UNINYVIN CABLE

Guaranteed Technical Particulars / Complete 16-variant specification

VOLTAGE GRADE
1100 V

TEMPERATURE
105°C

CONFIGURATION
Single core · White

CONDUCTOR
Annealed tinned copper

01 CONDUCTOR CONSTRUCTION & DIMENSIONS

Parameter	Unit	U-22	U-20	U-18	U-16	U-14	U-12	U-10	U-8	U-6	U-4	U-2	U-1	U-O	U-OO	U-OOO	U-OOOO
Nominal conductor area	mm²	0.347	0.566	0.966	1.17	2.05	3.22	5.33	8.76	13.3	21.5	33.3	40.7	53	68.3	84.2	109
Heavy-duty export lug size	mm²	1.5	1.5	1.5	1.5	2.5	4	6	10	16	25	35	50	50	70	95	120
Number / diameter of wires	mm	19/0.152	19/0.193	33/0.193	40/0.193	70/0.193	110/0.193	75/0.3	124/0.3	188/0.3	304/0.3	471/0.3	575/0.3	749/0.3	965/0.3	1190/0.3	1545/0.3
Cable diameter, maximum[1]	mm	0.8383	1.0414	1.3208	1.5494	1.9558	2.4384	3.1496	4.2418	5.5372	6.9088	8.763	9.7536	10.9728	12.446	13.9192	15.621
Cable diameter, minimum[1]	mm	0.7366	0.9398	1.2192	1.397	1.8034	2.286	2.8956	3.937	5.08	6.4516	8.128	9.1186	10.3378	11.684	13.1572	14.859

02 INSULATION, SHEATH & FINISHED CABLE

Parameter	Unit	U-22	U-20	U-18	U-16	U-14	U-12	U-10	U-8	U-6	U-4	U-2	U-1	U-O	U-OO	U-OOO	U-OOOO
PVC radial thickness, minimum	mm	0.2286	0.2286	0.2286	0.2286	0.2794	0.2794	0.381	0.381	0.381	0.4826	0.4826	0.5588	0.635	0.6858	0.762	0.7874
Nylon sheath, maximum	mm	0.1778	0.1778	0.1778	0.1778	0.1778	0.1778	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
Nylon sheath, minimum	mm	0.0762	0.0762	0.0762	0.0762	0.0762	0.0762	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
Nylon braid & lacquer, maximum	mm	N/A	N/A	N/A	N/A	N/A	N/A	0.1778	0.381	0.381	0.381	0.381	0.381	0.381	0.381	0.381	0.381
Nylon braid & lacquer, minimum	mm	N/A	N/A	N/A	N/A	N/A	N/A	0.0762	0.127	0.127	0.127	0.127	0.127	0.127	0.127	0.127	0.127
Finished cable OD, max. / min.	mm	2.0/1.8	2.3/2.0	2.5/2.3	2.8/2.5	3.4/3.0	3.8/3.5	5.0/4.6	6.3/5.9	7.6/7.3	9.3/8.8	11.0/10.5	12.2/11.7	13.7/13.0	15.4/14.6	16.9/16.1	18.7/17.9

[1] Diameter terminology retained from source workbook. HR PVC insulation: 105°C. Glass braid: <1%. Earthing system: Unearth.

03 CURRENT RATINGS & CONDUCTOR RESISTANCE

Parameter	Unit	U-22	U-20	U-18	U-16	U-14	U-12	U-10	U-8	U-6	U-4	U-2	U-1	U-O	U-OO	U-OOO	U-OOOO
Current rating at 20°C[2]	A	14	18	23	27	40	55	78	111	148	205	256	282	308	346	384	450
Single cable, free air at 40°C	A	11	14	18	21	31	43	61	87	115	160	200	220	240	270	300	350
3 bunched cables, free air	A	7	9	13	15	24	30	47	65	87	120	155	165	185	210	235	270
7 bunched cables, free air	A	5	7	10	11	17	22	36	49	65	92	120	130	168	190	210	245
12 bunched cables, free air	A	4	5	6	7	12	15	25	36	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
Resistance, 900 m at 20°C, max.	Ω	49.66	30.95	17.82	14.7	8.41	5.35	3.23	1.97	1.3	0.802	0.517	0.423	0.325	0.252	0.204	0.158
Resistance, 100 m at 105°C, max.	Ω	7.5	4.68	2.69	2.22	1.27	0.81	0.49	0.3	0.2	0.12	0.08	0.06	0.05	0.04	0.03	0.02
Resistance, 1000 m at 50°C, max.	Ω	61.63	38.41	22.11	18.24	10.44	6.64	4.01	2.44	1.61	1	0.64	0.52	0.4	0.31	0.25	0.2

04 MECHANICAL, THERMAL & DIELECTRIC REQUIREMENTS

Parameter	Specified requirement
Conductor tensile strength, maximum (kg/cm²)	As Per BSG177:1961
Conductor elongation at break, minimum (%)	As Per BSG177:1961
Lay factor, minimum	As Per BSG177:1961
Temperature rating	105ºC
Insulation grade	Heat Resistant PVC compound
Abrasive strength	As Per BSG177:1961
Heat test	115º C for 1 Hour
Bending radius, minimum	3 TO 6 times of Cable Dia
Voltage proof test - core in water	1.5Kv For 15 Minutes
Insulation resistance - core in water at 20°C / km[3]	13.5º C/km
Mechanical strength	As Per BSG177:1961

[2] Source heading also includes “ohm max”; current values are retained in amperes as its unit column specifies.

[3] Source value “13.5°C/km” is reproduced as supplied; the resistance unit requires engineering confirmation.

05 FLEXIBILITY & ASSOCIATED TESTS

Parameter	Specified requirement
Flexibility test	As Per BSG177:1961
Bend test	As Per BSG177:1961
Voltage proof in water: 1.5 kV for 1 minute	As Per BSG177:1961
Heat ageing / bend: air oven at 120°C for 120 hours	As Per BSG177:1961
Cure test: 115°C for 1 hour	As Per BSG177:1961
Dielectric test: 5% NaCl solution at 1.5 kV for 5 minutes	As Per BSG177:1961

06 WEIGHTS, PACKING & DELIVERY

Parameter	Requirement	Parameter	Requirement
Copper weight (kg/km)	N/A	**Insulation weight (kg/km)**	N/A
Gross weight (kg/km)	As Per BSG177:1961	**Drum / coil / reel length**	100 MTR.
Flange diameter	N/A	**Core diameter**	N/A
Drum width	N/A	**End sealing**	N/A
Drum weight without cable	N/A	**Drum weight with cable**	N/A
Normal delivery length	100 MTR.	**Testing on cables**	YES
Reference standard	As Per BSG177:1961	**Lug type / dimension**	Heavy Duty Export Series

Lug reference: copper ring-type tubular lugs; heavy-duty export series. Variant lug sizes appear in Section 01.

07 DOCUMENT CONTROL & AUTHORIZATION

Prepared by	Reviewed by	Approved by
Name / signature: _____ Date: _____	Name / signature: _____ Date: _____	Name / signature: _____ Date: _____

Technical values follow the supplied GTP workbook. N/A and source blanks are retained; — denotes a blank cell.

Manufacturer: Peraton India Private Limited. Revision R02. Approval fields are left for authorized sign-off.