

SUPROMONT Medium-Voltage Flexible Cables for Underground Use



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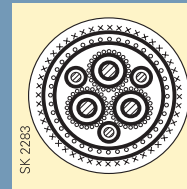


BUS_016/II

Selection and dimensioning criteria		Refer to Section 4 for further details		→
	Type	SUPROMONT PVC	SUPROMONT rubber	Page 4/2
	Type designation	NYHSSYCY	N3GHSSYCY	Page 4/3
	Approvals/standards	DIN VDE 0250, Part 212 MSHA P-189-2	DIN VDE 0250, Part 605 MSHA P-189-2	Page 4/4
	Application (refer also to DIN VDE 0298, Part 3)	As feeder cable for power supply of shiftable MV equipment up to $U_0/U = 3.6/6$ kV, e.g. explosion-proof transformers, for underground mining applications as well as for tunnel sites	As feeder cable for power supply of shiftable MV equipment up to $U_0/U = 12/20$ kV, e.g. explosion-proof transformers, for underground mining applications as well as for tunnel sites	Page 4/6
Electrical parameters	Rated voltage	$U_0/U = 3.6/6$ kV	$U_0/U = 3.6/6$ kV to 12/20 kV	Pages to 4/14 4/17
	Maximum permissible operating voltage in AC systems	$U_0/U = 4.2/7.2$ kV	$U_0/U = 4.2/7.2$ kV to 13.9/24 kV	
	Maximum permissible operating voltage in DC systems	$U_0/U = 5.4/10.8$ kV	$U_0/U = 5.4/10.8$ kV to 18/36 kV	
	AC test voltage	11 kV	11 kV to 29 kV	
	Current-carrying capacity	According to DIN VDE 0298, Part 4	According to DIN VDE 0298, Part 4	
Thermal parameters	Ambient temperature			Pages to 4/18 4/19
	• Fully flexible operation	+ 5 °C to +60 °C	+ 5 °C to + 80 °C	
	• Fixed installation	- 40 °C to +60 °C	- 40 °C to + 80 °C	
	Maximum permissible operating temperature of the conductor	70 °C	90 °C	
Short-circuit temperature of the conductor	150 °C	250 °C		
Mechanical parameters	Tensile load	Up to 15 N/mm ²	Up to 15 N/mm ²	Page 4/20
	Minimum bending radii	According to DIN VDE 0298, Part 3	According to DIN VDE 0298, Part 3	Page 4/22
Chemical parameters	Behaviour in case of fire	Given to DIN VDE 0482, Part 265-2-1, Para. 10	Given to DIN VDE 0482, Part 265-2-1, Para. 10	Page 4/28
	Weather resistance	Unrestricted use indoors and in underground mines according to DIN VDE 0118, resistant to ozone and moisture	Unrestricted use indoors and in underground mines according to DIN VDE 0118, resistant to ozone and moisture	

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- 1 Conductor
- 2 Insulation
- 3 Control core
- 4 Individual-concentric protective-earth conductor
- 5 Filler
- 6 Intermediate sheath
- 7 Monitoring conductor
- 8 Intermediate sheath
- 9 Steel-wire braid
- 10 Outer sheath



Design features	Refer to Section 4 for further details →		
Type	SUPROMONT PVC	SUPROMONT rubber	Page 4/2
Conductor (refer also to DIN VDE 0295)	Finely stranded copper conductor, not tinned, Class 5	Finely stranded copper conductor, not tinned, Class 5	Page 4/29
Insulation (refer also to DIN VDE 0207, Part 4 and Part 20)	PVC based thermoplastic compound, compound type: YI5	EPR based insulation compound, compound type: 3GI3	Page 4/32
Arrangement of protective-earth conductor	Individually laid-up concentrically around each main core	Individually laid-up concentrically around each main core	
Electrical field control	Copper wire braiding individually laid-up concentrically as an outer semiconductive layer	Inner and outer semiconductive layer of semiconductive rubber, for 6 kV outer semiconductive layer only	Page 4/36
Core identification	Main cores bright, control cores: colour black with white digits	Main cores bright, control cores: colour black with white digits	
Core arrangement	Three main cores laid-up each with one control core in the outer interstices	Three main cores laid-up each with one control core in the outer interstices	
Filler	EPR filler compound	EPR filler compound	Page 4/32
Intermediate sheath	PVC based plastic compound, compound type: YM5	PVC based plastic compound, compound type: YM5	Page 4/32
Monitoring conductor	Conductive tape serving and overall concentric Cu wire spinning	Conductive tape serving and overall concentric Cu wire spinning	
Intermediate sheath	PVC based plastic compound, compound type: YM5	PVC based plastic compound, compound type: YM5	Page 4/32
Anti-torsion braid	Braid of galvanized steel wires	Braid of galvanized steel wires	Page 4/39
Outer sheath (refer also to DIN VDE 0207, Part 21)	PVC based thermoplastic compound, compound type: YM5, colour red	PVC based thermoplastic compound, compound type: YM5, colour red	Page 4/32
Marking	(Year of manufacture) <VDE> SUPROMONT NYHSSYCY (cross-section) (rated voltage)	(Year of manufacture) <VDE> SUPROMONT N3GHSSYCY (cross-section) (rated voltage)	Page 4/40

SUPROMONT

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PVC / Rubber-Insulated Cables

Selection and ordering data

Number of cores and nominal cross-section mm ²	Order No.	Conductor diameter of cable (guidance value)			Conductor resistance at 20 °C Ω/km	Inductance per unit length mH/km	Operating capacitance per unit length μF/km	Current carrying capacity at 30 °C A	Permissible short-circuit current (1s) kA	Approx. net weight for 1000 m kg	Maximum permissible tensile force N
		(Max. value)	(Min. value)	(Max. value)							
3.6/6 kV NYHSSYCY PVC											
3 x 25 + 3x16/3E + 3x2.5ST+ÜL	5DM2 016	6.9	47.0	51.0	0.780	0.33	0.57	103	2.88	3900	1125
3 x 35 + 3x16/3E + 3x2.5ST+ÜL	5DM2 017	8.3	51.0	55.0	0.554	0.32	0.64	129	4.02	4500	1575
3 x 50 + 3x25/3E + 3x2.5ST+ÜL	5DM2 018	9.8	53.0	58.0	0.386	0.30	0.73	157	5.75	5500	2250
3 x 70 + 3x35/3E + 3x2.5ST+ÜL	5DM2 020	11.3	58.0	63.0	0.272	0.29	0.82	201	8.05	6500	3150
3 x 95 + 3x50/3E + 3x2.5ST+ÜL	5DM2 021	13.2	62.0	67.0	0.206	0.28	0.93	244	10.90	7800	4275
3 x 120 + 3x70/3E + 3x2.5ST+ÜL	5DM2 022	15.0	67.0	72.0	0.161	0.26	1.04	275	13.80	9000	5400
3.6/6 kV N3GHSSYCY Rubber											
3 x 25 + 3x16/3E + 3x2.5ST+ÜL	5DM2 041	6.9	49.0	53.0	0.780	0.36	0.22	131	3.05	4190	1125
3 x 35 + 3x16/3E + 3x2.5ST+ÜL	5DM2 042	8.3	52.0	56.0	0.554	0.34	0.25	162	4.27	4800	1575
3 x 50 + 3x25/3E + 3x2.5ST+ÜL	5DM2 043	9.8	55.0	59.0	0.386	0.32	0.28	202	6.10	5600	2250
3 x 70 + 3x35/3E + 3x2.5ST+ÜL	5DM2 044	11.3	59.0	63.0	0.272	0.31	0.31	250	8.54	6650	3150
3 x 95 + 3x50/3E + 3x2.5ST+ÜL	5DM2 045	13.2	63.0	67.0	0.206	0.29	0.35	301	11.59	7940	4275
6/10 kV N3GHSSYCY Rubber											
3 x 25 + 3x16/3E + 3x2.5ST+ÜL	5DM2 101	6.9	55.0	58.0	0.780	0.37	0.19	131	3.05	5300	1125
3 x 35 + 3x16/3E + 3x2.5ST+ÜL	5DM2 102	8.3	58.0	61.0	0.554	0.35	0.21	162	4.27	5910	1575
3 x 50 + 3x25/3E + 3x2.5ST+ÜL	5DM2 103	9.8	61.0	65.0	0.386	0.33	0.24	202	6.10	6790	2250
3 x 70 + 3x35/3E + 3x2.5ST+ÜL	5DM2 104	11.3	65.0	69.0	0.272	0.31	0.27	250	8.54	7860	3150
3 x 95 + 3x50/3E + 3x2.5ST+ÜL	5DM2 105	13.2	68.0	73.0	0.206	0.30	0.30	301	11.59	9180	4275
8.7/15 kV N3GHSSYCY Rubber											
3 x 25 + 3x16/3E + 3x2.5ST+ÜL	5DM2 201	6.9	58.0	62.0	0.780	0.40	0.17	139	3.05	6810	1125
3 x 35 + 3x16/3E + 3x2.5ST+ÜL	5DM2 202	8.2	61.0	65.0	0.554	0.37	0.19	172	4.27	7850	1575
3 x 50 + 3x25/3E + 3x2.5ST+ÜL	5DM2 203	9.8	64.7	68.7	0.386	0.36	0.21	215	6.10	9130	2250
3 x 70 + 3x35/3E + 3x2.5ST+ÜL	5DM2 204	11.3	67.9	71.9	0.272	0.34	0.23	265	8.54	10750	3150
3 x 95 + 3x50/3E + 3x2.5ST+ÜL	5DM2 205	13.2	72.4	76.4	0.206	0.33	0.26	319	11.59	12290	4275
12/20 kV N3GHSSYCY Rubber											
3 x 25 + 3x16/3E + 3x2.5ST+ÜL	5DM2 301	6.9	62.3	66.3	0.780	0.42	0.16	139	3.05	8790	1125
3 x 35 + 3x16/3E + 3x2.5ST+ÜL	5DM2 302	8.2	65.3	69.3	0.554	0.39	0.17	172	4.27	9930	1575
3 x 50 + 3x25/3E + 3x2.5ST+ÜL	5DM2 303	9.8	69.0	73.0	0.386	0.37	0.19	215	6.10	11360	2250
3 x 70 + 3x35/3E + 3x2.5ST+ÜL	5DM2 304	11.3	72.2	76.2	0.272	0.36	0.21	265	8.54	13100	3150
3 x 95 + 3x50/3E + 3x2.5ST+ÜL	5DM2 305	13.2	76.8	80.8	0.206	0.34	0.24	319	11.59	14750	4275