLICATION	: SPECIFICALLY DESIGNED FOR MACHINE WELDING AND HAND WELDING TO WORK IN DRY, DAMP, WET LOCATIONS AND OUTDOORS.
REF. STD	: IEC 60228, IEC 60245-6, BS 638-4, IS 6380/84, IS 8130, IS 9857, DIN VDE 0295
ISO CERTIFICATION	: ISO 9001:2015, CE, RoHS, ISO 14001:2015, ISO 45001:2018
PRODUCT CERTIFICATION	: IS 694:2010, IS 7098 P-1, TUV RHEINLAND CERTIFICATE No. R 60160536

## WELDING CABLES (DOUBLE SHEATHED)



### TECHNICAL DETAILS & DIMENSION CURRENT RATING AT VARIOUS DUTY CYCLES

NUMBER AND NOMINAL CROSS SECTIONAL AREA OF CONDUCTORS	TOTAL NO. OF STRANDS/MAX. DIA OF WIRE	NOMINAL INNER DIA	NOMINAL SHEATH DIA	COPPER MAXIMUM DC RESISTANCE @ at 20 ° C	RATED CURRENT - DUTY CYCLE				
					100%	85%	60%	30%	20%
mm <sup>2</sup>	Nos./mm	mm	mm	Ω / km	Amps	Amps	Amps	Amps	Amps
1 x 10	322/0.2	6.30	9.90	1.91	100	110	125	180	225
1 x 16	511/0.2	8.00	10.70	1.21	135	145	170	245	300
1 x 25	798/0.2	9.50	12.10	0.780	180	195	230	325	400
1 x 35	1121/0.2	11.00	14.20	0.554	225	245	285	410	500
1 x 50	1596/0.2	12.30	16.30	0.386	285	305	365	520	630
1 x 70	2220/0.2	14.40	18.70	0.272	355	385	455	640	790
1 x 95	1349/0.3	16.60	20.80	0.206	430	465	555	780	950
1 x 120	608/0.5	18.20	23.00	0.161	500	540	640	910	1110
1 x 150	760/0.5	21.10	26.00	0.129	580	620	740	1040	1290
1 x 185	931/0.5	23.80	29.00	0.106	665	715	850	1200	1470

### REDUCTION FACTORS FOR WELDING CABLE USED AT HIGHER AMBIENT TEMPERATURE

AMBIENT AIR TEMPERATURE (°C)	25	30	35	40	45	50	55	60
RATING FACTORS	1.0	0.96	0.91	0.87	0.82	0.76	0.69	0.64

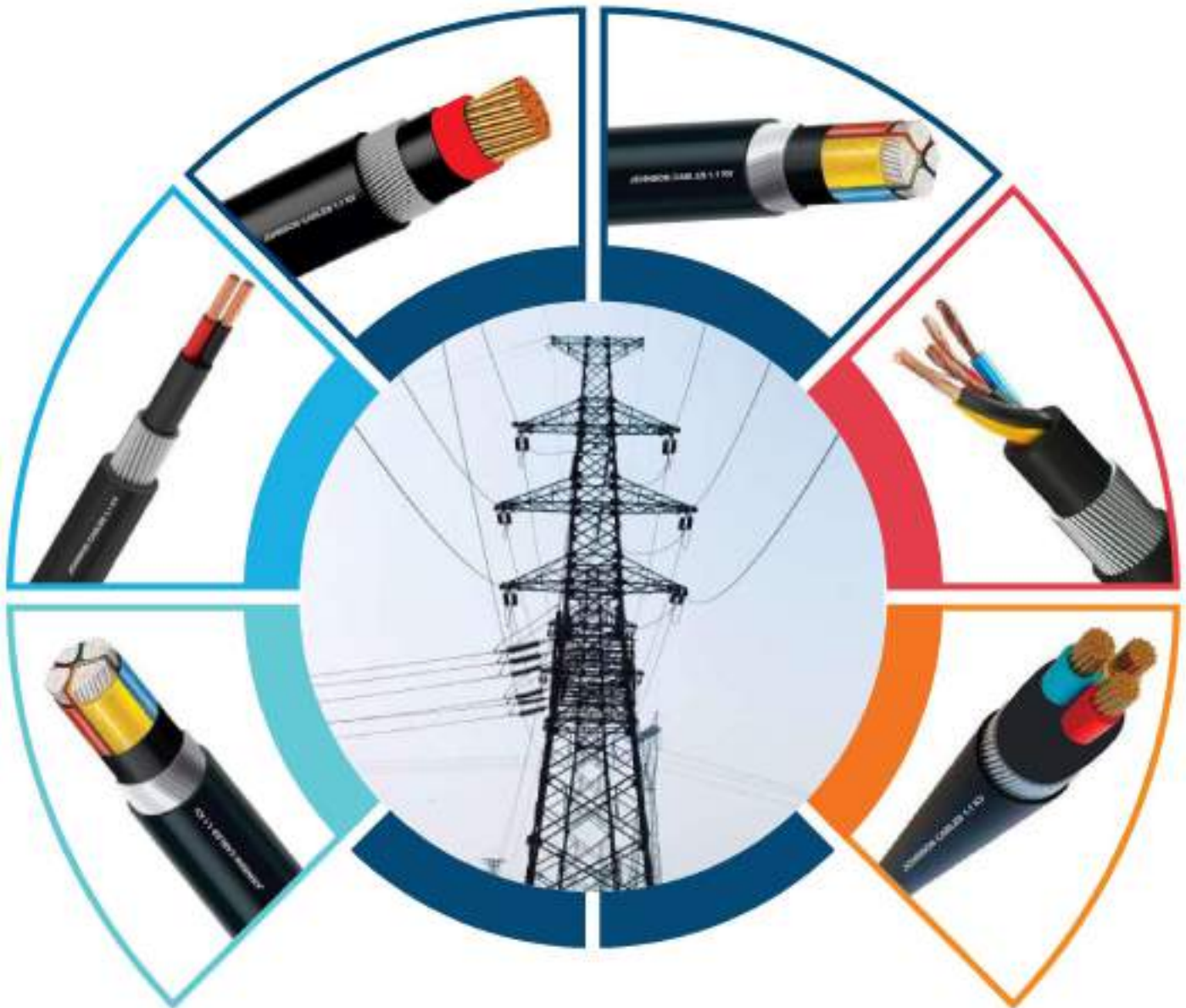
### TYPICAL GUIDANCE VALES FOR DIFFERENT WELDING PROCESSES ARE AS FOLLOWS

FULLY AUTOMATIC WELDING 100% | SEMI-AUTOMATIC WELDING 65-85% | MANUAL WELDING 30-60% | VERY INFREQUENT OR OCCASIONAL WELDING 20%

NOTE : THE NO. OF STRAND & STRANDS DIAMETER SHALL BE SUCH THAT IT MEETS THE CONDUCTOR RESISTANCE AS PER RELEVANT STANDARD

THE ABOVE DATA IS INDICATIVE AND MAY BE REVISED WITHOUT PRIOR INFORMATION. JOHNSON CABLES WILL NOT BE LIABLE FOR ANY DAMAGES ARISING OUT OF INCORRECT APPLICATION.





## IS 7098 P-1

### CABLE STRUCTURE

CONDUCTOR	: ALUMINIUM /COPPER SOLID OR STRANDED CONDUCTOR ACCORDING TO IS 8130,IEC 60228
INSULATION	: (XLPE) CROSS LINKED POLYETHYLENE COMPOUND
INNER SHEATH	: PVC TYPE ST-2 AS PER IS 5831 ; OPTIONS : FR TYPE / FRLS TYPE
ARMOURING	: SINGLE LAYER OF G.I./ALUMINIUM ROUND WIRE/ FLAT STRIP
OUTER SHEATH	: PVC TYPE ST-2 AS PER IS 5831 ; OPTIONS : FR TYPE / FRLS TYPE
COLOUR OF OUTER SHEATH	: BLACK OR ANY OTHER COLOUR AS PER REQUIREMENT

### TECHNICAL DATA

OPERATING TEMP	: TEMP -20°C TO MAX.+90°C
NOMINAL VOLTAGE	: 1100 V
TEST VOLTAGE	: 3 KV
MIN. BENDING RADIUS:	15 X OD (SINGLE CORE)
MIN. BENDING RADIUS:	12 X OD (MULTI CORE)

### TECHNICAL ADVANTAGE

- HIGHER CURRENT CARRYING RATING
- HIGHER SHORT CIRCUIT RATING
- THERMOSETTING IN NATURE.
- LONGER SERVICE LIFE
- LOW DIELECTRIC LOSSES
- HIGHER INSULATION RESISTANCE
- RESISTANCE TO CHEMICAL & CORROSIVE GASES ETC.
- LONGER SERVICE LIFE
- COMPARATIVELY HIGHER CABLE OPERATION TEMPERATURE 90°C AND SHORT CIRCUIT TEMPERATURE 250°C

### APPLICATION

POWER CABLES FOR USED ENERGY SUPPLY ARE INTALLED OUTDOORS, IN GROUND ,DUCTS, POWER STATIONS ALSO IN INDUSTRIES AND DISTRIBUTION BOARD

### STANDARD LENGTH & PACKING

- 100,200,300,500,1000 METER IN WOODEN REELS (±5%)
- Higher Length Available on your Request



# 1 CORE CABLES



**TABLE - 01**  
**TECHNICAL DETAILS FOR JOHNSON CABLES 1.1 KV**

## 1 CORE ALUMINIUM / COPPER CONDUCTOR XLPE INSULATED UN-ARMOURED CABLES

Ref Specification : IS 7098 Part-1  
CABLE CODE : A2XY - 2XY

### Technical Data

SIZE	NOMINAL INSULATION THICKNESS	NOMINAL OUTER SHEATH THICKNESS	APPROX. OVERALL DIA OF CABLE ± 2 MM	APPROX. WEIGHT OF CABLE		MAX. CONDUCTOR DC RESISTANCE at 20° C		NOMINAL CURRENT RATING			
				A2XY	2XY	ALUMINIUM	COPPER	ALUMINIUM CONDUCTOR		COPPER CONDUCTOR	
mm²	mm	mm	mm	Kg/Km		Ohm/Km		AMPS			
1 C X 4	0.70	1.80	7.50	70	90	7.410	4.610	40	35	49	46
1 C X 6	0.70	1.80	8.00	80	115	4.610	3.080	49	46	61	58
1 C X 10	0.70	1.80	9.00	90	170	3.080	1.830	64	63	81	78
1 C X 16	0.70	1.80	10.00	120	230	1.910	1.150	83	80	105	107
1 C X 25	0.90	1.80	12.00	160	330	1.200	0.727	100	112	132	144
1 C X 35	0.90	1.80	13.00	200	420	0.868	0.524	120	137	157	176
1 C X 50	1.00	1.80	14.50	250	560	0.641	0.387	140	165	187	212
1 C X 70	1.10	1.80	16.50	330	755	0.443	0.268	170	209	227	269
1 C X 95	1.10	1.80	18.00	450	1020	0.320	0.193	205	256	267	331
1 C X 120	1.20	1.80	20.50	510	1255	0.253	0.153	235	305	305	385
1 C X 150	1.40	2.00	22.50	630	1555	0.206	0.124	270	345	340	435
1 C X 185	1.60	2.00	24.50	800	1900	0.164	0.0991	300	390	385	500
1 C X 240	1.70	2.00	27.00	950	2450	0.125	0.0754	350	455	440	595
1 C X 300	1.80	2.00	30.00	1150	3050	0.100	0.0601	400	525	500	680
1 C X 400	2.00	2.20	33.80	1500	3850	0.0778	0.0470	460	615	560	785

NOTE : 1, THE ABOVE DATA IS APPROXIMATE & SUBJECT TO MANUFACTURING TOLERANCE, 2, DELIVERY LENGTH TOLERANCE +/- 5 %.

**TABLE - 02**  
**TECHNICAL DETAILS FOR JOHNSON CABLES 1.1 KV**

**1 CORE ALUMINIUM / COPPER CONDUCTOR XLPE INSULATED ARMoured CABLES**

Ref Specification : IS 7098 Part-1  
CABLE CODE : A2XFaY / 2XFaY

**Technical Data**

SIZE	NOMINAL INSULATION THICKNESS	NOMINAL ARMOUR ALUMINIUM STRIP	MINIMUM OUTER SHEATH THICKNESS	APPROX. OVERALL DIA OF CABLE ± 2 MM	APPROX. WEIGHT OF CABLE		MAX. CONDUCTOR DC RESISTANCE at 20° C		NOMINAL CURRENT RATING ALUMINIUM CONDUCTOR		NOMINAL CURRENT RATING COPPER CONDUCTOR	
					A2XFaY	2XFaY	ALUMINIUM	COPPER	GROUND	AIR	GROUND	AIR
mm <sup>2</sup>	mm	mm	mm	mm	Kg/Km		Ohm/Km		AMPS			
1C X 95	1.40	4 X 0.80	1.40	20.00	570	1160	0.320	0.193	205	256	267	331
1C X 120	1.50	4 X 0.80	1.40	22.00	670	1420	0.253	0.153	235	305	305	385
1C X 150	1.70	4 X 0.80	1.40	24.00	770	1690	0.206	0.124	270	345	340	435
1C X 185	1.90	4 X 0.80	1.40	26.00	920	2050	0.164	0.0991	300	390	385	500
1C X 240	2.00	4 X 0.80	1.40	29.00	1150	2600	0.125	0.0754	350	455	440	595
1C X 300	2.10	4 X 0.80	1.56	31.50	1355	3200	0.100	0.0601	400	525	500	680
1C X 400	2.40	4 X 0.80	1.56	35.50	1730	4200	0.0778	0.0470	460	615	560	785

NOTE : 1. THE ABOVE DATA IS APPROXIMATE & SUBJECT TO MANUFACTURING TOLERANCE, 2. DELIVERY LENGTH TOLERANCE +/- 5 %.

**TABLE - 03**  
**TECHNICAL DETAILS FOR JOHNSON CABLES 1.1 KV**

**1 CORE ALUMINIUM / COPPER CONDUCTOR XLPE INSULATED ARMoured CABLES**

Ref Specification : IS 7098 Part-1  
CABLE CODE : A2XWaY - 2XWaY

**Technical Data**

SIZE	NOMINAL INSULATION THICKNESS	NOMINAL DIA OF ALARMOUR WIRE	MINIMUM OUTER SHEATH THICKNESS	APPROX. OVERALL DIA OF CABLE ± 2 MM	APPROX. WEIGHT OF CABLE		MAX. CONDUCTOR DC RESISTANCE at 20° C		NOMINAL CURRENT RATING ALUMINIUM CONDUCTOR		NOMINAL CURRENT RATING COPPER CONDUCTOR	
					A2XWaY	2XWaY	ALUMINIUM	COPPER	GROUND	AIR	GROUND	AIR
mm <sup>2</sup>	mm	mm	mm	mm	Kg/Km		Ohm/Km		AMPS			
1C X 4	1.00	1.40	1.24	10.50	130	150	7.410	4.610	40	35	49	46
1C X 6	1.00	1.40	1.24	11.00	140	170	4.610	3.080	49	46	61	58
1C X 10	1.00	1.40	1.24	12.00	170	250	3.080	1.830	64	63	81	78
1C X 16	1.00	1.40	1.24	13.50	225	320	1.910	1.150	83	80	105	107
1C X 25	1.20	1.40	1.24	15.00	270	425	1.200	0.727	100	112	132	144
1C X 35	1.20	1.40	1.24	16.00	320	530	0.868	0.524	120	137	157	176
1C X 50	1.30	1.40	1.24	18.00	400	700	0.641	0.387	140	165	187	212
1C X 70	1.40	1.40	1.24	20.00	500	930	0.443	0.268	170	209	227	269
1C X 95	1.40	1.60	1.40	22.00	650	1250	0.320	0.193	205	256	267	331
1C X 120	1.50	1.60	1.40	24.00	750	1490	0.253	0.153	235	305	305	385
1C X 150	1.70	1.60	1.40	26.00	870	1790	0.206	0.124	270	345	340	435
1C X 185	1.90	1.60	1.40	28.00	1050	2160	0.164	0.0991	300	390	385	500
1C X 240	2.00	1.60	1.40	31.50	1250	2700	0.125	0.0754	350	455	440	595
1C X 300	2.10	1.60	1.56	34.50	1550	3350	0.100	0.0601	400	525	500	680
1C X 400	2.40	2.00	1.56	38.00	1950	4380	0.0778	0.0470	460	615	560	785

NOTE : 1. THE ABOVE DATA IS APPROXIMATE & SUBJECT TO MANUFACTURING TOLERANCE, 2. DELIVERY LENGTH TOLERANCE +/- 5 %.



## 2 CORE CABLES



**TABLE - 04**  
**TECHNICAL DETAILS FOR JOHNSON CABLES 1.1 KV**

### 2 CORE ALUMINIUM / COPPER CONDUCTOR XLPE INSULATED UNARMoured CABLES

Ref Specification : IS 7098 Part-1  
CABLE CODE : A2XY - 2XY

#### Technical Data

SIZE	NOMINAL INSULATION THICKNESS	MINIMUM INNER SHEATH THICKNESS	MINIMUM OUTER SHEATH THICKNESS	APPROX. OVERALL DIA OF CABLE $\pm 2$ MM	APPROX. WEIGHT OF CABLE		MAX. CONDUCTOR DC RESISTANCE at 20° C		NOMINAL CURRENT RATING ALUMINIUM CONDUCTOR		NOMINAL CURRENT RATING COPPER CONDUCTOR	
					A2XY	2XY	ALUMINIUM	COPPER	GROUND	AIR	GROUND	AIR
mm <sup>2</sup>	mm	mm	mm	mm	Kg/Km		Ohm/Km		AMPS			
2C X 4	0.70	0.30	1.80	12.00	180	240	7.410	4.61	36	32	45	40
2C X 6	0.70	0.30	1.80	13.00	220	300	4.610	3.08	45	42	57	52
2C X 10	0.70	0.30	1.80	15.00	280	400	3.080	1.83	60	56	75	69
2C X 16	0.70	0.30	1.80	14.00	290	430	1.910	1.15	80	72	96	87
2C X 25	0.90	0.30	2.00	17.00	380	680	1.200	0.727	96	100	125	130
2C X 35	0.90	0.30	2.00	18.50	430	850	0.868	0.524	118	120	150	160
2C X 50	1.00	0.30	2.00	21.00	600	1150	0.641	0.387	145	146	175	195
2C X 70	1.10	0.30	2.00	23.00	750	1520	0.443	0.268	174	180	215	240
2C X 95	1.10	0.40	2.20	26.00	960	2050	0.320	0.193	210	230	260	300
2C X 120	1.20	0.40	2.20	28.00	1160	2450	0.253	0.153	235	260	290	335
2C X 150	1.40	0.40	2.20	31.00	1380	3050	0.206	0.124	265	305	325	385
2C X 185	1.60	0.50	2.40	34.50	1720	3750	0.164	0.0991	300	345	365	445
2C X 240	1.70	0.50	2.60	39.00	2160	4900	0.125	0.0754	340	410	416	518
2C X 300	1.80	0.60	2.80	43.00	2660	6100	0.100	0.0601	385	475	470	600
2C X 400	2.00	0.60	3.00	48.00	3300	7850	0.0778	0.0470	450	550	530	680

NOTE : 1. THE ABOVE DATA IS APPROXIMATE & SUBJECT TO MANUFACTURING TOLERANCE, 2. DELIVERY LENGTH TOLERANCE +/- 5 %.

**TABLE - 05**  
**TECHNICAL DETAILS FOR JOHNSON CABLES 1.1 KV**

**2 CORE ALUMINIUM/COPPER CONDUCTOR XLPE INSULATED ARMoured CABLES**

Ref Specification : IS 7098 Part-1  
CABLE CODE : A2XFY / 2XFY

**Technical Data**

SIZE	NOMINAL INSULATION THICKNESS	MINIMUM INNER SHEATH THICKNESS	NOMINAL ARMOUR STRIP	MINIMUM OUTER SHEATH THICKNESS	APPROX. OVERALL DIA OF CABLE $\pm 2$ MM	APPROX. WEIGHT OF CABLE		MAX. CONDUCTOR DC RESISTANCE at 20° C		NOMINAL CURRENT RATING ALUMINIUM CONDUCTOR		NOMINAL CURRENT RATING COPPER CONDUCTOR	
						A2XFY	2XFY	ALUMINIUM	COPPER	GROUND	AIR	GROUND	AIR
mm <sup>2</sup>	mm	mm	mm	mm	mm	Kg/Km		Ohm/Km		AMPS			
2C X 25	0.90	0.30	4 X 0.80	1.40	18.00	610	915	1.200	0.727	96	100	125	130
2C X 35	0.90	0.30	4 X 0.80	1.40	19.50	700	1050	0.868	0.524	118	120	150	160
2C X 50	1.00	0.30	4 X 0.80	1.40	21.50	830	1440	0.641	0.387	145	146	175	195
2C X 70	1.10	0.30	4 X 0.80	1.56	24.50	1060	1910	0.443	0.268	174	180	215	240
2C X 95	1.10	0.40	4 X 0.80	1.56	27.00	1310	2480	0.320	0.193	210	230	260	300
2C X 120	1.20	0.40	4 X 0.80	1.56	29.50	1510	2950	0.253	0.153	235	260	290	335
2C X 150	1.40	0.40	4 X 0.80	1.72	32.00	1760	3610	0.206	0.124	265	305	325	385
2C X 185	1.60	0.50	4 X 0.80	1.72	35.00	2210	4400	0.164	0.0991	300	345	365	445
2C X 240	1.70	0.50	4 X 0.80	1.88	39.50	2610	5500	0.125	0.0754	340	410	416	518
2C X 300	1.80	0.60	4 X 0.80	2.04	43.00	3150	6700	0.100	0.0601	385	475	470	600
2C X 400	2.00	0.60	4 X 0.80	2.36	49.00	4000	8600	0.0778	0.0470	450	550	530	680

NOTE : 1. THE ABOVE DATA IS APPROXIMATE & SUBJECT TO MANUFACTURING TOLERANCE, 2. DELIVERY LENGTH TOLERANCE +/- 5 %.

**TABLE - 06**  
**TECHNICAL DETAILS FOR JOHNSON CABLES 1.1 KV**

**2 CORE ALUMINIUM/COPPER CONDUCTOR XLPE INSULATED ARMoured CABLES**

Ref Specification : IS 7098 Part-1  
CABLE CODE : A2XWY / 2XWY

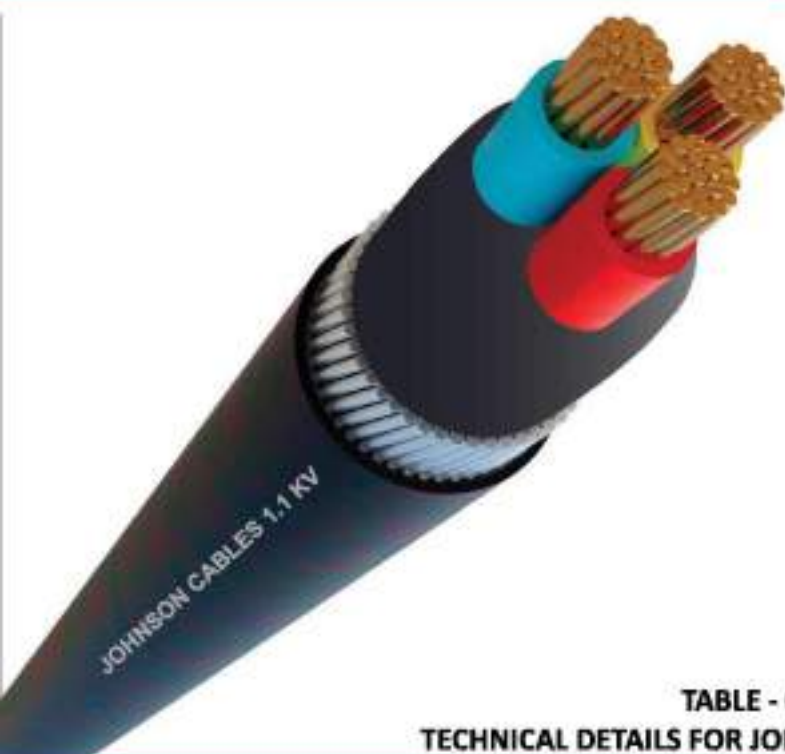
**Technical Data**

SIZE	NOMINAL INSULATION THICKNESS	MINIMUM INNER SHEATH THICKNESS	NOMINAL ARMOUR WIRE	MINIMUM OUTER SHEATH THICKNESS	APPROX. OVERALL DIA OF CABLE $\pm 2$ MM	APPROX. WEIGHT OF CABLE		MAX. CONDUCTOR DC RESISTANCE at 20° C		NOMINAL CURRENT RATING ALUMINIUM CONDUCTOR		NOMINAL CURRENT RATING COPPER CONDUCTOR	
						A2XWY	2XWY	ALUMINIUM	COPPER	GROUND	AIR	GROUND	AIR
mm <sup>2</sup>	mm	mm	mm	mm	mm	Kg/Km		Ohm/Km		AMPS			
2C X 4	0.70	0.30	1.40	1.24	14.00	400	480	7.410	4.610	36	32	45	40
2C X 6	0.70	0.30	1.40	1.24	15.00	470	560	4.610	3.080	45	42	57	52
2C X 10	0.70	0.30	1.40	1.24	16.00	570	710	3.080	1.830	60	56	75	69
2C X 16	0.70	0.30	1.40	1.40	16.00	590	780	1.910	1.150	80	72	96	87

NOTE : 1. THE ABOVE DATA IS APPROXIMATE & SUBJECT TO MANUFACTURING TOLERANCE, 2. DELIVERY LENGTH TOLERANCE +/- 5 %.



## 3 CORE CABLES



**TABLE - 07**  
**TECHNICAL DETAILS FOR JOHNSON CABLES 1.1 KV**

### 3 CORE ALUMINIUM/COPPER CONDUCTOR XLPE INSULATED UNARMoured CABLES

Ref Specification : IS 7098 Part-1  
CABLE CODE : A2XY - 2XY

#### Technical Data

SIZE	NOMINAL INSULATION THICKNESS	MINIMUM INNER SHEATH THICKNESS	MINIMUM OUTER SHEATH THICKNESS	APPROX. OVERALL DIA OF CABLE $\pm 2$ MM	APPROX. WEIGHT OF CABLE		MAX. CONDUCTOR DC RESISTANCE at 20° C		NOMINAL CURRENT RATING ALUMINIUM CONDUCTOR		NOMINAL CURRENT RATING COPPER CONDUCTOR	
					A2XY	2XY	ALUMINIUM	COPPER	GROUND	AIR	GROUND	AIR
mm <sup>2</sup>	mm	mm	mm	mm	Kg/Km		Ohm/Km		AMPS			
3C X 4	0.70	0.30	1.80	13.00	200	270	7.41	4.61	35	31	44	39
3C X 6	0.70	0.30	1.80	14.00	240	350	4.61	3.08	44	41	55	50
3C X 10	0.70	0.30	1.80	15.50	300	490	3.08	1.83	58	53	74	68
3C X 16	0.70	0.30	1.80	16.50	340	590	1.91	1.15	75	70	95	86
3C X 25	0.90	0.30	2.00	19.50	480	920	1.200	0.727	96	93	121	119
3C X 35	0.90	0.30	2.00	21.50	580	1230	0.868	0.524	116	116	146	147
3C X 50	1.00	0.30	2.00	24.00	760	1690	0.641	0.387	140	140	171	178
3C X 70	1.10	0.30	2.20	28.00	1020	2290	0.443	0.268	171	175	211	225
3C X 95	1.10	0.40	2.20	31.00	1250	3020	0.320	0.193	201	217	251	278
3C X 120	1.20	0.40	2.20	33.50	1520	3780	0.253	0.153	226	250	286	318
3C X 150	1.40	0.40	2.40	37.50	1920	4700	0.206	0.124	256	285	316	364
3C X 185	1.60	0.50	2.60	41.50	2390	5770	0.164	0.0991	286	330	356	421
3C X 240	1.70	0.50	2.80	46.50	3000	7400	0.125	0.0754	327	393	411	500
3C X 300	1.80	0.60	3.00	51.50	3750	9200	0.100	0.0601	371	453	461	572
3C X 400	2.00	0.60	3.20	58.00	4770	11600	0.0778	0.0470	429	529	521	660

NOTE : 1. THE ABOVE DATA IS APPROXIMATE & SUBJECT TO MANUFACTURING TOLERANCE, 2. DELIVERY LENGTH TOLERANCE +/- 5 %.

**TABLE - 08**  
**TECHNICAL DETAILS FOR JOHNSON CABLES 1.1 KV**

### 3 CORE ALUMINIUM/COPPER CONDUCTOR XLPE INSULATED ARMoured CABLES

Ref Specification : IS 7098 Part-1  
CABLE CODE : A2XFY / 2XFY

#### Technical Data

SIZE	NOMINAL INSULATION THICKNESS	MINIMUM INNER SHEATH THICKNESS	NOMINAL ARMOUR STRIP	MINIMUM OUTER SHEATH THICKNESS	APPROX. OVERALL DIA OF CABLE ± 2 MM	APPROX. WEIGHT OF CABLE		MAX. CONDUCTOR DC RESISTANCE at 20° C		NOMINAL CURRENT RATING ALUMINIUM CONDUCTOR		NOMINAL CURRENT RATING COPPER CONDUCTOR	
						A2XFY	2XFY	ALUMINIUM	COPPER	GROUND	AIR	GROUND	AIR
mm <sup>2</sup>	mm	mm	mm	mm	mm	Kg/Km		Ohm/Km		AMPS			
3c x 10	0.70	0.30	4 x 0.80	1.24	17.00	500	670	3.08	1.830	58	53	74	68
3C X 16	0.70	0.30	4 X 0.80	1.24	17.00	540	850	1.910	1.150	75	70	95	86
3C X 25	0.90	0.30	4 X 0.80	1.40	20.00	770	1150	1.200	0.727	96	93	121	119
3C X 35	0.90	0.30	4 X 0.80	1.40	21.50	900	1450	0.868	0.524	116	116	146	147
3C X 50	1.00	0.30	4 X 0.80	1.40	24.50	1100	1850	0.641	0.387	140	140	171	178
3C X 70	1.10	0.30	4 X 0.80	1.56	29.00	1430	2550	0.443	0.268	171	175	211	225
3C X 95	1.10	0.40	4 X 0.80	1.56	31.00	1740	3300	0.320	0.193	201	217	251	278
3C X 120	1.20	0.40	4 X 0.80	1.56	33.50	2060	4000	0.253	0.153	226	250	286	318
3C X 150	1.40	0.40	4 X 0.80	1.72	37.50	2350	5000	0.206	0.124	256	285	316	364
3C X 185	1.60	0.50	4 X 0.80	1.88	42.00	2850	6000	0.164	0.0991	286	330	356	421
3C X 240	1.70	0.50	4 X 0.80	2.04	46.50	3600	7700	0.125	0.0754	327	393	411	500
3C X 300	1.80	0.60	4 X 0.80	2.20	51.50	4400	9450	0.100	0.0601	371	453	461	572
3C X 400	2.00	0.60	4 X 0.80	2.36	58.00	5500	12200	0.0778	0.0470	429	529	521	660

NOTE : 1. THE ABOVE DATA IS APPROXIMATE & SUBJECT TO MANUFACTURING TOLERANCE, 2. DELIVERY LENGTH TOLERANCE +/- 5 %.

**TABLE - 09**  
**TECHNICAL DETAILS FOR JOHNSON CABLES 1.1 KV**

### 3 CORE ALUMINIUM/COPPER CONDUCTOR XLPE INSULATED ARMoured CABLES

Ref Specification : IS 7098 Part-1  
CABLE CODE : A2XWY / 2XWY

#### Technical Data

SIZE	NOMINAL INSULATION THICKNESS	MINIMUM INNER SHEATH THICKNESS	NOMINAL ARMOUR WIRE	MINIMUM OUTER SHEATH THICKNESS	APPROX. OVERALL DIA OF CABLE ± 2 MM	APPROX. WEIGHT OF CABLE		MAX. CONDUCTOR DC RESISTANCE at 20° C		NOMINAL CURRENT RATING ALUMINIUM CONDUCTOR		NOMINAL CURRENT RATING COPPER CONDUCTOR	
						A2XWY	2XWY	ALUMINIUM	COPPER	GROUND	AIR	GROUND	AIR
mm <sup>2</sup>	mm	mm	mm	mm	mm	Kg/Km		Ohm/Km		AMPS			
3C X 4	0.70	0.30	1.40	1.24	14.50	450	520	7.410	4.61	35	31	44	39
3C X 6	0.70	0.30	1.40	1.24	15.50	500	620	4.610	3.08	44	41	55	50

NOTE : 1. THE ABOVE DATA IS APPROXIMATE & SUBJECT TO MANUFACTURING TOLERANCE, 2. DELIVERY LENGTH TOLERANCE +/- 5 %.



## 3.5 CORE CABLES



**TABLE - 10**  
**TECHNICAL DETAILS FOR JOHNSON CABLES 1.1 KV**

### 3.5 CORE ALUMINIUM /COPPER CONDUCTOR XLPE INSULATED UNARMoured CABLES

Ref Specification : IS 7098 Part-1  
CABLE CODE : A2XY / 2XY

#### Technical Data

SIZE	NOMINAL INSULATION THICKNESS		MINIMUM INNER SHEATH THICKNESS	MINIMUM OUTER SHEATH THICKNESS	APPROX. OVERALL DIA OF CABLE $\pm 2$ MM	APPROX. WEIGHT OF CABLE		MAX. CONDUCTOR DC RESISTANCE at 20° C		NOMINAL CURRENT RATING ALUMINIUM CONDUCTOR		NOMINAL CURRENT RATING COPPER CONDUCTOR	
	MAIN	HALF				A2XY	2XY	ALUMINIUM	COPPER	GROUND	AIR	GROUND	AIR
mm <sup>2</sup>	mm	mm	mm	mm	mm	Kg/Km		Ohm/Km		AMPS			
3CX25+16	0.90	0.70	0.30	2.00	22.00	580	1120	1.200	0.727	96	93	121	119
3CX35+16	0.90	0.70	0.30	2.00	24.00	700	1400	0.868	0.524	116	116	146	147
3CX50+25	1.00	0.90	0.30	2.00	27.50	880	1880	0.641	0.387	140	140	171	178
3CX70+35	1.10	0.90	0.40	2.20	31.50	1200	2620	0.443	0.268	171	175	211	225
3CX95+50	1.10	1.00	0.40	2.20	35.00	1500	3490	0.320	0.193	201	217	251	278
3CX120+70	1.20	1.10	0.40	2.20	39.50	1800	4320	0.253	0.153	226	250	286	318
3CX150+70	1.40	1.10	0.50	2.40	43.00	2200	5230	0.206	0.124	256	285	316	364
3CX185+95	1.60	1.10	0.50	2.60	47.50	2750	6580	0.164	0.0991	286	330	356	421
3CX240+120	1.70	1.20	0.60	2.80	52.00	3500	8500	0.125	0.0754	327	393	411	500
3CX300+150	1.80	1.40	0.60	3.00	57.00	4250	10600	0.100	0.0601	371	453	461	572
3CX400+185	2.00	1.60	0.70	3.40	65.00	5450	13830	0.0778	0.0470	429	529	521	660

NOTE : 1. THE ABOVE DATA IS APPROXIMATE & SUBJECT TO MANUFACTURING TOLERANCE, 2. DELIVERY LENGTH TOLERANCE +/- 5 %.

**TABLE - 11**  
**TECHNICAL DETAILS FOR JOHNSON CABLES 1.1 KV**

**3.5 CORE ALUMINIUM /COPPER CONDUCTOR XLPE INSULATED ARMOURED CABLES**

Ref Specification : IS 7098 Part-1

CABLE CODE : A2XFY / 2XFY

**Technical Data**

SIZE	NOMINAL INSULATION THICKNESS		MINIMUM INNER SHEATH THICKNESS	NOMINAL ARMOUR STRIP	MINIMUM OUTER SHEATH THICKNESS	APPROX. OVERALL DIA OF CABLE $\pm 2$ MM	APPROX. WEIGHT OF CABLE		MAX. CONDUCTOR DC RESISTANCE at 20° C		NOMINAL CURRENT RATING ALUMINIUM CONDUCTOR		NOMINAL CURRENT RATING COPPER CONDUCTOR	
	MAIN	HALF					A2XFY	2XFY	ALUMINIUM	COPPER	GROUND	AIR	GROUND	AIR
mm <sup>2</sup>	mm	mm	mm	mm	mm	mm	Kg/Km		Ohm/Km		AMPS			
3C X 25+16	0.90	0.70	0.30	4 X 0.8	1.40	22.00	860	1410	1.200	0.727	96	93	121	119
3C X 35+16	0.90	0.70	0.30	4 X 0.8	1.40	24.00	980	1730	0.868	0.524	116	116	146	147
3C X 50+25	1.00	0.90	0.30	4 X 0.8	1.40	27.50	1240	2300	0.641	0.387	140	140	171	178
3C X 70+35	1.10	0.90	0.40	4 X 0.8	1.56	31.50	1600	3050	0.443	0.268	171	175	211	225
3C X 95+50	1.10	1.00	0.40	4 X 0.8	1.56	35.00	1900	3950	0.320	0.193	201	217	251	278
3CX120+70	1.20	1.10	0.40	4 X 0.8	1.72	39.50	2300	4960	0.253	0.153	226	250	286	318
3CX150+70	1.40	1.10	0.50	4 X 0.8	1.72	43.00	2700	5880	0.206	0.124	256	285	316	364
3CX185+95	1.60	1.10	0.50	4 X 0.8	1.88	47.50	3300	7290	0.164	0.0991	286	330	356	421
3CX240+120	1.70	1.20	0.60	4 X 0.8	2.04	52.50	4100	9300	0.125	0.0754	327	393	411	500
3CX300+150	1.80	1.40	0.60	4 X 0.8	2.20	57.50	4960	11400	0.100	0.0601	371	453	461	572
3CX400+185	2.00	1.60	0.70	4 X 0.8	2.52	66.00	6200	14400	0.0778	0.0470	429	529	521	660

NOTE : 1. THE ABOVE DATA IS APPROXIMATE & SUBJECT TO MANUFACTURING TOLERANCE, 2. DELIVERY LENGTH TOLERANCE +/- 5 %.



## 4 CORE CABLES



**TABLE - 12**  
**TECHNICAL DETAILS FOR JOHNSON CABLES 1.1 KV**

### 4 CORE ALUMINIUM /COPPER CONDUCTOR XLPE INSULATED UNARMoured CABLES

Ref Specification : IS 7098 Part-1  
CABLE CODE : A2XY - 2XY

#### Technical Data

SIZE	NOMINAL INSULATION THICKNESS	MINIMUM INNER SHEATH THICKNESS	MINIMUM OUTER SHEATH THICKNESS	APPROX. OVERALL DIA OF CABLE $\pm 2$ MM	APPROX. WEIGHT OF CABLE		MAX. CONDUCTOR DC RESISTANCE at 20° C		NOMINAL CURRENT RATING ALUMINIUM CONDUCTOR		NOMINAL CURRENT RATING COPPER CONDUCTOR	
					A2XY	2XY	ALUMINIUM	COPPER	GROUND	AIR	GROUND	AIR
mm <sup>2</sup>	mm	mm	mm	mm	Kg/Km		Ohm/Km		AMPS			
4C X 4	0.70	0.30	1.80	14.00	230	350	7.410	4.61	35	31	44	39
4C X 6	0.70	0.30	1.80	15.00	290	440	4.610	3.08	44	41	55	50
4C X 10	0.70	0.30	1.80	17.00	370	640	3.080	1.83	58	53	74	68
4C X 16	0.70	0.30	1.80	19.00	460	800	1.910	1.15	75	70	95	86
4C X 25	0.90	0.30	2.00	23.00	600	1200	1.200	0.727	96	93	121	119
4C X 35	0.90	0.30	2.00	25.50	750	1600	0.868	0.524	116	116	146	147
4C X 50	1.00	0.30	2.00	29.50	980	2150	0.641	0.387	140	140	171	178
4C X 70	1.10	0.40	2.20	33.50	1300	2900	0.443	0.268	171	175	211	225
4C X 95	1.10	0.40	2.20	37.50	1700	3900	0.320	0.193	201	217	251	278
4C X 120	1.20	0.50	2.40	41.50	2150	4850	0.253	0.153	226	250	286	318
4C X 150	1.40	0.50	2.60	46.00	2600	6000	0.206	0.124	256	285	316	364
4C X 185	1.60	0.50	2.80	50.00	3200	7450	0.164	0.0991	286	330	356	421
4C X 240	1.70	0.60	3.00	56.00	4000	9650	0.125	0.0754	327	393	411	500
4C X 300	1.80	0.70	3.20	62.00	5000	12050	0.100	0.0601	371	452	461	572

NOTE : 1. THE ABOVE DATA IS APPROXIMATE & SUBJECT TO MANUFACTURING TOLERANCE, 2. DELIVERY LENGTH TOLERANCE +/- 5 %.

**TABLE - 13**  
**TECHNICAL DETAILS FOR JOHNSON CABLES 1.1 KV**

**4 CORE ALUMINIUM/COPPER CONDUCTOR XLPE INSULATED ARMOURED CABLES**

Ref Specification : IS 7098 Part-1  
CABLE CODE : A2XFY / 2XFY

**Technical Data**

SIZE	NOMINAL INSULATION THICKNESS	MINIMUM INNER SHEATH THICKNESS	NOMINAL ARMOUR STRIP	MINIMUM OUTER SHEATH THICKNESS	APPROX. OVERALL DIA OF CABLE $\pm 2$ MM	APPROX. WEIGHT OF CABLE		MAX. CONDUCTOR DC RESISTANCE at 20° C		NOMINAL CURRENT RATING ALUMINIUM CONDUCTOR		NOMINAL CURRENT RATING COPPER CONDUCTOR	
						A2XFY	2XFY	ALUMINIUM	COPPER	GROUND	AIR	GROUND	AIR
mm <sup>2</sup>	mm	mm	mm	mm	mm	Kg/Km		Ohm/Km		AMPS			
4C X 10	0.70	0.30	4 X 0.80	1.40	18.50	550	780	3.080	1.830	58	53	74	68
4C X 16	0.70	0.30	4 X 0.80	1.40	20.00	720	1050	1.910	1.150	75	70	95	86
4C X 25	0.90	0.30	4 X 0.80	1.40	23.50	950	1550	1.200	0.727	96	93	121	119
4C X 35	0.90	0.30	4 X 0.80	1.40	25.50	1050	1950	0.868	0.524	116	116	146	147
4C X 50	1.00	0.30	4 X 0.80	1.56	29.50	1350	2550	0.641	0.387	140	140	171	178
4C X 70	1.10	0.40	4 X 0.80	1.56	33.50	1700	3350	0.443	0.268	171	175	211	225
4C X 95	1.10	0.40	4 X 0.80	1.56	37.50	2100	4450	0.320	0.193	201	217	251	278
4C X 120	1.20	0.50	4 X 0.80	1.72	41.50	2600	5500	0.253	0.153	226	250	286	318
4C X 150	1.40	0.50	4 X 0.80	1.88	46.00	3000	6700	0.206	0.124	256	285	316	364
4C X 185	1.60	0.50	4 X 0.80	2.04	51.00	3700	8200	0.164	0.0991	286	330	356	421
4C X 240	1.70	0.60	4 X 0.80	2.20	57.00	4700	10300	0.125	0.0754	327	393	411	500
4C X 300	1.80	0.70	4 X 0.80	2.36	63.00	5660	12800	0.100	0.0601	371	452	461	572

NOTE : 1. THE ABOVE DATA IS APPROXIMATE & SUBJECT TO MANUFACTURING TOLERANCE, 2. DELIVERY LENGTH TOLERANCE +/- 5 %.

**TABLE - 14**  
**TECHNICAL DETAILS FOR JOHNSON CABLES 1.1 KV**

**4 CORE ALUMINIUM/COPPER CONDUCTOR XLPE INSULATED ARMOURED CABLES**

Ref Specification : IS 7098 Part-1  
CABLE CODE : A2XWY / 2XWY

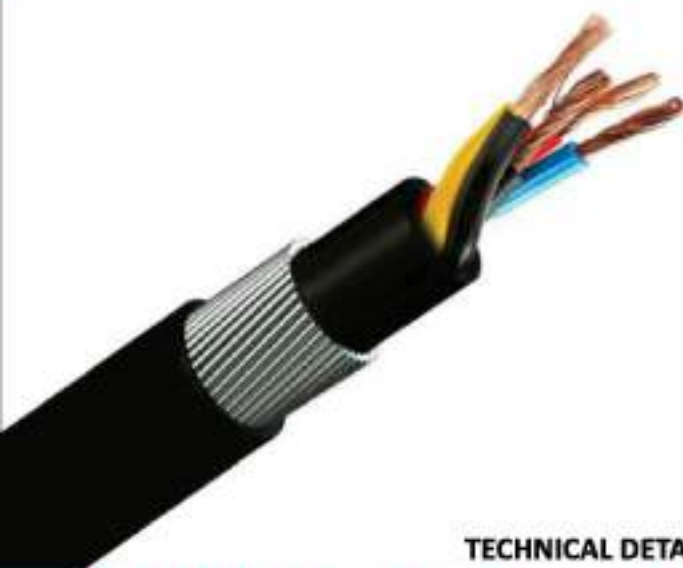
**Technical Data**

SIZE	NOMINAL INSULATION THICKNESS	MINIMUM INNER SHEATH THICKNESS	NOMINAL ARMOUR WIRE	MINIMUM OUTER SHEATH THICKNESS	APPROX. OVERALL DIA OF CABLE $\pm 2$ MM	APPROX. WEIGHT OF CABLE		MAX. CONDUCTOR DC RESISTANCE at 20° C		NOMINAL CURRENT RATING ALUMINIUM CONDUCTOR		NOMINAL CURRENT RATING COPPER CONDUCTOR	
						A2XWY	2XWY	ALUMINIUM	COPPER	GROUND	AIR	GROUND	AIR
mm <sup>2</sup>	mm	mm	mm	mm	mm	Kg/Km		Ohm/Km		AMPS			
4C X 4	0.70	0.30	1.40	1.24	15.50	510	590	7.410	4.61	35	31	44	39
4C X 6	0.70	0.30	1.40	1.24	16.50	590	730	4.610	3.08	44	41	55	50

NOTE : 1. THE ABOVE DATA IS APPROXIMATE & SUBJECT TO MANUFACTURING TOLERANCE, 2. DELIVERY LENGTH TOLERANCE +/- 5 %.



## MULTI CORE CONTROL CABLES



**TABLE - 15**  
**TECHNICAL DETAILS FOR JOHNSON CABLES 1.1 KV**

### 1.5 SQ MM COPPER CONDUCTOR XLPE INSULATED UN.ARMoured CONTROL CABLES

Ref Specification : IS 7098 Part-1  
CABLE CODE : 2XY

**Technical Data**

SIZE	NOMINAL INSULATION THICKNESS	MINIMUM INNER SHEATH THICKNESS	MINIMUM OUTER SHEATH THICKNESS	APPROX. OVERALL DIA OF CABLE ± 2 MM	APPROX. WEIGHT OF CABLE	MAX. CONDUCTOR DC RESISTANCE at 20° C (COPPER)	NOMINAL CURRENT RATING COPPER CONDUCTOR	
							GROUND	AIR
mm <sup>2</sup>	mm	mm	mm	mm	Kg/Km	Ohm/Km	AMPS	
2 C X 1.5	0.70	0.30	1.80	10.40	140	12.10	32	27
3 C X 1.5	0.70	0.30	1.80	11.00	170	12.10	25	22
4 C X 1.5	0.70	0.30	1.80	11.70	200	12.10	25	22
5 C X 1.5	0.70	0.30	1.80	12.90	230	12.10	24	21

NOTE : 1. THE ABOVE DATA IS APPROXIMATE & SUBJECT TO MANUFACTURING TOLERANCE, 2. DELIVERY LENGTH TOLERANCE +/- 5 %

**TABLE - 16**  
**TECHNICAL DETAILS FOR JOHNSON CABLES 1.1 KV**

### 1.5 SQ MM COPPER CONDUCTOR XLPE INSULATED ARMoured CONTROL CABLES

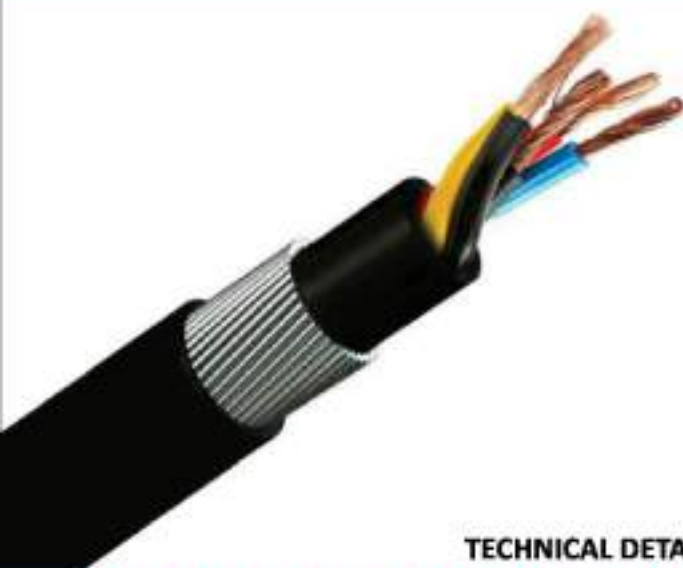
Ref Specification : IS 7098 Part-1  
CABLE CODE : 2XWY

**Technical Data**

SIZE	NOMINAL INSULATION THICKNESS	MINIMUM INNER SHEATH THICKNESS	NOMINAL ARMOUR WIRE	MINIMUM OUTER SHEATH THICKNESS	APPROX. OVERALL DIA OF CABLE ± 2 MM	APPROX. WEIGHT OF CABLE	MAX. CONDUCTOR DC RESISTANCE at 20° C (COPPER)	NOMINAL CURRENT RATING COPPER CONDUCTOR	
								GROUND	AIR
mm <sup>2</sup>	mm	mm	mm	mm	mm	Kg/Km	Ohm/Km	AMPS	
2 C X 1.5	0.70	0.30	1.40	1.24	12.30	340	12.10	32	27
3 C X 1.5	0.70	0.30	1.40	1.24	12.80	390	12.10	25	22
4 C X 1.5	0.70	0.30	1.40	1.24	13.40	415	12.10	25	22
5 C X 1.5	0.70	0.30	1.40	1.24	14.60	470	12.10	24	21

NOTE : 1. THE ABOVE DATA IS APPROXIMATE & SUBJECT TO MANUFACTURING TOLERANCE, 2. DELIVERY LENGTH TOLERANCE +/- 5 %

## MULTI CORE CONTROL CABLES



**TABLE - 17**  
**TECHNICAL DETAILS FOR JOHNSON CABLES 1.1 KV**

### 2.5 SQ MM COPPER CONDUCTOR XLPE INSULATED UN.ARMoured CONTROL CABLES

Ref Specification : IS 7098 Part-1  
CABLE CODE : 2XY

**Technical Data**

SIZE	NOMINAL INSULATION THICKNESS	MINIMUM INNER SHEATH THICKNESS	MINIMUM OUTER SHEATH THICKNESS	APPROX. OVERALL DIA OF CABLE	APPROX. WEIGHT OF CABLE	MAX. CONDUCTOR DC RESISTANCE at 20° C (COPPER)	NOMINAL CURRENT RATING COPPER CONDUCTOR	
							GROUND	AIR
mm <sup>2</sup>	mm	mm	mm	mm	Kg/Km	Ohm/Km	AMPS	
2 C X 2.5	0.70	0.30	1.80	11.30	185	7.41	39	32
3 C X 2.5	0.70	0.30	1.80	11.80	230	7.41	34	30
4 C X 2.5	0.70	0.30	1.80	12.80	260	7.41	34	30
5 C X 2.5	0.7	0.30	1.80	14.00	300	7.41	32	29

NOTE : 1. THE ABOVE DATA IS APPROXIMATE & SUBJECT TO MANUFACTURING TOLERANCE, 2. DELIVERY LENGTH TOLERANCE +/- 5 %.

**TABLE - 18**  
**TECHNICAL DETAILS FOR JOHNSON CABLES 1.1 KV**

### 2.5 SQ MM COPPER CONDUCTOR XLPE INSULATED ARMoured CONTROL CABLES

Ref Specification : IS 7098 Part-1  
CABLE CODE : 2XWY

**Technical Data**

SIZE	NOMINAL INSULATION THICKNESS	MINIMUM INNER SHEATH THICKNESS	NOMINAL ARMOUR WIRE	MINIMUM OUTER SHEATH THICKNESS	APPROX. OVERALL DIA OF CABLE	APPROX. WEIGHT OF CABLE	MAX. CONDUCTOR DC RESISTANCE at 20° C (COPPER)	NOMINAL CURRENT RATING COPPER CONDUCTOR	
								GROUND	AIR
mm <sup>2</sup>	mm	mm	mm	mm	mm	Kg/Km	Ohm/Km	AMPS	
2 C X 2.5	0.70	0.30	1.40	1.24	13.00	380	7.41	39	32
3 C X 2.5	0.70	0.30	1.40	1.24	13.80	430	7.41	34	30
4 C X 2.5	0.70	0.30	1.40	1.24	14.50	500	7.41	34	30
5 C X 2.5	0.70	0.30	1.40	1.24	15.80	530	7.41	32	29

NOTE : 1. THE ABOVE DATA IS APPROXIMATE & SUBJECT TO MANUFACTURING TOLERANCE, 2. DELIVERY LENGTH TOLERANCE +/- 5 %.







Reliable Quality  
Strong Performance



### PRODUCT RANGE

- PVC Insulated House Wire-FR/FRLSH/ZHFR
- 3-Core Submersible PVC/XLPE/Rubber Flat Cables
- Solar DC Cables
- Solar Earthing Cables
- Single Core Industrial Cables
- Multi-Core Flexible Cables
- XLPE Insulated Un Armoured Cables
- Rubber Flat & Rubber Round (H07RN-F) Cables
- LT Power & Control Cables (IS 7098-P-1)
- Welding Cables
- Winding Cables
- VIR Cables
- E-Beam Cables

**JOHNSON CAB ELECTRICALS PVT. LTD.**

Unit : JOHNSON CABLES

Survey No. 930, At-Linch,  
Mehsana-Ahmedabad Highway,  
Jagudan, Ta. & Dist. Mehsana-382710, Gujarat, INDIA

[www.johnsoncables.com](http://www.johnsoncables.com)

[sales@johnsoncables.com](mailto:sales@johnsoncables.com), [solar@johnsoncables.com](mailto:solar@johnsoncables.com)