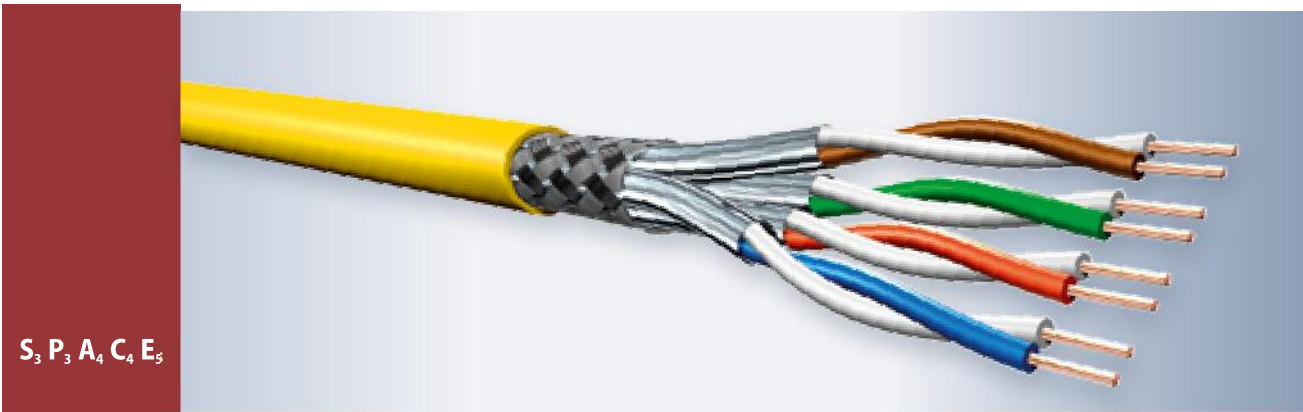


# MegaLine® F6-90 S/F

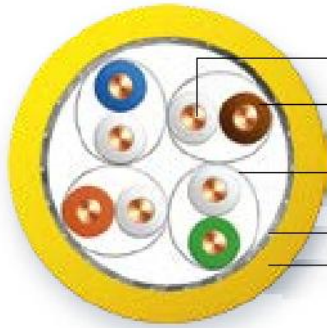
Types KS-02YSCH 4x2xAWG 23/1 PIMF  
KS-02YSCH 2/4/6/8x(4x2xAWG 23/1 PIMF)

## Category 7



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

### Construction 4 p



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

<b>Fire behaviour</b>	
Flame retardancy	acc. to IEC 60332-3-24
Halogen free	acc. to IEC 60754-1/2
Smoke density	acc. to IEC 61034-1/2
Calorific value (approx.)	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)

<b>Performance</b>	
Better than Category 7 acc. to EN 50288 and IEC 61156	
excellent NEXT, excellent shielding characteristics (shielding of pairs and overall shielding), low skew, bandwidth 1,000 MHz	

<b>Applications</b>	
Installation cable for use in structured cabling systems acc. to ISO/IEC 11801 and EN 50173 (2nd edition). Ideal for all applications from Classes D to F Multimedia (video, data, voice) >10 GbE acc. to IEEE 802.3 an, cable sharing, VoIP, PoE.	

<b>Mechanical characteristics</b>	
Bending radius	during installation 8 x overall diameter (min.) after installation 4 x overall diameter (min.)
Tensile strength (max.)	110 N (Sx), 220 N (Dx), 400 N (4 p), 600 N (6 p), 850 N (8 p)
Crush strength	1,000 N/100 mm
Impact strength (number of shocks)	10

<b>Electromagnetic behaviour</b>	
Transfer impedance at 10 MHz (nominal value)	5 mΩ/m
Shielding attenuation up to 1,000 MHz (nominal value)	70 dB
Coupling attenuation up to 1,000 MHz (nominal value)	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 (cabling 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 dimensions, 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/100 m		NEXT dB		PSNEXT dB		ACR dB at 100 m		PSACR dB at 100 m		ELFEXT dB at 100 m		PSELFEXT dB at 100 m		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)

Stranding together multiple single elements can result in attenuation values that are up to 5 % higher and frequency-selective reflections in the case of multi-types.

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

DC resistance	max.	75 Ω/km
Insulation resistance	min.	5 GΩ x km
Mutual capacitance	approx.	42 pF/m
Capacitive coupling (e)	approx.	1,500 pF/km
Signal velocity (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>		1,000 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 2002/95/EC


### Printing on outer sheath

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/EN 10204  
 Conforms to LVD (73/23/EEC): 

Dimensions	Outer diam. approx.	Weight approx.	Cu content	Colour of sheath	Order no.
	mm	kg/km	kg/km		
4 p	7.4	57	35	● Rape yellow RAL 1021	LKD 7KS7 0010 0000
2 x 4 p	7.5 x 15.2	117	70	● Rape yellow RAL 1021	LKD 7KS7 0011 0000
4 x 4 p	18.9	338	148	● Rape yellow RAL 1021	LKD 7KS7 0114 0000
6 x 4 p	24.9	507	222	● Rape yellow RAL 1021	LKD 7KS7 0198 0000
8 x 4 p	27.9	674	296	● Rape yellow RAL 1021	LKD 7KS7 0194 0000

Package: Drum 1,000 m