HEAT RESISTANT ECO-FRIENDLY CABLES

PVC Insulated Industrial Grade Cable Catalogue 2015

Life Line Plus S3 Complete Safety | life guard | Life Shield

QRG GROUP

HAVELLS

HR with S³ (Higher Load with complete safety)

The Introduction of Havells HRFR insulation with advanced S³ technology, now offers higher current carrying capacity and heat resistant properties suitable for operation at high temperatures. Our commitment towards environment friendly nature with features as High insulation resistance, RoHS compliance, anti-termite and anti-rodent features makes it the ideal Wire.

Life Line Plus S3 Complete Safety

About HR

Current carrying capacity of a wire is defined as how much load a conductor can carry (In amperage). When the current flows through the conductor a certain level of heat generates which can further increase up to the melting temperature of the insulation or insulating material.

Havells wires offer insulation with **(HR)** Heat resistant along with Flame Retardant properties which are suitable to bear a temperature **up to 85˚C** whereas ordinary PVC is suitable only up to 70˚C and due to this feature HAVELLS Wires are capable to **carry Higher current and ensures better electrical and mechanical performance at higher temperatures.**

About S³

This advanced S³ technology safeguard us and environment from harmful substances such as lead, mercury, cadmium and chromium, Havells Wires with S3 technology reduces current leakage to protect from any serious damage and installations in the house. Another benefit of S³ is that Havells Wires comes with termite and rodent repulsion properties to protect insulation from the damage which can be caused by rodents & termites, which can lead to a short circuit and can harm to property and human life.

HIGH INSULATION RESISTANCE

In all cables, there is generally leakage of current from the live conductor through the insulation. In case of inferior quality of insulation, the current leakage increases. This is unsafe and can cause damage to installations as well as become a threat to life.

Low Leakage Current – Havells wires have an allowable current-leakage limit that is 50 times lower than the prescribed international safety norms.

International safety standards specifies that current leakage limit in hand held equipment is considered to be safe if the value is not more than 0.75 mA. Havells cables, with S^3 technology, incorporate insulation of high quality which ensures that current leakage level is as low as 0.01 mA, which is much below the prescribed limit. Havells cables have been certified by the Central Power and Research Institute (CPRI) - a premier laboratory recognised by the Government of India.

Nominal area of conductor	Leakage current (m Amps)
0.50	0.008
0.75	0.009
1.00	0.009
1.50	0.010
2.50	0.011
4.00	0.013
6.00	0.015

Safety from electrical shocks – Electric shock occurs when a body-part comes in contact with a bare conductor of poor insulated wire. Higher insulation resistance protects against electric shock.

RoHS COMPLIANT

Release of certain harmful substances such as lead, mercury, cadmium and chromium etc. in the plastics/equipment are dangerous to the environment and health. European Union has adopted a directive on the restriction of the use of certain hazardous substances in electrical and electronics equipment commonly referred to as Restriction of Hazardous Substances directive or RoHS.

Havells cables with S^3 technology are certified by Bureau Veritas for RoHS compliance as per directive 2006/95/EC. This ensures that release of hazardous substances are eliminated to provide safety for human health and to give us green environment.

An initiative for eco friendly environment by Havells.

ANTI TERMITE AND ANTI RODENT

Termites and rodents cause extensive damage to paper, wood, plastic etc. In case of electrical installation, damaged caused by above pests may lead to short circuit which can become a cause for a major disaster, loss of property and human life. Havells cables with S^3 technology provide insulation with termite and rodent repulsion properties. Certification regarding the above has been obtained from the Central Power and Research Institute (CPRI).

BEST COPPER USED

Havells wire use ETP grade annealed copper which is more than 99.95% pure and therefor ensures 101% conductivity (IACS).

ANNEALED COPPER ETP GRADE
101% CONDUCTIVITY (IACS) USED

Single Core HRFR PVC Insulated Industrial Grade Copper Conductor (Unsheathed) Flexible Cables, 1100 Volts

Basic Code	Nominal Cross Sectional area of conductor	Number/ Nom. Dia of cond. strands*	Thickness of Insulation (Nom)	Approx. overall Diameter	Current Carrying Capacity 2 Cables Single Phase		Max. Conductor Resistance per KM at 20°C
					Conduit / Trunking	Unenclosed clipped directly to a surface or on cable trays	
Life Line Plus (HRFR)	sq. mm.	mm	mm	mm	Amps	Amps	Ohms
WHFFDN...A1X50	0.5	16/0.2	0.6	2.1	4	4	39.00
WHFFDN...A1X75	0.75	24/0.2	0.6	2.3	8	8	26.00
WHFFDN...A11X0	1.0**	14/0.3	0.7	2.7	12	13	18.10
WHFFDN...A11X5	1.5**	22/0.3	0.7	3.0	14	18	12.10
WHFFDN...A12X5	2.5**	36/0.3	0.8	3.6	20	24	7.41
WHFFDN...A14X0	4.0	56/0.3	0.8	4.1	26	32	4.95
WHFFDN...A16X0	6.0	84/0.3	0.8	4.6	34	41	3.30

...Fill the colour code i.e. B = Blue B

Note: Available in 90 metres length in carton packaging & 180 metres project lengths in poly bag packaging.
**Conductor Shall be class-II for 1.0, 1.5 & 2.5 Sqmm & for other size shall be of class V as per IS:8130.
*The number and diameter of conductor strands are for reference only. Conductor resistance as per IS:8130 is the governing criteria.

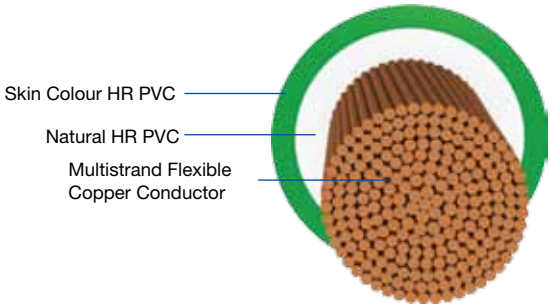
Construction :-

Conductor : Plain annealed copper conductor as per IS:8130

Insulation : Primary - Natural HR PVC with FR property
Secondary - Skin colour coated HR PVC with FR property

Colour : Red/Yellow/Blue/Black/Green

Any other colour on specific request can also be supplied.



Single Core FRLS PVC/HFFR Insulated Industrial Grade Copper Conductor (Unsheathed) Flexible Cables, 1100 Volts

Basic Code		Nominal Cross Sectional area of conductor	Number/Nom. Dia of cond. strands*	Thickness of Insulation (Nom)	Approx. overall Diameter	Current Carrying Capacity 2 Cables Single Phase		Max. Conductor Resistance per KM at 20°C
						Conduit/ Trunking	Unenclosed clipped directly to a surface or on cable trays	
Life Guard (FR-LSH)	Life Shield (HFFR)	sq. mm.	mm	mm	mm	Amps	Amps	Ohms
WHFFFN...A11X0	WHFFZN...A11X0	1.0**	14/0.3	0.7	2.7	11	12	18.10
WHFFFN...A11X5	WHFFZN...A11X5	1.5**	22/0.3	0.7	3.0	13	16	12.10
WHFFFN...A12X5	WHFFZN...A12X5	2.5**	36/0.3	0.8	3.6	18	22	7.41
WHFFFN...A14X0	WHFFZN...A14X0	4.0	56/0.3	0.8	4.1	24	29	4.95
WHFFFN...A16X0	WHFFZN...A16X0	6.0	84/0.3	0.8	4.6	31	37	3.30

Construction :-

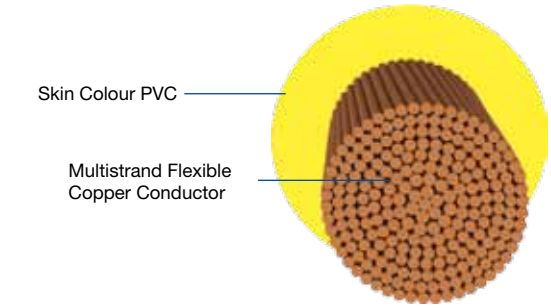
Conductor : Plain annealed copper conductor as per IS:8130

Insulation : Unicolour FRLSH PVC with two longitudinal line"

Insulation : Unicolour polymaric compound with HFFR property

Colour : Red/Yellow/Blue/Black/Green

Any other colour on specific request can also be supplied.



Single Core FR PVC Insulated Industrial Grade Copper Conductor (Unsheathed) Flexible Cables, 1100 Volts

Basic Code	Nominal Cross Sectional area of conductor	Number/ Nom. Dia of cond. strands*	Thickness of Insulation (Nom)	Approx. Overall Diameter	Current Carrying Capacity 2 Cables Single Phase Unenclosed Clipped directly to a surface or on cable trays	Max. Conductor Resistance per KM at 20°C
	sq. mm.	mm	mm	mm	Amps	Ohms
WHFFDN...B1010	10	80/0.4	1.0	6.1	46	1.91
WHFFDN...B1016	16	126/0.4	1.0	7.0	62	1.21
WHFFDN...B1025	25	196/0.4	1.2	8.6	80	0.780
WHFFDN...B1035	35	276/0.4	1.2	9.7	102	0.554
WHFFDN...B1050	50	396/0.4	1.4	11.5	138	0.386
WHFFDN...B1070	70	360/0.5	1.4	13.0	214	0.272
WHFFDN...B1095	95	475/0.5	1.6	15.1	260	0.206
WHFFDN...B1120	120	608/0.5	1.6	16.6	305	0.161
WHFFDN...B1150	150	750/0.5	1.8	18.5	355	0.129
WHFFDN...B1185	185	925/0.5	2.0	20.4	415	0.106
WHFFDN...B1240	240	1221/0.5	2.2	23.2	500	0.0801
WHFFDN...B1300	300	1525/0.5	2.4	26.0	585	0.0641
WHFFDN...B1400	400	2013/0.5	2.6	30.0	695	0.0486
WHFFDN...B1500	500	2310/0.5	2.8	33.0	737	0.0384
WHFFDN...B1630	630	3090/0.5	2.8	38.0	825	0.0287

...Fill the colour code i.e. B = Blue B...

Note: Conductor as per class V of IS : 8130 confirming to IS : 694. 100 Mtr in polywrap packing & in bigger packing on request"

*The number and diameter of conductor strands are for reference only. Conductor resistance as per IS:8130 is the governing criteria.

Construction :-

Conductor : Plain annealed copper conductor as per IS:8130

Insulation : **Primary** - Natural PVC with FR property
Secondary - Skin colour coated PVC with FR property

Note : 25 sq. mm and above will be in unicolour FR PVC

Note : 70 sq. mm and above are available in wooden drums

Colour : Red/Yellow/Blue/Black/Green

Any other colour on specific request can also be supplied subject to economical run.

Note : Single core PVC insulated Stranded Copper Conductor available on request.