



## 1 Design

### 1) Conductor

Flexible stranded tinned copper, class 5, according to IEC 60228  
Covered with PET tape (if necessary)

### 2) Insulation

Special halogen free, flame retardant cross-linked compound, with low smoke emission  
Equivalent to EI 109 or EI 107 compound (ref. EN 50264-1)  
Material with extra low temperature resistance  
COLOR: Black or Green/Yellow

### 3) Screen (only for Screened cable)

Tinned copper wires braid

### 4) Filler (if necessary)

Special halogen free compound

### 5) Sheath

Special halogen free, flame retardant cross-linked compound, with low smoke emission  
Equivalent to EM 104 compound (ref. EN 50264-1)  
Material with extra low temperature resistance, extra oil and fuel resistance  
COLOR: Black

## Marking

Unscreened: FLAMEX Z EN 50264-3-2 600V ...x 《Section》 MM or FM NEXANS 370 + ww/yy  
Screened: FLAMEX Z EN 50264-3-2 600V ...x 《Section》 MM or FM S NEXANS 370 + ww/yy

Note: NEXANS reserves the right to change specifications without prior notice

Nexans (China) Wires & Cables Co.,Ltd.

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### 2 Dimensions

Table1: Unscreened without Green/Yellow core

Nexans SAP Code	Cross section (mm <sup>2</sup> )	Conductor diameter approx. (mm)	Thickness of insulation (mm)	Core diameter (mm)	Thickness of sheath (mm)	Mean Overall diameter min./max. (mm)	Max. resistance of conductor at 20°C (Ohm/km)	Weight approx.(kg/km)	Fire load (MJ/km)
56450100	2x1.0	1.3	0.6	2.5	0.7	6.5/7.0	20	75	1042
51450102	2x1.5	1.5	0.7	2.9	0.7	7.2/9.0	13.7	92	1221
51450103	2x2.5	1.9	0.7	3.3	0.7	8.0/9.8	8.21	120	1458
51450104	2x4	2.5	0.7	3.9	0.7	9.3/11.2	5.09	170	1842
51450105	2x6	3.0	0.7	4.4	0.8	10.5/12.4	3.39	225	2292
51450106	2x10	4.1	0.7	5.5	1.0	13.1/15.4	1.95	360	3440
56450107	2x16	5.3	0.7	6.7	1.0	15.5/17.8	1.24	520	4576
56450108	2x25	6.5	0.9	8.3	1.2	18.9/21.2	0.795	780	6829
56450109	2x35	7.7	0.9	9.5	1.2	21.5/23.8	0.565	1050	8513
56450110	2x50	9.5	1.0	11.5	1.4	25.3/28.0	0.393	1480	11644
51450101	3x1.5	1.5	0.7	2.9	0.7	7.7/9.0	13.7	115	1488
51450111	3x2.5	1.9	0.7	3.3	0.7	8.5/10.2	8.21	155	1750
51450112	3x4	2.5	0.7	3.9	0.7	9.9/11.9	5.09	215	2161
51450113	3x6	3.0	0.7	4.4	0.8	11.2/12.9	3.39	290	2639
51450114	3x10	4.1	0.7	5.5	1.0	13.9/16.3	1.95	460	3569
56450115	3x16	5.3	0.7	6.7	1.0	16.5/18.9	1.24	665	4667
56450116	3x25	6.5	0.9	8.3	1.2	20.2/22.5	0.795	1000	6989
56450117	3x35	7.7	0.9	9.5	1.4	23.4/25.7	0.565	1375	9049
56450118	3x50	9.5	1.0	11.5	1.6	27.4/30.2	0.393	1940	12232
51450119	4x1.5	1.5	0.7	2.9	0.7	8.5/9.8	13.7	140	1718
51450120	4x2.5	1.9	0.7	3.3	0.7	9.4/11.3	8.21	190	2024
51450121	4x4	2.5	0.7	3.9	0.8	11.1/12.9	5.09	270	2441
51450122	4x6	3.0	0.7	4.4	1.0	12.7/14.9	3.39	385	3524
51450123	4x10	4.1	0.7	5.5	1.0	15.4/17.3	1.95	580	4190
56450124	4x16	5.3	0.7	6.7	1.2	18.7/21.1	1.24	860	5832
56450125	4x25	6.5	0.9	8.3	1.4	22.7/25.2	0.795	1295	8650
56450126	4x35	7.7	0.9	9.5	1.4	25.8/28.3	0.565	1750	10573
56450127	4x50	9.5	1.0	11.5	1.6	30.3/33.3	0.393	2475	14275
56450128	6x1.5	1.5	0.7	2.9	0.8	10.4/11.6	13.7	210	2565
56450129	6x2.5	1.9	0.7	3.3	1.0	12.0/13.3	8.21	295	3190

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Table2: Unscreened with Green/Yellow core

Nexans SAP Code	Cross section (mm <sup>2</sup> )	Conductor diameter approx. (mm)	Thickness of insulation (mm)	Core diameter (mm)	Thickness of sheath (mm)	Mean Overall diameter min./max. (mm)	Max. resistance of conductor at 20°C (Ohm/km)	Weight approx. (kg/km)	Fire load (MJ/km)
56450330	2G1.5	1.5	0.7	2.9	0.7	7.2/9.0	13.7	92	1221
56450331	2G2.5	1.9	0.7	3.3	0.7	8.0/9.8	8.21	120	1458
56450332	2G4	2.5	0.7	3.9	0.7	9.3/11.2	5.09	170	1842
56450333	2G6	3.0	0.7	4.4	0.8	10.5/12.4	3.39	225	2292
56450334	2G10	4.1	0.7	5.5	1.0	13.1/15.4	1.95	360	3440
56450335	2G16	5.3	0.7	6.7	1.0	15.5/17.8	1.24	520	4576
56450336	2G25	6.5	0.9	8.3	1.2	18.9/21.2	0.795	780	6829
56450337	2G35	7.7	0.9	9.5	1.2	21.5/23.8	0.565	1050	8513
56450338	2G50	9.5	1.0	11.5	1.4	25.3/28.0	0.393	1480	11644
56450301	3G1	1.3	0.6	2.5	0.7	6.9/8.1	20.0	82	1046
56450339	3G1.5	1.5	0.7	2.9	0.7	7.7/9.0	13.7	115	1488
56450340	3G2.5	1.9	0.7	3.3	0.7	8.5/10.2	8.21	155	1750
56450341	3G4	2.5	0.7	3.9	0.7	9.9/11.9	5.09	215	2161
56450342	3G6	3.0	0.7	4.4	0.8	11.2/12.9	3.39	290	2639
56450343	3G10	4.1	0.7	5.5	1.0	13.9/16.3	1.95	460	3569
56450344	3G16	5.3	0.7	6.7	1.0	16.5/18.9	1.24	665	4667
56450345	3G25	6.5	0.9	8.3	1.2	20.2/22.5	0.795	1000	6989
56450346	3G35	7.7	0.9	9.5	1.4	23.4/25.7	0.565	1375	9049
56450347	3G50	9.5	1.0	11.5	1.6	27.4/30.2	0.393	1940	12232
56450359	4G0.75	1.1	0.6	2.3	0.7	7.1/8.1	26.7	82	1032
56450348	4G1.5	1.5	0.7	2.9	0.7	8.5/9.8	13.7	140	1718
56450349	4G2.5	1.9	0.7	3.3	0.7	9.4/11.3	8.21	190	2024
56450350	4G4	2.5	0.7	3.9	0.8	11.1/12.9	5.09	270	2441
56450351	4G6	3.0	0.7	4.4	1.0	12.7/14.9	3.39	385	3524
56450352	4G10	4.1	0.7	5.5	1.0	15.4/17.3	1.95	580	4190
56450353	4G16	5.3	0.7	6.7	1.2	18.7/21.1	1.24	860	5832
56450354	4G25	6.5	0.9	8.3	1.4	22.7/25.2	0.795	1295	8650
56450355	4G35	7.7	0.9	9.5	1.4	25.8/28.3	0.565	1750	10573
56450356	4G50	9.5	1.0	11.5	1.6	30.3/33.3	0.393	2475	14275
56450357	7G1.5	1.5	0.7	2.9	0.8	10.4/11.6	13.7	220	2467
56450358	7G2.5	1.9	0.7	3.3	1.0	12.0/13.1	8.21	310	3118

G : with one Green/Yellow core

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# SPECIFICATION

## FLAMEX Z EN 50264-3-2 0.6/1kV

**Doc.NO.:**  
**SON-RS009**

Table3: Screened without Green/Yellow Core

Nexans SAP Code	Cross section (mm <sup>2</sup> )	Conductor diameter approx. (mm)	Thickness of insulation (mm)	Diameter of screen wire max. (mm)	Diameter of screened core (mm)	Thickness of sheath (mm)	Mean Overall diameter min./max. (mm)	Max. resistance of conductor at 20°C (Ohm/km)	Weight approx. (kg/km)	Fire load (MJ/km)
56450203	2x0.75	1.1	0.6	0.16	5.4	0.7	7.1/7.7	26.7	75	780
56450200	2x1.0	1.3	0.6	0.16	5.8	0.7	7.0/7.9	20	89	901
51450205	2x1.5	1.5	0.7	0.16	6.5	0.7	8.2/9.9	13.7	115	1188
51450206	2x2.5	1.9	0.7	0.16	7.3	0.7	9.0/10.7	8.21	160	1730
51450207	2x4	2.5	0.7	0.21	8.9	0.8	10.8/12.7	5.09	240	2370
51450208	2x6	3.0	0.7	0.21	9.9	0.8	11.8/13.6	3.39	300	2769
51450209	2x10	4.1	0.7	0.21	12.1	1.0	14.4/16.6	1.95	450	4027
56450210	2x16	5.3	0.7	0.26	14.7	1.0	16.8/19.1	1.24	625	5262
56450211	2x25	6.5	0.9	0.26	17.9	1.2	20.2/22.5	0.795	920	7785
56450212	2x35	7.7	0.9	0.31	20.5	1.4	23.7/26.0	0.565	1295	10395
56450213	2x50	9.5	1.0	0.31	24.5	1.4	27.1/29.8	0.393	1770	13823
51450201	3x1.5	1.5	0.7	0.16	7.0	0.7	8.6/10.4	13.7	135	1244
51450203	3x2.5	1.9	0.7	0.16	7.8	0.7	9.5/11.4	8.21	170	1405
51450214	3x4	2.5	0.7	0.21	9.5	0.8	11.4/13.3	5.09	285	2531
51450215	3x6	3.0	0.7	0.21	10.6	0.8	12.5/14.3	3.39	360	2936
51450216	3x10	4.1	0.7	0.26	13.2	1.0	15.2/17.6	1.95	555	4209
56450217	3x16	5.3	0.7	0.26	15.8	1.2	18.2/20.6	1.24	795	5769
56450218	3x25	6.5	0.9	0.26	19.2	1.2	21.5/23.8	0.795	1150	8031
56450219	3x35	7.7	0.9	0.31	22.0	1.4	25.2/27.5	0.565	1615	10646
56450220	3x50	9.5	1.0	0.31	26.3	1.6	29.2/32.0	0.393	2255	14604
51450202	4x1.5	1.5	0.7	0.16	7.7	0.7	9.4/11.3	13.7	165	1773
51450204	4x2.5	1.9	0.7	0.21	8.9	0.8	10.7/12.8	8.21	260	2415
51450221	4x4	2.5	0.7	0.21	10.5	0.8	12.4/14.5	5.09	345	2955
51450222	4x6	3.0	0.7	0.21	11.8	1.0	14.0/16.1	3.39	460	3695
51450223	4x10	4.1	0.7	0.26	14.6	1.0	16.7/19.1	1.95	685	4894
56450224	4x16	5.3	0.7	0.26	17.5	1.2	20.0/22.4	1.24	990	6682
56450225	4x25	6.5	0.9	0.31	21.6	1.4	24.5/27.0	0.795	1545	10363
56450226	4x35	7.7	0.9	0.31	24.5	1.4	27.6/30.1	0.565	2020	12334
56450227	4x50	9.5	1.0	0.31	29.3	1.6	32.1/35.1	0.393	2830	16918
56450243	7x1.0	1.3	0.6	0.21	8.5	0.8	10.4/12.0	20	210	1854

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2011/7/19

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2011/7/19



# SPECIFICATION

## FLAMEX Z EN 50264-3-2 0.6/1kV

**Doc.NO.:**  
**SON-RS009**

Table4: Screened with Green/Yellow core

Nexans SAP Code	Cross section (mm <sup>2</sup> )	Conductor diameter approx. (mm)	Thickness of insulation (mm)	Diameter of screened wire max. (mm)	Diameter of screened core (mm)	Thickness of sheath (mm)	Mean Overall diameter min./max. (mm)	Max. resistance of conductor at 20°C (Ohm/km)	Weight approx. (kg/km)	Fire load (MJ/km)
56450401	2G1.5	1.5	0.7	0.16	6.5	0.7	8.2/9.9	13.7	115	1188
56450402	2G2.5	1.9	0.7	0.16	7.3	0.7	9.0/10.7	8.21	160	1730
56450403	2G4	2.5	0.7	0.21	8.9	0.8	10.8/12.7	5.09	240	2370
56450404	2G6	3.0	0.7	0.21	9.9	0.8	11.8/13.6	3.39	300	2769
56450405	2G10	4.1	0.7	0.21	12.1	1.0	14.4/16.6	1.95	450	4027
56450406	2G16	5.3	0.7	0.26	14.7	1.0	16.8/19.1	1.24	625	5262
56450407	2G25	6.5	0.9	0.26	17.9	1.2	20.2/22.5	0.795	920	7785
56450408	2G35	7.7	0.9	0.31	20.5	1.4	23.7/26.0	0.565	1295	10395
56450409	2G50	9.5	1.0	0.31	24.5	1.4	27.1/29.8	0.393	1770	13823
56450410	3G1.5	1.5	0.7	0.16	7.0	0.7	8.6/10.4	13.7	135	1244
56450411	3G2.5	1.9	0.7	0.16	7.8	0.7	9.5/11.4	8.21	170	1405
56450412	3G4	2.5	0.7	0.21	9.5	0.8	11.4/13.3	5.09	285	2531
56450413	3G6	3.0	0.7	0.21	10.6	0.8	12.5/14.3	3.39	360	2936
56450414	3G10	4.1	0.7	0.26	13.2	1.0	15.2/17.6	1.95	555	4209
56450415	3G16	5.3	0.7	0.26	15.8	1.2	18.2/20.6	1.24	795	5769
56450416	3G25	6.5	0.9	0.26	19.2	1.2	21.5/23.8	0.795	1150	8031
56450417	3G35	7.7	0.9	0.31	22.0	1.4	25.2/27.5	0.565	1615	10646
56450418	3G50	9.5	1.0	0.31	26.3	1.6	29.2/32.0	0.393	2255	14604
56450419	4G1.5	1.5	0.7	0.16	7.7	0.7	9.4/11.3	13.7	165	1773
56450420	4G2.5	1.9	0.7	0.21	8.9	0.8	10.7/12.8	8.21	260	2415
56450421	4G4	2.5	0.7	0.21	10.5	0.8	12.4/14.5	5.09	345	2955
56450422	4G6	3.0	0.7	0.21	11.8	1.0	14.0/16.1	3.39	460	3695
56450423	4G10	4.1	0.7	0.26	14.6	1.0	16.7/19.1	1.95	685	4894
56450424	4G16	5.3	0.7	0.26	17.5	1.2	20.0/22.4	1.24	990	6682
56450425	4G25	6.5	0.9	0.31	21.6	1.4	24.5/27.0	0.795	1545	10363
56450426	4G35	7.7	0.9	0.31	24.5	1.4	27.6/30.1	0.565	2020	12334
56450427	4G50	9.5	1.0	0.31	29.3	1.6	32.1/35.1	0.393	2830	16918

G : with one Green/Yellow core

### 3 Application range

Internal of rolling stock or installation in tubes.  
Current carrying capacity see EN 50355

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## SPECIFICATION

### FLAMEX Z EN 50264-3-2 0.6/1kV

**Doc.NO.:**  
**SON-RS009**

#### 4 Operating conditions

Rated voltage:	U <sub>0</sub> /U=0.6/1kV	
AC- test voltage 5min:	U=3.5kV	
Dielectric strength 1h :	U=6kV	
Spark test(AC 50Hz):	U=3kV+5×tabulated Insulation thickness(mm) kV	
DC stability 240h:	V=1.5kV	
Surface resistance:	EN 50305, 6.6, value in acc. EN 50264-3-2: 2008,7.7	
Max. permissible continuous operating temperature on conductor		
in operation:	90°C/120°C(20000 h)	
in short circuit:	200°C	
Permissible temperature at the surface		
Fixed installation	- 40 °C to + 120 °C	
Dynamic use	- 25 °C to + 90 °C	
Smallest permissible bending radius	Unscreened	Sceened
Fixed installation:	4×D	5×D (D - Outer diameter)
Dynamic use:	5×D	10×D (D - Outer diameter)

#### 5 Additional properties

Flame propagation one vertical cable flame propagation bunched cables  
 EN 60332-1-2  
 EN 50266-2-4  
 EN 50266-2-5  
 EN 50305, 9.1

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### FLAMEX Z EN 50264-3-2 0.6/1kV

**Doc.NO.:**  
**SON-RS009**

Smoke gas density

EN 61034-2, IEC 61034

Transmission  $\geq 70$  %

Toxicity

EN 50305, 9.2 toxicity index ITC max. = 3

Acidity (corrosivity) of firegases

EN 50267-2-2

pH-value  $\geq 4.3$

Conductivity  $\leq 10 \mu S/mm$

Halogen free

EN 50267-2-1, HCl & HBr  $\leq 0,5$  %

EN 60684-2, fluor content  $\leq 0,1$  %

Allowable relative humidity at operation

permanent 100 % at 50 °C

Allowable condensation water influence without limitation of the

life cycle of 30 years: 8 h/d

Ozone resistance

EN 50264-3-2:2008, 7.12

Test: (200±50) pphm / 40 °C / 72 h

Mineral oil resistance

EN 50264-3-2:2008, 7.13

IRM 902/(100±2) °C/72 h

Fuel resistance

EN 50264-3-2:2008, 7.14

IRM 903/(70±2)°C/168h

Acid and alkali resistance

EN 50264-3-2:2008, 7.15

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