Al - LSHF - LSHF - SWA - LSHF

Standard Armoured - IEC 60502-1

APPLICATION

Cable for power supply, for rated voltage up to 0.6/1kV. Suitable for outdoor fixed installations when it is necessary to protect the cable against mechanical aggression or against rodents threat. Can be laid in free air, installed in ducts or directly buried. Excellent mechanical protection during laying, installation and service.

CABLE DESIGNATION

Al / LSHF/ LSHF / SWA / LSHF

SWA – Steel wire armour

AWA – Aluminium wire armour

CONSTRUCTION CHARACTERISTICS

Conductor

Aluminium: solid class 1 or rigid stranded class 2 circular or sector shaped.

Insulation

LSHF – (Low Smoke Halogen Free)

Bedding /Inner Sheath

LSHF – (Low Smoke Halogen Free)

Armour

Steel galvanized wires helical applied.

For single core cables steel is substituted by aluminium wires.

Oversheath

LSHF – (Low Smoke Halogen Free)

GENERAL CHARACTERISTICS

Construction and test standards	IEC 60228 - IEC 60502-1
Rated voltage U_0/U	0.6 / 1 kV
Test voltage	3.5 kV a.c. 5 minutes
Conductor maximum operating temperature	70°C
Maximum short-circuit temperature	160°C (t ≤ 5s)
Minimum bending radius (mm)	
(permanent. after installation) (during installation)	4xd if d<25 · 6xd if d 25 · 8xd if sector shape cond. 6xd if d<25 · 9xd if d 25 · 12xd if sector shape cond.
Maximum pulling force over conductor (N)	Aluminum – 30 x S
Flame retardant	IEC 60332-1-2 · EN 60332-1-2 (cable vertically mounted, length of charred cable ≤ 540 mm)
Flame retardant (frt)	IEC 60332-3-24 · EN 60332-3-24 (bunch of cables vertically mounted on a ladder, length of charred cable ≤ 2.5 m)
Halogen free (zh)	
Low smoke	IEC 61034-2 · EN 61034-2 (cable light transmittance ≥ 60%)
Low toxicity	IEC 60754-1 · EN 50267-2-1 (halogen acid gas content ≤ 0.5%)
Low corrosivity	IEC 60754-2 · EN 50267-2-3 (pH ≥4.3 · conductivity ≤ 10

S – conductor cross-section (mm^2) · d – cable outer diameter (mm).

ELECTRICAL AND DIMENSIONAL CHARACTERISTICS

Cable composition n.° cond. x cross-section (mm^2)	Approximate outer diameter (mm)	Approximate weight (kg/km)	Current carrying capacity Installation directly buried[(1)] Ts= 20°C (A)	
			2 charged conductors	3 charged conductors
Al / LSHF / LSHF / AWA / LSHF				
1x16	14.1	276		
1x25	16.6	391		
1x35	17.6	450		
1x50	19.3	546	152	131
1x70	21.6	657	194	168
1x95	23.9	857	234	205
1x120	25.6	983	270	238
1x150	27.5	1136	310	275
1x185	29.8	1337	352	315
1x240	33.6	1671	413	372
1x300	36.5	2023	474	430
1x400	40.4	2414	543	497
1x500	45.1	2909	616	568
1x630	50.6	3644	692	642
Al / LSHF / LSHF / SWA / LSHF				
3x16	24.1	1218		61
3x25	25.5	1378		80
3x35	26.5	1560		99
3x50	30.0	1887		119
3x70	33.7	2466		151
3x95	38.3	3006		186
3x120	41.0	3400		216
3x150	45.8	4408		250
3x185	50.3	5102		287
3x240	55.6	6130		342
3x300	60.9	7182		399
3x25+1x16	28.3	1561		80
3x35+1x16	31.0	1778		99
3x50+1x25	36.7	2429		119
3x70+1x35	40.0	2867		151
3x95+1x50	43.7	3563		186
3x120+1x70	50.0	4460		216
3x150+1x70	55.0	5189		250
3x185+1x95	60.0	6037		287
3x240+1x120	66.0	7236		342

ELECTRICAL AND DIMENSIONAL CHARACTERISTICS

Cable composition n.° cond. x cross-section (mm^2)	Approximate outer diameter (mm)	Approximate weight (kg/km)	Current carrying capacity Installation directly buried[1] Ts= 20°C (A)	
			2 charged conductors	3 charged conductors
4x16	26.0	1371		61
4x25	28.3	1635		80
4x35	31.0	1887		99
4x50	36.7	2573		119
4x70	40.0	3048		151
4x95	43.7	4093		186
4x120	50.0	4711		216
4x150	55.0	5498		250
4x185	60.0	6426		287
4x240	66.0	7773		342
4x300	73.0	9110		399

Other compositions are available, contact info@fast-cables.com for information.

(1) Phase conductors sector shape.
(2) Thermal resistivity of soil = 1.0 K.m/W.
Single core cable – higher values of current may be considered depending on installation conditions.

Only one circuit is considered
Cables with 2 and 3 conductors: 2 charged conductors.
Cables with 4 and 5 conductors: 3 charged conductors.
For compositions of 4 conductors, the same characteristics apply if the fourth conductor is the earth conductor or neutral conductor.