



**SPECIFICATION OF PVC INSULATED MULTICORE AND ARMOURED
COPPER CABLES WITH F.R.L.S. PROPERTIES
(GRADE 1100 VOLTS)**

1 GENERAL

Cable as per below table shall generally conform to our spec. BP 28575 Rev. 04 and IS 1554 Pt.1 (1988) with additional requirement of FLAME RETARDANT LOW SMOKE (FRLS) properties (by using special PVC compound), and each core having seven parallel conductors of Dia as under.

IT .NO	DESCRIPTION	COND. DIA.	STYLE NO.
1	2C X 4 mm ² FRLS CU CABLE	0.85 mm	JS 900627266
2	3C X 4 mm ² FRLS CU CABLE	0.85 mm	JS 900627267
3	4C X 4 mm ² FRLS CU CABLE	0.85 mm	JS 900627268
4	2C X 2.5 mm ² FRLS CU CABLE	0.65 mm	
5	3C X 2.5 mm ² FRLS CU CABLE	0.65 mm	
6	4C X 2.5 mm ² FRLS CU CABLE	0.65 mm	
7	12C X 1.5 mm ² FRLS CU CABLE	0.53 mm	JS 9006281920

2. TESTING

Following test shall be carried out on materials used and on finished cables

- Conductor : Conductor shall consist of annealed high conductivity copper wires with electrical & mechanical properties in accordance with IS 8130 (1984).
- Insulation & sheath material : All type and routine tests as per IS 5831 (1984).
- Finished cable : All type and routine tests as per BP 28575 Rev. 04 & IS 1554 Pt 1 (1988).
- in addition to above, tests as mentioned below shall be carried out to prove FRLS properties of the cable.

SPECAIL TESTS :

	TEST	FUNCTION OF TEST	SPECIFICATION	SPECIFIED VALUE
a)	Critical Oxygen Index	To determine percentage of Oxygen required for supporting combustion at room temperature of sheathing material.	ASTM-D 2863-1974	Oxygen Index Min 29
b)	Temp index	To determine at what temperature normal oxygen content of 21% in air will support combustion of sheathing	ASTM-D 2863-1974	Min Temperature index 250 °C

IN TABLE IT.NO 7
ADDED 21/12/18

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		material.		
c)	Smoke density	To determine visibility (light transmission) under fire of sheathing material.	ASTM-D 2843-1977	Min. average light transmission of 40%
d)	Acid gas generation	To ascertain the amount of Hydrochloric acid gas evolved from PVC sheath of cable under fire conditions.	IEC 754-1	Hydrochloric acid gas released max. 20%
e)	Flammability	To determine ignition resistance and flame propagation under specified conditions	1) Swedish std. No. SS 424-1475 class F3 2) IEC 332-1	From test sample of 850 mm length unburnt portion shall be more than 300mm from top. In the calculated time duration of burning the cable sample of 600 ± 25 mm length, the length unburnt portion to be min. 50mm from top.
f)	Fire resistance	To determine the fire resistance property of cable	IS 5831 IS 1554	In the time duration of 60 sec. of burning of cable sample of 600mm length, length of burnt portion to be max. of 200 mm.
g)	Anti termite & anti rodent properties of outer sheath	---	---	Content of Anti termite & anti rodent chemical i.e. copper rapthanate to be checked & reported in T.C.

Notes

- Supplier shall specifically confirm that cable offered shall meet the complete requirement of our specification.
- T.C.s for all type & routine tests shall be furnished.
- Cable shall be inspected / tested by BHEL or by its authorized agency at source.
- Dia. over inner & outer sheath and wt/ meter for each size of cable shall be furnished.

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