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Flexible Cables and Cords

PVC Insulated and Sheathed Heat Resistant Flexible Cords H05V2V2-F*

90°C 300/500 V 309*Y



Application

For external supply connection of portable or fixed electrical appliances operating in elevated temperature zones.
* denotes number of cores.

Specifications

- In accordance with BS EN 50525-2-11 and Genelec code H05V2V2-F
- **Conductors:** Flexible Class 5 conductors to BS EN 60228
- **Insulation:** PVC insulation Type Tl.3 to BS EN 50363-3
- **Core Identification:**
 - 2 core - blue, brown
 - 3 core - green/yellow, blue, brown
 - 4 core - green/yellow, brown, black, grey
- **Sheath:** PVC sheath Type TM.3 to BS EN 50363-4-1 (white)
- Flame retardant to BS EN 60332-1-2
- **Temperature Rating:** 90°C maximum conductor operating temperature
- **Voltage Rating:** 300/500 V

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Anixter Number	Nominal Conductor Area	Nominal Conductor Stranding	Insulation Thickness	Minimum O/D	Maximum O/D	Approximate Cable Weight
	mm ²	#/mm	mm	mm	mm	kg/km
Twin Core Type 3092Y						
3092Y-0005-01	0.5	16/0.20	0.6	5.6	7.0	46
3092Y-0007-01	0.75	24/0.20	0.6	5.7	7.2	55
3092Y-0010-01	1.0	32/0.20	0.6	5.9	7.5	65
3092Y-0015-01	1.5	30/0.25	0.7	6.8	8.6	80
3092Y-0025-01	2.5	50/0.25	0.8	8.4	10.6	
Three Core Type 3093Y						
3093Y-0005-01	0.5	16/0.20	0.6	5.8	7.2	55
3093Y-0007-01	0.75	24/0.20	0.6	6.0	7.6	70
3093Y-0010-01	1.0	32/0.20	0.6	6.3	8.0	80
3093Y-0015-01	1.5	30/0.25	0.7	7.4	9.4	100
3093Y-0025-01	2.5	50/0.25	0.8	9.2	11.4	155
Four Core Type 3094Y						
3094Y-0005-01	0.5	16/0.20	0.6	6.4	7.8	70
3094Y-0007-01	0.75	24/0.20	0.6	6.6	8.3	85
3094Y-0010-01	1.0	32/0.20	0.6	7.1	9.0	100
3094Y-0015-01	1.5	30/0.25	0.7	8.4	10.5	130
3094Y-0025-01	2.5	50/0.25	0.8	10.1	12.5	195

For further technical information see page 2:44.

Technical Specifications for Flexible Cords

Applicable to: 2491X, 218*Y, 318*Y, 309*Y, 318*B, 318*P, 318*TQ, 398*P
H05V-K, H03V-F, H05VV-F, H05V2V2-F, H05Z1Z1-F, H05RN-F, H05BN4-F, H07RN-F

CORRECTION FACTOR FOR AMBIENT TEMPERATURE

60°C rubber and PVC cords:

Ambient air temp °C	35	40	45	50	55
Rating factor	0.91	0.82	0.71	0.58	0.41

90°C rubber cords having a HOFR sheath or a heat-resisting PVC sheath and for 90°C heat-resisting PVC cords:

Ambient air temp °C	35 - 50	55	60	65	70
Rating factor	1.0	0.96	0.83	0.67	0.47

180°C rubber cords:

Ambient air temp °C	35 - 150	155	160	165	170	175
Rating factor	1.0	0.92	0.82	0.71	0.57	0.40

For cables where four or more cores or loaded, the following factors should be applied:

No. of cores loaded	4	5	6	7	10	12	14	19	24
Rating factor	0.78	0.72	0.67	0.63	0.56	0.53	0.51	0.45	0.42
No. of cores loaded	27	30	37	-	-	-	-	-	-
Rating factor	0.40	0.39	0.36	-	-	-	-	-	-

These factors need not be applied if the number of cores loaded does not exceed the square root of the total number of cores in the cable.

Technical Specifications for Flexible Cords

H05V-K, H03VV-F, H05VV-F, H05V2V2-F, H05Z1Z1-F, H05RN-F, H05BN4-F, H07RN-F

CURRENT CARRYING CAPACITY (Amperes):

Conductor Cross Sectional Area 1	Current Carrying Capacity	
	Single Phase a.c. 2	Three Phase a.c. 3
mm ²	A	A
0.5	3	3
0.75	6	6
1	10	10
1.25	13	-
1.5	16	16
2.5	25	20
4	32	25

VOLTAGE DROP (per Ampere per metre):

Conductor operating temperature: 60°C*

Conductor Cross Sectional Area 1	d.c. or Single Phase a.c. 2	Three Phase a.c. 3
mm ²	mV	mV
0.5	93	80
0.75	62	54
1	46	40
1.25	37	-
1.5	32	27
2.5	19	16
4	12	10

*NOTE: The tabulated values above are for 60°C rubber insulated and PVC-insulated flexible cords and for other types of flexible cords they are to be multiplied by the following factors:

For 90°C rubber or PVC insulated 1.09.

180°C rubber insulated 1.31.

GUIDE TO MINIMUM BENDING RADII ON FLEXIBLE CORDS AND CABLES

Cable Type	Cable Diameter (mm)			
	$\leq 8 \leq$	$> 8 \leq 12$	$> 12 \leq 20$	> 20
	M.B.R. (Minimum Bending Radius)			
Flexible Cable Thermoplastic (e.g. PVC)				
Fixed installation	3D	3D	4D	4D
Free movement*	5D	5D	6D	6D
Flexible Cable Elastomeric (e.g. rubber)				
Fixed installation	3D	3D	4D	4D
Free movement*	4D	4D	5D	6D

Where D = cable diameter.

The above values are based on recommendations given in BS7540 "Use of cables with a rated voltage not exceeding 450/750 V".

*These values do not apply to cables used on festoon, reeling drum, cranes, robotics, etc., where repetitive flexing and/or twisting is anticipated.

For further details refer to BS7540.