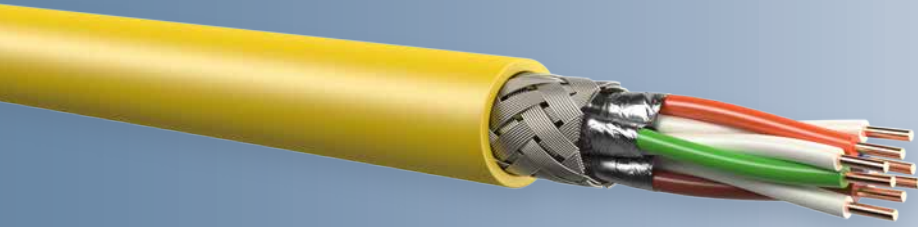


# MegaLine® F6-90 S/F

Category 7

S<sub>3</sub> P<sub>3</sub> A<sub>4</sub> C<sub>4</sub> E<sub>5</sub>

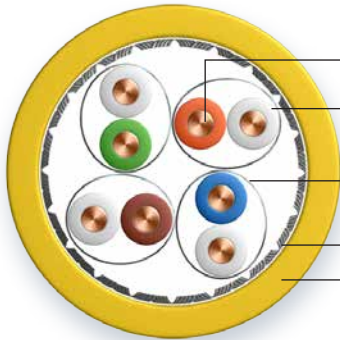


Types **KS-02YSCH 4x2xAWG 23/1 PIMF**  
**KS-02YSCH 2/4/6/8x(4x2xAWG 23/1 PIMF)**

## Advantages

- better than category 7
- bandwidth 1000 MHz
- excellent shielding characteristics
- VDE certified
- PVP-GHMT
- RoHS and REACh conformity

## Construction 4 P



Conductor	Bare copper wire, AWG 23/1
Insulation Twisting element	Cellular PE, core-diameter: nominal value 1.4 mm Pair
Individual shielding	Aluminium bonded polyester foil, metal side outside (PiMF)
Twisting	4 pairs
Overall shielding	Tinned copper braid
Outer sheath	Halogen free, flame-retardant compound

## Fire behaviour

Flame retardancy	acc. to IEC 60332-3-24
Halogen free	acc. to IEC 60754-1/2
Smoke density	acc. to IEC 61034-1/2
Fire load (reference value)	0.60 MJ/m (Sx), 1.2 MJ/m (Dx), 4.3 MJ/m (4 p), 6.9 MJ/m (6 p), 9.6 MJ/m (8 p)

## Performance

better than category 7 acc. to EN 50288 and IEC 61156  
 excellent NEXT,  
 excellent shielding characteristics (shielding in pairs and overall shielding),  
 low skew, bandwidth 1000 MHz

## Applications

Installation cable for use in generic cabling systems acc. to ISO/IEC 11801 and EN 50173 (2nd edition).  
 Ideal for all applications of classes D to F multimedia  
 (video, data, voice) >10 GbE acc. to IEEE 802.3 an, cable sharing, VoIP, PoE.

## Mechanical characteristics

Bending radius	during installation	8 x outer diameter
	after installation	4 x outer diameter (min.)
Tensile load (max.)		110 N (Sx), 220 N (Dx), 400 N (4 p), 600 N (6 p), 850 N (8 p)
Crush strength		1000 N/100 mm
Impact strength (number of shocks)		10

## Electromagnetic behaviour

Transfer impedance at 10 MHz (nom.)	5 mΩ/m
Shield attenuation up to 1000 MHz (nom.)	70 dB
Coupling attenuation up to 1000 MHz (nom.)	85 dB

## Security (fire behaviour)

<b>S</b>	1	2	3	4	5
	IEC 60332-2-2	IEC-60332-1-2	IEC-60332-3-24	EFP Grade 1	EFP Grade 2

## Performance (cable class, bandwidth)

<b>P</b>	1	2	3	4	5
	> Class E	> Class E <sub>A</sub>	> Class F	> Class F <sub>A</sub>	> Class G
	> 250 MHz	> 500 MHz	> 600 MHz	> 1000 MHz	> 1200 MHz

## Application (Ethernet, TV)

<b>A</b>	1	2	3	4	5
	> 100 MbE	> 1 GbE	up to 10 GbE	> 10 GbE	> 10 GbE TV

## Construction (conductor dimension, tensile strength)

<b>C</b>	1	2	3	4	5
	AWG 27	AWG 26/25	AWG 24	AWG 23	AWG 22

## EMC (coupling attenuation)

<b>E</b>	1	2	3	4	5
	> 40 dB	> 50 dB	> 60 dB	> 70 dB	> 80 dB

### Electrical characteristics (HF) at 20 °C

Frequency MHz	Attenuation dB/100m		NEXT dB		PS-NEXT dB		ACR dB at 100m		PS-ACR dB at 100m		EL-FEXT dB at 100m		PS-ELFEXT dB at 100m		RL dB	
	typ.	Cat. 7 max.*	typ.	Cat. 7 min.*	typ.	Cat. 7 min.*	typ.	Cat. 7 min.*	typ.	Cat. 7 min.*	typ.	Cat. 7 min.*	typ.	Cat. 7 min.*	typ.	Cat. 7 min.*
1	1.9	2	102	80	99	77	101	78	98	75	109	80	106	77	25.4	23
10	4.8	5.7	102	80	99	77	98	74	95	71	108	74	105	71	31.1	25
100	16.4	18.5	102	72	99	69	86	54	83	51	93	54	90	51	33.2	20.1
200	24.5	26.8	102	68	99	65	78	41	75	38	85	48	82	45	33.2	18
250	27.8	30.2	102	66	99	63	75	36	72	33	82	46	79	43	33.4	17.3
450	36.1	41.6	97	63	94	60	61	21	58	18	72	41	69	38	31.4	17.3
500	38.2	44.1	97	62	94	59	59	18	56	15	68	40	65	37	30.5	17.3
600	42.9	48.9	92	61	89	58	49	12	46	9	62	38	59	35	27.6	17.3
700	47.7	–	92	–	89	–	44	–	41	–	59	–	56	–	26.2	–
800	50.8	–	90	–	87	–	39	–	36	–	56	–	53	–	23.9	–
900	55.1	–	85	–	82	–	30	–	27	–	52	–	49	–	21.7	–
1000	58.0	–	80	–	77	–	22	–	19	–	42	–	39	–	18.0	–

\* EN 50288-4-1(2004)/IEC 61156-5(2002)

As a result of the combination of multiple single elements into a single cable, up to 5 % higher attenuation values and frequency-selective reflections can arise with multi-types.

### Electrical characteristics (LF) at 20 °C

DC resistance	max.	75 Ω/km
Isolation resistance	min.	5 GΩ x km
Mutual capacitance	approx.	42 pF/m
Capacitive coupling (e)	approx.	1500 pF/km
Signal tempo (c)	approx.	0.80
Propagation delay	approx.	420 ns/100 m
Skew at 100 MHz	approx.	5 ns/100 m
Characteristic impedance	at 100 MHz	100 ± 5 Ω
Testing voltage U <sub>eff</sub>		1000 V
Operating voltage	max.	125 V

### Thermal characteristics

For fixed installation	–20 °C up to +60 °C
For mobile operation	0 °C up to +50 °C

### Chemical characteristics

Free from hazardous substances acc. to RoHS 2011/65/EU


### Cable printing

LEONI MegaLine F6-90 S/F 4P H SPACE Code 33445  
"VDE approval mark" "Production lot code" "Meter marking"

### Colour code

wh/bu, wh/or, wh/gn, wh/bn

### Certificates and approvals

Quality mark with production control: <VDE>  
Link performance: LEONI MegaLine® systems and further commercial connector systems  
Inspection certificates: acc. to DIN 55350-18-4.2.1 and/or EN 10204  
Conforms to LVD (2006/95/EC): 

Dimension	Outer diam. approx.	Weight approx.	Cu content	Colour of sheath	Order no.
	mm	kg/km	kg/km		
4P	7.4	57	35	● Rape yellow RAL 1021	LKD 7KS7 0010 0000
2 x 4P	7.5 x 15.2	117	70	● Rape yellow RAL 1021	LKD 7KS7 0011 0000
4 x 4P	18.9	338	140	● Rape yellow RAL 1021	LKD 7KS7 0114 0000
6 x 4P	24.9	507	210	● Rape yellow RAL 1021	LKD 7KS7 0198 0000
8 x 4P	27.9	674	296	● Rape yellow RAL 1021	LKD 7KS7 0194 0000

Package: Drum 1,000 m