



## Siechem Sietrans GWK S EMC FS 180 Fire Resistant Cables

### Application

- ✓ For protected installation inside & outside of rail vehicles and buses.
- ✓ These cables also maintain their function over a limited period in the event of a fire and are suitable for connecting fixed and moving parts such as emergency lamps, flue gas outlets and switchgear.
- ✓ Fire Survival applications.

### Features

- ✓ Maintains circuit integrity for 3 hours under fire condition.
- ✓ High temperature resistance for use -40°C up to +120°C
- ✓ Advance performance halogen free
- ✓ Oil and fuel resistance
- ✓ Electron beam cross-linked
- ✓ Halogen free
- ✓ Fire resistance

### Product Construction

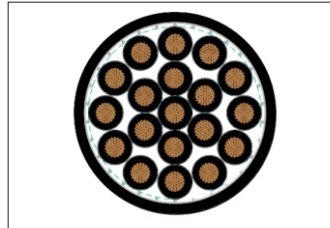
- ✓ Conductor : Annealed Tinned Flexible Copper Conductor
- ✓ Flame Barrier : Phlogopite Tape
- ✓ Insulation : Electron Beam Cross Linked Polyolefin Copolymer (EI 109 acc. to EN 50264-1& EN 50306-1)
- ✓ Insulation Colour : Grey Core with Number Printing
- ✓ Flame Barrier : Phlogopite Tape
- ✓ Shielding : Annealed Tinned Copper
- ✓ Flame Barrier : Phlogopite Tape
- ✓ Outer Sheath : Electron Beam Cross Linked Elastomer Compound (EM 104 acc. to EN 50264-1& EN 50306-1)
- ✓ Sheath Colour : Black

### Technical Data

- ✓ Nominal voltage  $U_0/U$  : 0.3/0.5 kV AC
- ✓ Max. permissible (i)  $U_{om}$  : 0.36 kV AC  
Operating voltage (ii)  $U_m$  : 0.6 kV AC  
(iii)  $V_0$  : 0.45 kV DC  
(iv)  $V_m$  : 0.9 kV DC
- ✓ Testing voltage : 2kV AC (50Hz / 5min)
- ✓ Max. conductor temperature : +120°C 20,000 H
- ✓ Short circuit temperature : +280°C
- ✓ Min bending radius : OD < 10 mm > 5 x Cable OD  
OD > 10 mm > 6 x Cable OD
- ✓ **Fire Safety Performance for Rolling Stock**  
(i) EN 45545-2 Hazard Level HL1- HL3  
(ii) EN 50264-1
- ✓ Vertical flame : (i) EN 60332-1-2 - Single cable propagation (ii) EN 60332-3-24, EN 60332-3-25 & EN 50305 - Bunched cables
- ✓ Smoke density : EN 61034-2
- ✓ Toxicity of gases : EN 50305
- ✓ Corrosivity of gases : EN 50267-2-2
- ✓ Circuit integrity : EN 50200 : 120 minutes  
EN 60331-21 : 180 minutes
- ✓ **Material Properties** (as per EN 50264-3-2)
- ✓ High resistance to cold : EN 60811-504
- ✓ High resistance to oil : EN 60811-404
- ✓ High resistance to fuel : EN 60811-404
- ✓ Resistance to ozone : EN 50264-3-2
- ✓ Limiting oxygen index : ISO 4589-2, ASTM D 2863
- ✓ NFPF -130



2D View



### Approvals Accreditations Certifications



Siechem Sietrans GWK S EMC FS 180

| Part Number | No. of Cores X Cross Section (Nos) X (mm <sup>2</sup> ) | Conductor Construction No of Strands X Strand Dia (Nos) X (mm) | Nominal Conductor Diameter (mm) | Max Conductor Resistance at 20°C (Ω/km) | Nominal Overall Diameter (mm) | Cable Weight (Kg/Km) Approx. |
|-------------|---|--|---------------------------------|---|-------------------------------|------------------------------|
| A5470602    | 2 X 0.5   | 16 X 0.20  | 0.93                            | 40.1                                    | 6.4 ± 0.6                     | 68                           |
| A5470602P   | 2P X 0.5  | 16 X 0.20  | 0.93                            | 40.1                                    | 10.4 ± 0.5                    | 125                          |
| A5470603    | 3 X 0.5   | 16 X 0.20  | 0.93                            | 40.1                                    | 6.8 ± 0.7                     | 78                           |
| A5470603P   | 3P X 0.5  | 16 X 0.20  | 0.93                            | 40.1                                    | 11.0 ± 0.5                    | 150                          |
| A5470604    | 4 X 0.5   | 16 X 0.20  | 0.93                            | 40.1                                    | 7.4 ± 0.7                     | 93                           |
| A547064P    | 4P X 0.5  | 16 X 0.20  | 0.93                            | 40.1                                    | 12.2 ± 0.5                    | 185                          |
| A5470605    | 5 X 0.5   | 16 X 0.20  | 0.93                            | 40.1                                    | 8.1 ± 0.8                     | 110                          |
| A5470605P   | 5P X 0.5  | 16 X 0.20  | 0.93                            | 40.1                                    | 13.4 ± 0.5                    | 220                          |
| A5470606    | 6 X 0.5   | 16 X 0.20  | 0.93                            | 40.1                                    | 9.0 ± 0.9                     | 130                          |
| A5470607    | 7 X 0.5   | 16 X 0.20  | 0.93                            | 40.1                                    | 9.1 ± 0.9                     | 140                          |
| A5470608    | 8 X 0.5   | 16 X 0.20  | 0.93                            | 40.1                                    | 10.1 ± 1.0                    | 165                          |
| A5470609    | 9 X 0.5   | 16 X 0.20  | 0.93                            | 40.1                                    | 11.0 ± 1.1                    | 186                          |
| A5470610    | 10 X 0.5  | 16 X 0.20  | 0.93                            | 40.1                                    | 11.5 ± 1.2                    | 205                          |
| A5470612    | 12 X 0.5  | 16 X 0.20  | 0.93                            | 40.1                                    | 11.9 ± 1.2                    | 230                          |
| A5470614    | 14 X 0.5  | 16 X 0.20  | 0.93                            | 40.1                                    | 12.5 ± 1.3                    | 260                          |
| A5470616    | 16 X 0.5  | 16 X 0.20  | 0.93                            | 40.1                                    | 13.3 ± 1.3                    | 290                          |
| A5470616G   | 16G X 0.5   | 16 X 0.20  | 0.93                            | 40.1                                    | 13.3 ± 1.3                    | 290                          |
| A5470620    | 20 X 0.5  | 16 X 0.20  | 0.93                            | 40.1                                    | 14.7 ± 1.5                    | 350                          |
| A5470620G   | 20G X 0.5   | 16 X 0.20  | 0.93                            | 40.1                                    | 14.7 ± 1.5                    | 350                          |
| A5470624    | 24 X 0.5  | 16 X 0.20  | 0.93                            | 40.1                                    | 16.2 ± 1.6                    | 415                          |
| A5470627    | 27 X 0.5  | 16 X 0.20  | 0.93                            | 40.1                                    | 16.7 ± 1.7                    | 450                          |

### GWK S EMC FS

|     |                            |
|-----|----------------------------|
| G   | Electron Beam Cross linked |
| K   | Cold Resistant             |
| W   | Heat Resistant             |
| S   | Sheathed                   |
| EMC | Shielding                  |
| FS  | Fire Resistant             |



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**Siechem Sietrans GKW S EMC FS 180 Fire Resistant Cables**

| Part Number | No. of Cores X Cross Section (Nos) X (mm <sup>2</sup> ) | Conductor Construction No of Strands X Strand Dia. (Nos) X (mm) | Nominal Conductor Diameter (mm) | Max Conductor Resistance at 20°C (Ω/km) | Nominal Overall Diameter (mm) | Cable Weight (Kg/Km) Approx. |
|-------------|---|---|---------------------------------|---|-------------------------------|------------------------------|
| A5470802    | 2 X 0.75  | 24 X 0.20   | 1.14                            | 26.7                                    | 7.0 ± 0.7                     | 82                           |
| A5470803    | 3 X 0.75  | 24 X 0.20   | 1.14                            | 26.7                                    | 7.4 ± 0.7                     | 96                           |
| A5470804    | 4 X 0.75  | 24 X 0.20   | 1.14                            | 26.7                                    | 8.2 ± 0.8                     | 115                          |
| A5470805    | 5 X 0.75  | 24 X 0.20   | 1.14                            | 26.7                                    | 9.1 ± 0.9                     | 140                          |
| A5470806    | 6 X 0.75  | 24 X 0.20   | 1.14                            | 26.7                                    | 10.0 ± 1.0                    | 165                          |
| A5470807    | 7 X 0.75  | 24 X 0.20   | 1.14                            | 26.7                                    | 10.2 ± 1.0                    | 180                          |
| A5470808    | 8 X 0.75  | 24 X 0.20   | 1.14                            | 26.7                                    | 11.2 ± 1.1                    | 210                          |
| A5470809    | 9 X 0.75  | 24 X 0.20   | 1.14                            | 26.7                                    | 12.2 ± 1.2                    | 240                          |
| A5470810    | 10 X 0.75   | 24 X 0.20   | 1.14                            | 26.7                                    | 12.8 ± 1.3                    | 260                          |
| A5470812    | 12 X 0.75   | 24 X 0.20   | 1.14                            | 26.7                                    | 13.3 ± 1.3                    | 295                          |
| A5470814    | 14 X 0.75   | 24 X 0.20   | 1.14                            | 26.7                                    | 14.0 ± 1.4                    | 330                          |
| A5470816    | 16 X 0.75   | 24 X 0.20   | 1.14                            | 26.7                                    | 14.8 ± 1.5                    | 370                          |
| A5470820    | 20 X 0.75   | 24 X 0.20   | 1.14                            | 26.7                                    | 16.4 ± 1.6                    | 450                          |
| A5470824    | 24 X 0.75   | 24 X 0.20   | 1.14                            | 26.7                                    | 18.1 ± 1.8                    | 535                          |
| A5470824G   | 24G X 0.75  | 24 X 0.20   | 1.14                            | 26.7                                    | 18.1 ± 1.8                    | 535                          |
| A5470827    | 27 X 0.75   | 24 X 0.20   | 1.14                            | 26.7                                    | 18.6 ± 1.9                    | 580                          |
| A5470827G   | 27G X 0.75  | 24 X 0.20   | 1.14                            | 26.7                                    | 18.6 ± 1.9                    | 580                          |
|             |   |   |                                 |   |                               |                              |
| A5471002    | 2 X 1   | 32 X 0.20   | 1.31                            | 20.0                                    | 7.7 ± 0.8                     | 98                           |
| A5471003    | 3 X 1   | 32 X 0.20   | 1.31                            | 20.0                                    | 8.1 ± 0.8                     | 115                          |
| A5471004    | 4 X 1   | 32 X 0.20   | 1.31                            | 20.0                                    | 9.0 ± 0.9                     | 140                          |
| A5471004G   | 4G X 1  | 32 X 0.20   | 1.31                            | 20.0                                    | 9.0 ± 0.9                     | 140                          |
| A5471005    | 5 X 1   | 32 X 0.20   | 1.31                            | 20.0                                    | 10.0 ± 1.0                    | 170                          |
| A5471006    | 6 X 1   | 32 X 0.20   | 1.31                            | 20.0                                    | 10.9 ± 1.1                    | 195                          |
| A5471007    | 7 X 1   | 32 X 0.20   | 1.31                            | 20.0                                    | 11.1 ± 1.1                    | 215                          |
| A5471008    | 8 X 1   | 32 X 0.20   | 1.31                            | 20.0                                    | 12.3 ± 1.2                    | 250                          |
| A5471009    | 9 X 1   | 32 X 0.20   | 1.31                            | 20.0                                    | 13.3 ± 1.3                    | 285                          |
| A5471010    | 10 X 1  | 32 X 0.20   | 1.31                            | 20.0                                    | 14.0 ± 1.4                    | 315                          |
| A5471012    | 12 X 1  | 32 X 0.20   | 1.31                            | 20.0                                    | 14.5 ± 1.5                    | 355                          |
| A5471012G   | 12G X 1   | 32 X 0.20   | 1.31                            | 20.0                                    | 14.5 ± 1.5                    | 355                          |
| A5471014    | 14 X 1  | 32 X 0.20   | 1.31                            | 20.0                                    | 15.3 ± 1.5                    | 400                          |
| A5471016    | 16 X 1  | 32 X 0.20   | 1.31                            | 20.0                                    | 16.2 ± 1.6                    | 450                          |
| A5471020    | 20 X 1  | 32 X 0.20   | 1.31                            | 20.0                                    | 18.0 ± 1.8                    | 545                          |
| A5471020G   | 20G X 1   | 32 X 0.20   | 1.31                            | 20.0                                    | 18.0 ± 1.8                    | 545                          |
| A5471024    | 24 X 1  | 32 X 0.20   | 1.31                            | 20.0                                    | 19.9 ± 2.0                    | 650                          |
| A5471027    | 27 X 1  | 32 X 0.20   | 1.31                            | 20.0                                    | 20.4 ± 2.0                    | 710                          |
|             |   |   |                                 |   |                               |                              |
| A5471302    | 2 X 1.5   | 30 X 0.25   | 1.59                            | 13.7                                    | 8.5 ± 0.9                     | 120                          |
| A5471303    | 3 X 1.5   | 30 X 0.25   | 1.59                            | 13.7                                    | 9.0 ± 0.9                     | 145                          |
| A5471304    | 4 X 1.5   | 30 X 0.25   | 1.59                            | 13.7                                    | 10.0 ± 1.0                    | 180                          |
| A5471305    | 5 X 1.5   | 30 X 0.25   | 1.59                            | 13.7                                    | 11.0 ± 1.1                    | 215                          |
| A5471306    | 6 X 1.5   | 30 X 0.25   | 1.59                            | 13.7                                    | 12.1 ± 1.2                    | 250                          |
| A5471307    | 7 X 1.5   | 30 X 0.25   | 1.59                            | 13.7                                    | 12.3 ± 1.2                    | 275                          |
| A5471307G   | 7G X 1.5  | 30 X 0.25   | 1.59                            | 13.7                                    | 12.3 ± 1.2                    | 275                          |
| A5471308    | 8 X 1.5   | 30 X 0.25   | 1.59                            | 13.7                                    | 13.6 ± 1.4                    | 320                          |
| A5471309    | 9 X 1.5   | 30 X 0.25   | 1.59                            | 13.7                                    | 14.8 ± 1.5                    | 365                          |
| A5471310    | 10 X 1.5  | 30 X 0.25   | 1.59                            | 13.7                                    | 15.5 ± 1.6                    | 400                          |
| A5471312    | 12 X 1.5  | 30 X 0.25   | 1.59                            | 13.7                                    | 16.1 ± 1.6                    | 455                          |
| A5471312G   | 12G X 1.5   | 30 X 0.25   | 1.59                            | 13.7                                    | 16.1 ± 1.6                    | 455                          |

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| S            | Sheathed                   |
| EMC          | Shielding                  |
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| Part Number | No. of Cores X Cross Section (Nos) X (mm <sup>2</sup> ) | Conductor Construction No of Strands X Strand Dia. (Nos) X (mm) | Nominal Conductor Diameter (mm) | Max Conductor Resistance at 20°C (Ω/km) | Nominal Overall Diameter (mm) | Cable Weight (Kg/Km) Approx. |
|-------------|---|---|---------------------------------|---|-------------------------------|------------------------------|
| A5471314    | 14 X 1.5  | 30 X 0.25   | 1.59                            | 13.7                                    | 17.0 ± 1.7                    | 515                          |
| A5471316    | 16 X 1.5  | 30 X 0.25   | 1.59                            | 13.7                                    | 18.0 ± 1.8                    | 580                          |
| A5471320    | 20 X 1.5  | 30 X 0.25   | 1.59                            | 13.7                                    | 20.0 ± 2.0                    | 710                          |
| A5471324    | 24 X 1.5  | 30 X 0.25   | 1.59                            | 13.7                                    | 22.2 ± 2.2                    | 850                          |
| A5471327    | 27 X 1.5  | 30 X 0.25   | 1.59                            | 13.7                                    | 22.7 ± 2.3                    | 925                          |
| A5471602    | 2 X 2.5   | 50 X 0.25   | 2.05                            | 8.21                                    | 9.7 ± 1.0                     | 165                          |
| A5471603    | 3 X 2.5   | 50 X 0.25   | 2.05                            | 8.21                                    | 10.3 ± 1.0                    | 200                          |
| A5471604    | 4 X 2.5   | 50 X 0.25   | 2.05                            | 8.21                                    | 11.4 ± 1.1                    | 250                          |
| A5471605    | 5 X 2.5   | 50 X 0.25   | 2.05                            | 8.21                                    | 12.6 ± 1.3                    | 295                          |
| A5471606    | 6 X 2.5   | 50 X 0.25   | 2.05                            | 8.21                                    | 13.8 ± 1.4                    | 350                          |
| A5471607    | 7 X 2.5   | 50 X 0.25   | 2.05                            | 8.21                                    | 14.0 ± 1.4                    | 380                          |
| A5471608    | 8 X 2.5   | 50 X 0.25   | 2.05                            | 8.21                                    | 15.6 ± 1.6                    | 450                          |
| A5471609    | 9 X 2.5   | 50 X 0.25   | 2.05                            | 8.21                                    | 17.0 ± 1.7                    | 510                          |
| A5471610    | 10 X 2.5  | 50 X 0.25   | 2.05                            | 8.21                                    | 17.8 ± 1.8                    | 560                          |
| A5471612    | 12 X 2.5  | 50 X 0.25   | 2.05                            | 8.21                                    | 18.5 ± 1.9                    | 640                          |
| A5471612G   | 12G X 2.5   | 50 X 0.25   | 2.05                            | 8.21                                    | 18.5 ± 1.9                    | 640                          |
| A5471614    | 14 X 2.5  | 50 X 0.25   | 2.05                            | 8.21                                    | 19.5 ± 2.0                    | 725                          |
| A5471616    | 16 X 2.5  | 50 X 0.25   | 2.05                            | 8.21                                    | 20.7 ± 2.1                    | 815                          |
| A5471620    | 20 X 2.5  | 50 X 0.25   | 2.05                            | 8.21                                    | 23.1 ± 2.3                    | 1000                         |
| A5471624    | 24 X 2.5  | 50 X 0.25   | 2.05                            | 8.21                                    | 25.6 ± 2.6                    | 1200                         |
| A5471627    | 27 X 2.5  | 50 X 0.25   | 2.05                            | 8.21                                    | 26.2 ± 2.6                    | 1315                         |

✓ \*\* We have obtained various approvals, accreditations, and certifications — some of which may not be relevant to this catalog.

| GKW S EMC FS |                            |
|--------------|----------------------------|
| G            | Electron Beam Cross linked |
| K            | Cold Resistant             |
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| EMC          | Shielding                  |
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