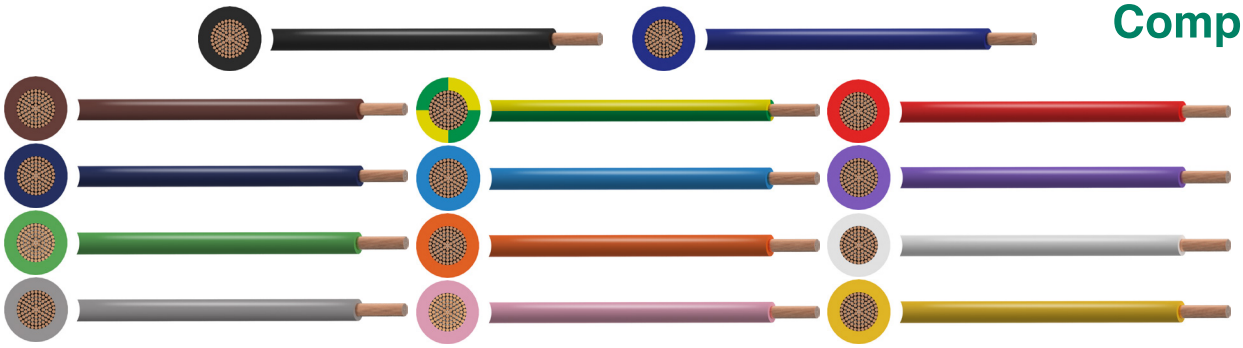
Tri-Rated Flexible PVC Equipment Wire

RoHS Compliant



Application:

High temperature, flame retardant wire designed for use in the switch control, relay and instrumentation panels of power switch-gear and for purposes such as internal connectors in rectifier equipment, motor starters and controllers. Tri-rated wire is some-times referred to as BS 6231 cable, H07V2-K or panel wire.

Cable Standards:

Made in accordance with the following:

BS EN 50525-2-31* BS 6231 Type CK, UL Subj.758, CSA C22.2 No. 210 (HD 21.7 S2) #LL246095,
BS EN/IEC 60332

Construction:

UL Style Number	: 1015
Conductor	: Class 5 flexible copper conductor according to BS EN 60228 (previously BS 6360)
Insulation	: PVC (Polyvinyl Chloride) Type TI3 according to BS EN 50363

Characteristics:

Voltage Rating (Uo/U)	: UL, CSA: 450/750V BS 6231: 600/1000V BS EN 50525-2-31: 300/500V, 450/750V
Temperature Rating	: UL, CSA: -15°C to +105°C BS 6231: -15°C to +90°C
Min. Bending Radius	: 6 × overall diameter
Sheath Colour	: Black, Blue, Brown, Dark Blue, Green, Grey, Green/Yellow, Light Blue, Orange, Pink, Red, Violet, White & Yellow

Note

*BS EN 50525-2-31 covers harmonised conductor sizes up to 35mm^2, wires above this size are generally to the specification. Where it is intended to connect wires contained within this datasheet to equipment or accessories confirmation should be obtained to ensure that they are capable of withstanding the operating temperature of the wire.

Dimensions:

Part Number	No. of Cores	Colour	Nominal Cross Sectional Area mm^2	Approximate AWG	Nominal Thickness of Insulation mm	Nominal Overall Diameter mm	Nominal Weight kg/km
PP001185	1	Black	0.5	21	0.8	2.7	11
PP001195		Blue					
PP001204		Brown					
PP001214		Dark Blue					
PP001221		Green					
PP001228		Grey					
PP001238		Green/Yellow					
PP001248		Light Blue					
PP001255		Orange					
PP001262		Pink					
PP001269		Red					
PP001279		Violet					
PP001286		White					
PP001295		Yellow					
PP001186		Black	0.75	19		2.85	15
PP001196		Blue					
PP001205		Brown					
PP001215		Dark Blue					
PP001222		Green					
PP001229		Grey					
PP001239		Green/Yellow					
PP001249		Light Blue					
PP001256		Orange					
PP001263		Pink					
PP001270		Red					
PP001280		Violet					
PP001287		White					
PP001296		Yellow					
PP001187		Black	1	18		3	18
PP001197		Blue					
PP001206		Brown					
PP001216		Dark Blue					
PP001223		Green					
PP001230		Grey					
PP001240		Green/Yellow					
PP001250		Light Blue					

Part Number	No. of Cores	Colour	Nominal Cross Sectional Area mm^2	Approximate AWG	Nominal Thickness of Insulation mm	Nominal Overall Diameter mm	Nominal Weight kg/km
PP001257	1	Orange	1	18	0.8	3	18
PP001264		Pink					
PP001271		Red					
PP001281		Violet					
PP001288		White					
PP001297		Yellow					
PP001188		Black	1.5	16		3.3	23
PP001198		Blue					
PP001207		Brown					
PP001217		Dark Blue					
PP001224		Green					
PP001231		Grey					
PP001241		Green/Yellow					
PP001251		Light Blue					
PP001258		Orange					
PP001265		Pink					
PP001272		Red					
PP001282		Violet					
PP001289		White					
PP001298		Yellow					
PP001189		Black	2.5	14		3.75	35
PP001199		Blue					
PP001208		Brown					
PP001218		Dark Blue					
PP001225		Green					
PP001232		Grey					
PP001242		Green/Yellow					
PP001252		Light Blue					
PP001259		Orange					
PP001266		Pink					
PP001273		Red					
PP001283		Violet					
PP001290		White					
PP001299		Yellow					
PP001190		Black	4	12		4.35	48
PP001200		Blue					

Part Number	No. of Cores	Colour	Nominal Cross Sectional Area mm^2	Approximate AWG	Nominal Thickness of Insulation mm	Nominal Overall Diameter mm	Nominal Weight kg/km
PP001209	1	Brown	4	12	0.8	4.35	48
PP001219		Dark Blue		12			
PP001226		Green		12			
PP001233		Grey		12			
PP001243		Green/Yellow		12			
PP001253		Light Blue		12			
PP001260		Orange		12			
PP001267		Pink		12			
PP001274		Red		12			
PP001284		Violet		12			
PP001291		White		12			
PP001300		Yellow		12			
PP001191		Black	6	10		4.85	69
PP001201		Blue		10			
PP001210		Brown		10			
PP001220		Dark Blue		10			
PP001227		Green		10			
PP001234		Grey		10			
PP001244		Green/Yellow		10			
PP001254		Light Blue		10			
PP001261		Orange		10			
PP001268		Pink		10			
PP001275		Red		10			
PP001285		Violet		10			
PP001292		White		10			
PP001301		Yellow		10			
PP001192		Black	10	8	1	6.3	117
PP001202		Blue		8			
PP001211		Brown		8			
PP001235		Grey		8			
PP001245		Green/Yellow		8			
PP001276		Red		8			
PP001293		White		8			
PP001302		Yellow		8			
PP001193		Black	16	6		8.1	191
PP001203		Blue					

Part Number	No. of Cores	Colour	Nominal Cross Sectional Area mm²	Approximate AWG	Nominal Thickness of Insulation mm	Nominal Overall Diameter mm	Nominal Weight kg/km
PP001212	1	Brown	16	6	1	8.1	191
PP001236		Grey					
PP001246		Green/Yellow					
PP001277		Red					
PP001294		White					
PP001303		Yellow					
PP001194		Black	25	4	1.2	9.4	281
PP001213		Brown					
PP001237		Grey					
PP001247		Green/Yellow					
PP001278		Red					

Conductors

Class 5 Flexible Copper Conductors for Single Core Wire

Nominal Cross Sectional Area mm²	No. of Strands x Strand Size (mm)	Max. Resistance of Conductor at 20°C
		Plain Wires Ω/km
0.5	16 × 0.2	39
0.75	24 × 0.2	26
1	30 × 0.2	19.5
1.5	30 × 0.25	13.3
2.5	50 × 0.25	7.98
4	56 × 0.3	4.95
6	84 × 0.3	3.3
10	136 × 0.3	1.91
16	126 × 0.4	1.21
25	196 × 0.4	0.78

The above table is in accordance with BS EN 60228 (previously BS 6360)

Electrical Characteristics:

Current Carrying Capacity and Voltage Drop

Nominal Cross Sectional Area mm²	Current Rating (Peak) Amps	Voltage Drop mV/A/m
0.5	11	46
0.75	14	31
1	17	22

Nominal Cross Sectional Area mm²	Current Rating (Peak) Amps	Voltage Drop mV/A/m
1.5	21	15
2.5	30	9.1
4	41	5.7
6	53	3.8
10	75	2.2
16	100	1.4
25	136	0.89

Current ratings are based on a conductor operating temperature of 90°C and an ambient air temperature of 45°C and assumes single wire isolated in free air.

De-Rating Factors:

Ambient Temperature	+45°C	+50°C	+55°C	+60°C	+65°C	+70°C	+75°C
De-Rating Factor	1	0.97	0.9	0.82	0.73	0.63	0.52

Where wires are to be grouped, the following factors should be applied

No. of Wires in Group	2	3	4	5	6	7	8
De-Rating Factor	0.8	0.7	0.65	0.6	0.56	0.53	0.5

Part Number Table

Description	Nominal Cross Sectional Area mm²	Colour	Reel Length	Part Number
Tri-Rated Flexible PVC Equipment Wire	0.5	Black	100m	PP001185
		Blue		PP001195
		Brown		PP001204
		Dark Blue		PP001214
		Green		PP001221
		Grey		PP001228
		Green/Yellow		PP001238
		Light Blue		PP001248
		Orange		PP001255
		Pink		PP001262
		Red		PP001269
		Violet		PP001279
		White		PP001286
		Yellow		PP001295

Description	Nominal Cross Sectional Area mm²	Colour	Reel Length	Part Number
Tri-Rated Flexible PVC Equipment Wire	0.75	Black	100m	PP001186
		Blue		PP001196
		Brown		PP001205
		Dark Blue		PP001215
		Green		PP001222
		Grey		PP001229
		Green/Yellow		PP001239
		Light Blue		PP001249
		Orange		PP001256
		Pink		PP001263
		Red		PP001270
		Violet		PP001280
		White		PP001287
		Yellow		PP001296
	1	Black		PP001187
		Blue		PP001197
		Brown		PP001206
		Dark Blue		PP001216
		Green		PP001223
		Grey		PP001230
		Green/Yellow		PP001240
		Light Blue		PP001250
		Orange		PP001257
		Pink		PP001264
		Red		PP001271
		Violet		PP001281
		White		PP001288
		Yellow		PP001297
	1.5	Black		PP001188
		Blue		PP001198
		Brown		PP001207
		Dark Blue		PP001217
		Green		PP001224
		Grey		PP001231
		Green/Yellow		PP001241
		Light Blue		PP001251
		Orange		PP001258

Description	Nominal Cross Sectional Area mm²	Colour	Reel Length	Part Number
Tri-Rated Flexible PVC Equipment Wire	1.5	Pink	100m	PP001265
		Red		PP001272
		Violet		PP001282
		White		PP001289
		Yellow		PP001298
	2.5	Black		PP001189
		Blue		PP001199
		Brown		PP001208
		Dark Blue		PP001218
		Green		PP001225
		Grey		PP001232
		Green/Yellow		PP001242
		Light Blue		PP001252
		Orange		PP001259
		Pink		PP001266
		Red		PP001273
		Violet		PP001283
		White		PP001290
		Yellow		PP001299
	4	Black		PP001190
		Blue		PP001200
		Brown		PP001209
		Dark Blue		PP001219
		Green		PP001226
		Grey		PP001233
		Green/Yellow		PP001243
		Light Blue		PP001253
		Orange		PP001260
		Pink		PP001267
		Red		PP001274
		Violet		PP001284
		White		PP001291
		Yellow		PP001300
	6	Black		PP001191
		Blue		PP001201
		Brown		PP001210
		Dark Blue		PP001220

Tri-Rated Flexible PVC Equipment Wire

Description	Nominal Cross Sectional Area mm²	Colour	Reel Length	Part Number
Tri-Rated Flexible PVC Equipment Wire	6	Green	100m	PP001227
		Grey		PP001234
		Green/Yellow		PP001244
		Light Blue		PP001254
		Orange		PP001261
		Pink		PP001268
		Red		PP001275
		Violet		PP001285
		White		PP001292
		Yellow		PP001301
	10	Black		PP001192
		Blue		PP001202
		Brown		PP001211
		Grey		PP001235
		Green/Yellow		PP001245
		Red		PP001276
		White		PP001293
		Yellow		PP001302
	16	Black		PP001193
		Blue		PP001203
		Brown		PP001212
		Grey		PP001236
		Green/Yellow		PP001246
		Red		PP001277
		White		PP001294
		Yellow		PP001303
	25	Black	50m	PP001194
		Brown		PP001213
		Grey		PP001237
		Green/Yellow		PP001247
		Red		PP001278