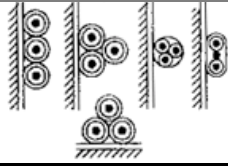
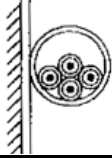
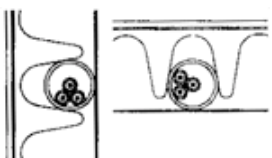
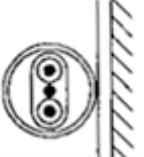

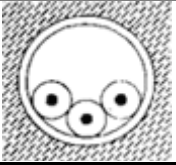

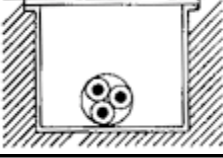

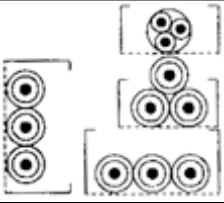
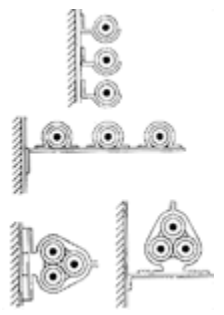
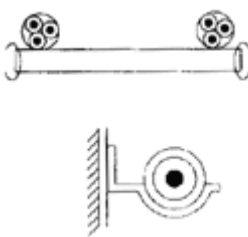
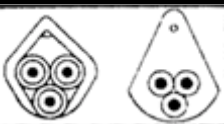
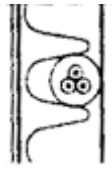
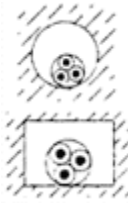

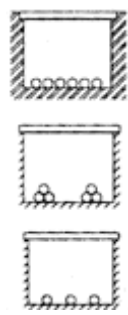
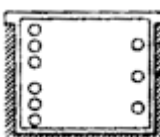
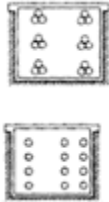


### APPENDIX 3 - Typical Methods of Installation of Cables

Installation Method		Example	Appropriate Reference Method for determining current carrying capacity
No.	Description		
1	2	3	4
Open and clipped direct:			
1	Sheathed cables clipped direct to or lying on a non-metallic surface.		Method 1
In conduit:			
3	Single-core non-sheathed cables in metallic or non-metallic conduit on a wall or ceiling		Method 3
4	Single-core non-sheathed cables in metallic or non-metallic conduit in a thermally insulating wall or above a thermally insulating ceiling, the conduit being in contact with a thermally conductive surface on one side.**		Method 4
5	Multicore cables having non-metallic sheath, in metallic or non-metallic conduit on a wall or ceiling.		Method 3
6	Sheathed cables in conduit in a thermally insulating wall etc (otherwise as Ref Method 4).		Method 4
7	Cables in conduit embedded in masonry, brickwork, concrete, plaster or the like (other than thermally insulating materials).		Method 3
In trunking:			
8	Cables in trunking on a wall or suspended in the air.		Method 3
9	Cables in flush floor trunking		Method 3
10	Single-core cables in skirting trunking		Method 3
On trays:			

Installation Method		Example	Appropriate Reference Method for determining current carrying capacity
No.	Description		
1	2	3	4
11	Sheathed cables on a perforated cable tray, bunched and unenclosed. A perforated cable tray is considered as a tray in which the holes occupy at least 30% of the surface area.		Method 11
In free air, on cleats, brackets or a ladder:			
12	<p>Sheathed single-core cables in free air (any supporting metal work under the cables occupying less than 10% of the plan area):</p> <p>2 or 3 cables vertically one above the other, minimum distance between cable surfaces equal to the overall cable diameter (<math>D_e</math>); distance from the wall not less than <math>0.5D_e</math></p> <p>2 or 3 cables horizontally, with spacing as above</p> <p>3 cables in trefoil, distance between wall and surface of nearest cable <math>0.5D_e</math> or nearest cables <math>0.75D_e</math></p>		Method 12
13	<p>Sheathed multicore cables on ladder or brackets, separation greater than <math>2D_e</math>.</p> <p>Sheathed multicore cables in free air distance between wall and cable surface not less than <math>0.3D_e</math></p> <p>Any supporting metalwork under the cables occupying less than 10% of the plan area.</p>		Method 13
14	Cable suspended from or incorporating a catenary's wire.		Method 12 or 13(as appropriate)
Cables in building voids:			
15	Sheathed cables installed directly in a thermally insulating wall or above a thermally insulating ceiling, the cable being in contact with a thermally conductive surface on one side (otherwise as Ref Method No 4).		Method 4

Installation Method		Example	Appropriate Reference Method for determining current carrying capacity	
No.	Description			
1	2	3	4	
16	Sheathed cables in ducts or voids formed by the building structure, other than thermally insulating materials.		<p>Method 4</p> <p>Where the cables has a diameter <math>D_e</math> and the duct has a diameter not greater than <math>5D_e</math> or a perimeter not greater than <math>20D_e</math></p> <p>Method 3</p> <p>Where the duct has either a diameter greater than <math>5D_e</math> or a perimeter greater than <math>20D_e</math></p> <p>Note 1 – Where the perimeter is greater than <math>60D_e</math>, installation Methods 18 or 20, as appropriate, should be used.</p> <p>Note 2 – <math>D_e</math> is the overall cable diameter. For groups of cable <math>D_e</math> is the sum of the cable diameters.</p>	
Cable in trenches:				
17	Cables supported on the wall of an open or ventilated trench, with spacing as indicated for Ref Method 12 or 13 as appropriate.		Method 12 or 13, as appropriate	
18	Cables in enclosed trench 450mm wide by 300mm deep (minimum dimensions) including 100mm cover.	2 single-core cables with surfaces separated by a minimum of one cable diameter; three single-core cables in trefoil and touching throughout. Multicore cables or groups of single-core cables with surfaces separated by a minimum of 50mm.		<p>Method 18</p> <p>Use rating factors in Table 6 of Appendix 1.</p>
19	Cables in enclosed trench 450mm wide by 600mm deep (minimum dimensions) including 100mm cover.	Single-core cables arranged in flat groups of two or three on the vertical trench wall with surfaces separated by one diameter with a minimum distance		<p>Method 19</p> <p>Use rating factors in Table 6 of Appendix 1.</p>

Installation Method		Example	Appropriate Reference Method for determining current carrying capacity
No.	Description		
1	2	3	4
20	<p>Cables in enclosed trench 600mm wide by 760mm deep (minimum dimensions) including 100mm cover.</p>	<p>of 50mm between groups. Multicore cables installed with surfaces separated by a minimum of 75mm. All cables spaced at least 25mm from the trench wall.</p> <p>Single-core cables arranged in groups of 2 or 3 in flat formation with the surfaces separated by one diameter or in trefoil formation with cables touching. Groups separated by a minimum of 50mm either horizontally or vertically. Multicore cables installed with surfaces separated by a minimum of 75mm either horizontally or vertically. All cables spaced at least 25mm from the trench wall.</p> 	<p>Method 20</p> <p>Use rating factors in Table 6 of Appendix 1.</p>