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HO7Z-R 6491B

Suitable for power & lighting circuits and building wiring. Also suitable for use as an earth wire.



Applications: Suitable for power & lighting circuits and building wiring. Also suitable for use as an earth wire.

Conductor: Plain annealed copper conductor

Conductor stranding: Class 2 stranded circular or circular compacted

Insulation: Thermosetting LSF (Low Smoke and Fume) insulation

Operating temperature: Maximum 90°C Minimum bending -15°C

Volts: 450/750 volts grade to BS7211

Minimum bending radius:

Diameter up to 10mm 3 x overall diameter

Diameter 10-25mm 4 x overall diameter

Diameter above 25mm 5 x overall diameter

Insulation Properties Low smoke and HCL maximum 0.5% in acc. BSEN50267-1 Common test methods for cables under fire conditions. Tests on gases evolved during combustion of materials from cables. Apparatus.

BSEN50267-2-1: Common test methods for cables under fire conditions. Tests on gases evolved during combustion of materials from cables. Procedures. Determination of the amount of halogen acid gases.

BSEN50266-1 Common test methods for cables under fire conditions. Test for vertical flame spread of vertically-mounted bunched wires or cables. Flame Propagation: Meets BS EN 60332-1-2:2004

Specification

6491B H07Z- R Low Smoke Cable 450/750V BS7211

Applications: Suitable for power & lighting circuits and building wiring. Also suitable for use as an earth wire.

Conductor: Plain annealed copper conductor

Conductor stranding: Class 2 stranded circular or circular compacted

Insulation: Thermosetting LSF (Low Smoke and Fume) insulation

Operating temperature: Maximum 90°C

Minimum bending- 15°C

Volts: 450/750 volts grade to BS7211

Minimum bending radius:

Diameter up to 10mm 3 x overall diameter

Diameter 10- 25mm 4 x overall diameter

Diameter above 25mm 5 x overall diameter

Insulation Properties:

Low smoke and HCL maximum 0.5% in acc. BSEN50267-1 Common test methods for cables under fire conditions. Tests on gases evolved during combustion of materials from cables. Apparatus.

BSEN50267-2-

1: Common test methods for cables under fire conditions. Tes

ts on gases evolved during combustion of materials from cables. Procedures. Determination of the amount of halogen acid gases.

BSEN50266-

1: Common test methods for cables under fire conditions. Test for vertical flame spread of vertically-mounted bunched wires or cables.

Flame Propagation: Meets BS EN 60332-1-2:2004

For current rating information, refer to Table 4E1A

Size sq mm	Max diameter over conductor mm	RT of insulation	Nominal overall diameter mm	Weight kg/km
1.5	1.59	0.7	3.0	21
2.5	2.01	0.8	3.7	34
4	2.55	0.8	4.2	51
6	3.12	0.8	4.8	71
10	4.05	1.0	6.1	120
16	5.10	1.0	7.1	180
25	6.42	1.2	8.9	285
35	7.65	1.2	10.1	380
50	8.90	1.4	11.8	510
70	10.70	1.4	13.6	715
95	12.60	1.6	15.9	990
120	14.21	1.6	17.5	1230
150	15.75	1.8	19.4	1510
185	17.64	2.0	21.7	1900
240	20.25	2.2	24.5	2490
300	22.68	2.4	27.5	3050
400	25.65	2.6	30.9	3900
500	28.80	2.8	34.5	4880
630	32.76	2.8	38.4	6210

PART NUMBER TABLE								
Conductor size mm								
Colour	1.5	2.5	4.0	6.0	10	16	25	35
Red	45000	45007	45014	45021	45027	45033	45039	45045
Black	45001	45008	45015	45022	45029	45034	45040	45049
Grn/Yellow	45002	45009	45016	45023	45029	45035	45041	45047
Blue	45004	45011	45018	45025	45031	45037	45043	45046
Yellow	45005	45012	45019	45026	45032	45038	45044	45050
Brown	45003	45010	45017	45024	45030	45036	45042	45417
White	45006	45013	45093	45182	-	-	-	-
Orange	45162	45163	45020	45164	45165	45166	-	-
Grey	45201	45323	45422	45423	45424	45425	45410	45411
Green	-	45119	-	-	45120	-	45121	-
Pink	45304	45371	-	-	-	-	-	-
Violet	45368	-	-	-	-	-	-	-
Conductor size mm								
colour	150	185	240	300	400	500	630	
Red	45218	45195	45326	45215	45329	45331	45333	
Black	45324	45325	45327	45328	45330	45332	45334	
Grn/Yellow	45060	45061	45062	45136	45161	45213	45214	
Brown	45463	45420	45457	45512	-	-	-	
Grey	45461	45415	45497	45514	-	-	-	
Blue	45462	45200	45498	45513	-	-	-	

Harmonised Codes-Technical Information

Part 1 of the designation

Table 1a: Relationship to standards

Symbol	Relationship of cable to standards
H	Cable conforming with harmonised standards
A	Recognised National Type of cable listed in the relevant Supplement to harmonised standards

Table 1b: Rated voltage

Symbol	Value, U [?] /U*
01	=100/100V; (<300/300V)
03	300/300V
05	300/500V
07	450/750V

The rated voltages not yet harmonised are given in brackets

Part 2 of the designation

Table 2a: Insulating and non-metallic sheathing materials

Note: The descriptions given for the symbols are used in certain instances to cover a group of materials which have similar

performance requirements for a given cable type will be found in the appropriate cable standard.

Symbol	Material
B	Ethylene-propylene rubber
G	Ethylene-vinyl-acetate
J	Glass-fibre braid
M	Mineral
N	Polychloroprene (or equivalent material)
N2	Special polychloroprene compound for covering of welding cables according to HD 22.6
N4	Chlorosulfonated polyethylene or chlorinated polyethylene
N8	Special water resistant polychloroprene compound
Q	Polyurethane
Q4	Polyamide
R	Ordinary ethylene propylene rubber or equivalent synthetic elastomer for a continuous operating temperature of 60°C
S	Silicone rubber
T	Textile braid, impregnated or not, on assembled cores
T6	Textile braid, impregnated or not, on individual cores of a multi-core cable
V	Ordinary PVC
V2	PVC compound for a continuous operating temperature of 90°C
V3	PVC compound for cables installed at low temperature
V4	Cross-linked PVC
V5	Special oil resistant PVC compound
Z	Polyolefin-based cross-linked compound having low level of emission of corrosive gases and which is suitable for use in cables which, when burned, have low emission of smoke
Z1	Polyolefin-based thermoplastic compound having low level of emission of corrosive gases and which is suitable for use in cables which, when burned, have low emission of smoke

Table 2b Metallic coverings

Symbol	Sheath, concentric conductors and screens
C	Concentric copper conductor
C4	Copper screen as braid over the assembled cores

Table 2c: Special constructional components of a cable

Note: These symbols, when required, are to follow the symbols selected from any of the previous tables 2a and 2b.

Symbol	Constructional components
D3	Strain-bearing element consisting of one or more textile components, placed at the centre of a round cable or distributed inside a flat cable.
D5	Central heart (non strain-bearing for lift cables only)
D9	Strain-bearing element consisting of one or more metallic components, placed at the centre of a round cable or distributed inside a flat cable.

Table 2d: Special construction of cable

Note: These symbols, when required, are to follow the symbols selected from any of the previous tables 2a to 2c.

Symbol	Special construction
No Symbol	Circular construction of cable
H	Flat construction of "divisible" cables and cores, either sheathed or non-sheathed
H2	Flat construction of "non-divisible" cables and cores
H6	Flat cable having three or more cores, according to DH 359 or EN 50214
H7	Cable having a double layer insulation applied by extrusion
H8	Extensible lead

Table 2e: Conductor material

Note: These symbols, when required are to follow after a dash, the symbols selected from any previous tables 2a to 2d.

Symbol	Conductor material
No Symbol	Copper
-A	Aluminium

Table 2f: Conductor form

Note: These symbols are to follow after a dash (already included in the symbol –A, in the case of aluminium conductors) the symbols selected from any of the previous tables 2a to 2e. For cables containing two forms of conductors the symbol shall designate the form of the phase conductor only.

Symbol	Conductor form
-D	Flexible conductor for use in arc welding cables to HD 22 Part 6 (flexibility to different from class 5 of HD 383)
-E	Highly flexible conductor for use in arc welding cables to HD22 Part 6 (flexibility different from Class 6 of HD 383)
-F	Flexible conductor of a flexible cable or cord (flexibility according to Class 5 of HD 383)
-H	Highly flexible conductor of a flexible cable or cord (flexibility according to Class 6 of HD 383)
-K	Flexible conductor of a cable for fixed installations (unless otherwise specified, flexibility according to Class 5 of HD 383)
-R	Rigid, round conductor, stranded
-U	Rigid round conductor, solid
-Y	Tinsel conductor

Part 3 of the designation

Table 3: Number(s) of cores and nominal cross-section(s) of conductors

Symbol	Number and size of conductors
(number)	Number, n of cores
X	Times, where a green/yellow core is not included

G	Times, when a green/yellow core is included
(number)*	Nominal cross-section, s , of conductor in mm^2
Y	For a tinsel conductor where the cross-section is not specified

Countries are free to assign the "N" (placed after the conductor cross-section) to indicate that the cores are identified by number.

General Examples

nXs or nGs	n cores of $s \text{ mm}^2$ conductor cross-section
nXs+n-Xs-	n cores of $s \text{ mm}^2$ and n- cores of $s- \text{ mm}^2$ conductor cross-section
nXs/s-	n cores of $s \text{ mm}^2$ conductor cross-section and concentric conductor of $s- \text{ mm}^2$ cross-section
nXs + n-Xs-/s[®]	n cores of $s \text{ mm}^2$ + n- cores of $s- \text{ mm}^2$ conductor cross-section + concentric conductor of $s^{\text{®}} \text{ mm}^2$ cross-section

Particular Examples

4 G 50	A cable with four cores having 50mm^2 conductor cross-section, one of the cored being green/yellow
4 X 50	A4-core cable without green/yellow core, all the cores having 50mm^2 conductor cross-section
3X50 + 1G25	A cable with four cores, three of which have 50mm^2 conductor cross-section, while the green/yellow core has a reduced conductor cross-section of 25mm^2
3X70/35	A cable with three cores having 70mm^2 conductor cross-section and a concentric conductor of 35mm^2 cross-section
2 X Y	A2-core cord with tinsel conductors

Table 4: Survey of symbols and their sequence in cable designations(1)

1	2	3	4	5	6	7	8	9	10	11
Part 1	2	3	4	5	Part 2	7	8	9	Part 3	11
Related Standard	Rated voltage	Insulating material	Metallic coverings (s)	Non-metallic sheath (2)	Constructional components & special instructions	Conductor material	Conductor forms	No. of cores	Time	Conductor size mm^2
				Symbols according to table (s)						
1a	1b	2a	2b	2c and 2d	2e	2f	3			
H	01	B	C	B	D3	No	-D	1	X	Y
A	03	G	C4	G	D9	Copper	-E	2		0.5
					----	-H	4			0.75
	05	J		J	No	-A	-K	5		

		symbol:	
		Circular	-R Etc
07	M	Construction	-U
		Of cable	-Y
	N, N4	N, N2, 4, 8	
		H	2.5
	R	Q, Q4	H2
		H6	4
	S	R	H7
		H8	R
		S	
	V, V2	T, T6	
	V3, V4		16
		V, V1, V2	
	Z, Z1	V4, V5	25
		Z, Z1	etc

(1) If two or more symbols listed in the same column need to be used in a given designation, they shall follow each other in their radial sequence starting from the core axis to cable axis.

(2) The symbols might change their position in the designation with respect to the construction of the cable.

Cenolec cross references-Technical Information

CMA reference	CEN reference
2022	A03RTH5-F
2042	A03RT-F
2043	A03RT-F
2212	A03RRT-F
2213	A03RRT-F
3182	A05RR-F
3183	A05RR-F
3184	H05RR-F
3185	H05RR-F
3981	H07RN-F
3982	H07RN-F
3983	H07RN-F
3984	H07RN-F
3985	H07RN-F
6101T	A07BT-U
2182Y	H03VV-F
2183Y	H03VV-F
2192Y	H03VVH2-F
2491 LSZH	H07Z-K
2491X 300/500V	H05V-K
2491X 450/750V	H07V-K
2492X	H05VH5-K
2812X	H03VH-H
3182TQ3182TQ	H05BN4 F H05BN4-F

3182Y	H05VV-F
3183TQ	H05BN4-F
3183Y	H05VV-F
3184TQ	H05BN4-F
3184Y	H05VV-F
3185Y	H05VV-F
3192Y	H05VVH2-F
3802P	A05RRC4N-F
3803P	A05RRC4N-F
3804P	A05RRC4N-F
6181Y	A05VV-U
6192P	A05RNH2-R
6192Y	A05VVH2-U
6193Y	A05VVH2-U
6242Y	A05VVH4-U
6243Y	A05VVH4-U
6381P	H07RN-F
6381TQ	H07BN4-F
6382P	H07RN-F
6382TQ	H07BN4-F
6383P	H07RN-F
6383TQ	H07BN4-F
6384P	H07RN-F
6384TQ	H07BN4-F
6385P	H07RN-F
6385TQ	H07BN4-F
6491X	H05V-U
6491X 1.5 - 400sqmm stranded	H07V-R
6491X 1.5sqmm solid	H07V-U
6491X 1sqmm solid	H05V-U
6491X 2.5sqmm solid	H07V-U
CMA reference	CEN reference
2212	A03RRT-F
2213	A03RRT-F
2042	A03RT-F
2043	A03RT-F
2022	A03RTH5-F
6192P	A05RNH2-R
3802P	A05RRC4N-F
3803P	A05RRC4N-F
3804P	A05RRC4N-F
3182	A05RR-F
3183	A05RR-F
6192Y	A05VVH2-U
6193Y	A05VVH2-U
6242Y	A05VVH4-U
6243Y	A05VVH4-U
6181Y	A05VV-U
6101T	A07BT-U
2812X	H03VH-H
2182Y	H03VV-F
2183Y	H03VV-F
2192Y	H03VVH2-F
3182TQ	H05BN4-F
3183TQ	H05BN4-F

3184TQ3184TQ	H05BN4 F H05BN4-F
3184	H05RR-F
3185	H05RR-F
2492X	H05VH5-K
2491X 300/500V	H05V-K
6491X	H05V-U
6491X 1sqmm solid	H05V-U
3182Y	H05VV-F
3183Y	H05VV-F
3184Y	H05VV-F
3185Y	H05VV-F
3192Y	H05VVH2-F
6381TQ	H07BN4-F
6382TQ	H07BN4-F
6383TQ	H07BN4-F
6384TQ	H07BN4-F
6385TQ	H07BN4-F
3981	H07RN-F
3982	H07RN-F
3983	H07RN-F
3984	H07RN-F
3985	H07RN-F
6381P	H07RN-F
6382P	H07RN-F
6383P	H07RN-F
6384P	H07RN-F
6385P	H07RN-F
2491X 450/750V	H07V-K
6491X 1.5 - 400sqmm stranded	H07V-R
6491X 1.5sqmm solid	H07V-U
6491X 2.5sqmm solid	H07V-U
2491 LSZH	H07Z-K

Parts options

Part No.	Core	Size	Colour/Reference
45000	1	1.5sqmm (7/0.53mm)	Red
45001	1	1.5sqmm (7/0.53mm)	Black
45002	1	1.5sqmm (7/0.53mm)	Green/Yellow
45003	1	1.5sqmm (7/0.53mm)	Brown
45004	1	1.5sqmm (7/0.53mm)	Blue
45005	1	1.5sqmm (7/0.53mm)	Yellow
45006	1	1.5sqmm (7/0.53mm)	White
45201	1	1.5sqmm (7/0.53mm)	Grey
45162	1	1.5sqmm (7/0.53mm)	Orange
45304	1	1.5sqmm (7/0.53mm)	Violet
45368	1	1.5sqmm (7/0.53mm)	Pink
45007	1	2.5sqmm (7/0.67mm)	Red
45008	1	2.5sqmm (7/0.67mm)	Black

45119	1	2.5sqmm (7/0.67mm)	Green
45009	1	2.5sqmm (7/0.67mm)	Green/Yellow
45511	1	2.5sqmm (7/0.67mm)	Pink
45010	1	2.5sqmm (7/0.67mm)	Brown
45011	1	2.5sqmm (7/0.67mm)	Blue
45012	1	2.5sqmm (7/0.67mm)	Yellow
45013	1	2.5sqmm (7/0.67mm)	White
45323	1	2.5sqmm (7/0.67mm)	Grey
45163	1	2.5sqmm (7/0.67mm)	Orange
45371	1	2.5sqmm (7/0.67mm)	Violet
45014	1	4.0sqmm (7/0.85mm)	Red
45015	1	4.0sqmm (7/0.85mm)	Black
45016	1	4.0sqmm (7/0.85mm)	Green/Yellow
45017	1	4.0sqmm (7/0.85mm)	Brown
45018	1	4.0sqmm (7/0.85mm)	Blue
45019	1	4.0sqmm (7/0.85mm)	Yellow
45093	1	4.0sqmm (7/0.85mm)	White
45422	1	4.0sqmm (7/0.85mm)	Grey
45020	1	4.0sqmm (7/0.85mm)	Orange
45021	1	6.0sqmm (7/1.04mm)	Red
45022	1	6.0sqmm (7/1.04mm)	Black
45182	1	6.0sqmm (7/1.04mm)	White
45023	1	6.0sqmm (7/1.04mm)	Green/Yellow
45024	1	6.0sqmm (7/1.04mm)	Brown
45025	1	6.0sqmm (7/1.04mm)	Blue
45026	1	6.0sqmm (7/1.04mm)	Yellow
45423	1	6.0sqmm (7/1.04mm)	Grey
45164	1	6.0sqmm (7/1.04mm)	Orange
45027	1	10sqmm (7/1.35mm)	Red
45028	1	10sqmm (7/1.35mm)	Black
45029	1	10sqmm (7/1.35mm)	Green/Yellow
45030	1	10sqmm (7/1.35mm)	Brown
45031	1	10sqmm (7/1.35mm)	Blue
45032	1	10sqmm (7/1.35mm)	Yellow
45424	1	10sqmm (7/1.35mm)	Grey
45120	1	10sqmm (7/1.35mm)	Green
45165	1	10sqmm (7/1.35mm)	Orange
45033	1	16sqmm (7/1.70mm)	Red
45034	1	16sqmm (7/1.70mm)	Black
45035	1	16sqmm (7/1.70mm)	Green/Yellow
45036	1	16sqmm (7/1.70mm)	Brown
45037	1	16sqmm (7/1.70mm)	Blue
45038	1	16sqmm (7/1.70mm)	Yellow
45425	1	16sqmm (7/1.70mm)	Grey
45166	1	16sqmm (7/1.70mm)	Orange
45039	1	25sqmm (7/2.14mm)	Red
45040	1	25sqmm (7/2.14mm)	Black
45121	1	25sqmm (7/2.14mm)	Green
45041	1	25sqmm (7/2.14mm)	Green/Yellow
45042	1	25sqmm (7/2.14mm)	Brown
45043	1	25sqmm (7/2.14mm)	Blue
45044	1	25sqmm (7/2.14mm)	Yellow
45410	1	25sqmm (7/2.14mm)	Grey
45045	1	35sqmm (19/1.53mm)	Red
45046	1	35sqmm (19/1.53mm)	Black

45047	1	35sqmm (19/1.53mm)	Green/Yellow
45416	1	35sqmm (19/1.53mm)	Brown
45122	1	35sqmm (19/1.53mm)	Blue
45194	1	35sqmm (19/1.53mm)	Yellow
45411	1	35sqmm (19/1.53mm)	Grey
45048	1	50sqmm (19/1.78mm)	Red
45049	1	50sqmm (19/1.78mm)	Black
45050	1	50sqmm (19/1.78mm)	Green/Yellow
45417	1	50sqmm (19/1.78mm)	Brown
45146	1	50sqmm (19/1.78mm)	Blue
45150	1	50sqmm (19/1.78mm)	Yellow
45412	1	50sqmm (19/1.78mm)	Grey
45051	1	70sqmm (19/2.14mm)	Red
45052	1	70sqmm (19/2.14mm)	Black
45053	1	70sqmm (19/2.14mm)	Green/Yellow
45418	1	70sqmm (19/2.14mm)	Brown
45188	1	70sqmm (19/2.14mm)	Blue
45189	1	70sqmm (19/2.14mm)	Yellow
45413	1	70sqmm (19/2.14mm)	Grey
45054	1	95sqmm (19/2.52mm)	Red
45055	1	95sqmm (19/2.52mm)	Black
45056	1	95sqmm (19/2.52mm)	Green/Yellow
45419	1	95sqmm (19/2.52mm)	Brown
45190	1	95sqmm (19.2.52mm)	Blue
45191	1	95sqmm (19/2.52mm)	Yellow
45414	1	95sqmm (19/2.52mm)	Grey
45057	1	120sqmm (37/2.03mm)	Red
45058	1	120sqmm (37/2.03mm)	Black
45059	1	120sqmm (37/2.03mm)	Green/Yellow
45459	1	120sqmm (37/2.03mm)	Brown
45192	1	120sqmm (37/2.03mm)	Blue
45193	1	120sqmm (37/2.00mm)	Yellow
45460	1	120sqmm (37/2.03mm)	Grey
45218	1	150sqmm (37/2.25mm)	Red
45324	1	150sqmm (37/2.25mm)	Black
45060	1	150sqmm (37/2.25mm)	Green/Yellow
45463	1	150sqmm (37/2.25mm)	Brown
45462	1	150sqmm (37/2.25mm)	Blue
45461	1	150sqmm (37/2.25mm)	Grey
45200	1	185sqmm (37/2.52mm)	Blue
45195	1	185sqmm (37/2.52mm)	Red
45325	1	185sqmm (37/2.52mm)	Black
45061	1	185sqmm (37/2.52mm)	Green/Yellow
45420	1	185sqmm (37/2.52mm)	Brown
45415	1	185sqmm (37/2.52mm)	Grey
45326	1	240sqmm (61/2.25mm)	Red
45327	1	240sqmm (61/2.25mm)	Black
45062	1	240sqmm (61/2.25mm)	Green/Yellow
45457	1	240sqmm (61/2.25mm)	Brown
45497	1	240sqmm (61/2.25mm)	Grey
45215	1	300sqmm (61/2.52mm)	Red
45328	1	300sqmm (61/2.52mm)	Black
45136	1	300sqmm (61/2.52mm)	Green/Yellow
45512	1	300sqmm (61/2.52mm)	Brown
45514	1	300sqmm (61/2.52mm)	Grey

45513	1	300sqmm (61/2.52mm)	Blue
45329	1	400sqmm (61/2.85mm)	Red
45330	1	400sqmm (61/2.85mm)	Black
45161	1	400sqmm (61/2.85mm)	Green/Yellow
45332	1	500sqmm (61/3.2mm)	Black
45331	1	500sqmm (61/3.2mm)	Red
45213	1	500sqmm (61/3.2mm)	Green/Yellow
45214	1	630sqmm (127/2.52mm)	Green/Yellow
45333	1	630sqmm (127/2.52mm)	Red
45334	1	630sqmm (127/2.52mm)	Black