

SIENOPYR-control cables are used for fire protection systems in buildings, plants or installations where large numbers of people gather and/or valuable equipment are located. The low smoke emission facilitates rescue and fire-fighting. Special components prevent fire from spreading along the cables. Non-corrosive combustion gases avoid secondary damage. SIENOPYR-cables contribute considerably to safety and economy.

**Application** SIENOPYR B-control cables HXSLHXÖ and HXSLHXCHÖ are intended as connection-cables for control apparatus in railway vehicles, machine tools, assembly lines, material handling facilities, production lines etc. They are designed for use under conditions of medium mechanical stress and in flexible applications of free motion, but without tensile stress, and for fixed installation indoors or outdoors. However, they are not suitable for use in drag chains.  
Additionally, DIN VDE 0298 part 3 applies.

**Special characteristics**

- **Fire performance**, tested to DIN VDE 0472 part 804, test type B (IEC 332-1)
- **Halogen free**, tested to DIN VDE 0472 part 813
- **Low smoke**, tested to DIN VDE 0472 part 816
- **Oil-resistant**, tested to DIN VDE 0472 part 803, test type B

**Technical details** Designed according to DIN VDE 0250

- finely-stranded conductor made of tinned copper wires, class 5 to DIN VDE 0295
- insulation on EPR-base (mixture type HI1 to DIN VDE 0207 part 23)
- inner sheath (applies only to HXSLHXCHÖ) and outer sheath on EVA-base (mixture type HM1 to DIN VDE 0207 part 24)

Types:

- conductor cross-sections from 0.5 to 1 mm<sup>2</sup> with rated voltage U<sub>0</sub>/U 300/500 V
- conductor cross-sections 1.5 and 2.5 mm<sup>2</sup> with rated voltage U<sub>0</sub>/U 450/750

Colour of outer sheath: black

Permissible temperatures:

at the conductor	permanent load	90 °C
	short-circuit	200 °C
during transportation, installation, handling and operation	flexible	-25 °C
	fixed	-40 °C

Marking:

rated voltage U <sub>0</sub> /U 300/500 V	" SIENOPYR B HXSLHXÖ VDE-REG.-NR. 9634" bzw.
	" SIENOPYR B HXSLHXCHÖ VDE-REG.-NR: 9634"
rated voltage U <sub>0</sub> /U 450/750 V	" SIENOPYR B HXSLHXÖ VDE-REG.-NR. 9635" bzw.
	" SIENOPYR B HXSLHXCHÖ VDE-REG.-NR: 9635"

**Current-carrying capacity** The values refer to a cable with three current-carrying cores under continuous operation at ambient temperatures up to 30 °C. At other ambient temperatures, the rating is to be recalculated with the aid of the following adjustment factors f.

°C	10	15	20	25	30	35	40	45	50	55	60	65	70	75	80	85
f	1.15	1.12	1.08	1.04	1.00	0.96	0.91	0.87	0.82	0.76	0.71	0.65	0.58	0.50	0.41	0.29

If more than three cores of a multi-core cable are loaded simultaneously, the rating is to be recalculated with the aid of the following factors f.

Number of simultaneously current-carrying cores	7	12	18	25	34	50	60
f	0.65	0.53	0.46	0.40	0.36	0.31	0.30

Additionally, DIN VDE 0298 part 4 applies.

### Minimum bending radii

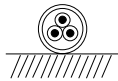
minimum bending radii	HXSLHXÖ without screen			HXSLHXCHÖ with screen		
	outer diameter					
	up to 8 mm	> 8 to 12 mm	above 12 mm	up to 8 mm	> 8 to 12 mm	above 12 mm
for permanent installation	3 d	3 d	4 d	3 d	3 d	4 d
for free movement and insertion	3 d	4 d	5 d	15 d	15 d	15 d

d = outer diameter

**Continuous-tensile stress** 15 N/mm<sup>2</sup> with respect to the conductor cross-section

Voltages	rated voltage	U <sub>0</sub> /U	300/500 V	450/750 V
	maximum permissible operating voltages in three-phase and single-phase AC operation	U <sub>0</sub> /U	318/550 V	476/828 V
	DC operation	U <sub>0</sub> /U	413/825 V	619/1238 V
	AC test voltage		2 kV	2.5 kV

**Selection data**

Number of cores and rated conductor cross-section  mm <sup>2</sup>	Order-No.	Conductor		Overall diameter of cable  (approx.) mm	Net weight  per 1000 m approx. kg	Current-carrying capacity when in contact to surfaces   A
		approx. No. of strands x max. strand diameter  mm	diameter  (approx.) mm			

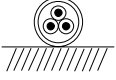
**HXSLHXÖ-JZ 300/500 V**

7 x 0.5	5DE9 051	15 x 0.21	0.9	8.9	125	11
12 x 0.5	5DE9 101	15 x 0.21	0.9	11.0	185	11
18 x 0.5	5DE9 141	15 x 0.21	0.9	13.0	260	11
25 x 0.5	5DE9 181	15 x 0.21	0.9	16.0	380	11
34 x 0.5	5DE9 221	15 x 0.21	0.9	17.5	470	11
50 x 0.5	5DE9 251	15 x 0.21	0.9	21.5	680	11
60 x 0.5	5DE9 271	15 x 0.21	0.9	23.0	780	11
7 x 0.75	5DE9 052	22 x 0.21	1.1	9.9	160	15
12 x 0.75	5DE9 102	22 x 0.21	1.1	12.0	225	15
18 x 0.75	5DE9 142	22 x 0.21	1.1	14.0	315	15
25 x 0.75	5DE9 182	22 x 0.21	1.1	17.0	460	15
34 x 0.75	5DE9 222	22 x 0.21	1.1	19.5	610	15
50 x 0.75	5DE9 252	22 x 0.21	1.1	23.0	830	15
60 x 0.75	5DE9 272	22 x 0.21	1.1	25.0	1000	15
7 x 1	5DE9 053	29 x 0.21	1.2	10.5	185	18
12 x 1	5DE9 103	29 x 0.21	1.2	12.5	260	18
18 x 1	5DE9 143	29 x 0.21	1.2	14.5	365	18
25 x 1	5DE9 183	29 x 0.21	1.2	18.5	580	18
34 x 1	5DE9 223	29 x 0.21	1.2	20.5	730	18
50 x 1	5DE9 253	29 x 0.21	1.2	25.0	1040	18
60 x 1	5DE9 273	29 x 0.21	1.2	26.5	1190	18

**HXSLHXÖ-JZ 450/750 V**

7 x 1.5	5DE9 054	28 x 0.26	1.5	12.5	275	23
12 x 1.5	5DE9 104	28 x 0.26	1.5	16.0	410	23
18 x 1.5	5DE9 144	28 x 0.26	1.5	19.0	610	23
25 x 1.5	5DE9 184	28 x 0.26	1.5	22.5	850	23
34 x 1.5	5DE9 224	28 x 0.26	1.5	26.0	1100	23
50 x 1.5	5DE9 254	28 x 0.26	1.5	31.5	1570	23
60 x 1.5	5DE9 274	28 x 0.26	1.5	33.0	1800	23
7 x 2.5	5DE9 055	45 x 0.26	1.9	14.5	390	30
12 x 2.5	5DE9 105	45 x 0.26	1.9	19.0	620	30
18 x 2.5	5DE9 145	45 x 0.26	1.9	22.5	880	30
25 x 2.5	5DE9 185	45 x 0.26	1.9	27.0	1260	30
34 x 2.5	5DE9 225	45 x 0.26	1.9	31.0	1640	30
50 x 2.5	5DE9 255	45 x 0.26	1.9	37.5	2320	30
60 x 2.5	5DE9 275	45 x 0.26	1.9	39.5	2680	30

**Selection data (continuation)**

Number of cores and rated conductor cross-section  mm <sup>2</sup>	Order-No.	Conductor		Overall diameter of cable  (approx.) mm	Net weight  per 1000 m approx. kg	Current-carrying capacity when in contact to surfaces   A
		approx. No. of strands x max. strand diameter  mm	diameter  (approx.) mm			

**HXSLHXCHÖ-JZ 300/500 V**

7 x 0.5	5DE9 551	15 x 0.21	0.9	11.5	215	11
12 x 0.5	5DE9 601	15 x 0.21	0.9	13.5	305	11
18 x 0.5	5DE9 641	15 x 0.21	0.9	16.5	425	11
25 x 0.5	5DE9 681	15 x 0.21	0.9	19.5	580	11
34 x 0.5	5DE9 721	15 x 0.21	0.9	21.0	710	11
50 x 0.5	5DE9 751	15 x 0.21	0.9	25.5	990	11
60 x 0.5	5DE9 771	15 x 0.21	0.9	27.0	1100	11
7 x 0.75	5DE9 552	22 x 0.21	1.1	12.0	245	15
12 x 0.75	5DE9 602	22 x 0.21	1.1	14.5	345	15
18 x 0.75	5DE9 642	22 x 0.21	1.1	17.5	500	15
25 x 0.75	5DE9 682	22 x 0.21	1.1	20.5	670	15
34 x 0.75	5DE9 722	22 x 0.21	1.1	23.0	850	15
50 x 0.75	5DE9 752	22 x 0.21	1.1	27.0	1150	15
60 x 0.75	5DE9 772	22 x 0.21	1.1	29.0	1330	15
7 x 1	5DE9 553	29 x 0.21	1.2	12.5	270	18
12 x 1	5DE9 603	29 x 0.21	1.2	16.0	425	18
18 x 1	5DE9 643	29 x 0.21	1.2	18.0	560	18
25 x 1	5DE9 683	29 x 0.21	1.2	22.0	790	18
34 x 1	5DE9 723	29 x 0.21	1.2	24.5	1020	18
50 x 1	5DE9 753	29 x 0.21	1.2	29.0	1370	18
60 x 1	5DE9 773	29 x 0.21	1.2	31.0	1630	18

**HXSLHXCHÖ-JZ 450/750 V**

7 x 1.5	5DE9 554	28 x 0.26	1.5	16.0	440	23
12 x 1.5	5DE9 604	28 x 0.26	1.5	19.5	620	23
18 x 1.5	5DE9 644	28 x 0.26	1.5	22.5	840	23
25 x 1.5	5DE9 684	28 x 0.26	1.5	26.5	1140	23
34 x 1.5	5DE9 724	28 x 0.26	1.5	30.0	1490	23
50 x 1.5	5DE9 754	28 x 0.26	1.5	36.0	2110	23
60 x 1.5	5DE9 774	28 x 0.26	1.5	38.0	2420	23
7 x 2.5	5DE9 555	45 x 0.26	1.9	19.0	610	30
12 x 2.5	5DE9 605	45 x 0.26	1.9	22.5	850	30
18 x 2.5	5DE9 645	45 x 0.26	1.9	26.0	1180	30
25 x 2.5	5DE9 685	45 x 0.26	1.9	31.5	1670	30
34 x 2.5	5DE9 725	45 x 0.26	1.9	36.0	2190	30
50 x 2.5	5DE9 755	45 x 0.26	1.9	43.0	3060	30
60 x 2.5	5DE9 775	45 x 0.26	1.9	45.0	3450	30

**HXSLHXCHÖ-OZ 450/750 V**

4 x 0.75	5DE9 992	22 x 0.21	1.1	10.0	165	15
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