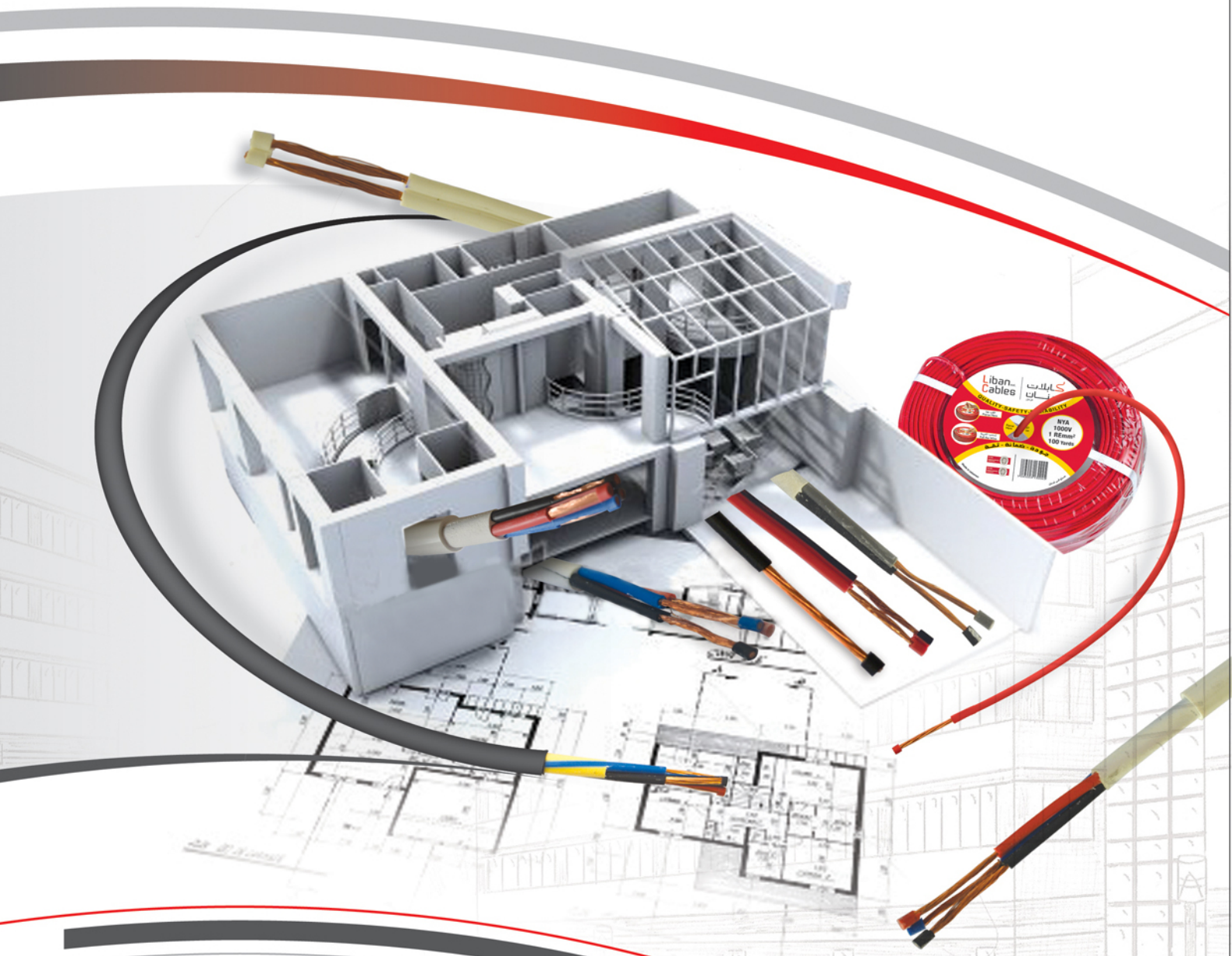
Liban Cables saL

BUILDING WIRES
&
FLEXIBLE CABLES



Quality • Reliability • Innovation

ISO 9001
BUREAU VERITAS
Certification

ISO 14001
BUREAU VERITAS
Certification

BUILDING WIRES & FLEXIBLE CABLES

• OUR VALUES

Share Together Our Values

Think Customer/Value People/Commit To Excellence/Take Action/Be Responsible/Work Globally

6 Values to share together:

Think Customer

WE PUT OUR CUSTOMERS, AT THE CENTER OF OUR FOCUS, listening relentlessly to them, seeking to understand them fully, anticipating their changing needs and executing flawlessly to deliver superior products, services and value.

Value People

We RECOGNIZE PEOPLE AS THE SOURCE OF OUR SUCCESS. We are reliable, open, honest, trustworthy, and respectful of our colleagues and their diversity. We commit to Liban Cables Values. We expect fair treatment, progression and opportunities to develop our competencies.

Commit To Excellence

WE ACHIEVE EXCELLENCE IN OUR PRODUCTS, process and services through shared knowledge, personal development, continuous improvement, safety and best-in-class execution.

Take Action

WE BUILD TOGETHER A DYNAMIC CULTURE that encourages pro-activity, flexibility and innovation in the achievement of our strategic objectives. We anticipate and drive change.

Be Responsible

WE DEMONSTRATE INTEGRITY by taking ownership for what is expected of us and full responsibility for our actions. We conduct business in a safe and ethical manner, respecting the environment and supporting the communities in which we operate.

Work Globally

WE RECOGNIZE THE PRIMACY OF THE GROUP. We work together transversally, collaborating within and across organizational borders. We encourage openness, transparency, and the sharing of information and knowledge

CONTENTS

• 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 Commision Specification (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.

Whereas, in fact some special cables may require special conception, fully within the capabilities of LIBAN CABLES SAL, ISO 9001 certified, precisely because in position to conceive and tailor to your special needs.

That is why, while consulting this brochure, it is important to take into account that any combination or change of the constructional details mentioned in this catalogue remain feasible, on the basis of special conception / development, matching any special or different specifications.

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.

The Sheer magnitude and variety of cables used today... Requires a cable manufacturer with vision... Along with extensive production & service capability...

Having more than **45** years of experience, Liban Cables provides complete expertise in cables and cabling systems, starting with systems' original conception and design of products as well as solutions up to manufacturing a complete range of high quality cables. Liban Cables facilities operate under ISO:9001 and ISO:14001 High Standards.

Vision

Providing our clients with the best possible services and products since their satisfaction is our utmost priority.

Mission

Quality, Reliability and Innovation are the bases of our strategy.

CSR

Our Corporate Social Responsibility, Standards and Values are the key Factors that makes us committed to eliminate all risks affecting environment as well as our employees' safety.

Liban Cables offers:

- Wide choice of building and industrial cables
- Complete range of LV/MV/HV cables
- Different types and sizes of infrastructure cables (up to 220 KV)

Liban Cables, enhances both living and workplace. This variety of cables requires a cables manufacturer with an exceptional experience.

Liban Cables was founded in 1967 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 & Nexans in 2000)
- Phelps Dodge - USA

Staffed with qualified engineers and highly skilled technicians, our plant is located in Nahr Ibrahim at 45 KM North of Beirut, where cables are designed and manufactured according to all international specifications: IEC, VDE, UTE, BS and others on customer request.

2 • QUALITY ASSURANCE

To satisfy our customers expectations for Quality, Safety, Reliability and Service; Liban Cables is committed to provide products and services of the highest possible Standards.

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

In addition to the final tests carried out on finished products, work in process is already 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.

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

Quality Management System:

Liban Cables has a Quality Control System implemented at the factory on all manufacturing stages and on our Final Product Stages. Developing innovation, achieving quality, meeting deadlines & providing services are our key priorities to satisfy our customers.

We make sure to increase **production efficiency** and **speed delivery**, while assuring the highest levels of **quality, safety, security** and **reliability**. All our facilities operate under the highest ISO:9001 Standards and we are fully committed to continuously improve the effectiveness of the Quality Management System, On-Time Delivery and Cost Effectiveness.

Quality is not another goal; It is at the core of our performance.

3 • ENVIRONMENT POLICY

Liban Cables is stepping up its efforts to reduce its impact on the environment via an environmental management system that is currently in operation at all of its sites.

Strict environmental management:

Liban Cables **environmental and safety policy** include a thorough **assessment of industrial risks** associated with the company's products and manufacturing processes, a **continuous improvement program** and employee **training courses on environmental best practices**.

The **Company Environmental Manual** outlines the objectives, procedures and tools available to each site. A **dedicated Intranet site** is available allowing employees to access all of the Company environment-related data and share best practices, which are organized by subject matter. In addition, all our facilities operate under the highest **ISO:14001** Standards.

The safety of our employees & visitors is our priority. We conduct business in a safe and ethical manner, respecting the environment and supporting the communities in which we operate.

Liban Cables is committed to the protection of the environment at locations where design, manufacturing, storage & delivery of electrical & communication cables are performed.

4 • 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 - Rated voltage.

3 - Copper or Aluminium conductors.

4 - Size of each conductor.

5 - Insulation material: XLPE or others.

6 - Number and identification of conductors.

7 - Other requirements.

8 - Packing.

9 - Required delivery time.

10 - Required validity.

Designation	Catalog chapter N°	Catalog Specification	Main Equivalent Specifications		
			German Specification	British Specification	Genelec Harmonized
Single core, non sheathed, PVC insulated cables	6	PVC insulated cables of rated voltages up to & including 450/750V. (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 H 05(07) V-K
PVC insulated, nylon jacketed cables	7	Underwriters Laboratories (USA) UL 83 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 03 VH-H
Light flexible cords, PVC insulated and sheathed	11	(IEC 227) 227 IEC 52 - round - flat	(VDE 0250) NYLHY rd NYLHY fl	(BS 6500) table 15	H 03 VV-F H 03 VVH2-F
flexible cords, PVC insulated and sheathed	12	(IEC 227) 227 IEC 53 - round - flat	(VDE 0250) NYMHY rd NYMHY fl	(BS 6500) table 16	H 03 VV-F H 03 VVH2-F

** Various types within our production range*

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 (0.5mm^2 to 1mm^2 cross-sectional area) rated 300/500V; 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 1.0mm^2, rated 450/750 V to International Electrotechnical Commission Publication IEC 227.

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

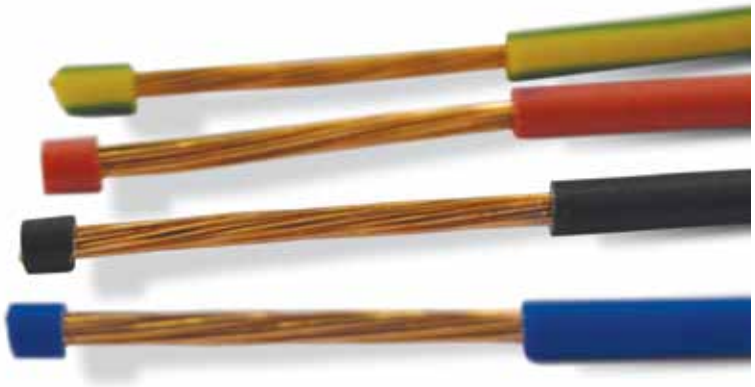
◦ *2. CONSTRUCTION*

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.



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

Nominal cross section	Nominal number of conductor	Radial thickness of insulation	Approx. overall diameter	Approx. net weight	Standard packing	D.C. Resistance at 20°C (1)	Current carrying capacity (2)
mm^2	wires	mm	mm	Kg/Km		Ω/km	Amp.
300 / 500 V TYPE 227 IEC 05 FOR INTERNEL 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	27
4	7	0.8	4.8	48	C	4.61	27
6	1	0.8	4.9	65	C	3.08	35
6	7	0.8	5.4	68	C	3.08	35
10	1	1.0	6.4	107	C	1.83	78
10	7	1.0	6.8	113	C	1.83	78
16	7	1.0	8.0	171	C	1.15	104
25	7	1.2	9.8	268	C	0.727	137
35	7	1.2	11.0	363	D	0.524	168
50	19	1.4	13.0	484	D	0.387	210
70	19	1.4	15.0	685	D	0.268	260
95	19	1.6	17.0	945	D	0.193	310
120	37	1.6	19.0	1180	D	0.153	365
150	37	1.8	21.0	1450	D	0.124	415
185	37	2.0	23.5	1810	D	0.0991	475
240	37	2.2	26.5	2370	D	0.0754	560
300	37	2.4	29.5	2960	D	0.0601	645
400	61	2.6	33.5	3790	D	0.0470	770

Standard Packing - C: Coils of 100m, D: Drums 500 or 1000m
1) At different operating T(°C): R = R20°C {1+ α(T°C - 20)}
α: Temperature coefficient at 20°C = 0.00393 for copper & 0.00403 for aluminium
2) - In duct for conductors up to 6mm² (up to three conductors)
- In air for conductors over 6mm² (spacing one diameter)
- Ambient temperature of air 25°C

SINGLE CORE, PVC INSULATED

NON-SHEATHED CABLES WITH FLEXIBLE CONDUCTORS

Nominal cross section	Nominal diameter of conductor	Radial thickness of insulation	Approx. overall diameter	Approx. net weight	Standard packing	D.C. Resistance at 20°C (1)	Current carrying capacity (2)
mm^2	wires	mm	mm	Kg/Km		Ω/km	Amp.
300 / 500 V TYPE 227 IEC 06 FOR INTERNEL WIRING							
0.5	0.21	0.6	2.6	9	C	39.0	8
0.75	0.21	0.6	2.8	12	C	26.5	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	27
6	0.31	0.8	6.3	70	C	3.30	35
10	0.41	1.0	7.6	118	C	1.91	78
16	0.41	1.0	8.8	176	C	1.21	104
25	0.41	1.2	11.0	275	C	0.780	137
35	0.41	1.2	12.5	371	D	0.554	168
50	0.41	1.4	14.5	530	D	0.386	210
70	0.51	1.4	17.0	730	D	0.272	260
95	0.51	1.6	19.0	965	D	0.206	310
120	0.51	1.6	21.0	1220	D	0.161	365
150	0.51	1.8	23.5	1480	D	0.129	415
185	0.51	2.0	26.0	1850	D	0.106	475
240	0.51	2.2	29.5	2420	D	0.0801	560

Standard Packing - C: Coils of 100m
D: Drums 500 or 1000m
1) At different operating T(°C): R = R20°C {1+ α(T°C - 20)}
α: Temperature coefficient at 20°C = 0.00393 for copper & 0.00403 for aluminium
2) - In duct for conductors up to 6mm² (up to three conductors)
- In air for conductors over 6mm² (spacing one diameter)
- Ambient temperature of air 25°C

7 • 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 ecposed 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 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.

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	Nominal number of conductor	Radial thickness of insulation	Radial thickness of sheath	Approx. overall diameter Upper limit	Approx. net weight	Standard packing	D.C. Resistance at 20°C (1)	Current carrying capacity (2)
mm^2	wires	mm	mm	mm	Kg/Km		Ω/km	Amp.
2 x 1.5	1 or 7	0.7	1.2	10.0	106	C	12.1	19.5
2 x 2.5	1 or 7	0.8	1.2	11.5	147	C	7.41	26
2 x 4	1 or 7	0.8	1.2	12.5	192	C	4.61	35
2 x 6	1 or 7	0.8	1.2	14.0	261	D	3.08	46
2 x 10	7	1.0	1.4	17.5	418	D	1.83	63
2 x 16	7	1.0	1.4	20.0	585	D	1.15	85
2 x 25	7	1.2	1.4	24.0	870	D	0.727	112
3 x 1.5	1 or 7	0.7	1.2	10.5	125	C	12.1	17.5
3 x 2.5	1 or 7	0.8	1.2	12.0	176	C	7.41	24
3 x 4	1 or 7	0.8	1.2	13.0	234	C	4.61	32
3 x 6	1 or 7	0.8	1.4	15.5	336	D	3.08	41
3 x 10	7	1.0	1.4	19.0	525	D	1.83	57
3 x 16	7	1.0	1.4	21.5	740	D	1.15	76
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	17.5
4 x 2.5	1 or 7	0.8	1.2	13.0	213	C	7.41	24
4 x 4	1 or 7	0.8	1.4	14.5	301	C	4.61	32
4 x 6	1 or 7	0.8	1.4	17.0	418	D	3.08	41
4 x 10	7	1.0	1.4	20.5	665	D	1.83	57
4 x 16	7	1.0	1.4	23.5	940	D	1.15	76
4 x 25	7	1.2	1.6	28.5	1450	D	0.727	101

Standard Packing - C: Coils of 100m
D: Drums 500 or 1000m
1) At different operating T(°C): R = R20°C {1+ α(T°C - 20)}
α: Temperature coefficient at 20°C = 0.00393 for copper & 0.00403 for aluminium
2) Ambient temperature 30°C

8 • 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 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

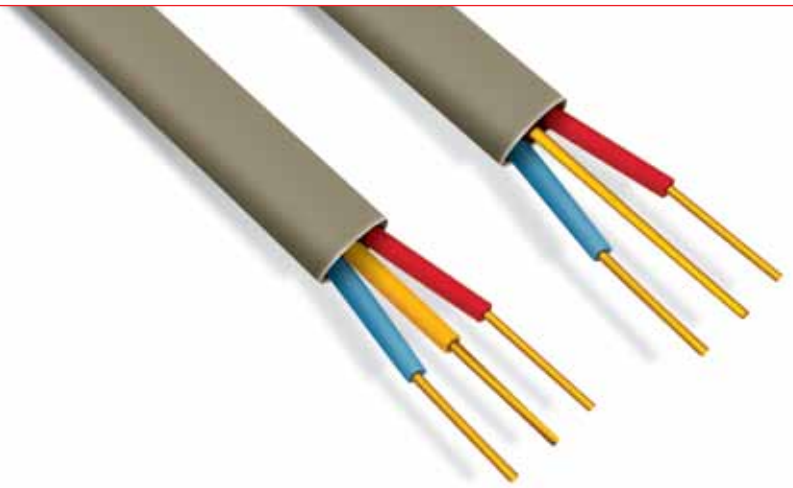
Plain, annealed electrolytic copper conductor, solid or stranded, complying with the applicable requirements of BSS 6360.

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	Number & nominal diameter of wires	Radial thickness of insulation	Radial thickness of sheath	Approx. overall dimensions	Approx. net weight	Standard packing	D.C. Resistance at 20°C (1)	Current carrying capacity (2)
mm^2	mm	mm	mm	mm	Kg/Km		Ω/km	Amp.
2 x 1.0	1/1.13	0.6	0.9	6.6 x 4.2	55	C	18.1	15
2 x 1.5	1/1.38	0.7	0.9	7.5 x 4.7	75	C	12.1	19.5
2 x 2.5	1/1.78	0.8	1.0	8.9 x 5.5	110	C	7.41	26
2 x 4	7/0.85	0.8	1.0	10.5 x 6.3	150	C	4.61	35
2 x 6	7/1.04	0.8	1.1	11.8 x 7.1	205	C	3.08	46
2 x 10	7/1.35	1.0	1.2	14.7 x 8.7	325	D	1.83	63
2 x 16	7/1.70	1.0	1.3	17.1 x 10.0	465	D	1.15	85
3 x 1.0	1/1.13	0.6	0.9	8.9 x 4.3	80	C	18.1	12.5
3 x 1.5	1/1.38	0.7	0.9	10.3 x 4.7	105	C	12.1	17.5
3 x 2.5	1/1.78	0.8	1.0	12.3 x 5.6	150	C	7.41	24
3 x 4	7/0.85	0.8	1.1	14.9 x 6.6	230	C	4.61	32
3 x 6	7/1.04	0.8	1.1	16.6 x 7.2	300	C	3.08	41
3 x 10	7/1.35	1.0	1.2	20.9 x 8.8	485	D	1.83	57
3 x 16	7/1.70	1.0	1.3	24.3 x 10.1	700	D	1.15	76

Different cross sections also available

Standard Packing - C: Coils of 100m
D: Drums 500 or 1000m
1) At different operating T(°C): R = R20°C {1+ α(T°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	Number & nominal diameter of wires	Radial thickness of insulation	Radial thickness of sheath	Approx. overall dimensions	Approx. net weight	Size of Ecc	Standard packing	D.C. Resistance at 20°C (1)	Current carrying capacity (2)
mm^2	mm	mm	mm	mm	Kg/Km	mm		Ω/km	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	15
2 x 1.5	1/1.38	0.7	0.9	8.6 x 4.7	90	1/1.13	C	12.1	19.5
2 x 2.5	1/1.78	0.8	1.0	10.1 x 5.5	130	1/1.13	C	7.41	26
2 x 4	7/0.85	0.8	1.0	11.9 x 6.4	175	1/1.38	C	4.61	35
2 x 6	7/1.04	0.8	1.1	13.6 x 7.1	240	1/1.78	C	3.08	46
2 x 10	7/1.35	1.0	1.2	17.4 x 8.8	390	7/0.85	D	1.83	63
2 x 16	7/1.70	1.0	1.3	20.3 x 10.0	560	7/1.04	D	1.15	85
3 x 1.0	1/1.13	0.6	0.9	10.1 x 4.3	95	1/1.13	C	18.1	12.5
3 x 1.5	1/1.38	0.7	0.9	11.5 x 4.8	125	1/1.13	C	12.1	17.5
3 x 2.5	1/1.78	0.8	1.0	13.5 x 5.6	170	1/1.13	C	7.41	24
3 x 4	7/0.85	0.8	1.1	16.1 x 6.6	255	1/1.38	C	4.61	32
3 x 6	7/1.04	0.8	1.1	17.8 x 7.2	340	1/1.78	C	3.08	41
3 x 10	7/1.35	1.0	1.2	23.5 x 8.9	550	7/0.85	D	1.83	57
3 x 16	7/1.70	1.0	1.3	27.5 x 10.2	790	7/1.04	D	1.15	76

Standard Packing - C: Coils of 100m
D: Drums 500 or 1000m
1) At different operating T(°C): R = R20°C {1+ α(T°C - 20)}
α: Temperature coefficient at 20°C = 0.00393 for copper & 0.00403 for aluminium
2) Ambient temperature 30°C

9 • FLAT FLEXIBLE CORDS, PVC INSULATED

◦ *1. SCOPE*

This specification covers 300 V rated cords of two conductors laid parallel and insulated simultaneoulsy; 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 corers

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	Maximum diameter of conductor wires	Radial thickness of insulation	Approx. overall dimensions	Approx. net weight	Standard packing	D.C. Resistance at 20°C (1)	Current carrying capacity (2)
mm^2	mm	mm	mm	Kg/Km		Ω/km	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 100m
1) At different operating T(°C): R = R20°C {1+ α(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*

10 • 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.

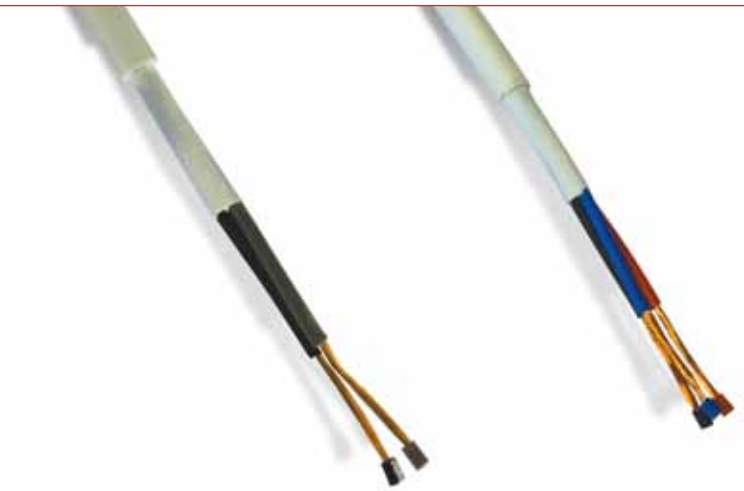
2.3 Assembly

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	Maximum diameter of conductor wires	Radial thickness of insulation	Radial thickness of sheath	Approx. overall dimensions	Approx. net weight	Standard packing	D.C. Resistance at 20°C (1)	Current carrying capacity (2)
mm^2	mm	mm	mm	mm	Kg/Km		Ω/km	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 100m
1) At different operating T(°C): R = R20°C {1+ α(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.

11 • 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 2.5mm^2; 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 mm^2; and 500 V. rated type SVOV to French Specifications CNOMO 04-24-23 for conductor cross-sectional areas above 4 mm^2. 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 EC 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	Maximum diameter of conductor wires	Radial thickness of insulation	Radial thickness of sheath	Maximum overall diameter	Approx. net weight	Standard packing	D.C. Resistance at 20°C (1)	Current carrying capacity (2)
mm^2	mm	mm	mm	mm	Kg/Km		Ω/km	Amp.
2 x 0.75	0.21	0.6	0.8	7.6	57	C	26.0	13.5
2 x1	0.21	0.6	0.8	8.0	64	C	19.5	15
2 x 1.5	0.26	0.7	0.8	9.0	87	C	13.3	19.5
2 x 2.5	0.26	0.8	1.0	11.0	134	C	7.98	26
2 x 4	0.31	0.8	1.1	12	172	C	4.95	35
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	12.5
3 x 1.5	0.26	0.7	0.9	9.8	108	C	13.3	17.5
3 x 2.5	0.26	0.8	1.1	12.0	168	C	7.98	24
3 x 4	0.31	0.8	1.2	13.0	21.9	C	4.95	32
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	12.5
4 x 1.5	0.26	0.7	1.0	11.0	137	C	13.3	17.5
4 x 2.5	0.26	0.8	1.1	13.0	206	C	7.98	24
4 x 4	0.31	0.8	1.2	14.0	269	C	4.95	32
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	12.5
5 x 1.5	0.26	0.7	1.1	12.0	167	C	13.3	17.5
5 x 2.5	0.26	0.8	1.2	14.0	251	C	7.98	24
5 x 4	0.31	0.8	1.4	15.5	375	D	4.95	32

Standard Packing - C: Coils of 100m
1) At different operating T(°C): R = R20°C {1+ α(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.

FLEXIBLE CABLES, PVC INSULATED AND SHEATHED

500 V Conforming to CNOMO 04.24.23 Type SVOV

Nominal cross sectional area	Maximum diameter of conductor wires	Radial thickness of insulation	Radial thickness of sheath	Maximum overall diameter	Approx. net weight	Standard packing	D.C. Resistance at 20°C (1)	Current carrying capacity (2)
mm^2	mm	mm	mm	mm	Kg/Km		Ω/km	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 100m
D: Drums 500 or 1000m
1) At different operating T(°C): R = R20°C {1+ α(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.