

# MegaLine<sup>®</sup> E5-70 F/F

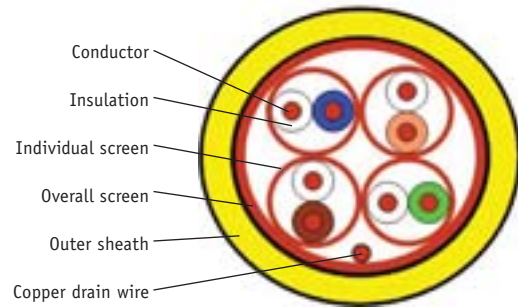
## S<sub>3</sub>P<sub>2</sub>A<sub>3</sub>C<sub>4</sub>E<sub>3</sub>

Type: KS-02YS(ST)H 4x2xAWG 23/1 PIMF  
 Type: KS-02YS(ST)H 2x(4x2xAWG 23/1 PIMF)



### Construction:

Conductor: bare copper wire, AWG 23/1  
 Insulation: cellular-PE, core-Ø: max. 1.40 mm  
 Twisting element: Pair  
 Individual screen: aluminium bonded polyester tape  
 Twisting: 4 pairs  
 Overall screen: aluminium bonded polyester tape, metal side inside, with underlayered tinned copper drain wire AWG 24/1  
 Outer sheath: halogen-free, flame retardend compound



### Printing outer sheath:

KERPEN MegaLine<sup>®</sup> E5-70 F/F 4P H SPACE CODE 2343  
 "VDE approval mark" "Production lot code"  
 "Meter marking"

Colour code: wh/bu, wh/or, wh/gn, wh/bn  
 Colour outer sheath: yellow, RAL 1021

### Fire behaviour:

Flame retardance: acc. to IEC 60332-3-24  
 Halogen acid gas emission: acc. to IEC 60754-2  
 Smoke density: acc. to IEC 61034  
 Calorific value (MJ/m): 0.6/1.2 (approx.)

|   |               |               |                |             |             |
|---|---------------|---------------|----------------|-------------|-------------|
| S | 1             | 2             | 3              | 4           | 5           |
|   | IEC 60332-2-2 | IEC-60332-1-2 | IEC-60332-3-24 | EFP Grade 1 | EFP Grade 2 |

Security (Fire behaviour)

### Performance:

Better than category 6 acc. EN 50288 and IEC 61156 very good NEXT, good screening characteristics (individual and overall screen), low SKEW  
 Bandwidth 700 MHz

|   |                        |                                     |                        |                                       |                            |
|---|------------------------|-------------------------------------|------------------------|---------------------------------------|----------------------------|
| P | 1                      | 2                                   | 3                      | 4                                     | 5                          |
|   | > class E<br>> 250 MHz | > class E <sub>A</sub><br>> 500 MHz | > class F<br>> 600 MHz | > class F <sub>A</sub><br>> 1,000 MHz | > class "G"<br>> 1,200 MHz |

Performance (Cabling class, bandwidth)

### Applications:

Installation cable for generic cabling systems acc. ISO/IEC 11801 and EN 50173 (2. edition).  
 Ideal for all applications of classes D up to E<sub>A</sub> up to 10 GbE acc. IEEE 802.3 an (draft), Cable sharing, VoIP, PoE

|   |           |         |              |          |             |
|---|-----------|---------|--------------|----------|-------------|
| A | 1         | 2       | 3            | 4        | 5           |
|   | > 100 MbE | > 1 GbE | up to 10 GbE | > 10 GbE | > 10 GbE TV |

Application (Ethernet, TV)

### Mechanical characteristics:

Bending radius:  
 during installation: 8 x overall diameter (min.)  
 after installation: 4 x overall diameter (min.)  
 Tensile strength: 110/220 (max.)  
 Crush (N/100mm): 1,000  
 Impact (number of shocks): 10

|   |        |           |        |        |        |
|---|--------|-----------|--------|--------|--------|
| C | 1      | 2         | 3      | 4      | 5      |
|   | AWG 27 | AWG 26/25 | AWG 24 | AWG 23 | AWG 22 |

Construction (Conductor size, Tensile strength)

### Electromagnetic behaviour:

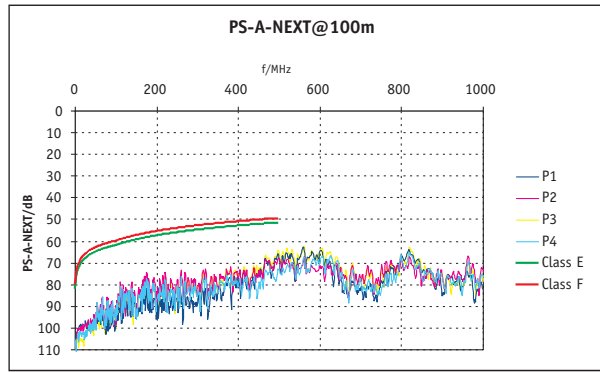
Transfer impedance at 10 MHz (mOhm/m):  
 50 (nominal value)  
 Screening attenuation up to 1,000 MHz (dB):  
 60 (nominal value)  
 Coupling attenuation up to 1,000 MHz (dB):  
 70 (nominal value)

|   |         |         |         |         |         |
|---|---------|---------|---------|---------|---------|
| E | 1       | 2       | 3       | 4       | 5       |
|   | > 40 dB | > 50 dB | > 60 dB | > 70 dB | > 80 dB |

EMC (Coupling attenuation)

**Electrical characteristics at 20°C:**

- DC resistance (Ohm/km): 82 (max.)
- Insulation resistance (Gohm x km): 5 (min.)
- Mutual capacitance (pF/m): 42 (approx.)
- Transfer capacitance (e) (pF/km): 1,500 (approx.)
- Signal velocity (c): 0.8 (approx.)
- Propagation delay (ns/100m): 417 (approx.)
- Skew at 100 MHz (ns/100m): 7 (approx.)
- Characteristic impedance at 100 MHz (Ohm): 100 ± 5
- Test voltage Ueff (V): 1,000
- Operating voltage Ueff (V): 125 (max.)



| Frequency MHz | Attenuation dB/100m |             | NEXT dB |             | PS-NEXT dB |             | ACR dB@100m |             | PS-ACR dB@100m |             | EL-FEXT dB@100m |             | PS-ELFEXT dB@100m |             | RL dB |             |
|---------------|---------------------|-------------|---------|-------------|------------|-------------|-------------|-------------|----------------|-------------|-----------------|-------------|-------------------|-------------|-------|-------------|
|               | typ.                | Cat.6 max.* | typ.    | Cat.6 min.* | typ.       | Cat.6 min.* | typ.        | Cat.6 min.* | typ.           | Cat.6 min.* | typ.            | Cat.6 min.* | typ.              | Cat.6 min.* | typ.  | Cat.6 min.* |
| 1             | 1.9                 | 2           | 95      | 66          | 92         | 64          | 93          | 64          | 90             | 62          | 91              | 66          | 88                | 63          | 25.1  | -           |
| 10            | 5.2                 | 5.9         | 90      | 59          | 87         | 57          | 85          | 53          | 82             | 51          | 96              | 57          | 93                | 54          | 35.2  | 25          |
| 100           | 17.7                | 19          | 75      | 44          | 72         | 42          | 57          | 25          | 54             | 23          | 90              | 42          | 87                | 39          | 37.2  | 20.1        |
| 200           | 26.4                | 27.5        | 68      | 40          | 65         | 38          | 42          | 12          | 39             | 10          | 78              | 38          | 75                | 35          | 31.1  | 18          |
| 250           | 29.9                | 31          | 66      | 38          | 63         | 36          | 36          | 7           | 33             | 5           | 75              | 36          | 72                | 33          | 29.5  | 17.3        |
| 300           | 31.9                | 34.2        | 65      | 37          | 62         | 35          | 33          | 3           | 30             | 1           | 72              | 35          | 69                | 32          | 28.3  | 17.3        |
| 450           | 38.9                | 42.7        | 63      | 35          | 60         | 33          | 24          | -8          | 21             | -10         | 69              | 33          | 66                | 30          | 26.7  | 17.3        |
| 500           | 41.2                | 45.3        | 61      | 34          | 58         | 32          | 20          | -11         | 17             | -13         | 66              | 32          | 63                | 29          | 26.3  | 17.3        |
| 600           | 46.2                | -           | 57      | -           | 54         | -           | 11          | -           | 8              | -           | 60              | -           | 57                | -           | 25.8  | -           |
| 700           | 51.4                | -           | 54      | -           | 51         | -           | 3           | -           | 0              | -           | 56              | -           | 53                | -           | -     | -           |

\* EN 50288-10-1 (draft)/EN 50288-5-1/IEC 61156-5

**Chemical characteristics:**

Free of hazardous substances acc. to RoHS 2002/95/EG

**Certificates and Approvals:**

Quality mark with production control: <VDE>  
 Link performance: KERPEN ELine™ systems and further commercial cabling systems  
 Inspection certificate: acc. to DIN 55350-18-4.2.1 respectively EN 10204  
 In agreement to LVD (73/23/EEC):

**Thermal characteristics:**

Temperature range for fixed installation:  
 -20°C up to + 60°C  
 Temperature range for mobile operation:  
 0°C up to + 50°C

| Article number | Size | Overall diameter mm  | Weight kg/km  | Copper number kg/km | Colour sheat     |
|----------------|------|----------------------|---------------|---------------------|------------------|
| 7KS60022       | 4P   | 7.5 (approx.)        | 58 (approx.)  | 23.5                | yellow, RAL 1021 |
| 7KS60023       | 2x4P | 7.5 x 15.4 (approx.) | 120 (approx.) | 47                  | yellow, RAL 1021 |

Package: Drum 1,000 m