

3.4 **Flexible cords**

(1) Any flexible cord (including rubber or PVC-insulated, twin or 3-core flexible cord with conductor of nominal cross sectional area from 0.5 mm² to 2.5 mm²), whether it is supplied as a loose part or fitted to an electrical product, is classified as a prescribed product.

(2) Other types of flexible cord are not classified as prescribed products.

(3) **Specific Safety Requirements**

(A) **Marking and labelling**

(I) The nominal cross sectional area of the conductor and the relevant standard to which the flexible cord conforms, should be marked on the outer sheath of the flexible cord at appropriate intervals, except for a flexible cord fitted to an electrical product. The distance (as recommended in IEC standards 60227 & 60245) between the end of one complete set of marks and the beginning of the next should not exceed:

- 500 mm if the marking is on the sheath;
- 200 mm if the marking is on the insulation.

(II) For a braided flexible cord, except for that fitted to an electrical product, markings of the nominal cross sectional area of a conductor and the relevant standard to which the braided flexible cord conforms should be on the insulation of the conductor and underneath the textile braid.

(III) Each core of the conductor should be identified by the following colour:

Twin-core:	Brown for line, Blue for neutral
or	Red for line, Black for neutral
Three-core:	Brown for line, Blue for neutral, Yellow/green for earth.
or	Red for line, Black for neutral, Green for earth.

(IV) The distribution of the colours for the core coloured yellow/green should comply with the following condition: for every 15 mm length of core, one of these colour should cover at least 30% and not more than 70% of the surface of the core, the other colour should cover the remainder of the surface.

(B) **Cross sectional area**

The actual nominal cross sectional area of a conductor should not be

less than the nominal cross sectional area marked on the flexible cord.

(C) Conductor

The conductors for a flexible cord should be made of plain or metal-coated annealed copper, class 5 flexible conductor to IEC 60228.

(D) Tinsel conductor

A tinsel conductor should comprise a number of strands or groups of strands of copper or copper alloy wires. The wires in each conductor should all have the same nominal diameter. The diameter of a wire in the conductor should not exceed the maximum value given in IEC 60228.

(E) Conductivity

The conductor for a flexible cord should have good conductivity, the resistance of which should not exceed the maximum value given in IEC 60228.

(F) Insulation and sheath

The insulation and sheath of the flexible cord should be made of appropriate material such as PVC or rubber and the thickness of the insulation should not be less than the figures given in IEC 60227 and IEC 60245.

(I) Rubber-insulated Braided Cord

Type IE 1 (IEC 60245) rubber compound should be used for insulation and the insulation should consist of at least two layers unless it is applied by extrusion.

(II) Ordinary Polychloroprene or Equivalent Synthetic Elastomer Sheathed Cord/Heavy Polychloroprene or Equivalent Synthetic Elastomer Sheathed Rubber-insulated Cord

(a) Type IE 1 (IEC 60245) rubber compound should be used for insulation and the insulation should be applied around each conductor and it should consist of at least two layers unless it is applied by extrusion.

(b) Type SE 4 (IEC 60245) rubber compound should be used for sheath and the sheath should be applied around the cores. The sheath should be extruded in a single layer and applied in such a way that it fills the spaces between the cores. The sheath should be capable of being removed without damage to the cores.

(III) PVC-insulated (Tinsel Conductor) Flat Cord/PVC-insulated (Wire Conductor) Flat Non-sheathed Cord

- (a) The insulation should be polyvinyl chloride compound of type PVC/D (IEC 60227) applied around each conductor. The insulation resistance should not be less than the value given in IEC 60227.

(IV) Light PVC-insulated, PVC-sheathed Cord/Ordinary PVC-insulated, PVC-sheathed Cord

- (a) The insulation should be polyvinyl chloride compound of type PVC/D (IEC 60227) applied around each conductor. The insulation resistance should not be less than the value given in IEC 60227.

- (b) The sheath should be polyvinyl chloride compound of Type PVC/ST5 (IEC 60227) applied around the cores. The sheath may fill the spaces between the cores, thus forming a filling, but it should not adhere to the cores. The assembly of cores may be surrounded by a separator, which should not adhere to the cores. The assembly of circular cord should have a practically circular cross-section.