

BUILDING WIRES & FLEXIBLE CABLES

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1 NOTICE

As this catalogue is not intended to cover all of **LIBAN CABLES** SAL possibilities in Building wires and flexible cables manufacturing, the hereafter listing of the types of cables is not restrictive but only indicative of the main and most current types we manufacture.

On the other hand, our specification sheets are inspired mainly from International Electrotechnical Commission Specifications (IEC) only in order to conform with the sustained trend, noticed both regionally and worldwide, towards these same IEC supposed to inspire any further standardization approaches.

That is why, while consulting this brochure, it is important to take into account the following points :

- Any combination or change of the constructional details mentioned in this catalogue remain feasible, on base of special conception / development, matching any special or different specifications.
- The possible Equivalences between the various specifications listed for customer / enduser choice in the hereafter Index.

Finally, and within our policy of constant improvement, we reserve the right to alter any part of the information contained in this publication without incurring any obligation. In all cases this brochure being only indicative, and unless expressly agreed upon, it cannot be considered by any mean as contractual document.

2 SPECIFICATIONS EQUIVALENCES INDEX

Designation	Catalog chapter N°	Catalog Specification	Main Equivalent Specifications		
			German Specification	British Specification	Cenelec Harmonized Specification
Single core, non sheathed, PVC insulated cables	6	PVC insulated cables of rated voltages up to & including 450/750 V. (IEC 227) 227 IEC 05 227 IEC 01 227 IEC 06 227 IEC 02	* VDE 0250 NYA (e) NYA (e/m) NYA (F)	* BS 6004 table 2 table 1 BS 6500 table 19	* H 05 V-U H 07 V-U/R H05(07) V-K
PVC insulated, nylon jacketed cables	7	Underwriters Laboratories (USA) UL83 Std. type THWN & THHN			
Light PVC sheathed for fixed wiring	8	(IEC 227) 227 IEC 10	(VDE 0250) NYM	(BS 6004) table 3	H 05VV-U/R
Flat PVC insulated and sheathed cables	9	(BS 6004)	*	(BS 6004) table 4 & 5	*
Flat flexible cords, PVC insulated	10	(IEC 227) 227 IEC 42	(VDE 0250) NYZ	(BS 6500) table 14	H 03VH-H
Light flexible cords, PVC insulated and sheathed	11	(IEC 227) 227 IEC 52 - round - flat	(VDE 0250) NYLHYrd NYLHYfl	(BS 6500) table 15	H 03 VV-F H 03VVH2-F
flexible cords, PVC insulated and sheathed	12	(IEC 227) 227 IEC 53 - round - flat	(VDE 0250) NYMHYrd NYMHYfl	(BS 6500) table 16	H 03 VV-F H 03VVH2-F
* Various types within our production range					



3 INTRODUCTION

Devoted to the manufacturing of electric and telecom cables, Liban Cables is the first and largest supplier in Lebanon and a leader in the Middle-East region.

Liban Cables was founded in 1968 by a group of Lebanese industrialists backed up by the technical assistance of two international leading firms :

- Les Cables de Lyon - France (became ALCATEL afterwards)
- Phelps Dodge - U.S.A.

Staffed with qualified engineers and highly skilled technicians, our plant is located in Nahr-Ibrahim at 30 Km from Beirut, where cables are designed and manufactured according to all international specifications : IEC, VDE, UTE, BS and others on customer request.

Early after its foundation, Liban Cables has become the major supplier of the Lebanese market in both the public and private sectors. The product range of Liban Cables covers all electric cables up to 150 KV, copper and optical fiber communication cables in addition to a wide variety of special cables manufactured on customer request.

High quality cables, continuous developments of the production range, direct and fast shipments have contributed in rendering Liban Cables an important exporter for many countries on the three limitrophe continents (Asia, Europe & Africa). Liban Cables products are particularly appreciated by utilities and international contractors operating in the region and seeking reliable and direct supplies of power and communication cables.

4 QUALITY

Step by step, from raw material to final product, quality constitutes a major concern to Liban Cables.

Raw material are continuously and repetitively tested from trial orders till the last batch received afterwards.

During manufacturing, products are tested within two simultaneous procedures :

- A built in quality control system carried out by the production itself at any step of work in process.
- A parallel and contradictory procedure is also carried out on the same stages and products by independent inspectors reporting to the quality control service.

In addition to above testing procedures, a final testing is carried out before the delivery to ensure the performance of the finished cable.

End users and/or third part inspection authorities are also constantly commissioning the finished products and assessing the strict conformity to ordered specifications.

In fact, our ISO 9001 certification stated in Feb 1997 by the International Certification Network (EQNET) is certified by the French Association for Quality Assurance (AFAQ), the well known rigorous and independant accredited European assessor. This certification, under reference AFAQ N° QUAL / 1997 / 7034, confirms the soundness and the performance of the Quality System we apply for the Design, the Development, the Manufacturing and the Marketing & Sales of all our products.

5 RECOMMENDED ORDERING PARAMETERS

For prompt quotation / supplies, please make sure your inquiries and your orders are securing the following data :

- 1 - International or Special Standard. (Alternatively, the precise usage of the cable.)
- 2 - Constructional details
- 3 - Other requirements
- 4 - Packing
- 5 - Required delivery time
- 6 - Required offer validity

6 SINGLE-CORE, NON SHEATHED, PVC INSULATED CABLES

1 - SCOPE

This specification covers single core, PVC insulated cables, intended for internal wiring in dry locations, concealed in conduits, type 227 IEC 05 For rigid conductors and type 227 IEC 06 for flexible conductors (0.5mm² to 1mm² cross-sectional area) rated 300/500 V; or intended for general purposes, wiring applications in buildings where high dielectric resistance to chemical products, heat grease and acid is required, type 227 IEC 01 for rigid conductors and type 227 IEC 02 for flexible conductors having cross-sectional area above 1.0 mm², rated 450/750 V to International Electrotechnical Commission Publication IEC 227.

N.B.: different voltage rating, 0.6/1 k.v., also available.

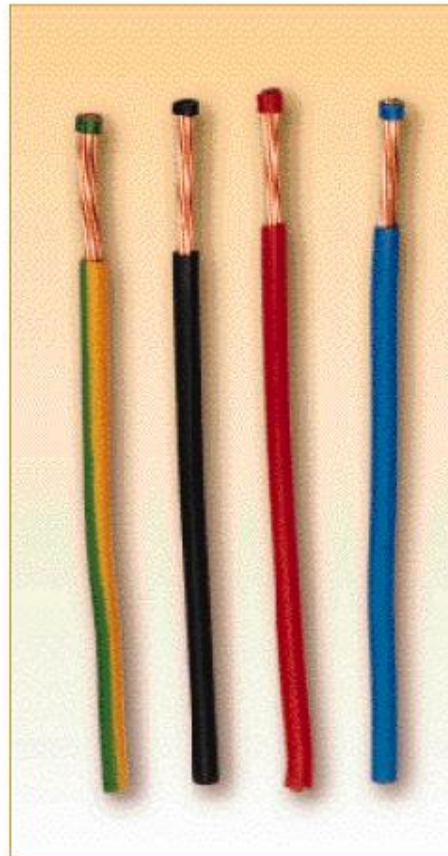
2 - CONSTRUCTION

2.1 - Conductor

Plain, annealed, electrolytic copper conductors, solid or stranded, complying with the applicable requirements of IEC 228.

2.2 - Insulation

PVC based thermoplastic material, conforming to the applicable requirements of IEC 227.



**SINGLE-CORE, PVC INSULATED,
NON-SHEATHED CABLES WITH RIGID CONDUCTORS**

Nominal cross section mm ²	Nominal number of conductor wires	Radial thickness of insulation mm	Approx. overall diameter mm	Approx. net weight kg/km	Standard packing	D.C. Resistance at 20°C (1) Ω/KM	Current carrying capacity (2) Amp.
300/500 V TYPE 227 IEC 05 FOR INTERNAL WIRING							
0.5	1	0.6	2.4	8	C	36.0	8
0.75	1	0.6	2.6	11	C	24.5	10
1	1	0.6	2.8	14	C	18.1	12
450/750 V TYPE 227 IEC 01 FOR GENERAL PURPOSES							
1.5	1	0.7	3.3	20	C	12.1	16
1.5	7	0.7	3.4	19	C	12.1	16
2.5	1	0.8	3.9	31	C	7.41	21
2.5	7	0.8	4.2	32	C	7.41	21
4	1	0.8	4.4	45	C	4.61	28
4	7	0.8	4.8	48	C	4.61	28
6	1	0.8	4.9	65	C	3.08	36
6	7	0.8	5.4	68	C	3.08	36
10	1	1.0	6.4	107	C	1.83	50
10	7	1.0	6.8	113	C	1.83	50
16	7	1.0	8.0	171	C	1.15	68
25	7	1.2	9.8	268	C	0.727	89
35	7	1.2	11.0	363	D	0.524	110
50	19	1.4	13.0	484	D	0.387	134
70	19	1.4	15.0	685	D	0.268	171
95	19	1.6	17.0	945	D	0.193	207
120	37	1.6	19.0	1180	D	0.153	239
150	37	1.8	21.0	1450	D	0.124	262
185	37	2.0	23.5	1810	D	0.0991	296
240	37	2.2	26.5	2370	D	0.0754	346
300	37	2.4	29.5	2960	D	0.0601	394
400	61	2.6	33.5	3790	D	0.0470	467

Standard Packing - C : Coils of 100 m

D : Drums 500 or 1000 m

1) At different operating T°(C) : $R = R_{20} C [1 + \alpha (T^{\circ} C - 20)]$

α : Temperature coefficient at 20° C = 0.00393 for copper
0.00403 for aluminium.

2) Ambient Temperature : 30° C

**SINGLE-CORE, PVC INSULATED,
NON-SHEATHED CABLES WITH FLEXIBLE CONDUCTORS**

Nominal cross section mm ²	Maximum diameter of conductor wires mm	Radial thickness of insulation mm	Approx. overall diameter mm	Approx. net weight kg/km	Standard packing	D.C. Resistance at 20°C (1) Ω/KM	Current carrying capacity (2) Amp.
300/500 V TYPE 227 IEC 06 FOR INTERNAL WIRING							
0.5	0.21	0.6	2.6	9	C	39.0	8
0.75	0.21	0.6	2.8	12	C	26.0	10
1	0.21	0.6	3.0	14	C	19.5	12
450/750 V TYPE 227 IEC 02 FOR GENERAL PURPOSES							
1.5	0.26	0.7	3.5	20	C	13.3	16
2.5	0.26	0.8	4.2	32	C	7.98	21
4	0.31	0.8	4.8	47	C	4.95	28
6	0.31	0.8	6.3	70	C	3.30	36
10	0.41	1.0	7.6	118	C	1.91	50
16	0.41	1.0	8.8	176	C	1.21	68
25	0.41	1.2	11.0	275	C	0.780	89
35	0.41	1.2	12.5	371	D	0.554	110
50	0.41	1.4	14.5	530	D	0.386	134
70	0.51	1.4	17.0	730	D	0.272	171
95	0.51	1.6	19.0	965	D	0.206	207
120	0.51	1.6	21.0	1220	D	0.161	239
150	0.51	1.8	23.5	1480	D	0.129	262
185	0.51	2.0	26.0	1850	D	0.106	296
240	0.51	2.2	29.5	2420	D	0.0801	346

Standard Packing - C : Coils of 100 m

D : Drums 500 or 1000 m

1) At different operating T°(C) : $R = R_{20} C [1 + \alpha (T^{\circ} C - 20)]$

α : Temperature coefficient at 20° C = 0.00393 for copper
0.00403 for aluminium.

2) Ambient Temperature : 30° C

1 - SCOPE

This specification covers Single conductor (solid and/or stranded) polyvinyl chloride insulated and nylon jacketed building wire rated 600 V. Type THHN or THWN to UL 83 Thermoplastic-Insulated Wires, ANSI C 33.80, Federal Specification J-C-30A UL 1063 Machine-Tool Wires.

The Thin outer nylon jacket secures flame retarding properties, high protection against moisture and abrasion (mechanical and/or chemical), as well as against stress especially during the wires pulling into conduits.

Therefore this type of cables can be used in general purpose applications, in conduits, ducts, tubes or raceways, in wet and dry environment especially when smaller diameter is requested to secure additional circuits or greater sized conductors in limited conduits.

2 - CONSTRUCTION

2.1 - Conductor

Plain, annealed, electrolytic copper conductors, solid or stranded, complying with the applicable UL83.

2.2 - Insulation

PVC based thermoplastic material, conforming to the applicable UL83.

2.3 - Jacket

Low moisture absorbent nylon, heat and light stable, conforming to UL requirements and bearing the specified / required outer printing.



THWN OR THHN - 600V

DIMENSIONAL CHARACTERISTICS

Size		Nominal number of conductor wires	Radial thickness of insulation mm	Radial thickness of Nylon / Jacket mm	Approx. overall diameter mm	Approx. net weight kg/km
AWG	mm ²					
14	2.08	1 or 7	0.38	0.1	2.9	25
12	3.31	1 or 7	0.38	0.1	3.3	37
10	5.26	1 or 7	0.51	0.1	4.3	58
8	8.37	1 or 7	0.76	0.13	5.5	97
6	13.30	7 or 19	0.76	0.13	6.5	146
4	21.15	7 or 19	1.02	0.15	8.2	232
2	33.63	7 or 19	1.02	0.15	9.7	355
1/0	53.48	19 or 37	1.27	0.18	12.3	566
2/0	67.43	19 or 37	1.27	0.18	13.4	698

Packing: in coils or drums carrying the ordered individual length.
Other sizes are also available.

ELECTRICAL CHARACTERISTICS

Size	D.C. Resistance at 20°C Ω/KM	Current carrying capacity Ambient $t = 30C$			
		Cables in conduit Amp.		Cables in air Amp.	
		THWN	THHN	THWN	THHN
14	8.62	19	24	29	34
12	5.43	26	31	36	41
10	3.409	34	39	49	55
8	2.144	50	54	69	79
6	1.348	66	76	95	105
4	0.8481	84	94	124	139
2	0.5335	116	131	171	191
1/0	0.3354	152	172	232	262
2/0	0.2660	174	197	267	302

8 LIGHT PVC SHEATHED CABLES FOR FIXED WIRING

1 - SCOPE

This specification covers single, twin, three, four and five core circular cables, PVC insulated, PVC sheathed, to International Electrotechnical Commission Publication IEC 227, Type 227 IEC 10 rated at 300/500 V, for use indoors in dry and damp locations, in locations exposed to fire and explosion hazards and in locations where resistance to heat, acids, oils, grease, abrasion and moisture is required.

2 - CONSTRUCTION

2.1 - Conductor

Plain, annealed, electrolytic copper conductor, solid or stranded, complying with the applicable requirements of IEC 228.

2.2 - Insulation

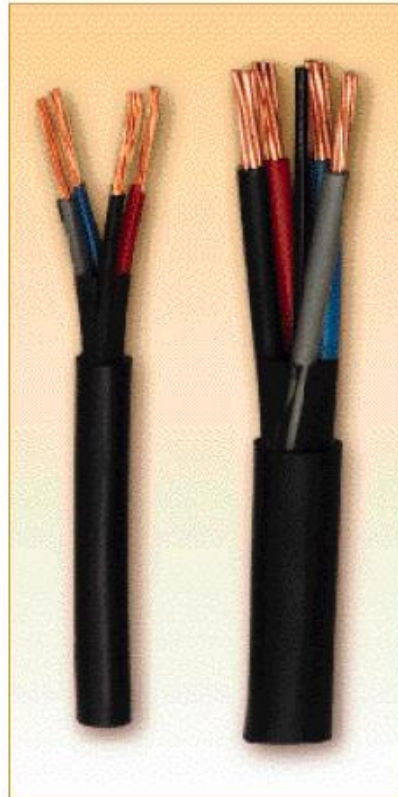
PVC based thermoplastic material, conforming to the applicable requirements of IEC 227.

2.3 - Assembly

Twin, Three, four or five insulated conductors are laid up, and filled (in round conductor cables) with appropriate material.

2.4 - Sheath

PVC based thermoplastic material, conforming to the applicable requirements of IEC 227.



LIGHT PVC SHEATHED CABLES
FOR FIXED WIRING 300/500 V. TYPE 227 IEC 10

Nominal cross section mm ²	Nominal number of conductor wires	Radial thickness of insulation mm	Radial thickness of sheath mm	Approx. overall diameter Upper limit mm	Approx. net weight kg/km	Standard packing	D.C. Resistance at 20°C (1) Ω/KM	Current carrying capacity (2) Amp.
2 x 1.5	1 or 7	0.7	1.2	10.0	106	C	12.1	22
2 x 2.5	1 or 7	0.8	1.2	11.5	147	C	7.41	30
2 x 4	1 or 7	0.8	1.2	12.5	192	C	4.61	40
2 x 6	1 or 7	0.8	1.2	14.0	261	D	3.08	51
2 x 10	7	1.0	1.4	17.5	418	D	1.83	70
2 x 16	7	1.0	1.4	20.0	585	D	1.15	94
2 x 25	7	1.2	1.4	24.0	870	D	0.727	119
3 x 1.5	1 or 7	0.7	1.2	10.5	125	C	12.1	18.5
3 x 2.5	1 or 7	0.8	1.2	12.0	176	C	7.41	25
3 x 4	1 or 7	0.8	1.2	13.0	234	C	4.61	34
3 x 6	1 or 7	0.8	1.4	15.5	336	D	3.08	43
3 x 10	7	1.0	1.4	19.0	525	D	1.83	60
3 x 16	7	1.0	1.4	21.5	740	D	1.15	80
3 x 25	7	1.2	1.6	26.0	1140	D	0.727	101
4 x 1.5	1 or 7	0.7	1.2	11.5	150	C	12.1	18.5
4 x 2.5	1 or 7	0.8	1.2	13.0	213	C	7.41	25
4 x 4	1 or 7	0.8	1.4	14.5	301	C	4.61	34
4 x 6	1 or 7	0.8	1.4	17.0	418	D	3.08	43
4 x 10	7	1.0	1.4	20.5	665	D	1.83	60
4 x 16	7	1.0	1.4	23.5	940	D	1.15	80
4 x 25	7	1.2	1.6	28.5	1450	D	0.727	101

Standard Packing - C : Coils of 100 m

D : Drums 500 or 1000 m

1) At different operating T°C : $R = R_{20°C} [1 + \alpha (T°C - 20)]$

α : Temperature coefficient at 20° C = 0.00393 for copper
0.00403 for aluminium.

2) Ambient Temperature : 30° C

9 FLAT PVC INSULATED AND SHEATHED CABLES

1 - SCOPE

This specification covers two or three conductors (or more on special request), PVC insulated and laid parallel, with or without a bare copper conductor for earth continuity, and overall PVC sheathed, rated at 300/500 V and conforming to BSS 6004; for use indoors for a wide range of electrical applications, in building, stores, warehouses and shops; possess excellent electric properties and high resistance to heat, acids, oil, grease, abrasion and moisture.

2 - CONSTRUCTION

2.1 - Conductor

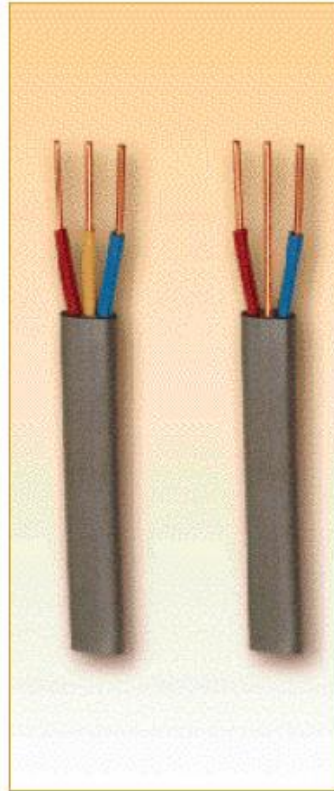
Plain, annealed, electrolytic copper conductor, solid or stranded, complying with the applicable requirements of BSS 6360.

2.2 - Insulation

PVC based thermoplastic material, complying with the applicable requirements of BSS 6746.

2.3 - Sheath

PVC based thermoplastic material, complying with the applicable requirements of BSS 6746.



**FLAT PVC INSULATED AND SHEATHED
CABLES 300/500 V CONFORMING TO BSS 6004**

Nominal cross section mm ²	Number & nominal diameter of wires mm	Radial thickness of insulation mm	Radial thickness of sheath mm	Approx. overall dimensions mm	Approx. net weight kg/km	Standard packing	D.C. Resistance at 20°C (1) Ω/KM	Current carrying capacity (2) Amp.
2 x 1.0	1/1.13	0.6	0.9	6.6 x 4.2	55	C	18.1	17
2 x 1.5	1/1.38	0.7	0.9	7.5 x 4.7	75	C	12.1	22
2 x 2.5	1/1.78	0.8	1.0	8.9 x 5.5	110	C	7.41	30
2 x 4	7/0.85	0.8	1.0	10.5 x 6.3	150	C	4.61	40
2 x 6	7/1.04	0.8	1.1	11.8 x 7.1	205	C	3.08	51
2 x 10	7/1.35	1.0	1.2	14.7 x 8.7	325	D	1.83	70
2 x 16	7/1.70	1.0	1.3	17.1 x 10.0	465	D	1.15	94
3 x 1.0	1/1.13	0.6	0.9	8.9 x 4.3	80	C	18.1	14
3 x 1.5	1/1.38	0.7	0.9	10.3 x 4.7	105	C	12.1	19
3 x 2.5	1/1.78	0.8	1.0	12.3 x 5.6	150	C	7.41	25
3 x 4	7/0.85	0.8	1.1	14.9 x 6.6	230	C	4.61	34
3 x 6	7/1.04	0.8	1.1	16.6 x 7.2	300	C	3.08	43
3 x 10	7/1.35	1.0	1.2	20.9 x 8.8	485	D	1.83	60
3 x 16	7/1.70	1.0	1.3	24.3 x 10.1	700	D	1.15	80

Different cross sections also available.

Standard Packing - C : Coils of 100 m

D : Drums 500 or 1000 m

1) At different operating T°(C) : $R = R_{20} C [1 + \alpha (T^{\circ}C - 20)]$

α : Temperature coefficient at 20° C = 0.00393 for copper
0.00403 for aluminium.

2) Ambient Temperature : 30° C

**FLAT PVC INSULATED AND SHEATHED
CABLES 300/500 V CONFORMING TO BSS 6004**

Nominal cross section mm ²	Number & nominal diameter of wires mm	Radial thickness of insulation mm	Radial thickness of sheath mm	Approx. overall dimensions mm	Approx. net weight kg/km	Size of Ecc mm	Standard packing	D.C. Resistance at 20°C (1) Ω/KM	Current carrying capacity (2) Amp.
WITH EARTH CONTINUITY CONDUCTOR									
2 x 1.0	1/1.13	0.6	0.9	7.7 x 4.3	75	1/1.13	C	18.1	17
2 x 1.5	1/1.38	0.7	0.9	8.6 x 4.7	90	1/1.13	C	12.1	22
2 x 2.5	1/1.78	0.8	1.0	10.1 x 5.5	130	1/1.13	C	7.41	30
2 x 4	7/0.85	0.8	1.0	11.9 x 6.4	175	1/1.38	C	4.61	40
2 x 6	7/1.04	0.8	1.1	13.6 x 7.1	240	1/1.78	C	3.08	51
2 x 10	7/1.35	1.0	1.2	17.4 x 8.8	390	7/0.85	D	1.83	70
2 x 16	7/1.70	1.0	1.3	20.3 x 10.0	560	7/1.04	D	1.15	94
3 x 1.0	1/1.13	0.6	0.9	10.1 x 4.3	95	1/1.13	C	18.1	14
3 x 1.5	1/1.38	0.7	0.9	11.5 x 4.8	125	1/1.13	C	12.1	19
3 x 2.5	1/1.78	0.8	1.0	13.5 x 5.6	170	1/1.13	C	7.41	25
3 x 4	7/0.85	0.8	1.1	16.1 x 6.6	255	1/1.38	C	4.61	34
3 x 6	7/1.04	0.8	1.1	17.8 x 7.2	340	1/1.78	C	3.08	43
3 x 10	7/1.35	1.0	1.2	23.5 x 8.9	550	7/0.85	D	1.83	60
3 x 16	7/1.70	1.0	1.3	27.5 x 10.2	790	7/1.04	D	1.15	80

Standard Packing - C : Coils of 100 m

D : Drums 500 or 1000 m

1) At different operating T^o(C) : R = R₂₀^oC [1 + α (T^oC - 20)]

α : Temperature coefficient at 20^oC = 0.00393 for copper

0.00403 for aluminium.

2) Ambient Temperature : 30^oC

1 - SCOPE

This specification covers 300 V rated cords of two conductors laid parallel and insulated simultaneously; allowing insulated conductors to be joined but easily separated without causing damage to the insulation, for use in dry locations for connecting portable electrical appliances (excluding heating appliances), also for lighting circuits, offering both flexibility and durability to resist abrasion and rough handling, and possessing resistance to ageing, moisture and chemicals, conforming to type 227 IEC 42.

2 - CONSTRUCTION

2.1 - Conductor

Plain, annealed, electrolytic copper conductor, finely stranded, conforming to IEC 228 class 5.

2.2 - Arrangement of cores

Two conductors are laid flat side by side and covered with the insulating material in one process.

2.3 - Insulation

PVC based thermoplastic material, conforming to the applicable requirements of IEC 227.

Colours : All white or red - black.

Other colours also available upon request.



**FLAT FLEXIBLE CORDS, PVC INSULATED,
300 / 300 V Type 227 IEC 42**

Nominal cross section mm ²	Maximum diameter of conductor wires mm	Radial thickness of insulation mm	Approx. overall dimensions mm	Approx. net weight kg/km	Standard packing	D.C. Resistance at 20°C (1) Ω/KM	Current carrying capacity (2) Amp.
TWO CORE							
2 x 0.5	0.21	0.8	3.0 X 6.0	21	C	39.0	3
2 x 0.75	0.21	0.8	3.2 X 6.4	28	C	26.0	6
2 x 1*	0.21	0.8	3.3 x 6.6	31	C	19.5	10
2 x 1.5*	0.26	0.8	3.4 x 6.8	41	C	13.3	15
2 x 2*	0.26	0.9	3.7 x 7.2	56	C	9.5	18
2 x 2.5*	0.26	0.9	4.0 x 8.0	63	C	7.98	20

Standard Packing - C : Coils of 100 m

1) At different operating T°(C) : $R = R_{20°C} [1 + \alpha (T° C - 20)]$
 α : Temperature coefficient at 20° C = 0.00393 for copper
0.00403 for aluminium.

2) Ambient Temperature : 30° C

*To VDE 250 / 69

11 LIGHT DUTY FLEXIBLE CORDS, PVC INSULATED AND SHEATHED

1 - SCOPE

This specification covers circular, twin and three cores, PVC insulated and sheathed, light duty cables rated at 300 / 300 V, type 227 IEC 52 TO International Electrotechnical Commission Publication IEC 227, for use in dry locations for domestic appliances.

2 - CONSTRUCTION

2.1 - Conductor

Plain, annealed, electrolytic copper conductors, finely stranded, conforming to IEC 228 class 5.

2.2 - Insulation

PVC based thermoplastic material conforming to IEC 227.

2.3 - Assembly

Circular cord : The insulated conductors are twisted together.
Flat cord : The cores are laid parallel.

2.4 - Sheath

PVC based thermoplastic material applied around the conductors and the interstices between the cores are filled with the sheathing material, conforming to the applicable requirements of IEC 227.



LIGHT DUTY FLEXIBLE CORDS
PVC INSULATED AND SHEATHED,
300 / 300 V Type 227 IEC 52

Nominal cross section mm ²	Maximum diameter of Conductors wires mm	Radial thickness of insulation mm	Radial thickness of sheath mm	Approx. overall dimensions mm	Approx. net weight kg/km	Standard packing	D.C. Resistance at 20°C (1) Ω/KM	Current carrying capacity (2) Amp.
FLAT								
2 x 0.5	0.21	0.5	0.6	3.6 X 6.0	28	C	39.0	3
2 x 0.75	0.21	0.5	0.6	3.9 X 6.4	35	C	26.0	6
CIRCULAR								
2 x 0.5	0.21	0.5	0.6	6.0	37	C	39.0	3
2 x 0.75	0.21	0.5	0.6	6.4	45	C	26.0	6
CIRCULAR								
3 x 0.5	0.21	0.5	0.6	6.2	44	C	39.0	3
3 x 0.75	0.21	0.5	0.6	6.8	55	C	26.0	6

Standard Packing - C : Coils of 100 m

1) At different operating T°(C) : $R = R_{20°C} [1 + \alpha (T° C - 20)]$

α : Temperature coefficient at 20° C = 0.00393 for copper
 0.00403 for aluminium.

2) Ambient Temperature : 30° C

Greater sizes according to other specifications, like CNOMO for example, are also available.

12 ORDINARY FLEXIBLE CORDS, PVC INSULATED AND SHEATHED

1 - SCOPE

This specification covers circular, twin, three, four or five core, PVC insulated and sheathed cords, rated at 300 / 500 V. type 227 IEC 53 to International Electrotechnical Commission Publication IEC 227, for conductor cross-sectional areas up to and including 2.5 mm² ; and 300/500 V type H05VVF (round) and type H05VVH2 - F (flat) to HD 21.5S2 for conductor, cross sectional areas up to and including 4 mm²; and 500 V. rated type SVOV to French Specifications CNOMO 04-24-23 for conductor cross-sectional areas above 4 mm². for use in dry and damp locations for domestic and heating appliances, and for locations where resistance to moisture, chemicals and abrasion is required.

N.B.: Different cross sectional areas / conductors are also available on special request.

2 - CONSTRUCTION

2.1 - Conductor

Plain, annealed, electrolytic copper conductors, finely stranded, conforming to IEC 228 class 5.

2.2 - Insulation

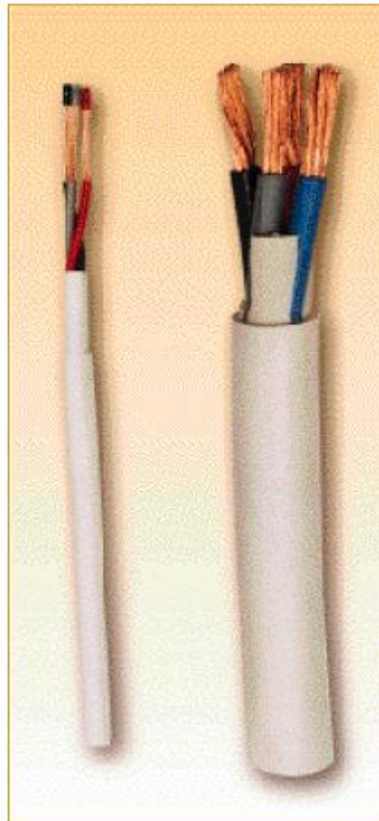
PVC based thermoplastic material conforming to the applicable requirements of IEC 227.

2.3 - Assembly

Twin, three, four or five insulated conductors are laid up and outer interstices are filled with sheathing compound, for type 227 IEC 53 and filled with soft thermoplastic material, for type SVOV.

2.4 - Sheath

PVC based thermoplastic material, conforming to the applicable requirements of IEC 227.



**ORDINARY FLEXIBLE CORDS PVC INSULATED
AND SHEATHED 300 / 500 V. Type 227 IEC 53
and/or type H05VVf to HD 21.5S2**

Nominal cross sectional area mm ²	Maximum diameter of Conductor wires mm	Radial thickness of insulation mm	Radial thickness of sheath mm	Maximum overall diameter mm	Approx. net weight kg/km	Standard packing	D.C. Resistance at 20°C (1) Ω/KM	Current carrying capacity (2) Amp.
2 x 0.75	0.21	0.6	0.8	7.6	57	C	26.0	14
2 x 1	0.21	0.6	0.8	8.0	64	C	19.5	17
2 x 1.5	0.26	0.7	0.8	9.0	87	C	13.3	22
2 x 2.5	0.26	0.8	1.0	11.0	134	C	7.98	30
2 x 4	0.31	0.8	1.1	12	172	C	4.95	40
3 x 0.75	0.21	0.6	0.8	8.0	67	C	26.0	12
3 x 1	0.21	0.6	0.8	8.4	77	C	19.5	14
3 x 1.5	0.26	0.7	0.9	9.8	108	C	13.3	18.5
3 x 2.5	0.26	0.8	1.1	12.0	168	C	7.98	25
3 x 4	0.31	0.8	1.2	13.0	219	C	4.95	34
4 x 0.75	0.21	0.6	0.8	8.6	81	C	26.0	12
4 x 1	0.21	0.6	0.9	9.4	98	C	19.5	14
4 x 1.5	0.26	0.7	1.0	11.0	137	C	13.3	18.5
4 x 2.5	0.26	0.8	1.1	13.0	206	C	7.98	25
4 x 4	0.31	0.8	1.2	14.0	269	C	4.95	34
5 x 0.75	0.21	0.6	0.9	9.6	100	C	26.0	12
5 x 1	0.21	0.6	0.9	10.0	116	C	19.5	14
5 x 1.5	0.26	0.7	1.1	12.0	167	C	13.3	18.5
5 x 2.5	0.26	0.8	1.2	14.0	251	C	7.98	25
5 x 4	0.31	0.8	1.4	15.5	375	D	4.95	34

Standard Packing - C : Coils of 100 m

1) At different operating T^o(C) : $R = R_{20^{\circ}C} [1 + \alpha(T^{\circ}C - 20)]$

α : Temperature coefficient at 20° C = 0.00393 for copper

0.00403 for aluminium.

2) Ambient Temperature : 30° C

Greater sizes according to other specifications, like CNOMO for example, are also available.

FLEXIBLE CABLES, PVC INSULATED AND SHEATHED 500 V

Conforming to CNOMO 04.24.23 Type SVOV

Nominal cross sectional area mm ²	Maximum diameter of Conductor wires mm	Radial thickness of insulation mm	Radial thickness of sheath mm	Maximum overall diameter mm	Approx. net weight kg/km	Standard packing	D.C. Resistance at 20°C (1) Ω/KM	Current carrying capacity (2) Amp.
3 x 6	0.31	0.8	1.3	14.8	375	D	3.30	43
3 x 10	0.41	1.0	1.6	18.5	610	D	1.91	60
3 x 16	0.41	1.0	1.9	21.7	875	D	1.21	80
3 x 25	0.41	1.2	2.1	26.1	1320	D	0.780	101
3 x 35	0.41	1.2	2.3	29.8	1720	D	0.554	126
4 x 6	0.31	0.8	1.4	16.3	470	D	3.30	43
4 x 10	0.41	1.0	1.7	20.4	760	D	1.91	60
4 x 16	0.41	1.0	2.0	24.1	1100	D	1.21	80
4 x 25	0.41	1.2	2.3	29.2	1670	D	0.780	101
4 x 35	0.41	1.2	2.6	33.4	2195	D	0.554	126
5 x 6	0.31	0.8	1.5	17.8	575	D	3.30	43
5 x 10	0.41	1.0	2.0	23.1	950	D	1.91	60
5 x 16	0.41	1.0	2.2	26.8	1355	D	1.21	80
5 x 25	0.41	1.2	2.6	32.8	2075	D	0.780	101
5 x 35	0.41	1.2	2.8	37.1	2700	D	0.554	126

Standard Packing - C : Coils of 100 m

D : Drums 500 or 1000 m

1) At different operating T°(C) : $R = R_{20} [1 + \alpha (T - 20)]$

α : Temperature coefficient at 20° C = 0.00393 for copper
0.00403 for aluminium.

2) Ambient Temperature : 30° C

Greater sizes according to other specifications, like CNOMO for example, are also available.

