DATA CABLES

Data cable for analogue and digital signal transmission in the frequency range up to 1500 MHz.

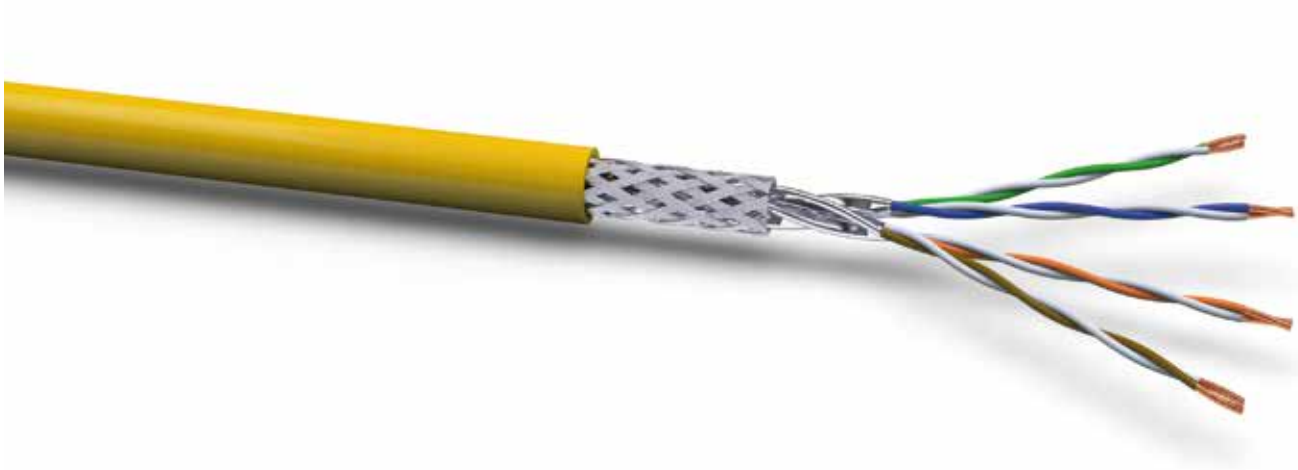
Designed for primary (campus), secondary (riser) and tertiary (horizontal) wiring.

STANDARD APPLICATION

SPECIAL APPLICATION

VOKA-LAN XLAN 1500
S/FTP 4PR AWG 22/1

Data cable
Category 7a • 1500 MHz



APPLICATION

Data cable for analogue and digital signal transmission in the frequency range up to 1500 MHz. It is designed for primary (campus), secondary (riser) and tertiary (horizontal) wiring.
Use: IEEE 802.3; 10/100/1000/10GBase-T; FDDI, broadband, video, ISDN, ATM, Multimedia, PoE

STANDARDS

EN 50288-4-1; IEC 61156-5; EN 50173-1; ISO/IEC 11801 2nd edition
IEC 60332-1; IEC 60332-3-22; IEC 60754-2; EN 61034; IEC 61034
RoHS 2002/95/EC

CONSTRUCTION

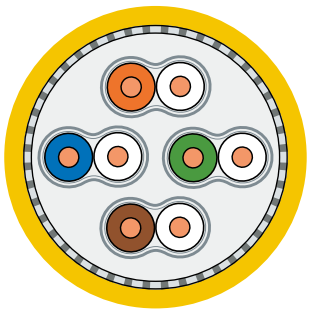
Conductor: copper, solid, bare, AWG 22/1
Core insulation: SFS-PE
Core identification: wh-bu, wh-or, wh-gn, wh-bn
Core stranding: cores twisted to layers
Screen: pair screen (PIMF) (plastic-laminated aluminium foil); drain wire optional; tinned copper wire braid
Sheath: halogen-free compound (FRNC); colour: yellow RAL 1021; imprint: VOKA-LAN XLAN 1500 S/FTP 4PR AWG 22/1 Cat.7 <00000m>

ELECTRICAL CHARACTERISTICS

(Conductor) loop resistance max.	11,5 Ω/100 m
Insulation resistance min.	5 GΩ x km
Char. impedance 1 – 100 MHz	100 ±15 Ω
Char. impedance 100 – 250 MHz	100 ±22 Ω
Char. impedance 250 – 1500 MHz	100 ±25 Ω
Transfer impedance max. (10 MHz)	5 mΩ/m
Mutual capacitance nom.	45 nF/km
Relative propagation velocity ca.	0,79 c
Screen attenuation ≤ 1500 MHz min.	85 dB
Test voltage	700 V-AC

THERMAL & MECHANICAL PROPERTIES

Temperature range during installation	0°C to +50°C
Temperature range stationary	-20°C to +60°C
Min. bending radius under tensile load	8 x diameter
Min. bending radius without tensile load	4 x diameter
Maximum traction	150 N



dimension	sheath thickness appr. mm	diameter appr. mm	cable weight ca. kg/km	copper index kg/km	calorific potential MJ/km
4 x 2 x AWG 22/1	0,60	8,4	73	42	705

We reserve changes which serve technical progress • Copper base 100,00 € / 100,00 kg
Price upon quantity-specific request • Also available as duplex version

VOKA
Vogtländisches Kabelwerk GmbH • Breitscheidstr. 122 • 08525 Plauen • Germany
Phone: +49 3741 590-0 • Fax: +49 3741 590-270 • E-mail: voka@voka.de • Internet: www.voka.de

Transmission characteristics

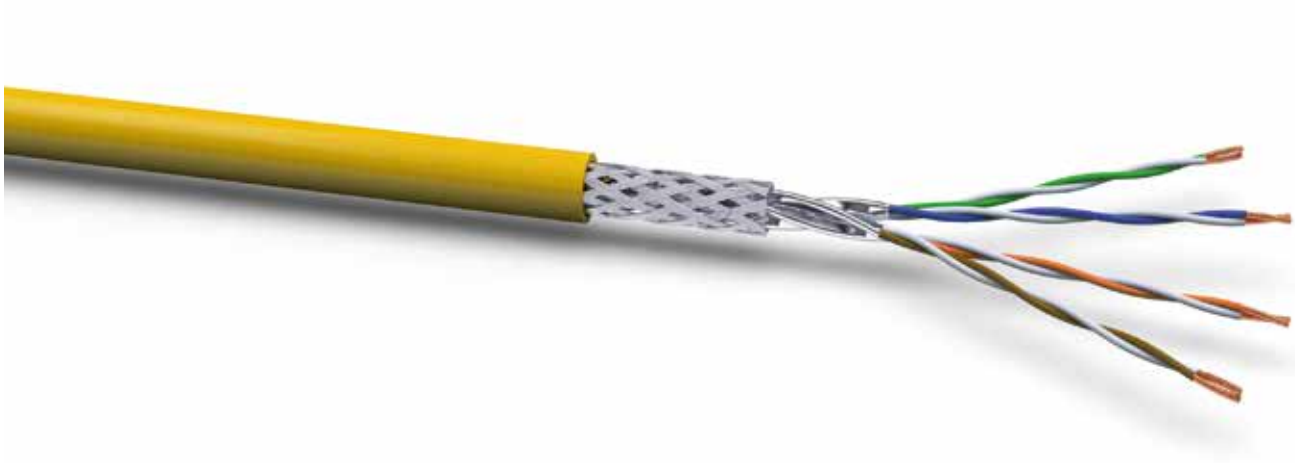
The stated performance data are characteristic measurements.

f (MHz)	Attenuation (dB/100 m)	NEXT (dB)	ACR (dB/100 m)	EL-FEXT (dB/100 m)	RL (dB)
	NOM	NOM	NOM	NOM	NOM
1	1,7	105	103	105	25
4	3,2	105	102	103	28
10	5,0	105	100	100	30
16	6,3	105	99	98	30
20	7,0	105	98	95	30
31,25	8,9	105	96	93	30
62,5	13,0	105	92	90	30
100	16,2	102	86	85	30
155	21,2	100	79	82	29
200	23,0	98	75	78	28
300	28,5	96	67	70	27
500	36,2	91	55	63	26
600	40,7	88	47	60	25
1000	55,0	78	23	52	21
1200	59,7	76	16	42	19
1300	61,0	74	13	40	18
1400	62,8	73	10	35	17
1500	64,5	72	8	30	14

ACR Powersum (dB/100 m)

VOKA-LAN XLAN 1200
S/FTP 4PR AWG 22/1

Data cable
Category 7a • 1200 MHz



APPLICATION

Data cable for analogue and digital signal transmission in the frequency range up to 1200 MHz. It is designed for primary (campus), secondary (riser) and tertiary (horizontal) wiring.
Use: IEEE 802.3; 10/100/1000/10GBase-T; FDDI, broadband, video, ISDN, ATM, Multimedia, PoE

STANDARDS

EN 50288-4-1; IEC 61156-5; EN 50173-1; ISO/IEC 11801 2nd edition
IEC 60332-1; IEC 60332-3-22; IEC 60754-2; EN 61034; IEC 61034
RoHS 2002/95/EC

CONSTRUCTION

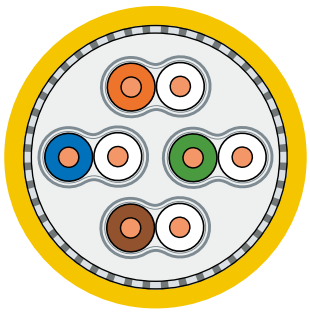
Conductor: copper, solid, bare, AWG 22/1
Core insulation: SFS-PE
Core identification: wh-bu, wh-or, wh-gn, wh-bn
Core stranding: cores twisted to layers
Screen: pair screen (PIMF) (plastic-laminated aluminium foil); drain wire optional; tinned copper wire braid
Sheath: halogen-free compound (FRNC); colour: gelb RAL 1021; imprint: VOKA-LAN XLAN 1200 S/FTP 4PR AWG 22/1 Cat.7 <00000m>

ELECTRICAL CHARACTERISTICS

(Conductor) loop resistance max.	13,0 Ω/100 m
Insulation resistance min.	5 GΩ x km
Char. impedance 1 – 100 MHz	100 ±15 Ω
Char. impedance 100 – 250 MHz	100 ±22 Ω
Char. impedance 250 – 1200 MHz	100 ±25 Ω
Transfer impedance max. (10 MHz)	5 mΩ/m
Mutual capacitance nom.	45 nF/km
Relative propagation velocity ca.	0,79 c
Screen attenuation ≤ 1200 MHz min.	85 dB
Test voltage	700 V-AC

THERMAL & MECHANICAL PROPERTIES

Temperature range during installation	0°C to +50°C
Temperature range stationary	-20°C to +60°C
Min. bending radius under tensile load	8 x diameter
Min. bending radius without tensile load	4 x diameter
Maximum traction	130 N



dimension	sheath thickness appr. mm	diameter appr. mm	cable weight appr. kg/km	copper index kg/km	calorific potential MJ/km
4 x 2 x AWG 22/1	0,60	7,9	73	42	705

We reserve changes which serve technical progress • Copper base 100,00 € / 100,00 kg
Price upon quantity-specific request • Also available as duplex version

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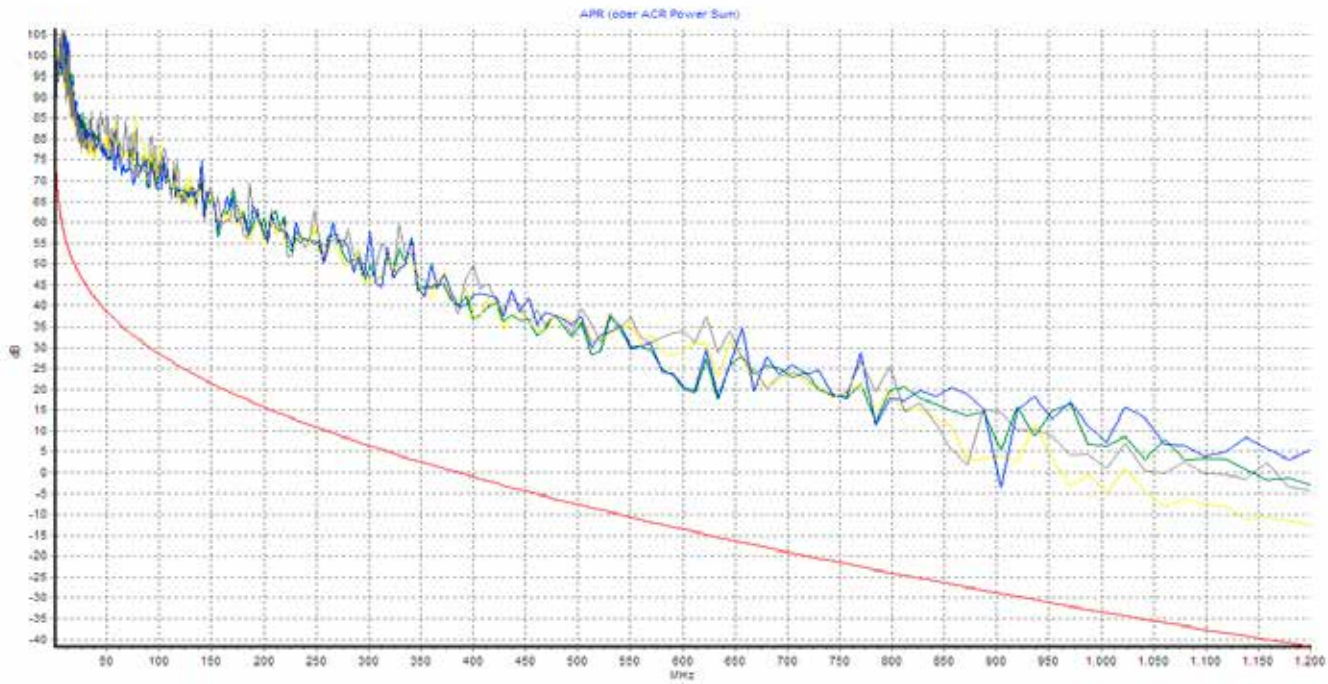
Phone: +49 3741 590-0 • Fax: +49 3741 590-270 • E-mail: voka@voka.de • Internet: www.voka.de

Transmission characteristics

The stated performance data are characteristic measurements.

f (MHz)	Attenuation (dB/100 m)	NEXT (dB)	ACR (dB/100 m)	EL-FEXT (dB/100 m)	RL (dB)
	NOM	NOM	NOM	NOM	NOM
1	1,7	105	103	105	25
4	3,2	105	102	103	28
10	5,1	105	100	100	30
16	6,4	105	99	98	30
20	7,1	105	98	95	30
31,25	9,0	105	96	93	30
62,5	13,1	105	92	90	30
100	16,5	102	85	85	30
155	21,6	100	78	82	29
200	23,5	98	74	78	28
300	29,1	96	67	70	27
500	37,0	91	54	63	26
600	41,5	88	46	60	25
1000	55,9	78	32	52	21
1200	60,8	76	15	42	19

ACR Powersum (dB/100 m)



VOKA-LAN XLAN 1000
S/FTP 4PR AWG 23/1

Data cable
Category 7a • 1000 MHz

APPLICATION

Data cable for analogue and digital signal transmission in the frequency range up to 1000 MHz. It is designed for primary (campus), secondary (riser) and tertiary (horizontal) wiring.
Use: IEEE 802.3; 10/100/1000/10GBase-T; FDDI, broadband, video, ISDN, ATM, Multimedia, PoE

STANDARDS

EN 50288-4-1; IEC 61156-5; EN 50173-1; ISO/IEC 11801 2nd edition
IEC 60332-1; IEC 60332-3-22; IEC 60754-2; EN 61034; IEC 61034
RoHS 2002/95/EC

CONSTRUCTION

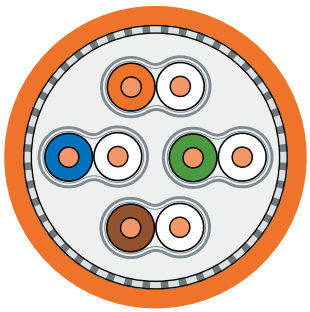
Conductor: copper, solid, bare, AWG 23/1
Core insulation: SFS-PE
Core identification: wh-bu, wh-or, wh-gn, wh-bn
Core stranding: cores twisted to layers
Screen: pair screen (PIMF) (plastic-laminated aluminium foil); drain wire optional; tinned copper wire braid
Sheath: PVC or halogen-free compound (FRNC); colour: orange RAL 2003; imprint: VOKA-LAN XLAN 1000 S/FTP 4PR AWG 23/1 Cat.7 <00000m>

ELECTRICAL CHARACTERISTICS

(Conductor) loop resistance max.	14,5 Ω/100 m
Insulation resistance min.	5 GΩ x km
Char. impedance 1 – 100 MHz	100 ±15 Ω
Char. impedance 100 – 250 MHz	100 ±22 Ω
Char. impedance 250 – 1000 MHz	100 ±25 Ω
Transfer impedance max. (10 MHz)	3 mΩ/m
Mutual capacitance nom.	45 nF/km
Relative propagation velocity ca.	0,78 c
Screen attenuation ≤ 1000 MHz min.	85 dB
Test voltage	700 V-AC

THERMAL & MECHANICAL PROPERTIES

Temperature range during installation	0°C to +50°C
Temperature range stationary	-20°C to +60°C
Min. bending radius under tensile load	8 x diameter
Min. bending radius without tensile load	4 x diameter
Maximum traction	105 N



dimension	sheath thickness appr. mm	diameter appr. mm	cable weight ca. kg/km	copper index kg/km	calorific potential MJ/km
4 x 2 x AWG23	0,60	7,6	64	34	610

We reserve changes which serve technical progress • Copper base 100,00 € / 100,00 kg
Price upon quantity-specific request • Also available as duplex version

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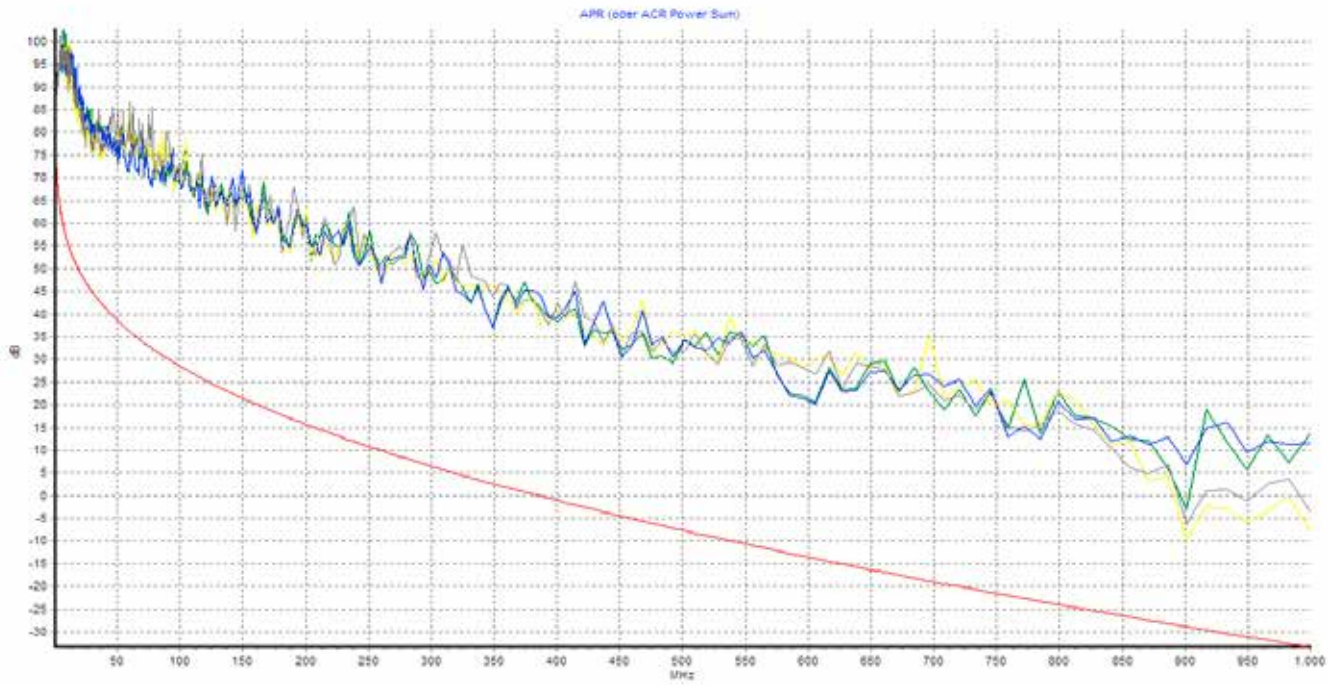
Transmission characteristics

The stated performance data are characteristic measurements.

f (MHz)	Attenuation (dB/100 m)	NEXT (dB)	ACR (dB/100 m)	EL-FEXT (dB/100 m)	RL (dB)
	NOM	NOM	NOM	NOM	NOM
1	1,7	105	103	95	25
4	3,2	105	102	93	28
10	5,2	105	100	92	30
16	6,5	105	98	91	32
20	7,3	105	98	90	34
31,25	9,4	105	96	86	35
62,5	13,6	103	89	82	34
100	17,0	100	83	77	33
155	22,2	98	76	73	30
200	24,3	95	71	70	29
300	30,2	93	73	67	27
400	35,2	90	55	64	26
500	39,1	87	48	62	24
600	43,5	85	41	60	23
800	50,0	83	33	56	22
900	55,2	81	26	53	21
1000	58,1	80	22	50	20

ACR Powersum (dB/100 m)



VOKA-LAN SLAN 1000
S/FTP 4PR AWG 23/1

Data cable
Category 7a • 1000 MHz

APPLICATION

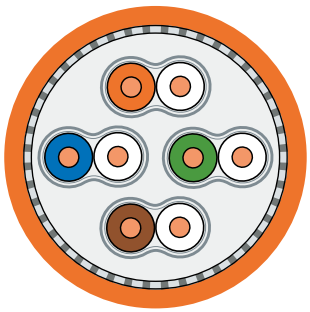
Data cable for analogue and digital signal transmission in the frequency range up to 1000 MHz. It is designed for primary (campus), secondary (riser) and tertiary (horizontal) wiring.
Use: IEEE 802.3; 10/100/1000/10GBase-T; FDDI, broadband, video, ISDN, ATM, Multimedia, PoE

STANDARDS

EN 50288-4-1; IEC 61156-5; EN 50173-1; ISO/IEC 11801 2nd edition
IEC 60332-1; IEC 60332-3-22; IEC 60754-2; EN 61034; IEC 61034
RoHS 2002/95/EC

CONSTRUCTION

Conductor: copper, solid, bare, AWG 23/1
Core insulation: SFS-PE
Core identification: wh-bu, wh-or, wh-gn, wh-bn
Core stranding: cores twisted to layers
Screen: pair screen (PIMF) (plastic-laminated aluminium foil); drain wire optional; tinned copper wire braid
Sheath: PVC or halogen-free compound (FRNC); colour: orange RAL 2003; imprint: VOKA-LAN SLAN 1000 S/FTP 4PR AWG 23/1 Cat.7 <00000m>



ELECTRICAL CHARACTERISTICS

(Conductor) loop resistance max.	14,5 Ω/100 m
Insulation resistance min.	5 GΩ x km
Char. impedance 1 – 100 MHz	100 ±15 Ω
Char. impedance 100 – 250 MHz	100 ±22 Ω
Char. impedance 250 – 1000 MHz	100 ±25 Ω
Transfer impedance max. (10 MHz)	8 mΩ/m
Mutual capacitance nom.	45 nF/km
Relative propagation velocity ca.	0,78 c
Screen attenuation ≤ 1000 MHz min.	75 dB
Test voltage	700 V-AC

THERMAL & MECHANICAL PROPERTIES

Temperature range during installation	0°C to +50°C
Temperature range stationary	-20°C to +60°C
Min. bending radius under tensile load	8 x diameter
Min. bending radius without tensile load	4 x diameter
Maximum traction	105 N

dimension	sheath thickness appr. mm	diameter appr. mm	cable weight ca. kg/km	copper index kg/km	calorific potential MJ/km
4 x 2 x AWG23	0,60	7,6	60	26,3	610

We reserve changes which serve technical progress • Copper base 100,00 € / 100,00 kg
Price upon quantity-specific request • Also available as duplex version

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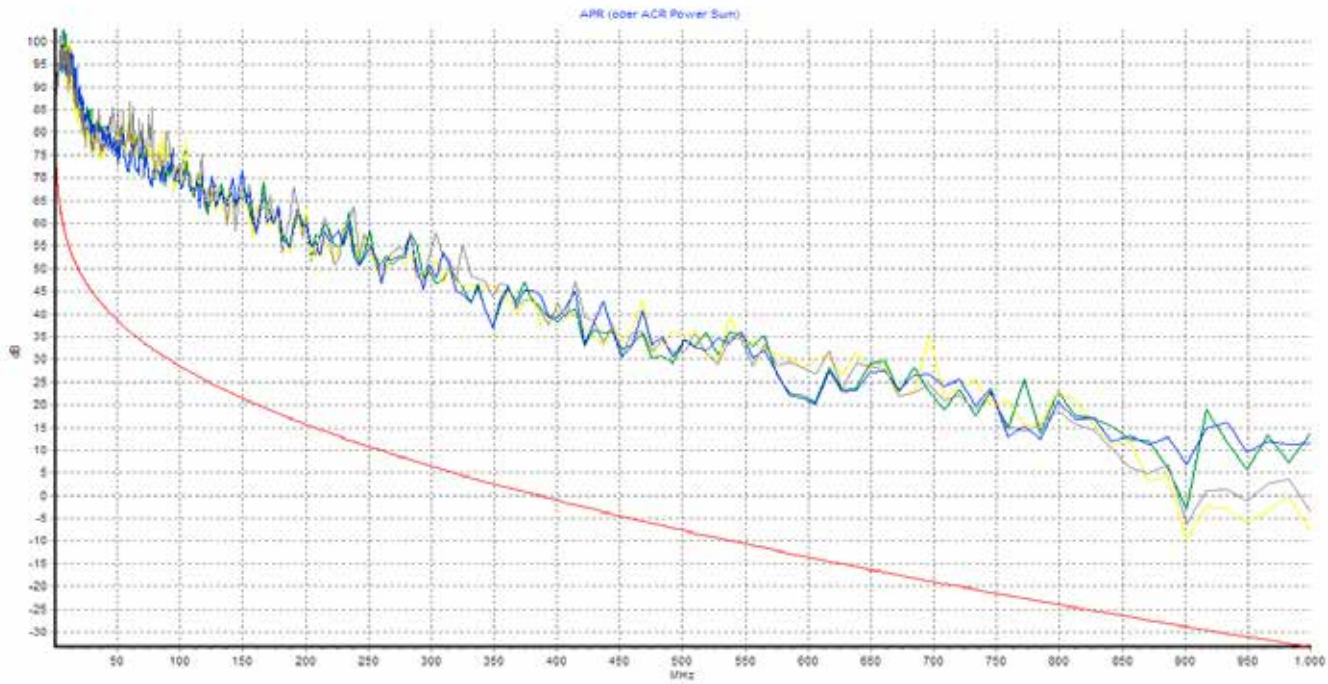
Transmission characteristics

The stated performance data are characteristic measurements.

f (MHz)	Attenuation (dB/100 m)	NEXT (dB)	ACR (dB/100 m)	EL-FEXT (dB/100 m)	RL (dB)
	NOM	NOM	NOM	NOM	NOM
1	1,8	105	103	95	25
4	3,3	105	102	93	28
10	5,3	105	100	92	30
16	6,7	105	98	91	32
20	7,5	105	97	90	34
31,25	9,6	105	95	86	35
62,5	13,8	103	89	82	34
100	17,3	100	83	77	33
155	22,6	98	75	73	30
200	24,8	95	70	70	29
300	30,7	93	62	67	27
400	35,8	90	54	64	26
500	39,7	87	47	62	24
600	44,2	85	41	60	23
800	50,8	83	32	56	22
900	56,0	81	25	53	21
1000	59,0	80	21	50	20

ACR Powersum (dB/100 m)



VOKA-LAN XLAN 600
S/FTP 4PR AWG 23/1

Data cable
Category 7 • Class F • 600 MHz

APPLICATION

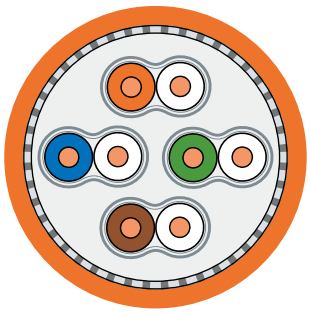
Data cable for analogue and digital signal transmission in the frequency range up to 600 MHz. It is designed for primary (campus), secondary (riser) and tertiary (horizontal) wiring.
Use: IEEE 802.3: 10/100/1000/10GBase-T; FDDI, broadband, video, ISDN, ATM, PoE

STANDARDS

EN 50288-4-1; IEC 61156-5; EN 50173-1; ISO/IEC 11801 2nd edition
IEC 60332-1; IEC 60332-3-22; IEC 60754-2; EN 61034; IEC 61034
RoHS 2002/95/EC

CONSTRUCTION

Conductor: copper, solid, bare, AWG 23/1
Core insulation: SFS-PE
Core identification: wh-bu, wh-or, wh-gn, wh-bn
Core stranding: cores twisted to layers
Screen: pair screen (PIMF) (plastic-laminated aluminium foil); drain wire optional; tinned copper wire braid
Sheath: PVC or halogen-free compound (FRNC); colour: orange RAL 2003; imprint: VOKA-LAN XLAN 600 S/FTP 4PR AWG 23/1 Cat.7 <00000m>



ELECTRICAL CHARACTERISTICS

(Conductor) loop resistance max.	14,5 Ω/100 m
Insulation resistance min.	5 GΩ x km
Char. impedance 1 – 100 MHz	100 ±15 Ω
Char. impedance 100 – 250 MHz	100 ±22 Ω
Char. impedance 250 – 600 MHz	100 ±25 Ω
Transfer impedance max. (10 MHz)	5 mΩ/m
Mutual capacitance nom.	45 nF/km
Relative propagation velocity ca.	0,78 c
Screen attenuation ≤ 1000 MHz min.	75 dB
Test voltage	700 V-AC

THERMAL & MECHANICAL PROPERTIES

Temperature range during installation	0°C to +50°C
Temperature range stationary	-20°C to +60°C
Min. bending radius under tensile load	8 x diameter
Min. bending radius without tensile load	4 x diameter
Maximum traction	105 N

dimension	sheath thickness appr. mm	diameter appr. mm	cable weight ca. kg/km	copper index kg/km	calorific potential MJ/km
4 x 2 x AWG23	0,60	7,6	63	34	590

We reserve changes which serve technical progress • Copper base 100,00 € / 100,00 kg
Price upon quantity-specific request • Also available as duplex version

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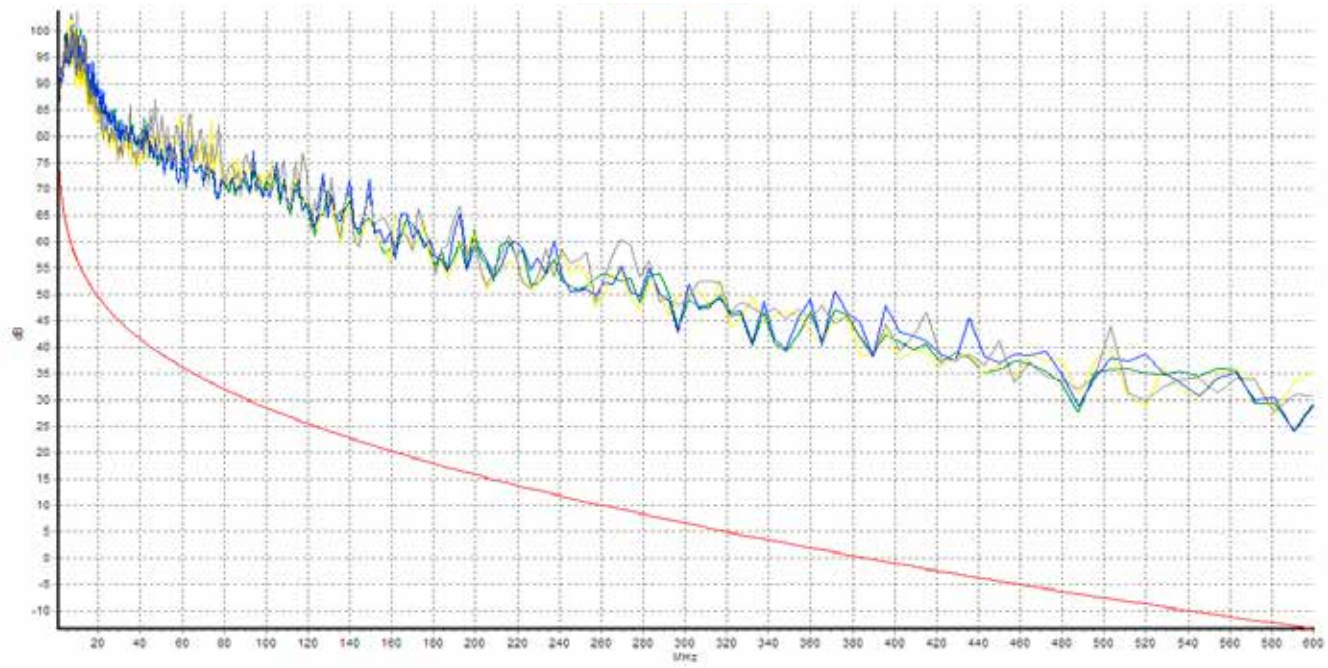
Vogtländisches Kabelwerk GmbH • Breitscheidstr. 122 • 08525 Plauen • Germany
Phone: +49 3741 590-0 • Fax: +49 3741 590-270 • E-mail: voka@voka.de • Internet: www.voka.de

Transmission characteristics

The stated performance data are characteristic measurements.

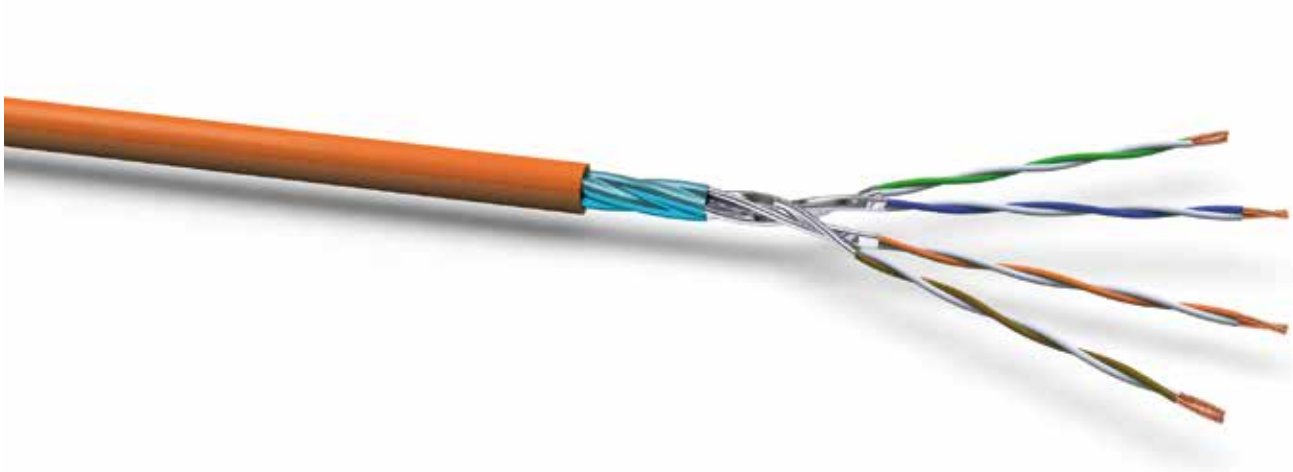
f (MHz)	Attenuation (dB/100 m)	NEXT (dB)	ACR (dB/100 m)	EL-FEXT (dB/100 m)	RL (dB)
	NOM	NOM	NOM	NOM	NOM
1	1,7	105	103	95	25
4	3,2	105	102	93	28
10	5,2	105	100	92	30
16	6,5	105	98	91	32
20	7,3	105	98	90	34
31,25	9,4	105	96	86	35
62,5	13,6	103	89	82	34
100	17,0	100	83	77	33
155	22,2	98	76	73	30
200	24,3	95	71	70	29
300	30,2	93	73	67	27
400	35,2	90	55	64	26
500	39,1	87	48	62	24
600	43,5	85	41	60	23

ACR Powersum (dB/100 m)



VOKA-LAN XLAN 500
F/FTP 4PR AWG 23/1

Data cable
Category 6a • Class Ea • 500 MHz



APPLICATION

Data cable for analogue and digital signal transmission in the frequency range up to 500 MHz. It is designed for primary (campus), secondary (riser) and tertiary (horizontal) wiring.
Use: IEEE 802.3: 10/100/1000/10GBase-T; FDDI, broadband, video, ISDN, ATM, PoE

STANDARDS

EN 50288-5-1; IEC 61156-5; EN 50173-1; ISO/IEC 11801 2nd edition
IEC 60332-1; IEC 60332-3-24; IEC 60754-2; EN 61034; IEC 61034
RoHS 2002/95/EC

CONSTRUCTION

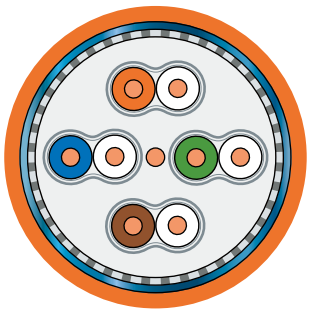
Conductor: copper, solid, bare, AWG 23/1
Core insulation: SFS-PE
Core identification: wh-bu, wh-or, wh-gn, wh-bn
Core stranding: cores twisted to layers
Screen: pair screen (PIMF) (plastic-laminated aluminium foil); drain wire; overall screen: aluminium compound foil
Sheath: PVC or halogen-free compound (FRNC); colour: orange RAL 2003; imprint: VOKA-LAN XLAN 500 F/FTP 4PR AWG 23/1 Cat. 6A <00000m>

ELECTRICAL CHARACTERISTICS

(Conductor) loop resistance max.	15 Ω/100 m
Insulation resistance min.	5 GΩ x km
Char. impedance 1 – 100 MHz	100 ±15 Ω
Char. impedance 100 – 250 MHz	100 ±22 Ω
Char. impedance 250 – 500 MHz	100 ±25 Ω
Transfer impedance max. (10 MHz)	30 mΩ/m
Mutual capacitance nom.	45 nF/km
Relative propagation velocity ca.	0,78 c
Screen attenuation ≤ 500 MHz min.	60 dB
Test voltage	700 V-AC

THERMAL & MECHANICAL PROPERTIES

Temperature range during installation	0°C to +50°C
Temperature range stationary	-20°C to +60°C
Min. bending radius under tensile load	8 x diameter
Min. bending radius without tensile load	4 x diameter
Maximum traction	100 N



dimension	sheath thickness appr. mm	diameter appr. mm	cable weight ca. kg/km	copper index kg/km	calorific potential MJ/km
4 x 2 x AWG23	0,60	7,4	58	22	520

We reserve changes which serve technical progress • Copper base 100,00 € / 100,00 kg
Price upon quantity-specific request • Also available as duplex version

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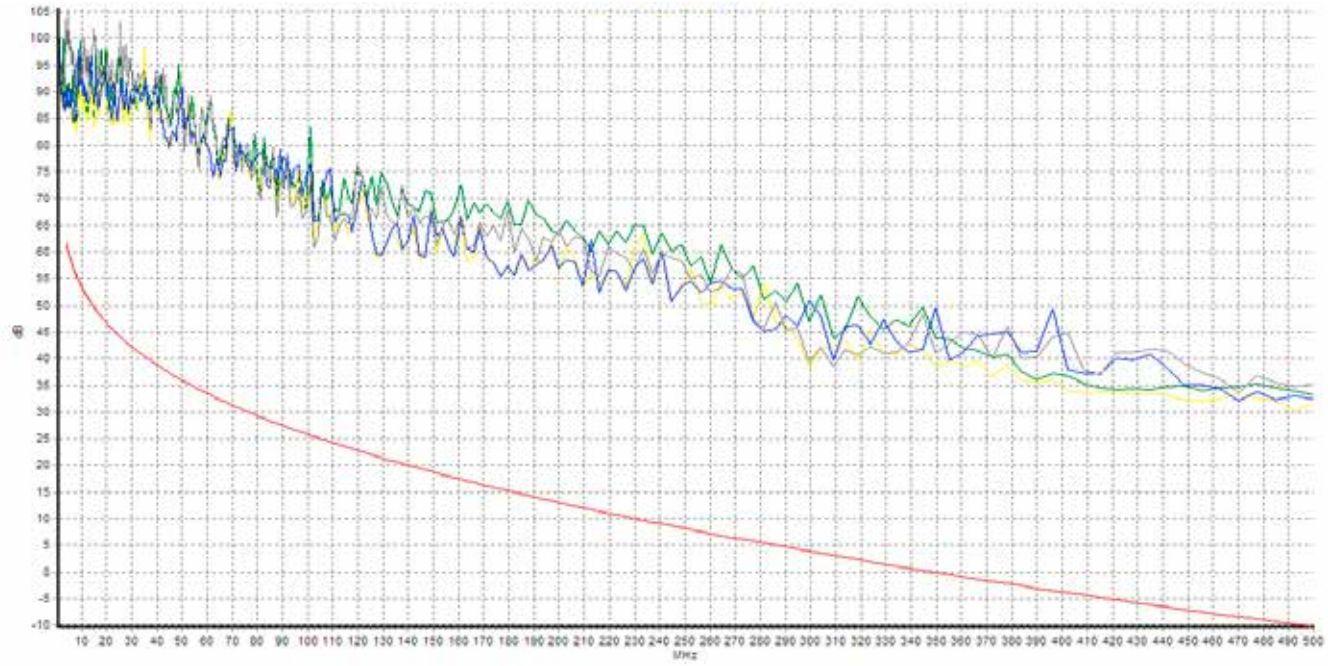
Transmission characteristics

The stated performance data are characteristic measurements.

f (MHz)	Attenuation (dB/100 m)	NEXT (dB)	ACR (dB/100 m)	EL-FEXT (dB/100 m)	RL (dB)
	NOM	NOM	NOM	NOM	NOM
1	1,9	100	98,1	103	24
4	3,5	100	96,5	103	28
10	5,6	100	94,4	98	30
16	7,0	100	93,0	96	30
20	7,9	100	92,1	95	30
31,25	9,8	100	90,2	91	30
62,5	14,2	100	85,8	87	30
100	17,8	98	80,2	80	30
155	22,1	95	72,9	78	29
200	25,1	93	67,9	72	28
300	31,0	88	57,0	70	26
400	36,4	85	48,6	68	24
500	41,8	83	41,2	62	23

ACR Powersum (dB/100 m)



VOKA-LAN XLAN 500
U/FTP 4PR AWG 23/1

Data cable
Category 6a • Class Ea • 500 MHz

APPLICATION

Data cable for analogue and digital signal transmission in the frequency range up to 500 MHz. It is designed for primary (campus), secondary (riser) and tertiary (horizontal) wiring.
Einatz: in LANs: IEEE 802.3: 10/100/1000/10GBase-T; FDDI, broadband, video, ISDN, ATM, PoE

STANDARDS

EN 50288-5-1; IEC 61156-5; EN 50173-1; ISO/IEC 11801 2nd edition
IEC 60332-1; IEC 60332-3-24; IEC 60754-2; EN 61034; IEC 61034
RoHS 2002/95/EC

CONSTRUCTION

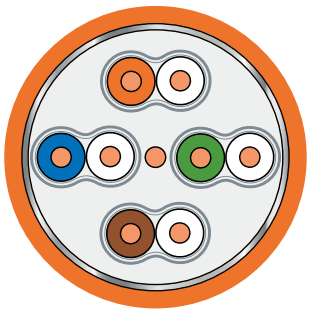
Conductor: copper, solid, bare, AWG 23/1
Core insulation: SFS-PE
Core identification: wh-bu, wh-or, wh-gn, wh-bn
Core stranding: cores twisted to layers
Screen: pair screen (PIMF) (plastic-laminated aluminium foil); drain wire
Sheath: PVC or halogen-free compound (FRNC); colour: orange RAL 2003; imprint: VOKA-LAN XLAN 500 U/FTP 4PR AWG 23/1 Cat.6A <00000m>

ELECTRICAL CHARACTERISTICS

(Conductor) loop resistance max.	15 Ω/100 m
Insulation resistance min.	5 GΩ x km
Char. impedance 1 – 100 MHz	100 ±15 Ω
Char. impedance 100 – 250 MHz	100 ±22 Ω
Char. impedance 250 –500 MHz	100 ±25 Ω
Transfer impedance max. (10 MHz)	30 mΩ/m
Mutual capacitance nom.	45 nF/km
Relative propagation velocity ca.	0,78 c
Screen attenuation ≤ 500 MHz min.	60 dB
Test voltage	700 V-AC

THERMAL & MECHANICAL PROPERTIES

Temperature range during installation	0°C to +50°C
Temperature range stationary	-20°C to +60°C
Min. bending radius under tensile load	8 x diameter
Min. bending radius without tensile load	4 x diameter
Maximum traction	100 N



dimension	sheath thickness appr. mm	diameter appr. mm	cable weight ca. kg/km	copper index kg/km	calorific potential MJ/km
4 x 2 x AWG23	0,60	7,3	54	22	510

We reserve changes which serve technical progress • Copper base 100,00 € / 100,00 kg
Price upon quantity-specific request • Also available as duplex version

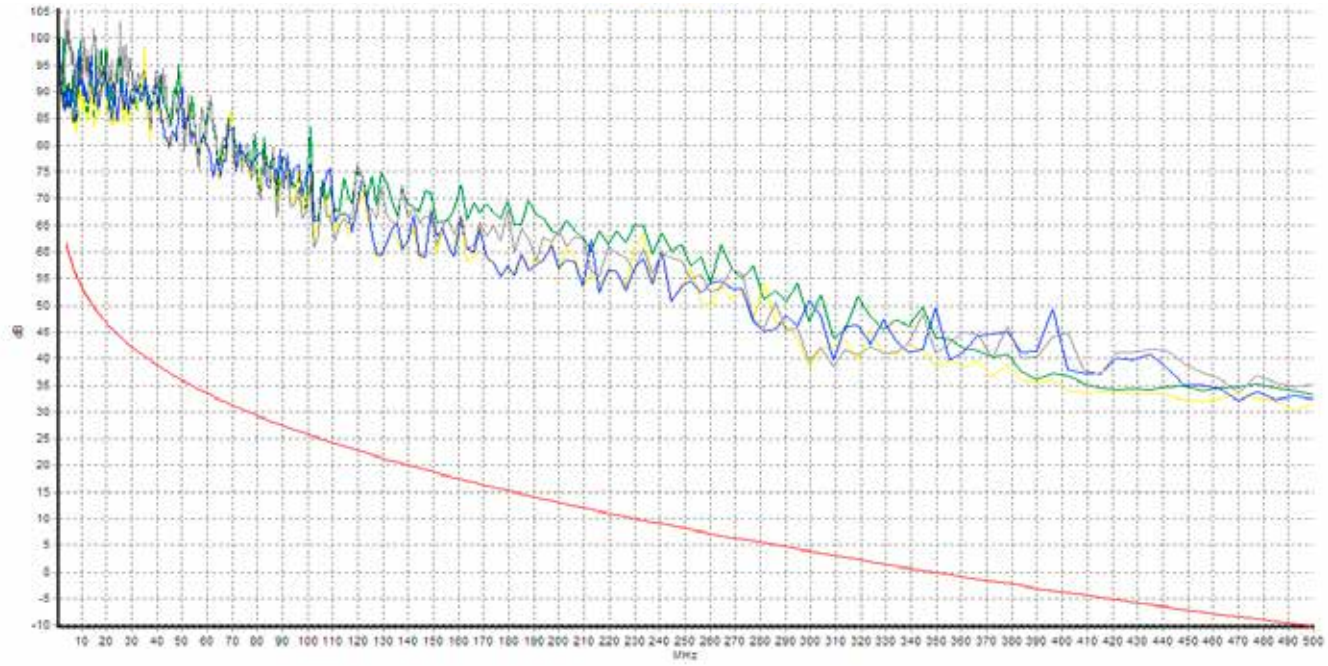
VOKA
Vogtländisches Kabelwerk GmbH • Breitscheidstr. 122 • 08525 Plauen • Germany
Phone: +49 3741 590-0 • Fax: +49 3741 590-270 • E-mail: voka@voka.de • Internet: www.voka.de

Transmission characteristics

The stated performance data are characteristic measurements.

f (MHz)	Attenuation (dB/100 m)	NEXT (dB)	ACR (dB/100 m)	EL-FEXT (dB/100 m)	RL (dB)
	NOM	NOM	NOM	NOM	NOM
1	1,9	100	98,1	103	24
4	3,5	100	96,5	103	28
10	5,6	100	94,4	98	30
16	7,0	100	93,0	96	30
20	7,9	100	92,1	95	30
31,25	9,8	100	90,2	91	30
62,5	14,2	100	85,8	87	30
100	17,8	98	80,2	80	30
155	22,1	95	72,9	78	29
200	25,1	93	67,9	72	28
300	31,0	88	57,0	70	26
400	36,4	85	48,6	68	24
500	41,8	83	41,2	62	23

ACR Powersum (dB/100 m)



VOKA-LAN XLAN 500
F/UTP 4PR AWG 23/1

Data cable
Category 6a • Class Ea • 500 MHz

APPLICATION

Data cable for analogue and digital signal transmission in the frequency range up to 500 MHz. It is designed for primary (campus), secondary (riser) and tertiary (horizontal) wiring.
Use: IEEE 802.3; 10/100/1000/10GBase-T; FDDI, broadband, video, ISDN, ATM

STANDARDS

EN 50288-5-1; IEC 61156-5; EN 50173-1; ISO/IEC 11801 2nd edition IEC 60332-1; IEC 60754-2; EN 61034; IEC 61034; RoHS 2002/95/EC

CONSTRUCTION

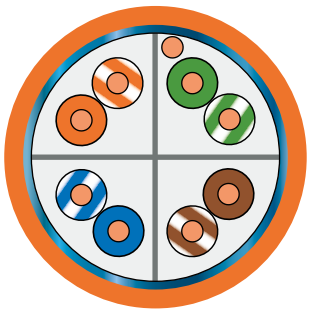
Conductor: copper, solid, bare, AWG 23/1
Core insulation: SFS-PE
Core identification: whbu-bu, whor-or, whgn-gn, whbn-bn
Core stranding: cores twinned to pairs, pairs layed up to cable core
Screen: drain wire; plastic-laminated aluminium foil
Sheath: PVC or halogen-free compound (FRNC); colour: orange RAL 2003; imprint: VOKA-LAN XLAN 500 F/UTP 4PR AWG 23/1 Cat.6A <00000m>

ELECTRICAL CHARACTERISTICS

(Conductor) loop resistance max.	15 Ω/100 m
Insulation resistance min.	5 GΩ x km
Char. impedance 1 – 100 MHz	100 ±15 Ω
Char. impedance 100 – 250 MHz	100 ±22 Ω
Char. impedance 250 – 500 MHz	100 ±25 Ω
Transfer impedance max. (10 MHz)	30 mΩ/m
Mutual capacitance nom.	48 nF/km
Relative propagation velocity ca.	0,74 c
Screen attenuation ≤ 500 MHz min.	60 dB
Test voltage	700 V-AC

THERMAL & MECHANICAL PROPERTIES

Temperature range during installation	0°C to +50°C
Temperature range stationary	-20°C to +60°C
Min. bending radius under tensile load	8 x diameter
Min. bending radius without tensile load	4 x diameter
Maximum traction	100 N



dimension	sheath thickness appr. mm	diameter appr. mm	cable weight ca. kg/km	copper index kg/km	calorific potential MJ/km
4 x 2 x AWG23	0,60	7,3	60	21	540

We reserve changes which serve technical progress • Copper base 100,00 € / 100,00 kg
Price upon quantity-specific request • Also available as duplex version

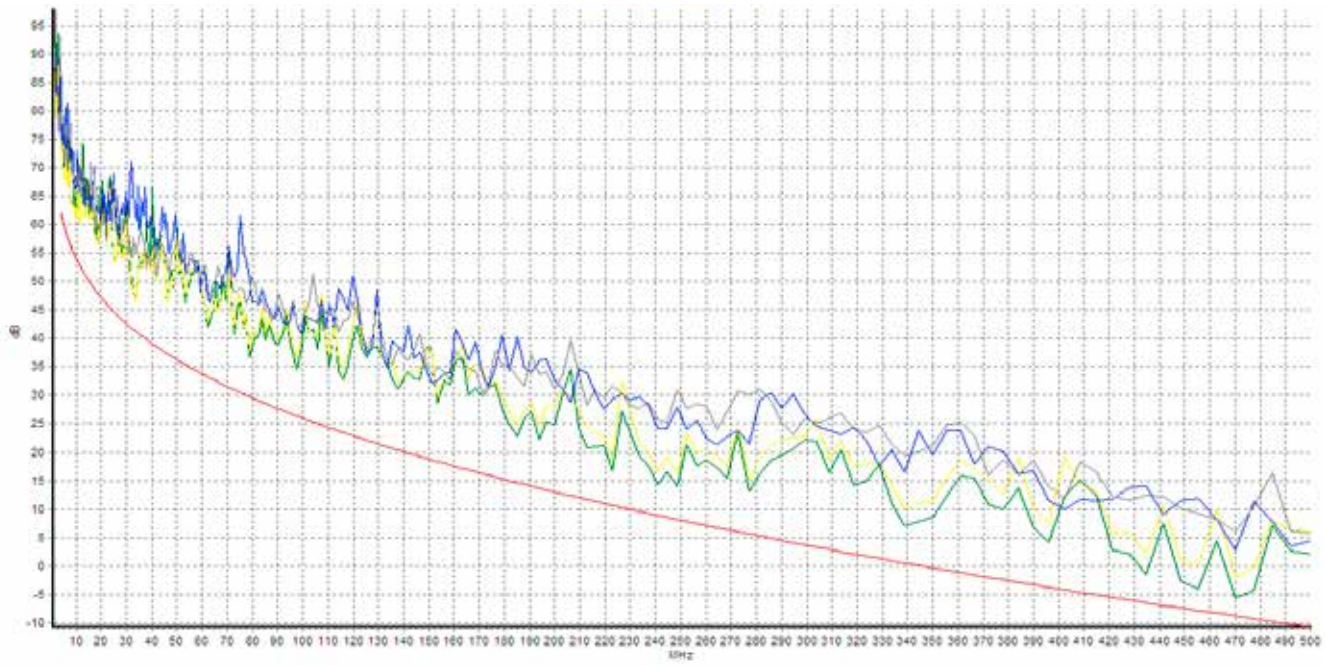
VOKA
Vogtländisches Kabelwerk GmbH • Breitscheidstr. 122 • 08525 Plauen • Germany
Phone: +49 3741 590-0 • Fax: +49 3741 590-270 • E-mail: voka@voka.de • Internet: www.voka.de

Transmission characteristics

The stated performance data are characteristic measurements.

f (MHz)	Attenuation (dB/100 m)	NEXT (dB)	ACR (dB/100 m)	EL-FEXT (dB/100 m)	RL (dB)
	NOM	NOM	NOM	NOM	NOM
1	1,8	85	83	90	24
4	3,4	80	77	80	27
10	5,4	75	70	73	30
16	6,9	70	63	68	30
20	7,8	68	60	66	30
31,25	9,8	66	56	63	30
62,5	13,8	64	50	59	30
100	17,5	62	44	54	28
155	21,8	57	35	52	25
200	24,9	55	30	48	24
250	27,5	53	25	47	23
350	33,0	50	17	44	22
400	34,7	49	14	41	21
500	39,8	47	7	38	19

ACR Powersum (dB/100 m)



VOKA-LAN XLAN 500
U/UTP 4PR AWG 23/1

Data cable
Category 6a • Class Ea • 500 MHz

APPLICATION

Data transmission cable for the frequency range up to 500 MHz. Unscreened data cable with good system reserves. For high quality requirements and all current data services as well as 10-gigabit Ethernet. Easy to install.

Use: IEEE 802.3: 10/100/1000/10GBase-T; FDDi, broadband, video, ISDN, ATM

STANDARDS

ISO/IEC 11801 2nd edition; EN 50173-1; TIA/EIA 568; IEC 61156-5
EN 50288-6-1; IEC 60332-1; IEC 60754-2; EN 61034; IEC 61034
RoHS 2002/95/EC

CONSTRUCTION

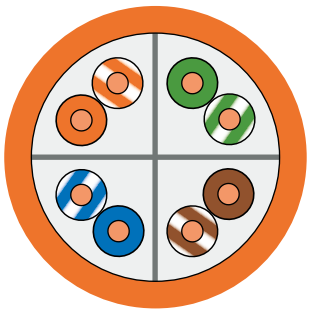
Conductor: copper, solid, bare, AWG 23/1
Core insulation: PE
Core identification: whbu-bu, whor-or, whgn-gn, whbn-bn
Core stranding: cores twinned to pairs; pairs layed up to cable core
Sheath: PVC or halogen-free compound (FRNC); colour: orange RAL 2003; imprint: VOKA-LAN XLAN 500 U/UTP 4PR AWG 23/1 Cat.6A <00000m>

ELECTRICAL CHARACTERISTICS

(Conductor) loop resistance max.	15 Ω/100 m
Insulation resistance min.	5 GΩ x km
Char. impedance 1 – 100 MHz	100 ±15 Ω
Char. impedance 100 – 250 MHz	100 ±22 Ω
Char. impedance 250 – 500 MHz	100 ±25 Ω
Mutual capacitance min.	50 nF/km
Coupling attenuation ≤ 1000 MHz min.	45 dB
Relative propagation velocity ca.	0,67 c
Test voltage	700 V-AC

THERMAL & MECHANICAL PROPERTIES

Temperature range during installation	0°C to +50°C
Temperature range stationary	-20°C to +60°C
Min. bending radius under tensile load	8 x diameter
Min. bending radius without tensile load	4 x diameter
Maximum traction	90 N



dimension	sheath thickness appr. mm	diameter appr. mm	cable weight ca. kg/km	copper index kg/km	calorific potential MJ/km
4 x 2 x AWG23	0,60	6,5	52	20	420

We reserve changes which serve technical progress • Copper base 100,00 € / 100,00 kg
Price upon quantity-specific request • Also available as duplex version

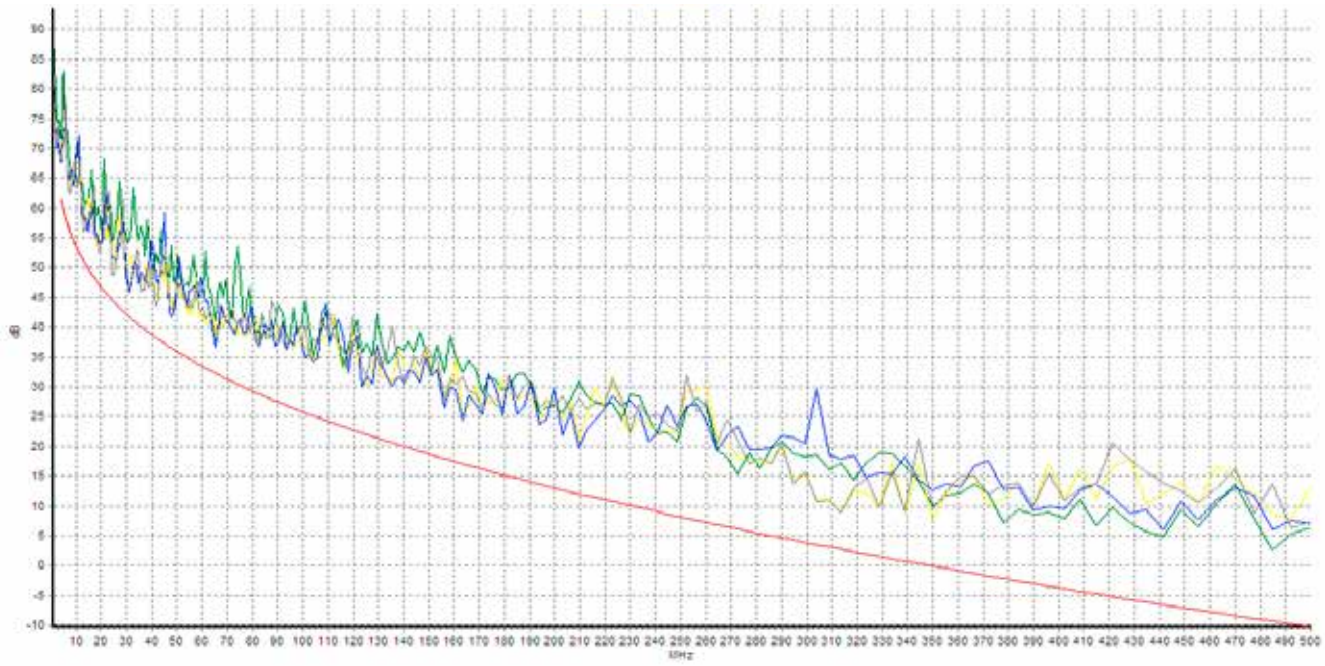
VOKA
Vogtländisches Kabelwerk GmbH • Breitscheidstr. 122 • 08525 Plauen • Germany
Phone: +49 3741 590-0 • Fax: +49 3741 590-270 • E-mail: voka@voka.de • Internet: www.voka.de

Transmission characteristics

The stated performance data are characteristic measurements.

f (MHz)	Attenuation (dB/100 m)	NEXT (dB)	PSANEXT (dB)	ACR (dB/100 m)	EL-FEXT (dB/100 m)	RL (dB)
	NOM	NOM	NOM	NOM	NOM	NOM
1	1,8	87	67,0	85,2	85	24
4	3,5	76	67,0	72,5	72	27
10	5,6	72	67,0	66,4	63	30
16	7,0	70	67,0	63,0	60	30
20	7,9	68	67,0	60,1	58	30
31,25	9,9	66	67,0	56,1	54	30
100	18,2	63	62,5	44,8	43	30
155	22,9	60	59,6	37,1	40	28
200	26,0	57	58,0	31,0	38	27
300	32,3	55	55,3	22,7	36	25
400	35,7	54	53,5	18,3	35	23
500	39,8	53	52,0	13,2	34	22

ACR Powersum (dB/100 m)



VOKA-LAN XLAN 350
F/UTP 4PR AWG 24/1

Data cable
Category 6 • Class E • 350 MHz

APPLICATION

Data cable for analogue and digital signal transmission in the frequency range up to 350 MHz. It is designed for primary (campus), secondary (riser) and tertiary (horizontal) wiring.
Use: 10/100/1000Base-T; CDDI/TPDDI; ISDN; ATM 155 MBit/s, TP_PMD 125 Mbit/s, Token Ring 4/16 Mbit/s; analogue telephony.

STANDARDS

ISO/IEC 11801 2nd edition; EN 50173-1; TIA/EIA 568; EN 50288-5-1
IEC 61156-5; IEC 60332-1; IEC 60754-2; EN 61034; IEC 61034
RoHS 2002/95/EC

CONSTRUCTION

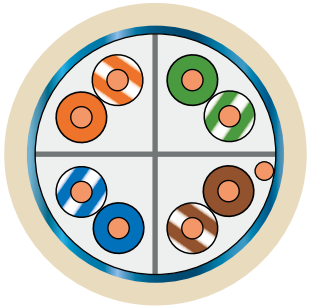
Conductor: copper, solid, bare, AWG 24/1
Core insulation: SFS-PE
Core identification: whbu-bu, whor-or, whgn-gn, whbn-bn
Core stranding: cores twinned to pairs, pairs layed up to cable core
Screen: plastic-laminated aluminium foil; drain wire
Sheath: PVC or halogen-free compound (FRNC); colour: grey RAL 7035; imprint: VOKA-LAN XLAN 350 F/UTP 4PR AWG 24/1 Cat.6 <00000m>

ELECTRICAL CHARACTERISTICS

(Conductor) loop resistance max.	19 Ω/100 m
Insulation resistance min.	5 GΩ x km
Char. impedance 1 – 100 MHz	100 ±15 Ω
Char. impedance 100 – 250 MHz	100 ±22 Ω
Transfer impedance max. (10 MHz)	30 mΩ/m (nom.)
Mutual capacitance nom.	50 nF/km
Relative propagation velocity ca.	0,76 c
Screen attenuation ≤ 250 MHz min.	40 dB
Test voltage	700 V-AC

THERMAL & MECHANICAL PROPERTIES

Temperature range during installation	0°C to +50°C
Temperature range stationary	-20°C to +60°C
Min. bending radius under tensile load	8 x diameter
Min. bending radius without tensile load	4 x diameter
Maximum traction	100 N



dimension	sheath thickness appr. mm	diameter appr. mm	cable weight ca. kg/km	copper index kg/km	calorific potential MJ/km
4 x 2 x AWG 24/1	0,60	7,2	55	19	445

We reserve changes which serve technical progress • Copper base 100,00 € / 100,00 kg
Price upon quantity-specific request • Also available as duplex version

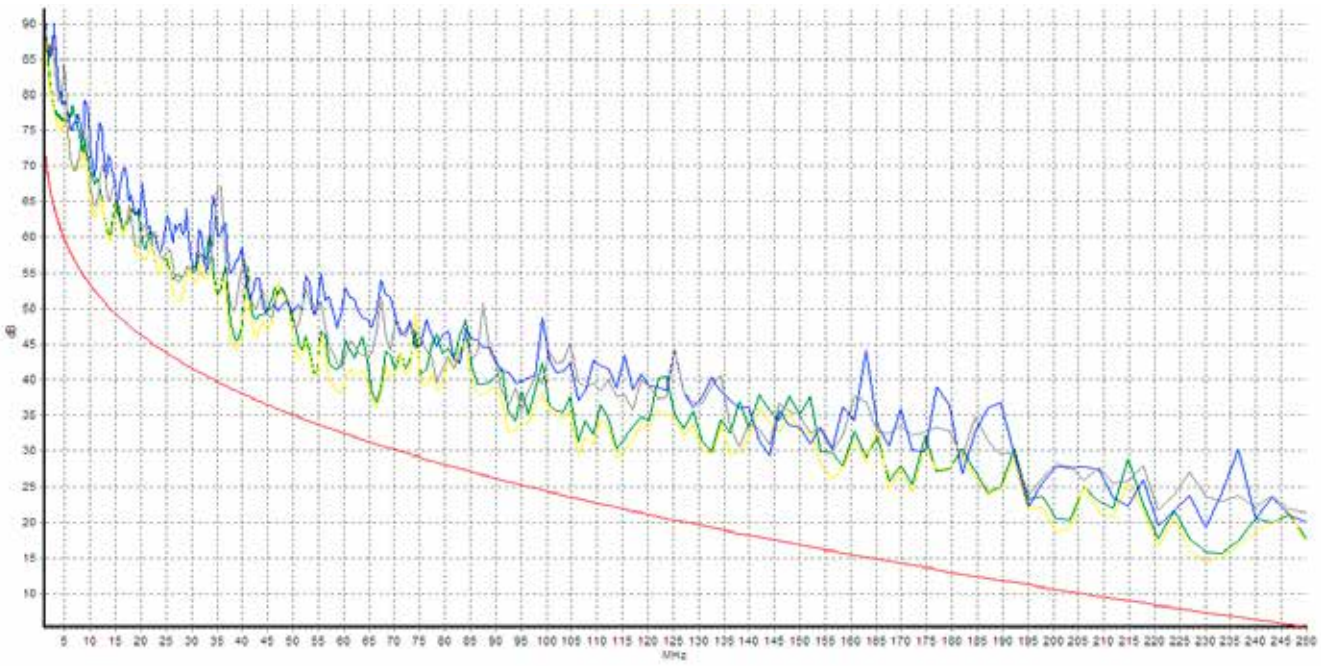
Vogtländisches Kabelwerk GmbH • Breitscheidstr. 122 • 08525 Plauen • Germany
Phone: +49 3741 590-0 • Fax: +49 3741 590-270 • E-mail: voka@voka.de • Internet: www.voka.de

Transmission characteristics

The stated performance data are characteristic measurements.

f (MHz)	Attenuation (dB/100 m)	NEXT (dB)	ACR (dB/100 m)	EL-FEXT (dB/100 m)	RL (dB)
	NOM	NOM	NOM	NOM	NOM
1	1,8	85	83,2	90	24
4	3,5	80	76,5	80	27
10	5,4	75	69,6	73	30
16	6,9	70	63,1	68	30
20	7,8	67	59,2	66	30
31,25	9,8	65	55,2	63	30
62,5	13,9	64	50,1	59	30
100	17,5	62	44,5	54	28
155	21,8	57	35,2	52	26
200	24,9	55	30,1	48	24
250	29,5	52	22,5	46	22
350	33,0	50	17,0	44	21

ACR Powersum (dB/100 m)



VOKA-LAN XLAN 350
U/UTP 4PR AWG 24/1

Data cable
Category 6 • Class E • 350 MHz

APPLICATION

Data transmission cable for the frequency range up to 350 MHz with good system reserves (better than Category 6). For high quality requirements and all current data services as well as gigabit Ethernet. Easy to install.
Use: 10/100/1000Base-T; CDDI/TPDDI; ISDN; ATM 155 MBit/s, TP_PMD 125 Mbit/s, Token Ring 4/16 Mbit/s, analogue telephony.

STANDARDS

ISO/IEC 11801 2nd edition, EN 50173-1, TIA/EIA 568; EN 50288-6-1
IEC 61156-5; IEC 60332-1; IEC 60754-2; EN 61034; IEC 61034
RoHS 2002/95/EC

CONSTRUCTION

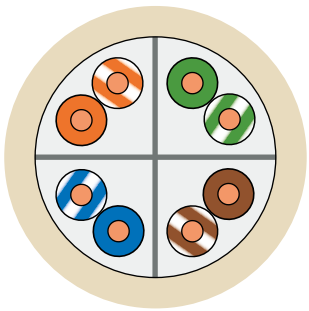
Conductor: copper, solid, bare, AWG 24/1
Core insulation: PE
Core identification: whbu-bu, whor-or, whgn-gn, whbn-bn
Core stranding: cores twinned to pairs, pairs layed up to cable core
Sheath: PVC or halogen-free compound (FRNC); imprint: VOKA-LAN XLAN 350 U/UTP 4PR AWG 24/1 Cat. 6 <00000m>

ELECTRICAL CHARACTERISTICS

(Conductor) loop resistance max.	19 Ω/100 m
Char. impedance 1 – 100 MHz	100 ±15 Ω
Char. impedance 100 – 250 MHz	100 ±22 Ω
Insulation resistance min.	5 GΩ x km
Mutual capacitance nom.	50 nF/km
Relative propagation velocity ca.	0,67 c
Kopplungsdämpfung min. (10 MHz)	45 dB
Test voltage	700 V-AC

THERMAL & MECHANICAL PROPERTIES

Temperature range during installation	0°C to +50°C
Temperature range stationary	-20°C to +60°C
Min. bending radius under tensile load	8 x diameter
Min. bending radius without tensile load	4 x diameter
Maximum traction	90 N



dimension	sheath thickness appr. mm	diameter appr. mm	cable weight ca. kg/km	copper index kg/km	calorific potential MJ/km
4 x 2 x AWG 24/1	0,60	6,3	46	18	360

We reserve changes which serve technical progress • Copper base 100,00 € / 100,00 kg
Price upon quantity-specific request • Also available as duplex version

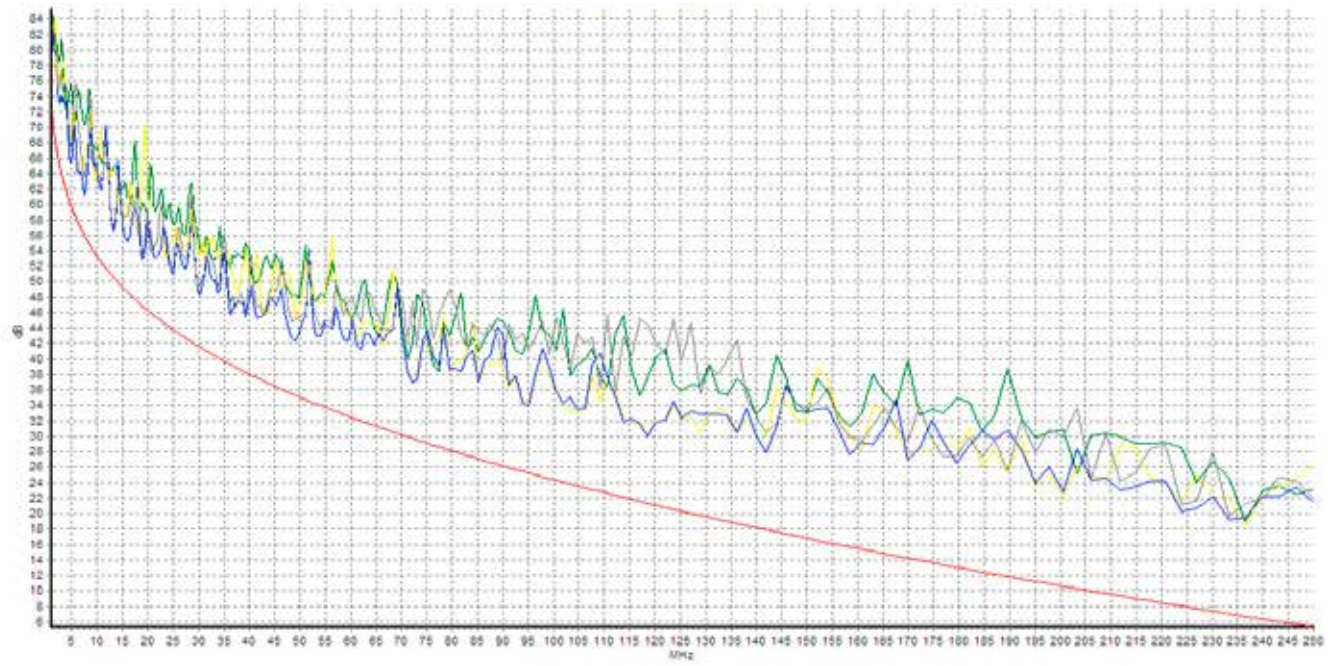
VOKA
Vogtländisches Kabelwerk GmbH • Breitscheidstr. 122 • 08525 Plauen • Germany
Phone: +49 3741 590-0 • Fax: +49 3741 590-270 • E-mail: voka@voka.de • Internet: www.voka.de

Transmission characteristics

The stated performance data are characteristic measurements.

f (MHz)	Attenuation (dB/100 m)	NEXT (dB)	ACR (dB/100 m)	EL-FEXT (dB/100 m)	RL (dB)
	NOM	NOM	NOM	NOM	NOM
1	1,8	87	85,2	85	23
4	3,5	76	72,5	72	27
10	5,6	72	66,4	63	30
16	7,0	70	63,0	60	30
20	7,9	68	60,1	58	30
100	18,2	63	44,8	43	29
155	22,9	60	37,1	40	28
200	26,0	57	31,0	38	26
300	32,5	55	22,5	36	24
350	35,2	54	18,8	35	22

ACR Powersum (dB/100 m)



VOKA-LAN XLAN 200
SF/UTP 4PR AWG 24/1

Data cable
Category 5e • Class D • 200 MHz

APPLICATION

Double-screened data cable for analogue and digital signal transmission in the frequency range up to 200 MHz. It is designed for primary (campus), secondary (riser) and tertiary (horizontal) wiring.

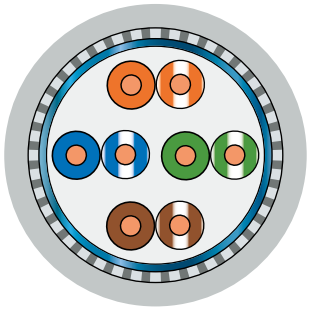
Use: IEEE 802.3, 10/100/1000Base-T; FDDI; ISDN; ATM

STANDARDS

ISO/IEC 11801 2nd edition; EN 50173-1; EN 50288-2-1; IEC 61156-5; TIA/EIA 568; IEC 60332-3-24; IEC 60754-2; EN 61034; IEC 61034
RoHS 2002/95/EC

CONSTRUCTION

Conductor: copper, solid, bare, AWG 24/1
Core insulation: SFS-PE
Core identification: whbu-bu, whor-or, whgn-gn, whbn-bn
Core stranding: cores twinned to pairs, pairs layed up to cable core
Screen: insulating foil, plastic-laminated aluminium foil, drain wire optional; tinned copper wire braid
Sheath: PVC or halogen-free compound (FRNC); colour: grey RAL 7035; imprint: VOKA-LAN XLAN 200 SF/UTP 4PR AWG 24/1 Cat. 5e <00000m>



ELECTRICAL CHARACTERISTICS

(Conductor) loop resistance max.	19 Ω/100 m
Insulation resistance min.	5 GΩ x km
Char. impedance 1 – 100 MHz	100 ±15 Ω
Transfer impedance max. (10 MHz)	30 mΩ/m
Mutual capacitance nom.	50 nF/km
Relative propagation velocity ca.	0,74 c
Screen attenuation ≤ 1000 MHz min.	60 dB
Test voltage	700 V-AC

THERMAL & MECHANICAL PROPERTIES

Temperature range during installation	0°C to +50°C
Temperature range stationary	-20°C to +60°C
Min. bending radius under tensile load	8 x diameter
Min. bending radius without tensile load	4 x diameter
Maximum traction	100 N

dimension	sheath thickness appr. mm	diameter appr. mm	cable weight ca. kg/km	copper index kg/km	calorific potential MJ/km
4 x 2 x AWG 24/1	0,60	6,5	52	28	435

We reserve changes which serve technical progress • Copper base 100,00 € / 100,00 kg
Price upon quantity-specific request • Also available as duplex version

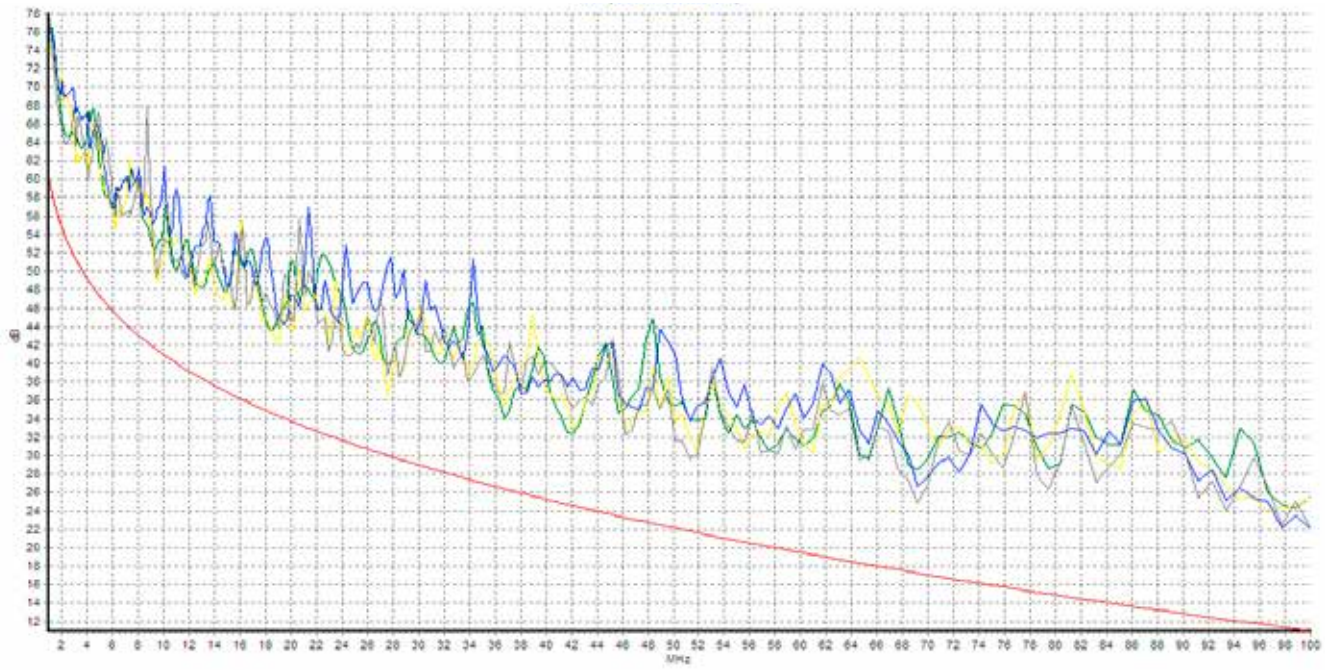
Vogtländisches Kabelwerk GmbH • Breitscheidstr. 122 • 08525 Plauen • Germany
Phone: +49 3741 590-0 • Fax: +49 3741 590-270 • E-mail: voka@voka.de • Internet: www.voka.de

Transmission characteristics

The stated performance data are characteristic measurements.

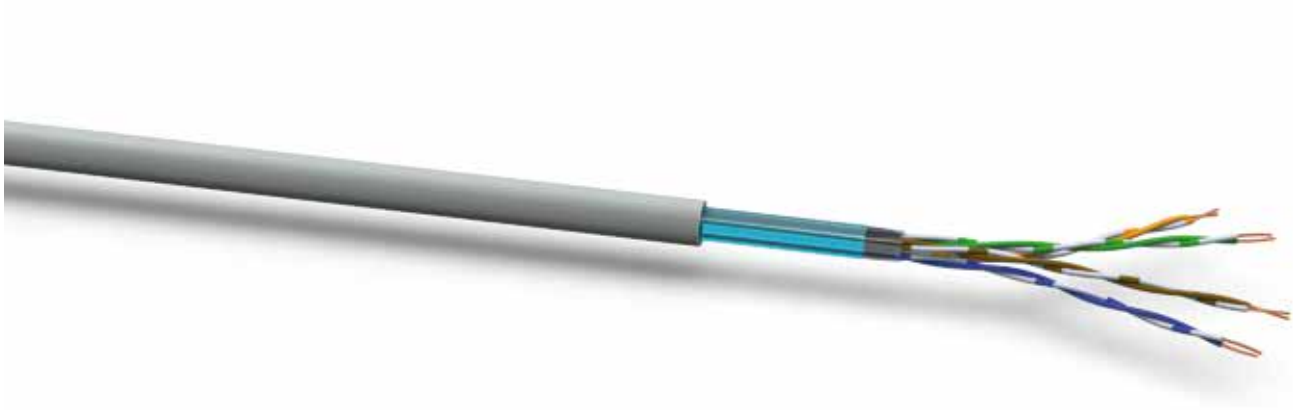
f (MHz)	Attenuation (dB/100 m)	NEXT (dB)	ACR (dB/100 m)	EL-FEXT (dB/100 m)	RL (dB)
	NOM	NOM	NOM	NOM	NOM
1	1,9	80	78,1	68	24
4	3,7	75	71,3	56	30
10	5,6	70	64,4	46	34
16	7,2	68	60,8	43	35
20	7,9	65	57,1	41	34
31,25	10,3	60	49,7	36	33
62,5	14,4	56	41,6	32	31
100	18,2	50	31,8	26	28
155	19,9	45	25,1	24	26
200	24,2	42	17,8	22	24

ACR Powersum (dB/100 m)



VOKA-LAN XLAN 200
F/UTP 4PR AWG 24/1

Data cable
Category 5e • Class D • 200 MHz



APPLICATION

Foamed data cable for analogue and digital signal transmission in the frequency range up to 200 MHz. It is designed for primary (campus), secondary (riser) and tertiary (horizontal) wiring.
Use: IEEE 802.3, 10/100/1000Base-T; FDDI; ISDN; ATM

STANDARDS

ISO/IEC 11801 2nd edition; EN 50173-1; EN 50288-2-1; IEC 61156-5
TIA/EIA 568; IEC 60332-1; IEC 60754-2; EN 61034; IEC 61034
RoHS 2002/95/EC

CONSTRUCTION

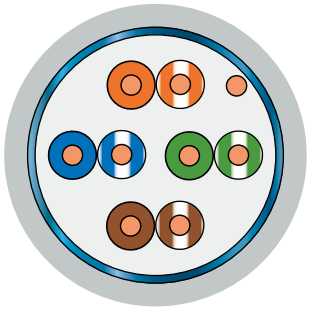
Conductor: copper, solid, bare, AWG 24/1
Core insulation: SFS-PE
Core identification: whbu-bu, whor-or, whgn-gn, whbn-bn
Core stranding: cores twisted to layers
Screen: insulating foil, plastic-laminated aluminium foil; drain wire
Sheath: PVC or halogen-free compound (FRNC); imprint: VOKA-LAN XLAN 200 F/UTP 4PR AWG 24/1 Cat. 5e <00000m>

ELECTRICAL CHARACTERISTICS

(Conductor) loop resistance max.	19 Ω/100 m
Insulation resistance min.	5 GΩ x km
Characteristic impedance 1 – 100 MHz	100 ±15 Ω
Transfer impedance max. (10 MHz)	30 mΩ/m
Mutual capacitance nom.	50 nF/km
Relative propagation velocity ca.	0,74 c
Screen attenuation ≤ 100 MHz min.	40 dB
Test voltage	700 V-AC

THERMAL & MECHANICAL PROPERTIES

Temperature range during installation	0°C to +50°C
Temperature range stationary	-20°C to +60°C
Min. bending radius under tensile load	8 x diameter
Min. bending radius without tensile load	4 x diameter
Maximum traction	90 N



dimension	sheath thickness appr. mm	diameter appr. mm	cable weight ca. kg/km	copper index kg/km	calorific potential MJ/km
4 x 2 x AWG 24/1	0,60	6,1	41	18	390

We reserve changes which serve technical progress • Copper base 100,00 € / 100,00 kg
Price upon quantity-specific request • Also available as duplex version

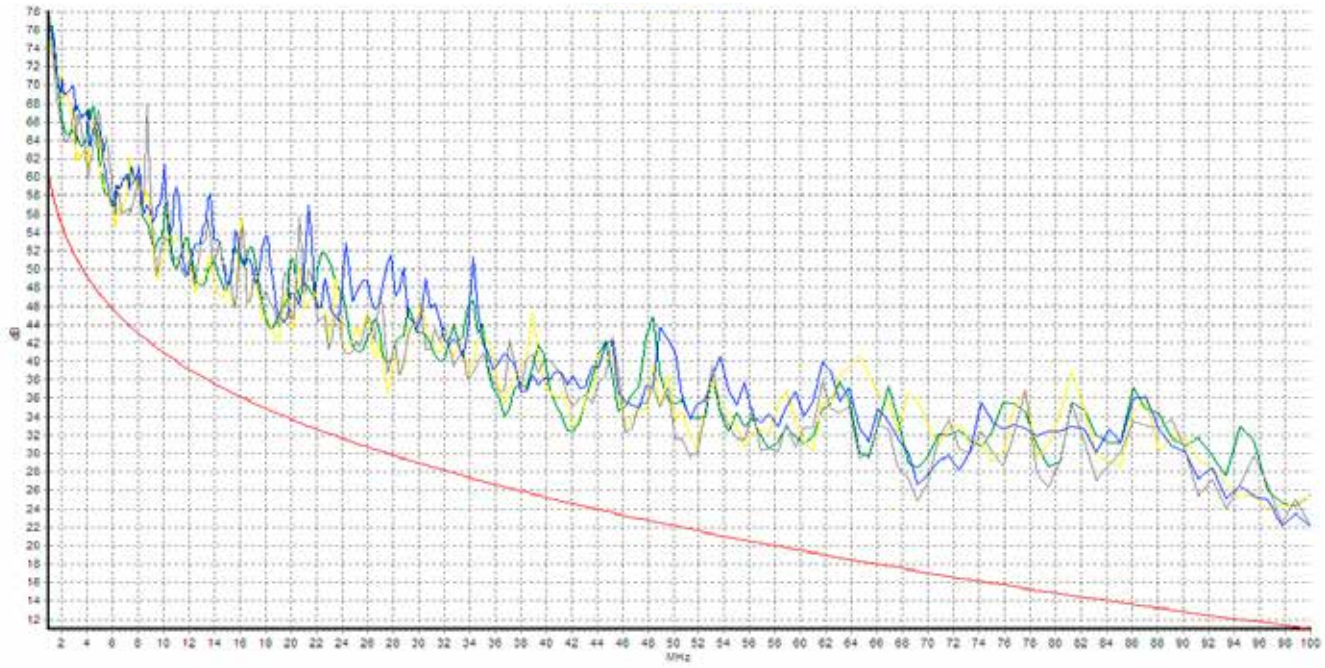
VOKA
Vogtländisches Kabelwerk GmbH • Breitscheidstr. 122 • 08525 Plauen • Germany
Phone: +49 3741 590-0 • Fax: +49 3741 590-270 • E-mail: voka@voka.de • Internet: www.voka.de

Transmission characteristics

The stated performance data are characteristic measurements.

f (MHz)	Attenuation (dB/100 m)	NEXT (dB)	ACR (dB/100 m)	EL-FEXT (dB/100 m)	RL (dB)
	NOM	NOM	NOM	NOM	NOM
1	1,9	80	78,1	68	24
4	3,7	75	71,3	56	30
10	5,6	70	64,4	46	34
16	7,2	68	60,8	43	35
20	7,9	65	57,1	41	34
31,25	10,3	60	49,7	36	33
62,5	14,4	56	41,6	32	31
100	18,2	50	31,8	26	28
155	19,9	45	25,1	24	26
200	24,2	42	17,8	22	24

ACR Powersum (dB/100 m)



VOKA-LAN XLAN 200
U/UTP 4PR AWG 24/1

Data cable
Category 5e • Class D • 200 MHz

APPLICATION

Data cable for analogue and digital signal transmission in the frequency range up to 200 MHz. It is designed for primary (campus), secondary (riser) and tertiary (horizontal) wiring.
Use: IEEE 802.3: 10/100/1000Base-T; FDDI; ISDN; ATM

STANDARDS

ISO/IEC 11801 2nd edition; EN 50173-2; EN 50288-3-1; IEC 61156-5
TIA/EIA 568; IEC 60332-1; IEC 60754-2; EN 61034; IEC 61034
RoHS 2002/95/EC

CONSTRUCTION

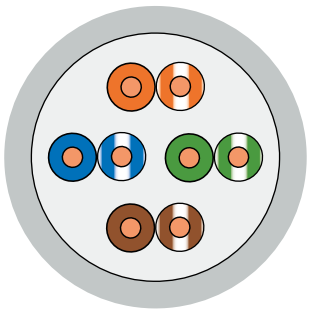
Conductor: copper, solid, bare, AWG 24/1
Core insulation: PE
Core identification: whbu-bu, whor-or, whgn-gn, whbn-bn
Core stranding: cores twisted to layers
Sheath: PVC or halogen-free compound (FRNC); imprint: VOKA-LAN XLAN 200 U/UTP 4PR AWG 24/1 Cat. 5e <00000m>

ELECTRICAL CHARACTERISTICS

(Conductor) loop resistance max.	19 Ω/100 m
Insulation resistance min.	5 GΩ x km
Characteristic impedance 1 – 100 MHz	100 ±15 Ω
Mutual capacitance nom.	50 nF/km
Relative propagation velocity ca.	0,67 c
Coupling attenuation ≤ 100 MHz min.	40 dB
Test voltage	700 V-AC

THERMAL & MECHANICAL PROPERTIES

Temperature range during installation	0°C to +50°C
Temperature range stationary	-20°C to +60°C
Min. bending radius under tensile load	8 x diameter
Min. bending radius without tensile load	4 x diameter
Maximum traction	80 N



dimension	sheath thickness appr. mm	diameter appr. mm	cable weight ca. kg/km	copper index kg/km	calorific potential MJ/km
4 x 2 x AWG 24/1	0,60	5,4	35	17	350

We reserve changes which serve technical progress • Copper base 100,00 € / 100,00 kg
Price upon quantity-specific request • Also available as duplex version

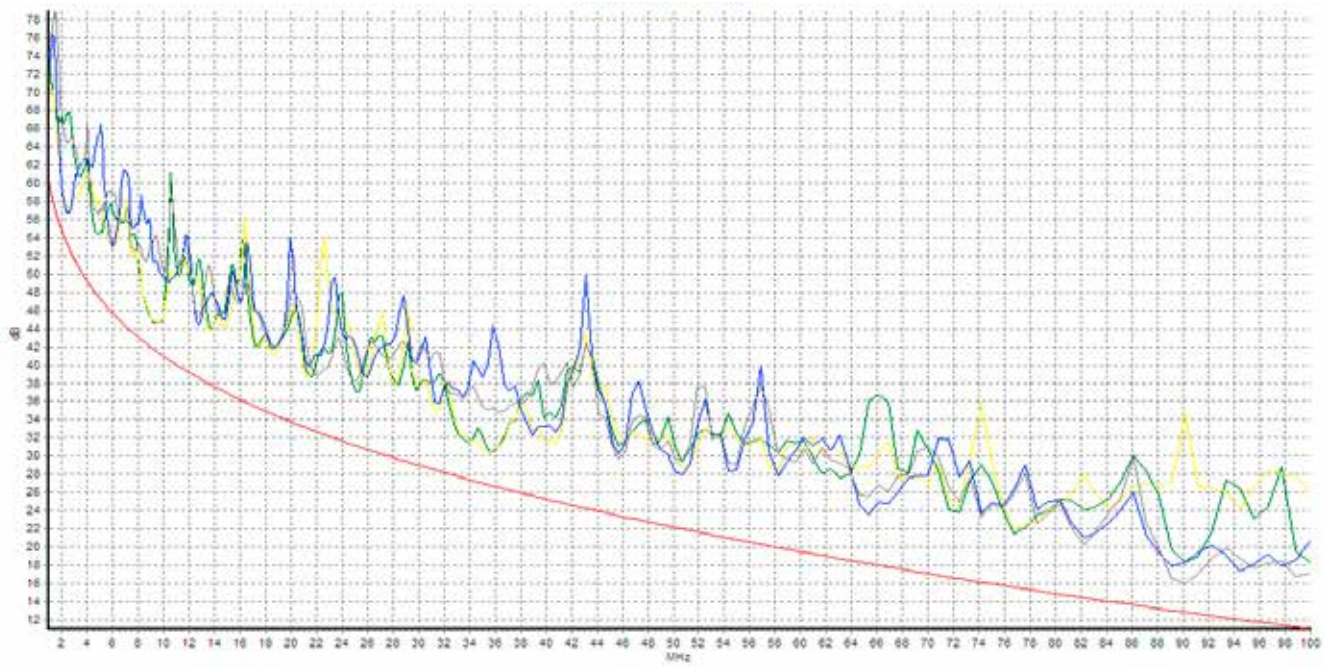
VOKA
Vogtländisches Kabelwerk GmbH • Breitscheidstr. 122 • 08525 Plauen • Germany
Phone: +49 3741 590-0 • Fax: +49 3741 590-270 • E-mail: voka@voka.de • Internet: www.voka.de

Transmission characteristics

The stated performance data are characteristic measurements.

f (MHz)	Attenuation (dB/100 m)	NEXT (dB)	ACR (dB/100 m)	EL-FEXT (dB/100 m)	RL (dB)
	NOM	NOM	NOM	NOM	NOM
1	1,8	80	78,2	65	23
4	3,7	75	71,3	56	27
10	5,9	70	64,1	45	30
16	7,4	68	60,6	41	30
20	8,3	65	56,7	39	30
31,25	10,3	60	49,7	35	30
62,5	14,4	56	41,6	30	30
100	19,2	52	32,8	25	28
155	22,1	47	24,9	23	26
200	24,8	44	20,2	21	24

ACR Powersum (dB/100 m)



VOKA-LAN XLAN flex 1000
S/FTP 4PR AWG 26/7

Patch cable
Category 7 • Class F • Flexible cables • 1000 MHz

APPLICATION

Flexible data cable for analogue and digital signal transmission in the frequency range up to 1000 MHz. It is designed for wiring in workplace areas for appliance connection or as switchboard cable in patch panels.

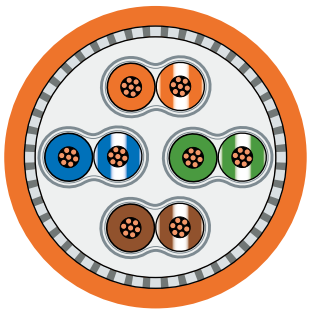
Use: IEEE 802.3: 10/100/1000/10GBase-T; IEEE 802.5: FDDI, ISDN, ATM

STANDARDS

ISO/IEC 11801, 2nd edition, EN 50173-1; IEC 61156-5; EN 50288-4-2 IEC 60332-1; IEC 60754-2; EN 61034; IEC 61034; RoHS 2002/95/EC

CONSTRUCTION

Conductor: copper strand, tinned, AWG 26/7
Core insulation: SFS-PE
Core identification: whbu-bu, whor-or, whgn-gn, whbn-bn
Core stranding: cores twisted to layers
Screen: pair screen (PIMF) (plastic-laminated aluminium foil); drain wire optional; tinned copper wire braid
Sheath: halogen-free compound (FRNC); colour: orange RAL 2003; imprint: VOKA-LAN XLAN flex 1000 S/FTP 4PR AWG 26/7 Cat. 7 <00000m>



ELECTRICAL CHARACTERISTICS

Loop resistance max. (acc. to VDE 0812)	29 Ω/100 m
Insulation resistance min. (20°C)	2 GΩ x km
Char. impedance 1 – 100 MHz	100 ±15 Ω
Char. impedance 100 – 250 MHz	100 ±22 Ω
Char. impedance 250 – 1000 MHz	100 ±25 Ω
Transfer impedance (10 MHz) max.	10 mΩ/m
Mutual capacitance nom.	45 nF/km
Relative propagation velocity ca.	0,77 c
Screen attenuation ≤ 1000 MHz min.	60 dB
Test voltage	700 V-AC

THERMAL & MECHANICAL PROPERTIES

Temperature range during installation	0°C to +50°C
Temperature range stationary	-20°C to +60°C
Min. bending radius under tensile load	8 x diameter
Min. bending radius without tensile load	4 x diameter
Maximum traction	100 N

dimension	sheath thickness appr. mm	diameter appr. mm	cable weight ca. kg/km	copper index kg/km	calorific potential MJ/km
4 x 2 x AWG 26/7	0,50	6,2	41	22	350

We reserve changes which serve technical progress • Copper base 100,00 € / 100,00 kg
Price upon quantity-specific request • Also available as duplex version

Vogtländisches Kabelwerk GmbH • Breitscheidstr. 122 • 08525 Plauen • Germany
Phone: +49 3741 590-0 • Fax: +49 3741 590-270 • E-mail: voka@voka.de • Internet: www.voka.de

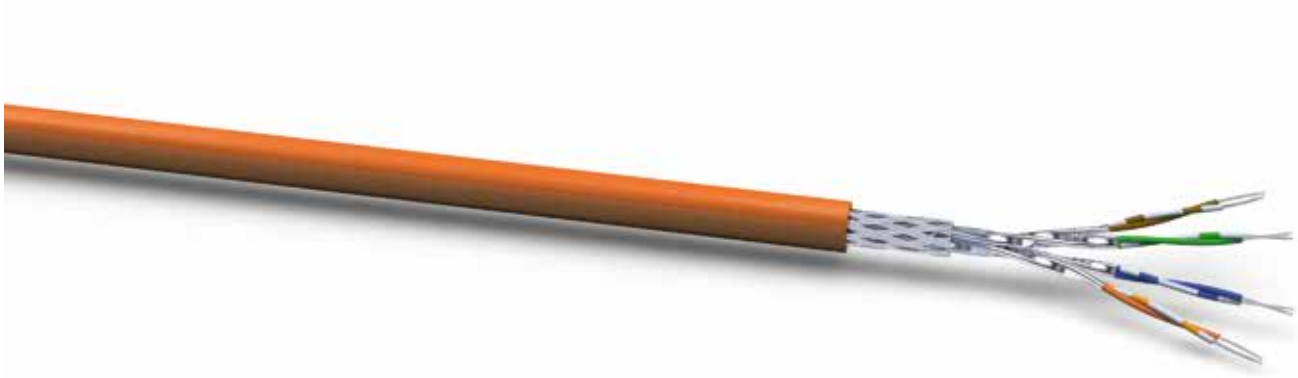
Transmission characteristics

The stated performance data are characteristic measurements.

f (MHz)	Attenuation (dB/10 m)	NEXT (dB)	ACR (dB/10 m)	EL-FEXT (dB/10 m)	RL (dB)
	NOM	NOM	NOM	NOM	NOM
1	0,28	100	100	99	25
4	0,55	100	100	97	29
10	0,85	100	99	95	33
16	1,05	100	99	93	33
20	1,20	100	99	90	33
31,25	1,50	100	98	85	33
62,5	2,10	100	98	76	31
100	2,70	98	95	72	30
200	3,85	94	90	67	28
300	4,70	90	85	60	27
500	5,70	84	78	58	26
600	6,75	82	75	55	25
800	7,90	78	70	52	24
900	8,40	77	69	50	23
1000	9,20	76	67	45	22

VOKA-LAN XLAN flex 600
S/FTP 4PR AWG 26/7

Patch cable
Category 7 • Class F • Flexible cables • 600 MHz



APPLICATION

Flexible data cable for analogue and digital signal transmission in the frequency range up to 600 MHz. It is designed for wiring in workplace areas for appliance connection or as switchboard cable in patch panels.

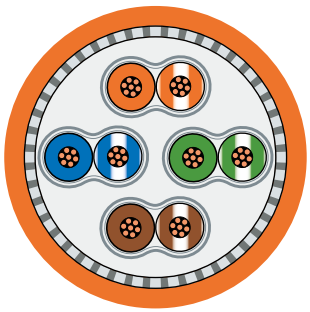
Use: IEEE 802.3: 10/100/1000/10GBase-T; IEEE 802.5: FDDI, ISDN, ATM

STANDARDS

ISO/IEC 11801, 2nd edition, EN 50173-1; IEC 61156-5; EN 50288-4-2 IEC 60332-1; IEC 60754-2; EN 61034; IEC 61034; RoHS 2002/95/EC

CONSTRUCTION

Conductor: copper strand, tinned, AWG 26/7
Core insulation: SFS-PE
Core identification: whbu-bu, whor-or, whgn-gn, whbn-bn
Core stranding: cores twisted to layers
Screen: pair screen (PIMF) plastic-laminated aluminium foil; drain wire opt.; tinned copper wire braid
Sheath: halogen-free compound (FRNC); colour: orange RAL 2003; imprint: VOKA-LAN XLAN flex 600 S/FTP 4PR AWG 26/7 Cat. 7 <00000m>



ELECTRICAL CHARACTERISTICS

Loop resistance max. (acc. to VDE 0812)	29 Ω/100 m
Insulation resistance min. (20°C)	2 GΩ x km
Char. impedance 1 – 100 MHz	100 ±15 Ω
Char. impedance 100 – 250 MHz	100 ±22 Ω
Char. impedance 250 – 600 MHz	100 ±25 Ω
Transfer impedance max. (10 MHz)	10 mΩ/m
Mutual capacitance nom.	45 nF/km
Relative propagation velocity ca.	0,76 c
Screen attenuation ≤ 600 MHz min.	60 dB
Test voltage	700 V-AC

THERMAL & MECHANICAL PROPERTIES

Temperature range during installation	0°C to +50°C
Temperature range stationary	-20°C to +60°C
Min. bending radius under tensile load	8 x diameter
Min. bending radius without tensile load	4 x diameter
Maximum traction	100 N

dimension	sheath thickness appr. mm	diameter appr. mm	cable weight ca. kg/km	copper index kg/km	calorific potential MJ/km
4 x 2 x AWG 26/7	0,50	6,2	41	22	350

We reserve changes which serve technical progress • Copper base 100,00 € / 100,00 kg
Price upon quantity-specific request • Also available as duplex version

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Vogtländisches Kabelwerk GmbH • Breitscheidstr. 122 • 08525 Plauen • Germany
Phone: +49 3741 590-0 • Fax: +49 3741 590-270 • E-mail: voka@voka.de • Internet: www.voka.de

Transmission characteristics

The stated performance data are characteristic measurements.

f (MHz)	Attenuation (dB/10 m)	NEXT (dB)	ACR (dB/10 m)	EL-FEXT (dB/10 m)	RL (dB)
	NOM	NOM	NOM	NOM	NOM
1	0,28	100	100	99	25
4	0,55	100	100	97	29
10	0,85	100	99	95	33
16	1,05	100	99	93	33
20	1,20	100	99	90	33
31,25	1,50	100	98	85	33
62,5	2,10	98	96	76	31
100	2,70	96	93	72	30
200	3,85	94	90	67	28
300	4,70	90	85	60	27
400	5,10	86	81	59	25
500	5,70	83	77	58	24
600	6,75	80	73	55	23

VOKA-LAN XLAN flex 500
U/FTP 4PR AWG 26/7

Data cable
Category 6 • Class E • Flexible cables • 500 MHz

APPLICATION

Flexible data cable for analogue and digital signal transmission in the frequency range up to 500 MHz. It is designed for wiring in workplace areas for appliance connection or as switchboard cable in patch panels.

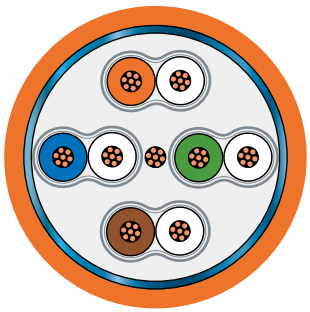
Use: IEEE 802.3: 10/100/1000/10GBase-T; IEEE 802.5: FDDI, ISDN, ATM

STANDARDS

ISO/IEC 11801, 2nd edition, EN 50173-1; IEC 61156-5; EN 50288-5-2 IEC 60332-1; IEC 60754-2; EN 61034; IEC 61034; RoHS 2002/95/EC

CONSTRUCTION

Conductor: copper strand, bare, AWG 26/7
Core insulation: SFS-PE
Core identification: whbu-bu, whor-or, whgn-gn, whbn-bn
Core stranding: cores twisted to layers
Screen: pair screen (PIMF) (plastic-laminated aluminium foil); drain wire
Sheath: halogen-free compound (FRNC); colour: orange RAL 2003; imprint: VOKA-LAN XLAN flex 500 U/FTP 4PR AWG 26/7 Cat. 6 <00000m>



ELECTRICAL CHARACTERISTICS

Loop resistance max. (acc. to VDE 0812)	29 Ω/100 m
Insulation resistance min. (20°C)	2 GΩ x km
Char. impedance 1 – 100 MHz	100 ±15 Ω
Char. impedance 100 – 250 MHz	100 ±22 Ω
Char. impedance 250 – 500 MHz	100 ±25 Ω
Transfer impedance max. (10 MHz)	100 mΩ/m
Mutual capacitance nom.	45 nF/km
Relative propagation velocity ca.	0,76 c
Screen attenuation ≤ 500 MHz min.	40 dB
Test voltage	700 V-AC

THERMAL & MECHANICAL PROPERTIES

Temperature range during installation	0°C to +50°C
Temperature range stationary	-20°C to +60°C
Min. bending radius under tensile load	8 x diameter
Min. bending radius without tensile load	4 x diameter
Maximum traction	80 N

dimension	sheath thickness appr. mm	diameter appr. mm	cable weight ca. kg/km	copper index kg/km	calorific potential MJ/km
4 x 2 x AWG 26/7	0,50	5,9	37	14	340

We reserve changes which serve technical progress • Copper base 100,00 € / 100,00 kg
Price upon quantity-specific request • Also available as duplex version

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Vogtländisches Kabelwerk GmbH • Breitscheidstr. 122 • 08525 Plauen • Germany
Phone: +49 3741 590-0 • Fax: +49 3741 590-270 • E-mail: voka@voka.de • Internet: www.voka.de

Transmission characteristics

The stated performance data are characteristic measurements.

f (MHz)	Attenuation (dB/10 m)	NEXT (dB)	ACR (dB/10 m)	EL-FEXT (dB/10 m)	RL (dB)
	NOM	NOM	NOM	NOM	NOM
1	0,30	95	95	94	23
4	0,58	95	94	90	27
10	0,89	95	94	88	30
16	1,13	95	94	78	30
20	1,28	92	91	72	30
31,25	1,60	91	89	85	33
62,5	2,22	90	88	64	30
100	2,81	88	85	58	28
200	3,98	86	82	50	26
300	4,79	84	79	47	24
400	5,13	82	77	40	22
500	6,15	80	74	38	20

VOKA-LAN XLAN flex 350
U/UTP 4PR AWG 24/7

Data cable
Category 6 • Class E • Flexible cables • 350 MHz

APPLICATION

Data cable for analogue and digital signal transmission in the frequency range up to 350 MHz. It is designed for wiring in workplace areas for appliance connection or as switchboard cable in patch panels.

Use: IEEE 802.3: 10/100/1000Base-T;
IEEE 802.5: FDDI, ISDN, ATM

STANDARDS

EN 50288-6-2; EN 50173; ISO/IEC 11801 2nd edition; IEC 61156-6 IEC 60332-1; IEC 60754-2; EN 61034; IEC 61034; RoHS 2002/95/EC

CONSTRUCTION

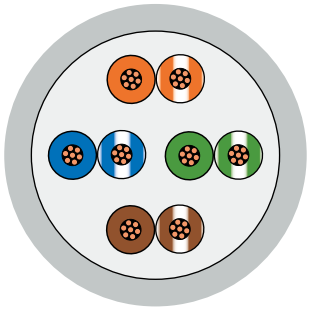
Conductor: copper strand, tinned, AWG 24/7
Core insulation: PE
Core identification: whbu-bu, whor-or, whgn-gn, whbn-bn (colour code: IEC 708-1)
Core stranding: cores twisted to layers
Sheath: halogen-free compound (FRNC); colour: grey RAL 7035; imprint: VOKA-LAN XLAN 350 U/UTP 4PR AWG 24/7 Cat.6 <00000m>

ELECTRICAL CHARACTERISTICS

Loop resistance max. (acc. to VDE 0812)	180 Ω/km
Insulation resistance min. (20°C)	2 GΩ x km
Char. impedance 1 – 100 MHz	100 ±15 Ω
Char. impedance 100 – 250 MHz	100 ±22 Ω
Char. impedance 250 – 350 MHz	100 ±25 Ω
Mutual capacitance nom.	50 nF/km
Coupling attenuation up to 1000 MHz min.	40 dB
Relative propagation velocity ca.	0,67 c
Test voltage	700 V-AC

THERMAL & MECHANICAL PROPERTIES

Temperature range during installation	0°C to +50°C
Temperature range stationary	-20°C to +60°C
Min. bending radius under tensile load	8 x diameter
Min. bending radius without tensile load	4 x diameter
Maximum traction	90N



dimension	sheath thickness appr. mm	diameter appr. mm	cable weight ca. kg/km	copper index kg/km	calorific potential MJ/km
4x2xAWG 24/7	0,50	5,5			

We reserve changes which serve technical progress • Copper base 100,00 € / 100,00 kg
Price upon quantity-specific request • Also available as duplex version

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Phone: +49 3741 590-0 • Fax: +49 3741 590-270 • E-mail: voka@voka.de • Internet: www.voka.de

Transmission characteristics

The stated performance data are characteristic measurements.

f (MHz)	Attenuation (dB/10 m)	NEXT (dB)	ACR (dB/10 m)	EL-FEXT (dB/10 m)	RL (dB)
	NOM	NOM	NOM	NOM	NOM
1	0,18	90	90	85	23
4	0,45	82	82	72	28
10	0,76	75	74	63	32
16	0,98	71	70	60	32
20	1,10	69	68	58	32
31,25	1,38	66	65	53	32
62,5	2,02	65	63	48	32
100	2,58	63	60	43	32
155	3,26	60	57	40	30
200	3,84	57	53	38	28
250	4,28	55	51	36	27
350	4,97	54	49	35	25

VOKA-LAN XLAN flex 350
U/UTP 4PR AWG 26/7

Data cable
Category 6 • Class E • Flexible cables • 350 MHz

APPLICATION

Data cable for analogue and digital signal transmission in the frequency range up to 350 MHz. It is designed for wiring in workplace areas for appliance connection or as switchboard cable in patch panels.
Use: IEEE 802.3: 10/100/1000Base-T; IEEE 802.5: FDDI, ISDN, ATM

STANDARDS

EN 50288-6-2; EN 50173; ISO/IEC 11801 2nd edition; IEC 61156-6 IEC 60332-1; IEC 60754-2; EN 61034; IEC 61034; RoHS 2002/95/EC

CONSTRUCTION

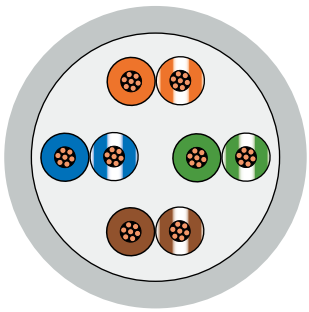
Conductor: copper strand, bare, AWG 26/7
Core insulation: PE
Core identification: whbu-bu, whor-or, whgn-gn, whbn-bn (colour code: IEC 708-1)
Core stranding: cores twisted to layers
Sheath: halogen-free compound (FRNC); colour: grey RAL 7035; imprint: VOKA-LAN XLAN 350 U/UTP 4PR AWG 26/7 Cat.6 <00000m>

ELECTRICAL CHARACTERISTICS

Loop resistance max. (acc. to VDE 0812)	180 Ω/km
Char. impedance bei 100 MHz	100 ±5 Ω
Insulation resistance min. (20°C)	2 GΩ x km
Mutual capacitance nom.	50 nF/km
Coupling attenuation up to 1000 MHz min.	40 dB
Relative propagation velocity ca.	0,67 c
Test voltage	700 V-AC

THERMAL & MECHANICAL PROPERTIES

Temperature range during installation	0°C to +50°C
Temperature range stationary	-20°C to +60°C
Min. bending radius under tensile load	8 x diameter
Min. bending radius without tensile load	4 x diameter
Maximum traction	70 N



dimension	sheath thickness appr. mm	diameter appr. mm	cable weight ca. kg/km	copper index kg/km	calorific potential MJ/km
4x2xAWG 26/7	0,5	5,2	26	11	

We reserve changes which serve technical progress • Copper base 100,00 € / 100,00 kg
Price upon quantity-specific request • Also available as duplex version

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Transmission characteristics

The stated performance data are characteristic measurements.

f (MHz)	Attenuation (dB/10 m)	NEXT (dB)	ACR (dB/10 m)	EL-FEXT (dB/10 m)	RL (dB)
	NOM	NOM	NOM	NOM	NOM
1	0,30	90	73	85	23
4	0,58	82	64	72	28
10	0,93	75	61	63	32
16	1,19	71	59	60	32
20	1,32	69	57	58	32
31,25	1,68	66	53	53	32
62,5	2,43	65	48	48	32
100	3,12	63	45	43	32
155	3,52	60	42	40	30
200	4,07	57	41	38	28
250	4,60	55	50	36	27
350	5,40	54	49	35	25

VOKA-LAN XLAN flex 200
SF/UTP 4PR AWG 26/7

Data cable
Category 5e • Class D • Flexible cables • 200 MHz

APPLICATION

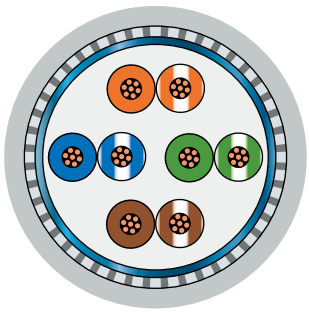
Double-screened data cable for analogue and digital signal transmisssion in the frequency range up to 200 MHz. It is designed for wiring in workplace areas for appliance connection or as switchboard cable in patch panels.
Use: IEEE 802.3: 10/100/1000/10GBase-T; IEEE 802.5: FDDI, ISDN, ATM

STANDARDS

ISO/IEC 11801, 2nd edition, EN 50173-1; IEC 61156-5; EN 50288-2-2 IEC 60332-1; IEC 60754-2; EN 61034; IEC 61034; RoHS 2002/95/EC

CONSTRUCTION

Conductor: copper strand, bare, AWG 26/7
Core insulation: PE
Core identification: whbu-bu, whor-or, whgn-gn, whbn-bn
Core stranding: cores twisted to layers
Screen: insulating foil (plastic-laminated aluminium foil); drain wire optional; tinned copper wire braid
Sheath: halogen-free compound (FRNC); colour: grey RAL 7035; imprint: VOKA-LAN XLAN flex 200 SF/UTP 4PR AWG 26/7 Cat.5e <00000m>



ELECTRICAL CHARACTERISTICS

Loop resistance max. (acc. to VDE 0812)	29 Ω/100 m
Insulation resistance min. (20°C)	2 GΩ x km
Char. impedance bei 100 MHz	100 ±15 Ω
Transfer impedance max. (10 MHz)	100 mΩ/m
Mutual capacitance nom.	50 nF/km
Relative propagation velocity ca.	0,67 c
screen attenuation at 100 MHz min.	40 dB
Test voltage	700 V-AC

THERMAL & MECHANICAL PROPERTIES

Temperature range during installation	0°C to +50°C
Temperature range stationary	-20°C to +60°C
Min. bending radius under tensile load	8 x diameter
Min. bending radius without tensile load	4 x diameter
Maximum traction	90 N

dimension	sheath thickness appr. mm	diameter appr. mm	cable weight ca. kg/km	copper index kg/km	calorific potential MJ/km
4 x 2 x AWG 26/7	0,50	5,8	39	22	370

We reserve changes which serve technical progress • Copper base 100,00 € / 100,00 kg
Price upon quantity-specific request • Also available as duplex version

Vogtländisches Kabelwerk GmbH • Breitscheidstr. 122 • 08525 Plauen • Germany
Phone: +49 3741 590-0 • Fax: +49 3741 590-270 • E-mail: voka@voka.de • Internet: www.voka.de

Transmission characteristics

The stated performance data are characteristic measurements.

f (MHz)	Attenuation (dB/10 m)	NEXT (dB)	ACR (dB/10 m)	EL-FEXT (dB/10 m)	RL (dB)
	NOM	NOM	NOM	NOM	NOM
1	0,30	73	73	68	23
4	0,58	65	64	58	26
10	0,93	62	61	51	30
16	1,19	60	59	45	30
20	1,32	58	57	42	30
31,25	1,68	55	53	38	30
62,5	2,43	50	48	34	30
100	3,12	48	45	30	28
155	3,52	46	42	27	26
200	3,90	45	41	23	24

VOKA-LAN XLAN flex 200
F/UTP 4PR AWG 26/7

Data cable
Category 5e • Class D • Flexible cables • 200 MHz

APPLICATION

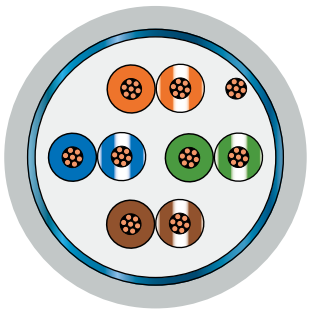
Flexible data cable for analogue and digital signal transmission in the frequency range up to 200 MHz. It is designed for wiring in workplace areas for appliance connection or as switchboard cable in patch panels.
Use: IEEE 802.3: 10/100/1000/10GBase-T; IEEE 802.5: FDDI, ISDN, ATM

STANDARDS

ISO/IEC 11801, 2nd edition, EN 50173-1; IEC 61156-5; EN 50288-2-2 IEC 60332-1; IEC 60754-2; EN 61034; IEC 61034; RoHS 2002/95/EC

CONSTRUCTION

Conductor: copper strand, bare, AWG 26/7
Core insulation: PE
Core identification: whbu-bu, whor-or, whgn-gn, whbn-bn
Core stranding: cores twisted to layers
Screen: insulating foil (plastic-laminated aluminium foil); drain wire
Sheath: PVC or halogen-free compound (FRNC); colour: grey RAL 7035; imprint: VOKA-LAN XLAN flex 200 F/UTP 4PR AWG 26/7 Cat.5e <00000m>



ELECTRICAL CHARACTERISTICS

(Conductor) loop resistance max.	29 Ω/100 m
Insulation resistance min. (20°C)	2 GΩ x km
Char. impedance bei 100 MHz	100 ±15 Ω
Transfer impedance max. (10 MHz)	100 mΩ/m
Mutual capacitance nom.	50 nF/km
Screen attenuation ≤ 1000 MHz min.	40 dB
Relative propagation velocity ca.	0,67 c
Test voltage	700 V-AC

THERMAL & MECHANICAL PROPERTIES

Temperature range during installation	0°C to +50°C
Temperature range stationary	-20°C to +60°C
Min. bending radius under tensile load	8 x diameter
Min. bending radius without tensile load	4 x diameter
Maximum traction	80 N

dimension	sheath thickness appr. mm	diameter appr. mm	cable weight ca. kg/km	copper index kg/km	calorific potential MJ/km
4 x 2 x AWG 26/7	0,50	5,4	34	13	340

We reserve changes which serve technical progress • Copper base 100,00 € / 100,00 kg
Price upon quantity-specific request • Also available as duplex version

VOKA
Vogtländisches Kabelwerk GmbH • Breitscheidstr. 122 • 08525 Plauen • Germany
Phone: +49 3741 590-0 • Fax: +49 3741 590-270 • E-mail: voka@voka.de • Internet: www.voka.de

Transmission characteristics

The stated performance data are characteristic measurements.

f (MHz)	Attenuation (dB/10 m)	NEXT (dB)	ACR (dB/10 m)	EL-FEXT (dB/10 m)	RL (dB)
	NOM	NOM	NOM	NOM	NOM
1	0,30	73	73	68	23
4	0,58	65	64	58	26
10	0,93	62	61	51	30
16	1,19	60	59	45	30
20	1,32	58	57	42	30
31,25	1,68	55	53	38	30
62,5	2,43	50	48	34	30
100	3,12	48	45	30	28
155	3,52	46	42	27	26
200	3,90	45	41	23	24

VOKA-LAN XLAN flex 200
U/UTP 4PR AWG 26/7

Data cable
Category 5e • Class D • Flexible cables • 200 MHz

APPLICATION

Flexible data cable for analogue and digital signal transmission in the frequency range up to 200 MHz. It is designed for wiring in workplace areas for appliance connection or as switchboard cable in patch panels.
Use: IEEE 802.3: 10/100/1000/10GBase-T; IEEE 802.5: FDDI, ISDN, ATM

STANDARDS

ISO/IEC 11801, 2nd edition, EN 50173-1; IEC 61156-5; EN 50288-3-2 IEC 60332-1; IEC 60754-2; EN 61034; IEC 61034; RoHS 2002/95/EC

CONSTRUCTION

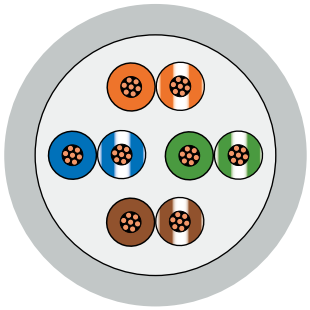
Conductor: copper strand, bare, AWG 26/7
Core insulation: PE
Core identification: whbu-bu, whor-or, whgn-gn, whbn-bn
Core stranding: cores twisted to layers
Sheath: PVC or halogen-free compound (FRNC); colour: grey RAL 7035; imprint: VOKA-LAN XLAN flex 200 U/UTP 4PR AWG 26/7 Cat.5e <00000m>

ELECTRICAL CHARACTERISTICS

(Conductor) loop resistance max.	29 Ω/100 m
Insulation resistance min. (20°C)	2 GΩ x km
Char. impedance bei 100 MHz	100 ±15 Ω
Mutual capacitance nom.	50 nF/km
Coupling attenuation up to 1000 MHz min.	40 dB
Relative propagation velocity ca.	0,67 c
Test voltage	700 V-AC

THERMAL & MECHANICAL PROPERTIES

Temperature range during installation	0°C to +50°C
Temperature range stationary	-20°C to +60°C
Min. bending radius under tensile load	8 x diameter
Min. bending radius without tensile load	4 x diameter
Maximum traction	70 N



dimension	sheath thickness appr. mm	diameter appr. mm	cable weight ca. kg/km	copper index kg/km	calorific potential MJ/km
4 x 2 x AWG 26/7	0,50	5,2	26	11	320

We reserve changes which serve technical progress • Copper base 100,00 € / 100,00 kg
Price upon quantity-specific request • Also available as duplex version

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Transmission characteristics

The stated performance data are characteristic measurements.

f (MHz)	Attenuation (dB/10 m)	NEXT (dB)	ACR (dB/10 m)	EL-FEXT (dB/10 m)	RL (dB)
	NOM	NOM	NOM	NOM	NOM
1	0,30	73	73	68	23
4	0,58	65	64	58	26
10	0,93	62	61	51	30
16	1,19	60	59	45	30
20	1,32	58	57	42	30
31,25	1,68	55	53	38	30
62,5	2,43	50	48	34	30
100	3,12	48	45	30	28
155	3,52	46	42	27	26
200	4,07	45	41	23	24

VOKA-LAN Outdoor 1000
S/FTP 4PR AWG 23/1 PE

Outdoor installation • 1000 MHz
better than Category 7

APPLICATION

Data cable for analogue and digital signal transmission in the frequency range up to 1000 MHz. It is designed for primary (campus), secondary (riser) and tertiary (horizontal) wiring, specially for outdoor use.
Use: IEEE 802.3: 10/100/1000/10GBase-T; IEEE 802.5: FDDI; broadband, video, ISDN, ATM, Multimedia, PoE

STANDARDS

EN 50288-4-1; IEC 61156-5; EN 50173-1; ISO/IEC 11801 2nd edition
RoHS 2002/95/EC

CONSTRUCTION

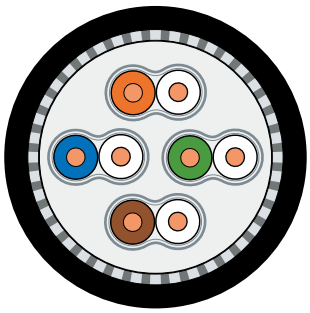
Conductor: copper, solid, bare, AWG 23/1
Core insulation: SFS-PE
Core identification: wh-bu, wh-or, wh-gn, wh-bn
Core stranding: cores twisted to layers
Screen: pair screen (PIMF) (plastic-laminated aluminium foil); drain wire optional; tinned copper wire braid
Sheath: PE; imprint upon request

ELECTRICAL CHARACTERISTICS

(Conductor) loop resistance max.	14,5 Ω/100 m
Insulation resistance mind.	5 GΩ x km
Char. impedance 1 – 100 MHz	100 ±15 Ω
Char. impedance 100 – 250 MHz	100 ±22 Ω
Char. impedance 250 – 1000 MHz	100 ±25 Ω
Transfer impedance max. (10 MHz)	10 mΩ/m
Mutual capacitance nom.	45 nF/km
Relative propagation velocity ca.	0,78 c
Screen attenuation ≤ 1000 MHz min.	85 dB
Test voltage	700 V-AC

THERMAL & MECHANICAL PROPERTIES

Temperature range during installation	-20°C to +50°C
Temperature range stationary	bis +70°C
Min. bending radius under tensile load	10 x diameter
Min. bending radius without tensile load	5 x diameter
Maximum traction	180 N



dimension	sheath thickness appr. mm	diameter appr. mm	cable weight ca. kg/km	copper index kg/km	calorific potential MJ/km
4 x 2 x AWG23/1	1,5	9,5	85	34	

We reserve changes which serve technical progress • Copper base 100,00 € / 100,00 kg
Price upon quantity-specific request • Also available as duplex version

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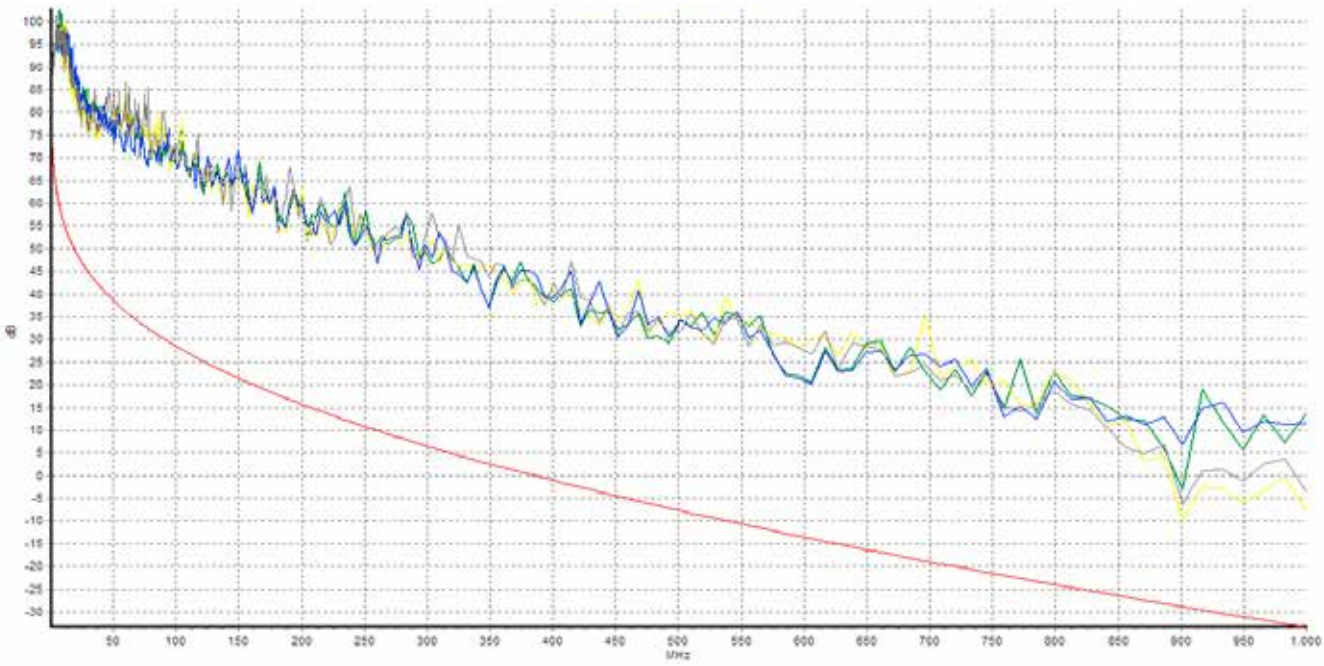
Transmission characteristics

The stated performance data are characteristic measurements.

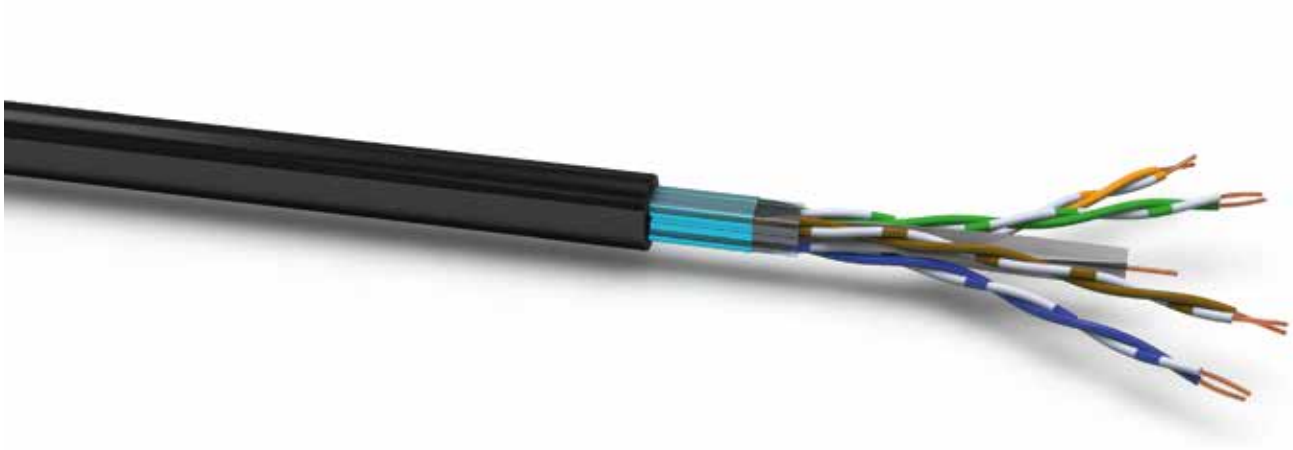
f (MHz)	Attenuation (dB/100 m)	NEXT (dB)	ACR (dB/100 m)	EL-FEXT (dB/100 m)	RL (dB)
	NOM	NOM	NOM	NOM	NOM
1	1,7	105	103	95	25
4	3,2	105	102	93	28
10	5,2	105	100	92	30
16	6,5	105	98	91	32
20	7,3	105	98	90	34
31,25	9,4	105	96	86	35
62,5	13,6	103	89	82	34
100	17,0	100	83	77	33
155	22,2	98	76	73	30
200	24,3	95	71	70	29
300	30,2	93	73	67	27
400	35,2	90	55	64	26
500	39,1	87	48	62	24
600	43,5	85	41	60	23
800	50,0	83	33	56	22
900	55,2	81	26	53	21
1000	58,1	80	22	50	20

ACR Powersum (dB/100 m)



VOKA-LAN Outdoor 350
F/UTP 4PR AWG 24/1 PE

Outdoor installation • 350 MHz



APPLICATION

Data cable for analogue and digital signal transmission in the frequency range up to 350 MHz. It is designed for primary (campus), secondary (riser) and tertiary (horizontal) wiring, specially for outdoor use.
Use: 10/100/1000Base-T; CDDI/TPDDI; ISDN; ATM 155 Mbit/s, TP_PMD 125 Mbit/s, Token Ring 4/16 Mbit/s, analogue telephony

STANDARDS

ISO/IEC 11801 2nd edition, EN 50173-1; TIA/EIA 568; EN 50288-5-1 IEC 61156-5; RoHS 2002/95/EC

CONSTRUCTION

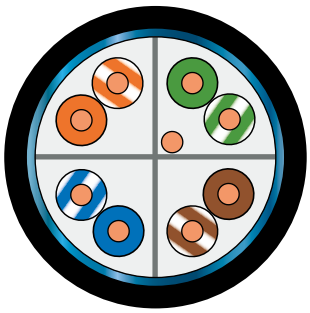
Conductor: copper, solid, bare, AWG 24/1
Core insulation: SFS-PE
Core identification: whbu-bu, whor-or, whgn-gn, whbn-bn
Core stranding: cores twinned to pairs, pairs layed up to cable core
Screen: plastic-laminated aluminium foil; drain wire
Sheath: PE-sheath; imprint: VOKA-LAN XLAN 350 F/UTP 4PR AWG 24/1 PE Cat.6 <00000m>

ELECTRICAL CHARACTERISTICS

(Conductor) loop resistance max.	19 Ω/100 m
Insulation resistance min.	5 GΩ x km
Char. impedance 1 – 100 MHz	100 ±15 Ω
Char. impedance 100 – 250 MHz	100 ±22 Ω
Transfer impedance (10 MHz) nom.	≤ 30 mΩ/m
Mutual capacitance nom.	50 nF/km
Relative propagation velocity ca.	0,74 c
Screen attenuation ≤ 250 MHz min.	40 dB
Test voltage	700 V-AC

THERMAL & MECHANICAL PROPERTIES

Temperature range during installation	0°C to +50°C
Temperature range stationary	-20°C to +60°C
Min. bending radius under tensile load	8 x diameter
Min. bending radius without tensile load	4 x diameter
Maximum traction	100 N



dimension	sheath thickness appr. mm	diameter appr. mm	cable weight ca. kg/km	copper index kg/km	calorific potential MJ/km
4 x 2 x AWG24	0,6	7,3	56	19	–

We reserve changes which serve technical progress • Copper base 100,00 € / 100,00 kg
Price upon quantity-specific request • Also available as duplex version

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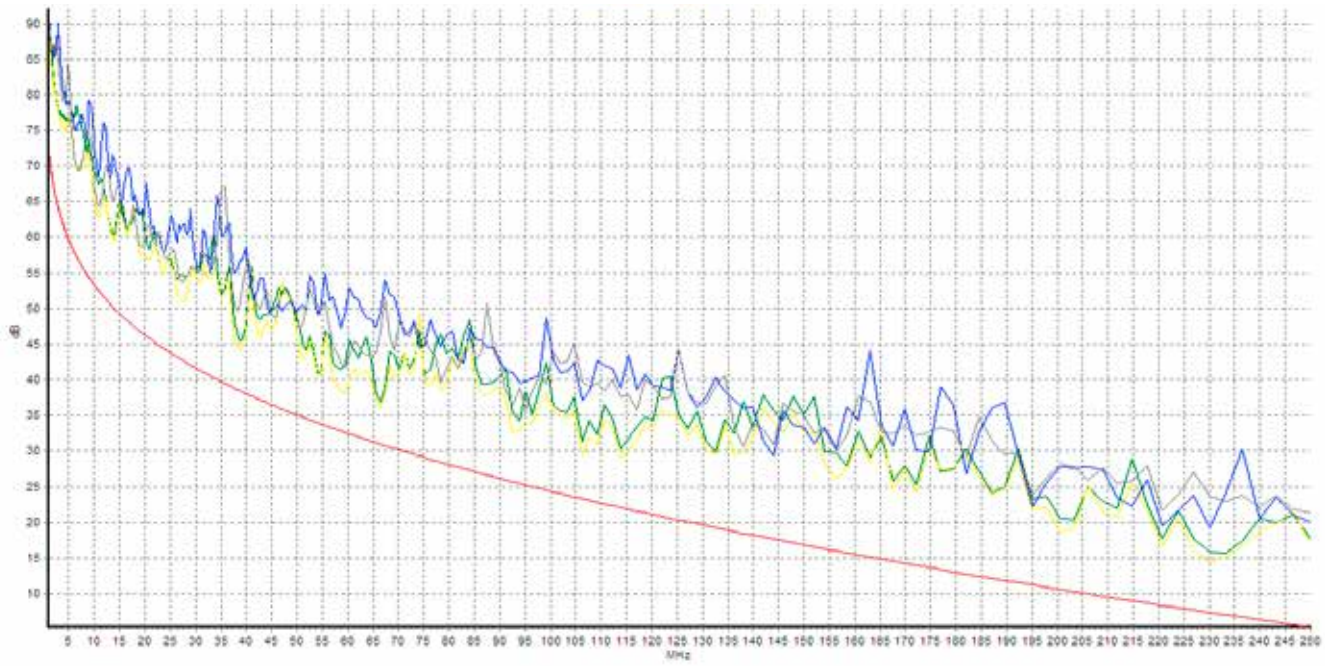
Phone: +49 3741 590-0 • Fax: +49 3741 590-270 • E-mail: voka@voka.de • Internet: www.voka.de

Transmission characteristics

The stated performance data are characteristic measurements.

f (MHz)	Attenuation (dB/100 m)	NEXT (dB)	ACR (dB/100 m)	EL-FEXT (dB/100 m)	RL (dB)
	NOM	NOM	NOM	NOM	NOM
1	1,8	85	83,2	90	24
4	3,5	80	76,5	80	27
10	5,4	75	69,6	73	30
16	6,9	70	63,1	68	30
20	7,8	67	59,2	66	30
31,25	9,8	65	55,2	63	30
62,5	13,9	64	50,1	59	30
100	17,5	62	44,5	54	28
155	21,8	57	35,2	52	26
200	24,9	55	30,1	48	24
250	29,5	52	22,5	46	22
350	33,0	50	17,0	44	21

ACR Powersum (dB/100 m)



VOKA-LAN Outdoor 350
U/UTP 4PR AWG 24/1 PE

Outdoor installation • 350 MHz

APPLICATION

Data transmission cable for the frequency range up to 350 MHz with good system reserves (better than Category 6). For high quality requirements and all current data services as well as gigabit Ethernet. Specially for outdoor areas.
Use: 10/100/1000Base-T; CDDI/TPDDI; ISDN; ATM 155 Mbit/s; TP-PMD 125 Mbit/s; Token Ring 4/16 Mbit/s; analogue telephony

STANDARDS

ISO/IEC 11801 2nd edition; EN 50173-1; TIA/EIA 568; EN 50288-6-1 IEC 61156-5; RoHS 2002/95/EC

CONSTRUCTION

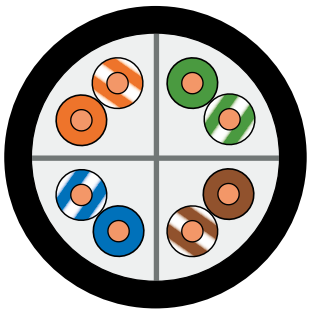
Conductor: copper, solid, bare, AWG 24/1
Core insulation: PE
Core identification: whbu-bu, whor-or, whgn-gn, whbn-bn
Core stranding: cores twinned to pairs, pairs layed up to cable core
Sheath: PE-sheath; imprint: VOKA-LAN XLAN 350 U/UTP 4PR AWG 24/1 PE Cat. 6 <00000m>

ELECTRICAL CHARACTERISTICS

(Conductor) loop resistance max.	19 Ω/100 m
Insulation resistance min.	5 GΩ x km
Char. impedance 1 – 100 MHz	100 ±15 Ω
Char. impedance 100 – 250 MHz	100 ±22 Ω
Mutual capacitance nom.	50 nF/km
Relative propagation velocity ca.	0,67 c
Screen attenuation ≤ 1000 MHz min.	45 dB
Test voltage	700 V-AC

THERMAL & MECHANICAL PROPERTIES

Temperature range during installation	0°C to +50°C
Temperature range stationary	-20°C to +60°C
Min. bending radius under tensile load	8 x diameter
Min. bending radius without tensile load	4 x diameter
Maximum traction	90 N



dimension	sheath thickness appr. mm	diameter appr. mm	cable weight ca. kg/km	copper index kg/km	calorific potential MJ/km
4 x 2 x AWG24	0,6	6,4	47	18	–

We reserve changes which serve technical progress • Copper base 100,00 € / 100,00 kg
Price upon quantity-specific request • Also available as duplex version

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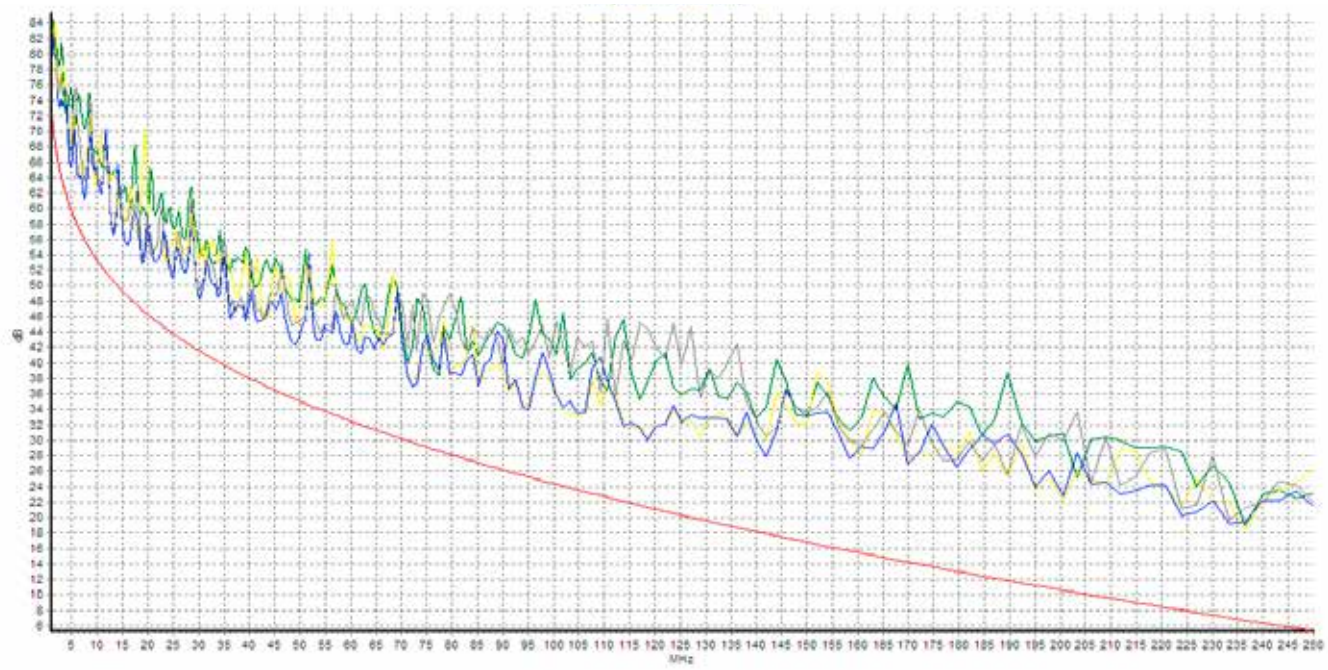
Transmission characteristics

The stated performance data are characteristic measurements.

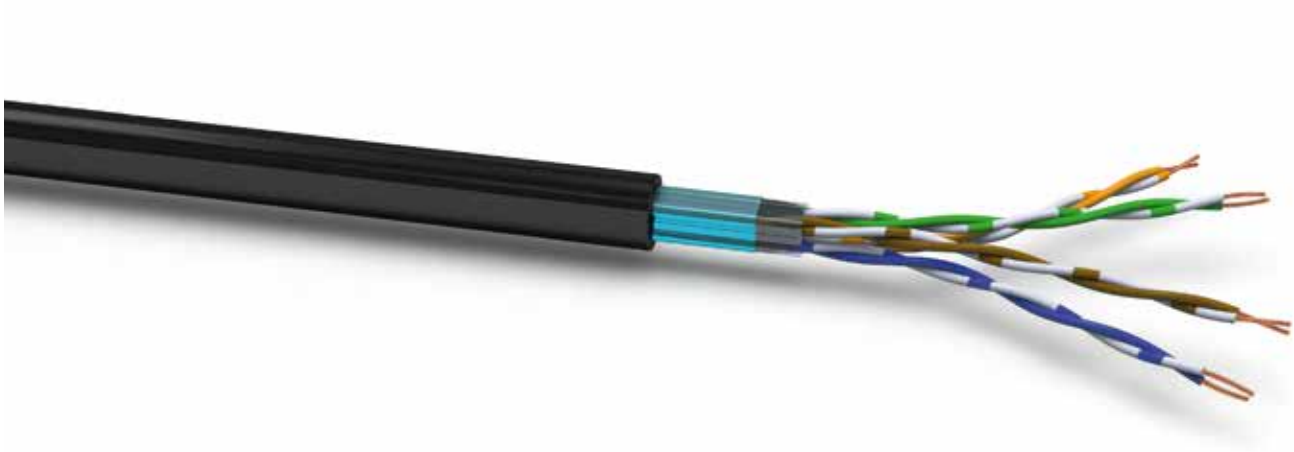
f (MHz)	Attenuation (dB/100 m)	NEXT (dB)	ACR (dB/100 m)	EL-FEXT (dB/100 m)	RL (dB)
	NOM	NOM	NOM	NOM	NOM
1	1,8	87	85,2	85	23
4	3,5	76	72,5	72	27
10	5,6	72	66,4	63	30
16	7,0	70	63,0	60	30
20	7,9	68	60,1	58	30
100	18,2	63	44,8	43	29
155	22,9	60	37,1	40	28
200	26,0	57	31,0	38	26
300	32,5	55	22,5	36	24
350	35,2	54	18,8	35	22

ACR Powersum (dB/100 m)



VOKA-LAN Outdoor 200
F/UTP 4PR AWG 24/1 PE

Outdoor installation • 200 MHz



APPLICATION

Data cable for analogue and digital signal transmission in the frequency range up to 200 MHz. It is designed for primary (campus), secondary (riser) and tertiary (horizontal) wiring. Specially for outdoor areas.
Use: IEEE 802.3: 10/100/1000Base-T; IEEE 802.5: FDDI, ISDN, ATM

STANDARDS

ISO/IEC 11801 2nd edition; EN 50173-1; EN 50288-2-1; IEC 61156-5
TIA/EIA 568; RoHS 2002/95/EC

CONSTRUCTION

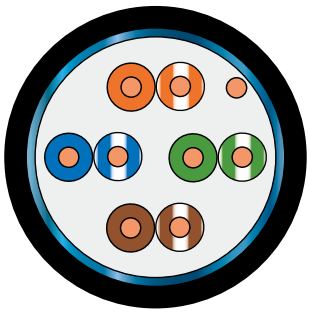
Conductor: copper, solid, bare, AWG 24/1
Core insulation: SFS-PE
Core identification: wh-bu, wh-or, wh-gn, wh-bn
Core stranding: cores twisted to layers
Screen: plastic-laminated aluminium foil, drain wire
Sheath: PE-sheath; imprint: VOKA-LAN XLAN 200 F/UTP 4PR AWG 24/1 PE Cat. 5e <00000m>

ELECTRICAL CHARACTERISTICS

(Conductor) loop resistance max.	19 Ω/100 m
Insulation resistance min.	5 GΩ x km
Char. impedance 1 – 100 MHz	100 ±15 Ω
Transfer impedance max. (10 MHz)	30 mΩ/m
Mutual capacitance nom.	50 nF/km
Relative propagation velocity ca.	0,74 c
Screen attenuation ≤ 100 MHz min.	40 dB
Test voltage	700 V-AC

THERMAL & MECHANICAL PROPERTIES

Temperature range during installation	0°C to +50°C
Temperature range stationary	-40°C to +70°C
Min. bending radius under tensile load	8 x diameter
Min. bending radius without tensile load	4 x diameter
Maximum traction	90 N



dimension	sheath thickness appr. mm	diameter appr. mm	cable weight ca. kg/km	copper index kg/km	calorific potential MJ/km
4 x 2 x AWG24/1	0,6	6,2	42	18	–

We reserve changes which serve technical progress • Copper base 100,00 € / 100,00 kg
Price upon quantity-specific request • Also available as duplex version

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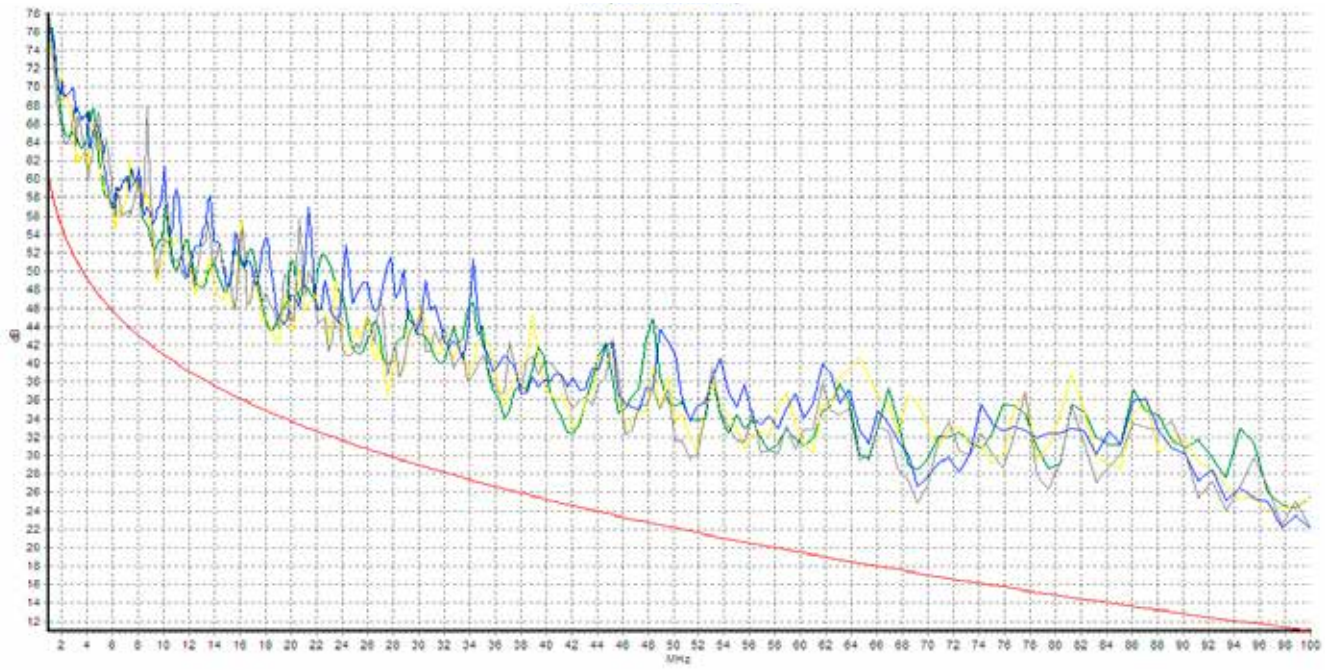
Transmission characteristics

The stated performance data are characteristic measurements.

f (MHz)	Attenuation (dB/100 m)	NEXT (dB)	ACR (dB/100 m)	EL-FEXT (dB/100 m)	RL (dB)
	NOM	NOM	NOM	NOM	NOM
1	1,9	80	78,1	68	24
4	3,7	75	71,3	56	30
10	5,6	70	64,4	46	34
16	7,2	68	60,8	43	35
20	7,9	65	57,1	41	34
31,25	10,3	60	49,7	36	33
62,5	14,4	56	41,6	32	31
100	18,2	50	31,8	26	28
155	19,9	45	25,1	24	26
200	24,2	42	17,8	22	24

ACR Powersum (dB/100 m)



VOKA-LAN Outdoor 200
U/UTP 4PR AWG 24/1 PE

Outdoor installation • 200 MHz

APPLICATION

Data cable for analogue and digital signal transmission in the frequency range up to 200 MHz. It is designed for primary (campus), secondary (riser) and tertiary (horizontal) wiring. Specially for outdoor areas.
Use: IEEE 802.3: 10/100/1000Base-T; IEEE 802.5: FDDI, ISDN, ATM

STANDARDS

ISO/IEC 11801 2nd edition; EN 50173-1; EN 50288-3-1; IEC 61156-5
TIA/EIA 568; RoHS 2002/95/EC

CONSTRUCTION

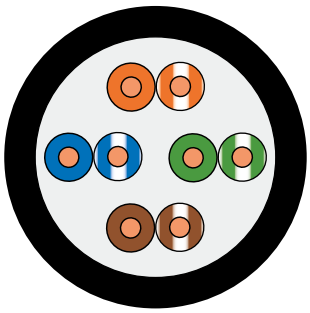
Conductor: copper, solid, bare, AWG 24/1
Core insulation: PE
Core identification: whbu-bu, whor-or, whgn-gn, whbn-bn
Core stranding: cores twisted to layers
Sheath: PE-sheath; imprint: VOKA-LAN XLAN 200 U/UTP 4PR AWG 24/1 PE Cat. 5e <00000m>

ELECTRICAL CHARACTERISTICS

(Conductor) loop resistance max.	19 Ω/100 m
Insulation resistance min.	5 GΩ x km
Char. impedance 1 – 100 MHz	100 ±15 Ω
Mutual capacitance nom.	50 nF/km
Relative propagation velocity ca.	0,74 c
Coupling attenuation up to 100 MHz min.	40 dB
Test voltage	700 V-AC

THERMAL & MECHANICAL PROPERTIES

Temperature range during installation	0°C to +50°C
Temperature range stationary	-40°C to +70°C
Min. bending radius under tensile load	8 x diameter
Min. bending radius without tensile load	4 x diameter
Maximum traction	90 N



dimension	sheath thickness appr. mm	diameter appr. mm	cable weight ca. kg/km	copper index kg/km	calorific potential MJ/km
4 x 2 x AWG24/1	0,6	5,4	35	17	350

We reserve changes which serve technical progress • Copper base 100,00 € / 100,00 kg
Price upon quantity-specific request • Also available as duplex version

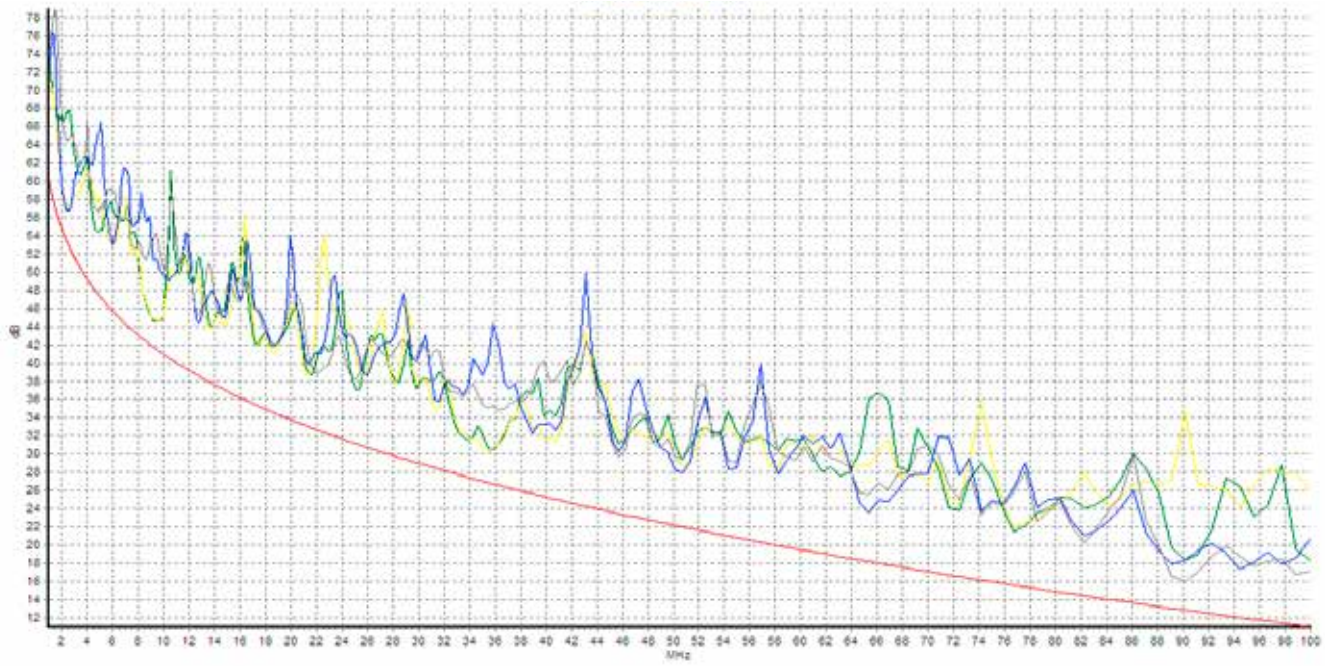
VOKA
Vogtländisches Kabelwerk GmbH • Breitscheidstr. 122 • 08525 Plauen • Germany
Phone: +49 3741 590-0 • Fax: +49 3741 590-270 • E-mail: voka@voka.de • Internet: www.voka.de

Transmission characteristics

The stated performance data are characteristic measurements.

f (MHz)	Attenuation (dB/100 m)	NEXT (dB)	ACR (dB/100 m)	EL-FEXT (dB/100 m)	RL (dB)
	NOM	NOM	NOM	NOM	NOM
1	1,8	80	78,2	65	23
4	3,7	75	71,3	56	27
10	5,9	70	64,1	45	30
16	7,4	68	60,6	41	30
20	8,3	65	56,7	39	30
31,25	10,3	60	49,7	35	30
62,5	14,4	56	41,6	30	30
100	19,2	52	32,8	25	28
155	22,1	47	24,9	23	26
200	24,8	44	20,2	21	24

ACR Powersum (dB/100 m)



VOKA-LAN Water Proof 1000
S/FTP 4PR AWG 23/1 (L)PE

Underground installation • 1000 MHz

APPLICATION

Data cable for analogue and digital signal transmission in the frequency range up to 1000 MHz. It is designed for primary (campus), secondary (riser) and tertiary (horizontal) wiring. Specially for underground installation.

Use: IEEE 802.3; 10/100/1000/10GBase-T; FDDI, broadband, video, ISDN, ATM, Multimedia, PoE

STANDARDS

EN 50288-4-1; IEC 61156-5; EN 50173-1, ISO/IEC 11801 2nd edition
RoHS 2002/95/EC

CONSTRUCTION

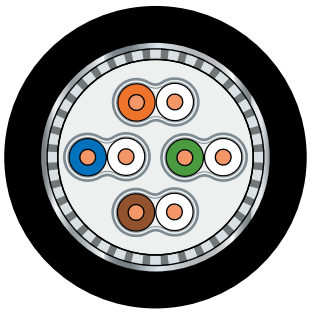
Conductor: copper, solid, bare, AWG 23/1
Core insulation: SFS-PE
Core identification: wh-bu, wh-or, wh-gn, wh-bn
Core stranding: cores twisted to layers
Screen: pair screen (PIMF) (plastic-laminated aluminium foil); drain wire optional; tinned copper wire braid
Sheath: multiple sheath consisting of PE-coated aluminium tape and PE sheath; imprint: VOKA-LAN Water Proof S/FTP 4PR AWG 23/1 (L)PE Cat.7 <00000m>

ELECTRICAL CHARACTERISTICS

(Conductor) loop resistance max.	14,5 Ω/100 m
Insulation resistance	min. 5 GΩ x km
Char. impedance 1 – 100 MHz	100 ±15 Ω
Char. impedance 100 – 250 MHz	100 ±22 Ω
Char. impedance 250 – 1000 MHz	100 ±25 Ω
Transfer impedance max. (10 MHz)	10 mΩ/m
Mutual capacitance nom.	45 nF/km
Relative propagation velocity ca.	0,78 c
Screen attenuation ≤ 1000 MHz min.	85 dB
Test voltage	700 V-AC

THERMAL & MECHANICAL PROPERTIES

Temperature range during installation	-20°C to +50°C
Temperature range stationary	to +70°C
Min. bending radius under tensile load	10 x diameter
Min. bending radius without tensile load	5 x diameter
Maximum traction	200 N



dimension	sheath thickness appr. mm	diameter appr. mm	cable weight ca. kg/km	copper index kg/km	calorific potential MJ/km
4 x 2 x AWG23/1	1,5	9,9	102	34	

We reserve changes which serve technical progress • Copper base 100,00 € / 100,00 kg
Price upon quantity-specific request • Also available as duplex version

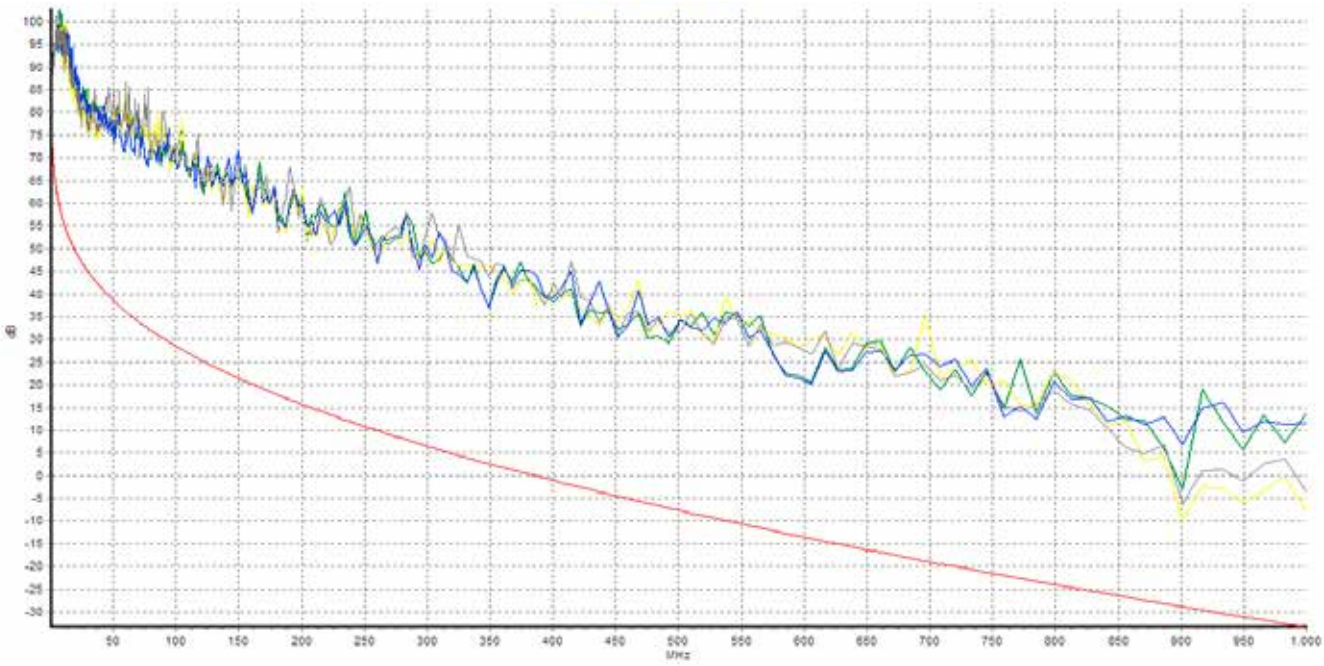
Vogtländisches Kabelwerk GmbH • Breitscheidstr. 122 • 08525 Plauen • Germany
Phone: +49 3741 590-0 • Fax: +49 3741 590-270 • E-mail: voka@voka.de • Internet: www.voka.de

Transmission characteristics

The stated performance data are characteristic measurements.

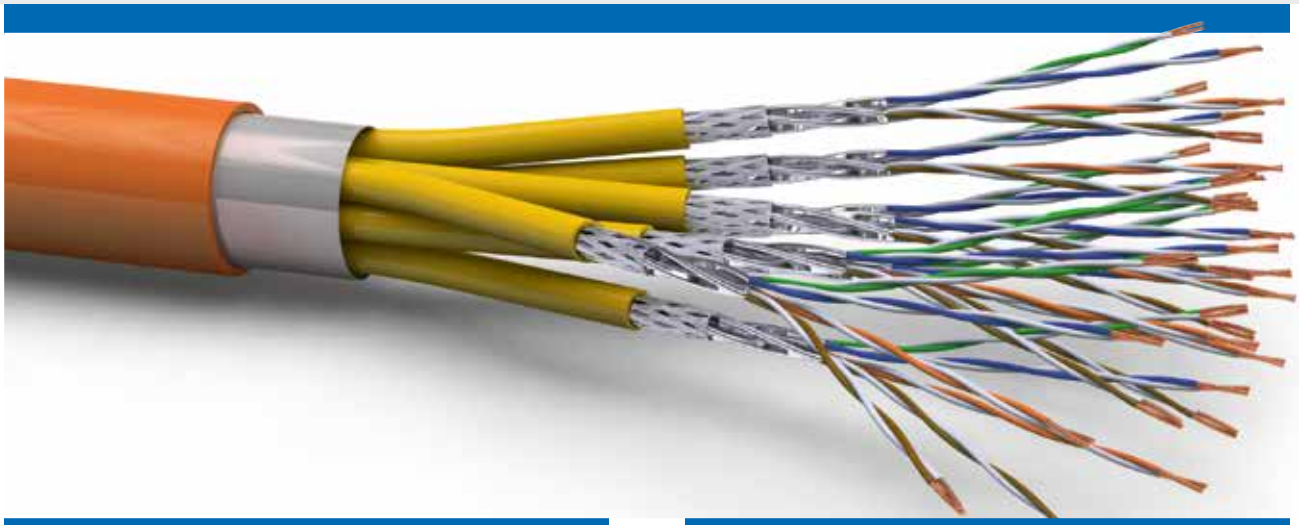
f (MHz)	Attenuation (dB/100 m)	NEXT (dB)	ACR (dB/100 m)	EL-FEXT (dB/100 m)	RL (dB)
	NOM	NOM	NOM	NOM	NOM
1	1,7	105	103	95	25
4	3,2	105	102	93	28
10	5,2	105	100	92	30
16	6,5	105	98	91	32
20	7,3	105	98	90	34
31,25	9,4	105	96	86	35
62,5	13,6	103	89	82	34
100	17,0	100	83	77	33
155	22,2	98	76	73	30
200	24,3	95	71	70	29
300	30,2	93	73	67	27
400	35,2	90	55	64	26
500	39,1	87	48	62	24
600	43,5	85	41	60	23
800	50,0	83	33	56	22
900	55,2	81	26	53	21
1000	58,1	80	22	50	20

ACR Powersum (dB/100 m)



VOKA-LAN Trunk 8 1000
S/FTP 8 x 4PR AWG 23/1 FRNC

Use in datacentres • 1000 MHz
better than Category 7



APPLICATION

Data cable for analogue and digital signal transmission in the frequency range up to 1000 MHz. It is designed for wiring as switchboard cable in datacentres.
Use: IEEE 802.3: 10/100/1000/10GBase-T; IEEE 802.5: FDDI; broadband, video, ISDN; ATM, PoE

STANDARDS

ISO/IEC 11801 2nd edition; EN 50173-1; EN 50288-4-1; IEC 61156-5
IEC 60332-1; IEC 60332-3; IEC 60754-2; EN 61034; IEC 61034
RoHS 2002/95/EC

CONSTRUCTION

Conductor: copper, solid, bare, AWG 23/1
Core insulation: SFS-PE
Core identification: wh-bu, wh-or, wh-gn, wh-bn
Core stranding: cores twisted to layers; 8 x single cables to core assembly
Screen: plastic-laminated aluminium foil, Drain wire optional; tinned copper wire braid
Sheath: halogen-free compound (FRNC); imprint: VOKA-LAN XLAN 1000 S/FTP 8 x 4PR AWG 23/1 FRNC Cat.7 <00000m>

ELECTRICAL CHARACTERISTICS

(Conductor) loop resistance max.	14,5 Ω/100 m
Insulation resistance min.	5 GΩ x km
Char. impedance 1 – 100 MHz	100 ±15 Ω
Char. impedance 100 –250 MHz	100 ±22 Ω
Char. impedance 250 – 600 MHz	100 ±25 Ω
Transfer impedance max. (10 MHz)	10 mΩ/m
Mutual capacitance nom.	45 nF/km
Relative propagation velocity ca.	0,78 c
Screen attenuation ≤ 1000 MHz min.	75 dB
Test voltage	700 V-AC

THERMAL & MECHANICAL PROPERTIES

Temperature range during installation	0°C to +50°C
Temperature range stationary	-20°C to +60°C
Min. bending radius under tensile load	8 x diameter
Min. bending radius without tensile load	4 x diameter
Maximum traction	depending on type

- Also available as 6x and 8x trunk cable
- Trunk cable solutions for datacentres also available as XLAN 1000 flex

dimension	sheath thickness appr. mm	diameter appr. mm	cable weight ca. kg/km	copper index kg/km	calorific potential MJ/km
8 x (4 x 2 AWG23)	1,0	27,0	upon request		

We reserve changes which serve technical progress • Copper base 100,00 € / 100,00 kg
Price upon quantity-specific request

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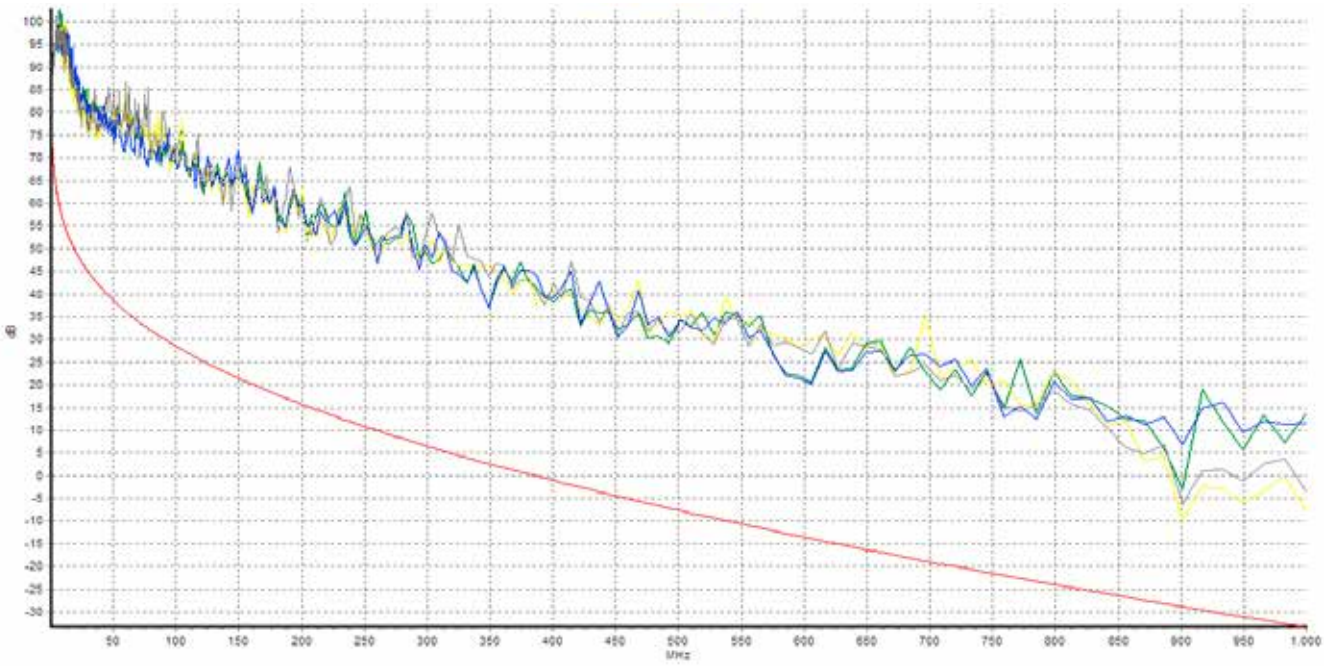
Phone: +49 3741 590-0 • Fax: +49 3741 590-270 • E-mail: voka@voka.de • Internet: www.voka.de

Transmission characteristics

The stated performance data are characteristic measurements.

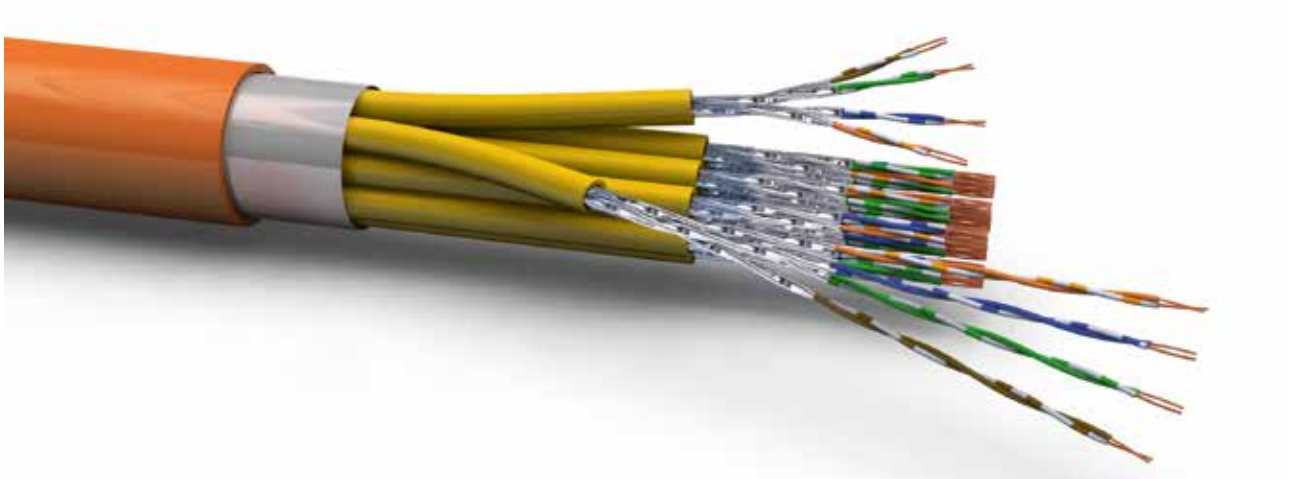
f (MHz)	Attenuation (dB/100 m)	NEXT (dB)	ACR (dB/100 m)	EL-FEXT (dB/100 m)	RL (dB)
	NOM	NOM	NOM	NOM	NOM
1	1,7	105	103	95	25
4	3,2	105	102	93	28
10	5,2	105	100	92	30
16	6,5	105	98	91	32
20	7,3	105	98	90	34
31,25	9,4	105	96	86	35
62,5	13,6	103	89	82	34
100	17,0	100	83	77	33
155	22,2	98	76	73	30
200	24,3	95	71	70	29
300	30,2	93	73	67	27
400	35,2	90	55	64	26
500	39,1	87	48	62	24
600	43,5	85	41	60	23
800	50,0	83	33	56	22
900	55,2	81	26	53	21
1000	58,1	80	22	50	20

ACR Powersum (dB/100 m)



VOKA-LAN Trunk 12 500
U/FTP 12 x 4PR AWG 26/7 FRNC

Use in datacentres • 500 MHz
Category 6



APPLICATION

Flexible data cable for analogue and digital signal transmission in the frequency range up to 500 MHz. It is designed for wiring as switchboard cable in datacentres.
Use: IEEE 802.3 (10/100/1000/10GBase-T); IEEE 802.5: FDDI, ISDN, ATM

STANDARDS

ISO/IEC 11801 2nd edition; EN 50173-1; EN 50288-5-2; IEC 61156-5 TIA/EIA-568; IEC 60332-1; IEC 60332-3; IEC 60754-2; EN 61034 IEC 61034; RoHS 2002/95/EC

CONSTRUCTION (SINGLE CABLES)

Conductor: copper strand, bare, AWG 26/7
Core insulation: SFS-PE
Core identification: wh-bu, wh-or, wh-gn, wh-bn
Core stranding: cores twisted to layers, 12x single cables to core assembly
Screen: pair screen (PIMF) (plastic-laminated aluminium foil); drain wire
Sheath: halogen-free compound (FRNC); imprint: VOKA-LAN XLAN 500 S/FTP 12 x 4PR AWG 26/7 FRNC Cat.6 <00000m>

ELECTRICAL CHARACTERISTICS

(Conductor) loop resistance max.	29 Ω/100 m
Insulation resistance min.	2 GΩ x km
Char. impedance 1 – 100 MHz	100 ±15 Ω
Char. impedance 100 – 250 MHz	100 ±22 Ω
Transfer impedance max. (10 MHz)	100 mΩ/m
Mutual capacitance nom.	45 nF/km
Relative propagation velocity ca.	0,76 c
Screen attenuation ≤ 500 MHz min.	60 dB
Test voltage	700 V-AC

THERMAL & MECHANICAL PROPERTIES

Temperature range during installation	0°C to +50°C
Temperature range stationary	-20°C to +60°C
Min. bending radius under tensile load	8 x diameter
Min. bending radius without tensile load	4 x diameter
Maximum traction	depending on type

dimension	sheath thickness appr. mm	diameter appr. mm	cable weight ca. kg/km	copper index kg/km	calorific potential MJ/km
12 x 4 x 2 AWG 26/7	1,20	25,5	upon request		

We reserve changes which serve technical progress • Copper base 100,00 € / 100,00 kg
Price upon quantity-specific request • Also available as duplex version

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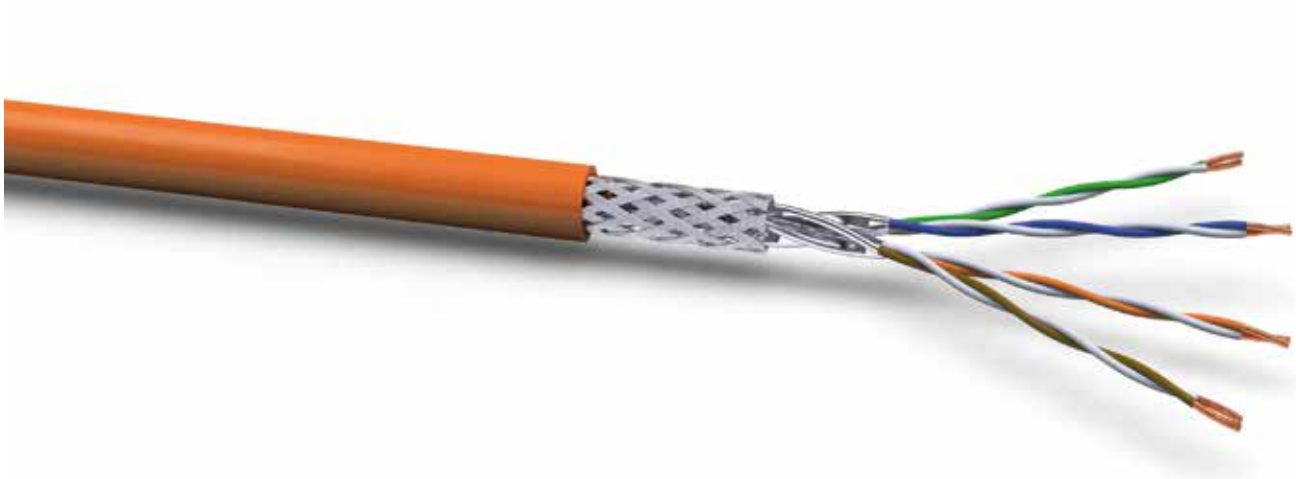
Transmission characteristics

The stated performance data are characteristic measurements.

f (MHz)	Attenuation (dB/100 m)	NEXT (dB)	ACR (dB/100 m)	EL-FEXT (dB/100 m)	RL (dB)
	NOM	NOM	NOM	NOM	NOM
1	0,30	95	95	94	23
4	0,58	95	94	90	27
10	0,89	95	94	88	30
16	1,13	95	94	78	30
20	1,28	92	91	72	30
31,25	1,60	91	89	85	33
62,5	2,22	90	88	64	30
100	2,81	88	85	58	28
200	3,98	86	82	50	26
300	4,79	84	79	47	24
400	5,13	82	77	40	22
500	6,15	80	74	38	20

VOKA-MLAN 1500
S/FTP 4PR AWG 23/1 FRNC

Marine use • 1500 MHz



APPLICATION

Data cable for analogue and digital signal transmission for tertiary wiring in environments with increased electrical and mechanical requirements as well as for use on ships and off-shore. With GL rating.

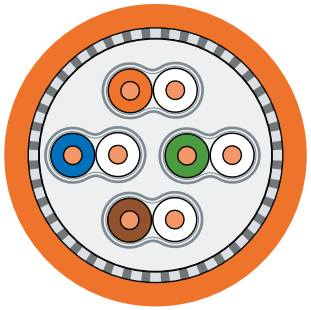
Use: IEEE 802.3: 10/100/1000/10GBase-T; FDDI, broadband, video, ISDN, ATM, Multimedia, PoE

STANDARDS

GL 86747-10HH, EN 50288-4-1; IEC 61156-5; EN 50173-1
ISO/IEC 11801 2nd edition; IEC 60332-1; IEC 60332-3-22
IEC 60754-2; EN 61034; IEC 61034; RoHS 2002/95/EC

CONSTRUCTION

Conductor: copper, solid, bare, AWG 23/1
Core insulation: SFS-PE
Core identification: wh-bu, wh-or, wh-gn, wh-bn
Core stranding: cores twisted to layers
Screen: pair screen (PIMF) (plastic-laminated aluminium foil); tinned copper wire braid
Sheath: halogen-free compound (FRNC); colour: orange RAL 2003; imprint: VOKA-LAN MLAN 1500 S/FTP 4PR AWG 23/1 Cat.7 <00000m>



ELECTRICAL CHARACTERISTICS

(Conductor) loop resistance max.	14,5 Ω/100 m
Insulation resistance min.	5 GΩ x km
Char. impedance 1 – 100 MHz	100 ±15 Ω
Char. impedance 100 – 250 MHz	100 ±22 Ω
Char. impedance 250 – 1500 MHz	100 ±25 Ω
Transfer impedance max. (10 MHz)	3 mΩ/m
Mutual capacitance nom.	45 nF/km
Relative propagation velocity ca.	0,79 c
Screen attenuation ≤ 1000 MHz min.	85 dB
Test voltage	700 V-AC

THERMAL & MECHANICAL PROPERTIES

Temperature range during installation	0°C to +50°C
Temperature range stationary	-20°C to +60°C
Min. bending radius under tensile load	8 x diameter
Min. bending radius without tensile load	4 x diameter
Maximum traction	110 N

dimension	sheath thickness appr. mm	diameter appr. mm	cable weight ca. kg/km	copper index kg/km	calorific potential MJ/km
4 x 2 x AWG 23/1	0,7	7,7	68	39	

We reserve changes which serve technical progress • Copper base 100,00 € / 100,00 kg
Price upon quantity-specific request • Also available as duplex version

VOKA
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Transmission characteristics

The stated performance data are characteristic measurements.

f (MHz)	Attenuation (dB/100 m)	NEXT (dB)	ACR (dB/100 m)	EL-FEXT (dB/100 m)	RL (dB)
	NOM	NOM	NOM	NOM	NOM
1	1,7	105	103	95	25
4	3,2	105	102	93	28
10	5,2	105	100	92	30
16	6,5	105	98	91	30
20	7,3	105	98	90	30
31,25	9,4	105	96	86	30
62,5	13,6	105	91	82	30
100	17,0	102	85	77	30
155	22,2	100	78	73	28
200	24,3	98	74	70	26
300	30,2	95	65	67	25
400	35,2	92	57	64	24
500	39,1	90	51	62	23
600	43,5	87	43	60	23
800	50,0	84	34	56	22
900	55,2	82	27	53	21
1000	58,1	81	23	50	20
1200	64,7	80	15	40	18
1350	68,5	79	10	38	15
1500	72,3	77	5	37	13

ACR Powersum (dB/100 m)

VOKA-MLAN 1000
S/FTP 4PR AWG 23/1 FRNC

Marine use • 1000 MHz

APPLICATION

Data cable for analogue and digital signal transmission for tertiary wiring in environments with increased electrical and mechanical requirements as well as for use on ships and off-shore. With GL rating.

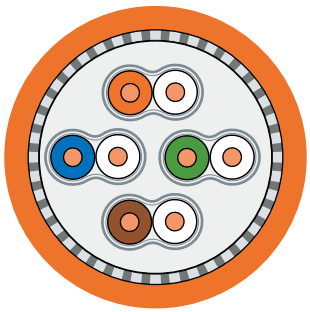
Use: IEEE 802.3: 10/100/1000/10GBase-T; FDDI, broadband, video, ISDN, ATM, Multimedia, PoE

STANDARDS

GL 86747-10HH; EN 50288-4-1; IEC 61156-5; EN 50173-1
ISO/IEC 11801 2nd edition; IEC 60332-1; IEC 60332-3-22
IEC 60754-2; EN 61034; IEC 61034; RoHS 2002/95/EC

CONSTRUCTION

Conductor: copper, solid, bare, AWG 23/1
Core insulation: SFS-PE
Core identification: wh-bu, wh-or, wh-gn, wh-bn
Core stranding: cores twisted to layers
Screen: pair screen (PIMF) (plastic-laminated aluminium foil); tinned copper wire braid
Sheath: halogen-free compound (FRNC); colour: orange RAL 2003; imprint: VOKA-MLAN 1000 S/FTP 4PR AWG 23/1 Cat.7 <00000m>



ELECTRICAL CHARACTERISTICS

(Conductor) loop resistance max.	14,5 Ω/100 m
Insulation resistance min.	5 GΩ x km
Char. impedance 1 – 100 MHz	100 ±15 Ω
Char. impedance 100 – 250 MHz	100 ±22 Ω
Char. impedance 250 – 1000 MHz	100 ±25 Ω
Transfer impedance max. (10 MHz)	3 mΩ/m
Mutual capacitance nom.	45 nF/km
Relative propagation velocity ca.	0,78 c
Screen attenuation ≤ 1000 MHz min.	85 dB
Test voltage	700 V-AC

THERMAL & MECHANICAL PROPERTIES

Temperature range during installation	0°C to +50°C
Temperature range stationary	-20°C to +60°C
Min. bending radius under tensile load	8 x diameter
Min. bending radius without tensile load	4 x diameter
Maximum traction	110 N

dimension	sheath thickness appr. mm	diameter appr. mm	cable weight ca. kg/km	copper index kg/km	calorific potential MJ/km
4 x 2 x AWG23/1	0,70	7,7	68	38	610

We reserve changes which serve technical progress • Copper base 100,00 € / 100,00 kg
Price upon quantity-specific request • Also available as duplex version

VOKA
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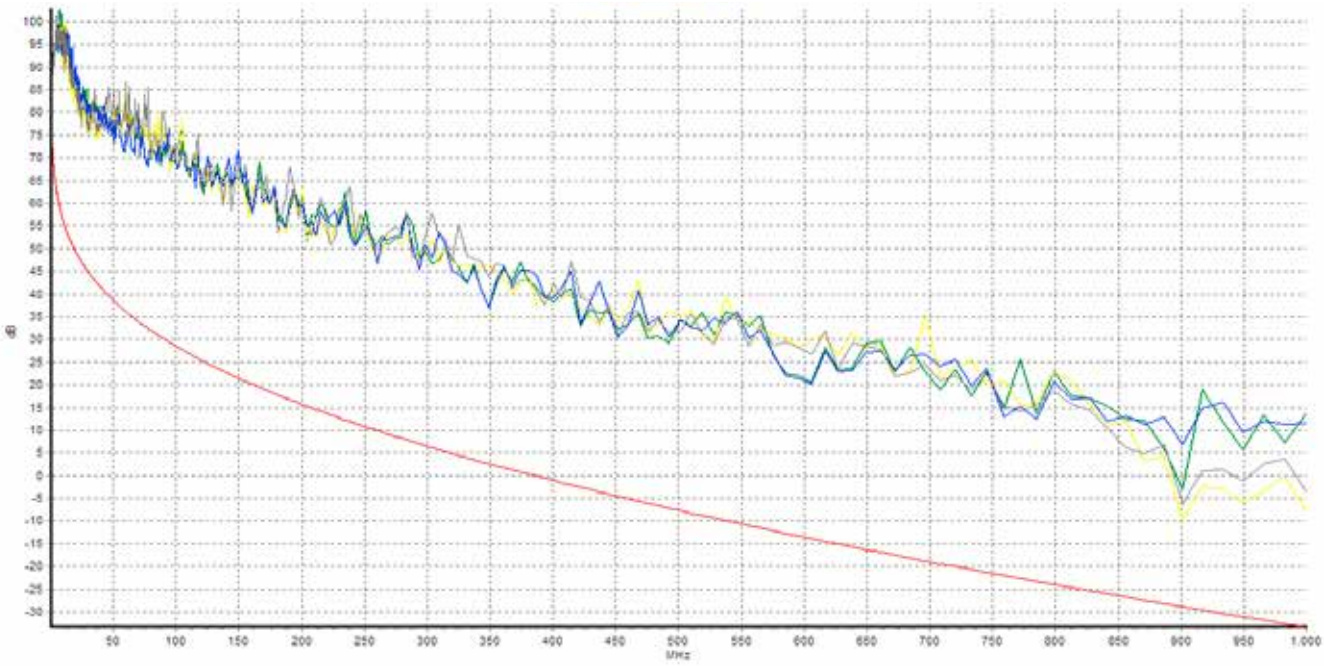
Transmission characteristics

The stated performance data are characteristic measurements.

f (MHz)	Attenuation (dB/100 m)	NEXT (dB)	ACR (dB/100 m)	EL-FEXT (dB/100 m)	RL (dB)
	NOM	NOM	NOM	NOM	NOM
1	1,7	105	103	95	25
4	3,2	105	102	93	28
10	5,2	105	100	92	30
16	6,5	105	98	91	30
20	7,3	105	98	90	30
31,25	9,4	105	96	86	30
62,5	13,6	103	89	82	30
100	17,0	100	83	77	30
155	22,2	98	76	73	28
200	24,3	95	71	70	26
300	30,2	93	73	67	25
400	35,2	90	55	64	24
500	39,1	87	48	62	23
600	43,5	85	41	60	23
800	50,0	83	33	56	22
900	55,2	81	26	53	21
1000	58,1	80	22	50	20

ACR Powersum (dB/100 m)



VOKA-MLAN flex 1000
S/FTP 4PR AWG 23/7 FRNC

Marine use • 1000 MHz

APPLICATION

Flexible data cable for analogue and digital signal transmission for tertiary wiring in environments with increased electrical and mechanical requirements as well as for use on ships and offshore. With GL rating.

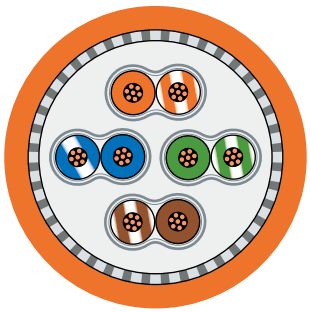
Use: IEEE 802.3: 10/100/1000/10GBase-T; IEEE 802.5: FDDI, ISDN, ATM, Multimedia, PoE

STANDARDS

GL 86747-10HH; ISO/IEC 11801, 2nd edition, EN 50173-1; IEC 61156-5; EN 50288-4-1; EN 50288-4-2; IEC 60332-1; IEC 60332-3-22; IEC 60754-2; EN 61034; IEC 61034; RoHS 2002/95/EC

CONSTRUCTION

Conductor: copper strand, bare, AWG 23/7
Core insulation: SFS-PE
Core identification: whbu-bu, whor-or, whgn-gn, whbn-bn
Core stranding: cores twisted to layers
Screen: pair screen (PIMF) (plastic-laminated aluminium foil); tinned copper wire braid
Sheath: halogen-free compound (FRNC); colour: orange RAL 2003; imprint: VOKA-MLAN flex 1000 S/FTP 4PR AWG 23/7 FRNC Cat. 7 <00000m>



ELECTRICAL CHARACTERISTICS

Loop resistance max. (acc. to VDE 0812)	15 Ω/100 m
Insulation resistance min. (20°C)	2 GΩ x km
Char. impedance 1 – 100 MHz	100 ±15 Ω
Char. impedance 100 – 250 MHz	100 ±22 Ω
Char. impedance 250 – 1000 MHz	100 ±25 Ω
Transfer impedance max. (10 MHz)	3 mΩ/m
Mutual capacitance nom.	45 nF/km
Relative propagation velocity ca.	0,78 c
Screen attenuation ≤ 1000 MHz min.	75 dB
Test voltage	700 V-AC

THERMAL & MECHANICAL PROPERTIES

Temperature range during installation	0°C to +50°C
Temperature range stationary	-20°C to +60°C
Min. bending radius under tensile load	8 x diameter
Min. bending radius without tensile load	4 x diameter
Maximum traction	100 N

dimension	sheath thickness appr. mm	diameter appr. mm	cable weight ca. kg/km	copper index kg/km	calorific potential MJ/km
4 x 2 x AWG 23/7	0,60	8,2	40	40	350

We reserve changes which serve technical progress • Copper base 100,00 € / 100,00 kg
Price upon quantity-specific request • Also available as duplex version

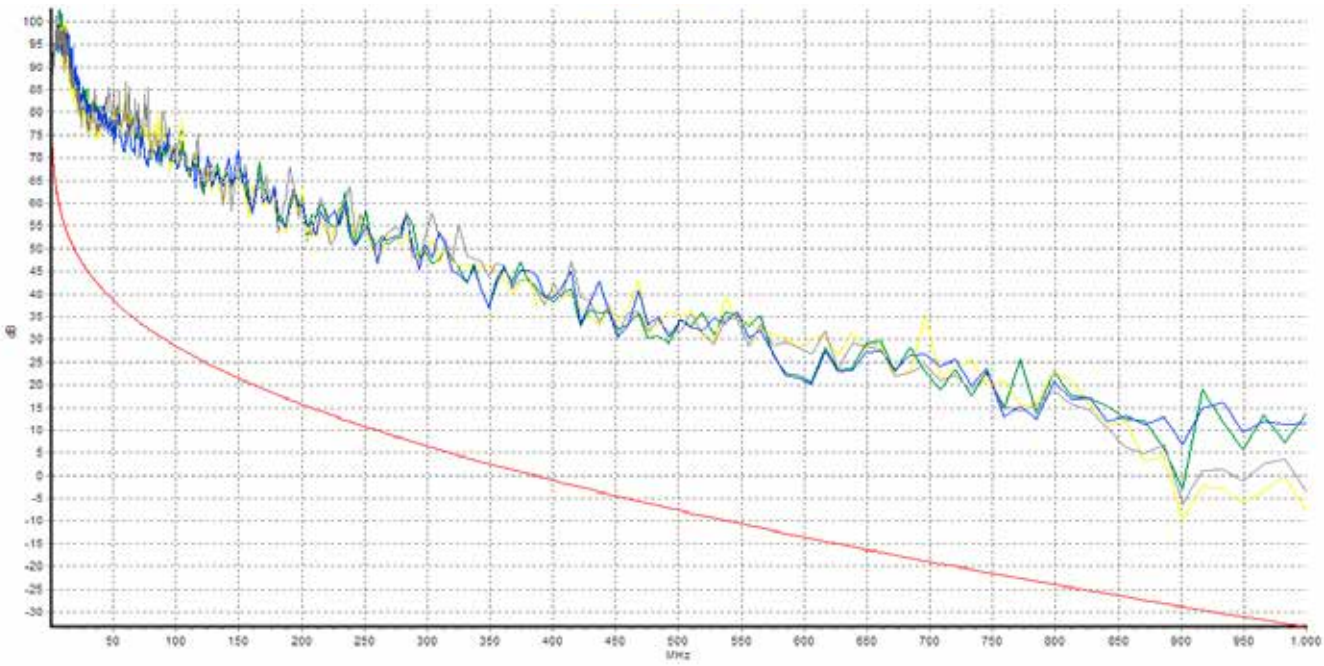
VOKA
Vogtländisches Kabelwerk GmbH • Breitscheidstr. 122 • 08525 Plauen • Germany
Phone: +49 3741 590-0 • Fax: +49 3741 590-270 • E-mail: voka@voka.de • Internet: www.voka.de

Transmission characteristics

The stated performance data are characteristic measurements.

f (MHz)	Attenuation (dB/100 m)	NEXT (dB)	ACR (dB/100 m)	EL-FEXT (dB/100 m)	RL (dB)
	NOM	NOM	NOM	NOM	NOM
1	1,8	105	103	95	25
4	3,4	105	102	93	28
10	5,4	105	100	92	30
16	6,8	105	98	91	30
20	7,6	105	97	90	30
31,25	9,7	105	95	86	30
62,5	14,0	103	89	82	30
100	17,8	100	82	77	30
155	22,3	98	76	73	28
200	25,4	95	70	70	27
250	29,3	94	65	69	26
300	31,4	93	62	67	25
400	36,5	90	53	64	24
500	40,5	87	46	62	23
600	45,2	85	40	60	23
800	52,0	83	31	56	21
900	57,3	81	24	53	20
1000	60,3	80	20	50	19

ACR Powersum (dB/100 m)



VOKA-MLAN flex 1000
S/FTP 4PR AWG 26/7 FRNC

Marine use • 1000 MHz

APPLICATION

Flexible data cable for analogue and digital signal transmission for workplace wiring in environments with increased electrical and mechanical requirements as well as for use on ships and offshore. With GL rating.

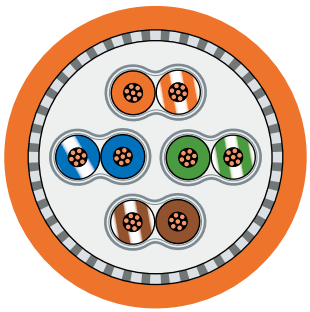
Use: IEEE 802.3: 10/100/1000/10GBase-T; IEEE 802.5: FDDI, ISDN, ATM

STANDARDS

GL 86747-10HH, ISO/IEC 11801, 2nd edition, EN 50173-1
IEC 61156-6 EN 50288-4-2; IEC 60332-1; IEC 60332-3-22
IEC 60754-2; EN 61034 IEC 61034; RoHS 2002/95/EC

CONSTRUCTION

Conductor: copper strand, tinned, AWG 26/7
Core insulation: SFS-PE
Core identification: whbu-bu, whor-or, whgn-gn, whbn-bn
Core stranding: cores twisted to layers
Screen: pair screen (PIMF) (plastic-laminated aluminium foil); tinned copper wire braid
Sheath: halogen-free compound (FRNC); colour: orange RAL 2003; imprint: VOKA-MLAN Patch 1000 S/FTP 4PR AWG 26/7 FRNC Cat. 7 <00000m>



ELECTRICAL CHARACTERISTICS

Loop resistance max. (acc. to VDE 0812)	29 Ω/100 m
Insulation resistance min. (20°C)	2 GΩ x km
Char. impedance 1 – 100 MHz	100 ±15 Ω
Char. impedance 100 – 250 MHz	100 ±22 Ω
Char. impedance 250 – 1000 MHz	100 ±25 Ω
Transfer impedance max. (10 MHz)	10 mΩ/m
Mutual capacitance nom.	45 nF/km
Relative propagation velocity ca.	0,76 c
Screen attenuation ≤ 1000 MHz min.	60 dB
Test voltage	700 V-AC

THERMAL & MECHANICAL PROPERTIES

Temperature range during installation	0°C to +50°C
Temperature range stationary	-20°C to +60°C
Min. bending radius under tensile load	8 x diameter
Min. bending radius without tensile load	4 x diameter
Maximum traction	90 N

dimension	sheath thickness appr. mm	diameter appr. mm	cable weight ca. kg/km	copper index kg/km	calorific potential MJ/km
4 x 2 x AWG 26/7	0,60	6,3	41	24	350

We reserve changes which serve technical progress • Copper base 100,00 € / 100,00 kg
Price upon quantity-specific request • Also available as duplex version

VOKA
Vogtländisches Kabelwerk GmbH • Breitscheidstr. 122 • 08525 Plauen • Germany
Phone: +49 3741 590-0 • Fax: +49 3741 590-270 • E-mail: voka@voka.de • Internet: www.voka.de

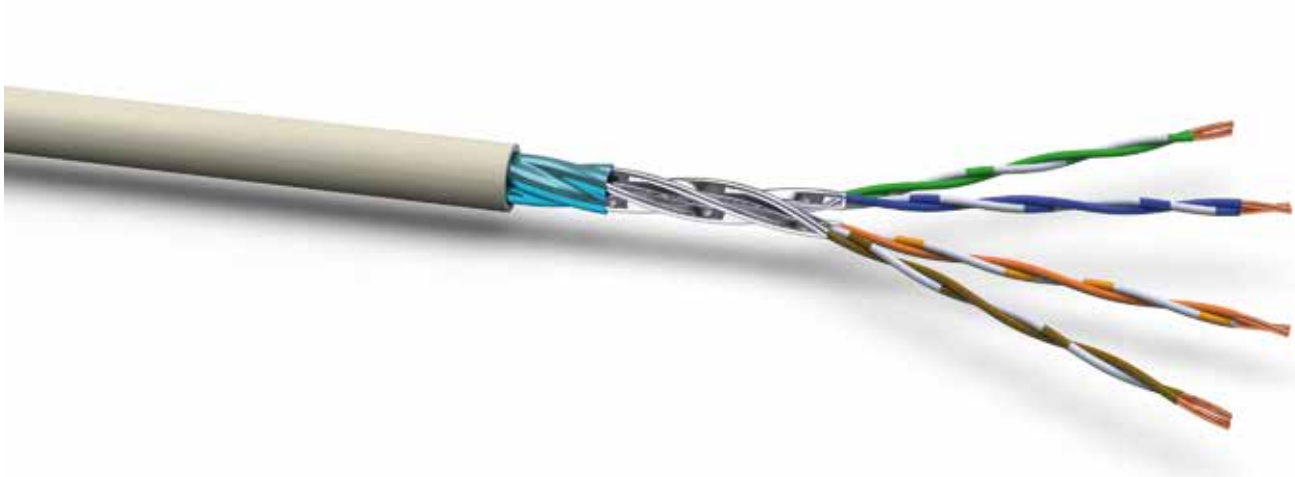
Transmission characteristics

The stated performance data are characteristic measurements.

f (MHz)	Attenuation (dB/10 m)	NEXT (dB)	ACR (dB/10 m)	EL-FEXT (dB/10 m)	RL (dB)
	NOM	NOM	NOM	NOM	NOM
1	0,28	95	95,0	95	23
4	0,55	95	94,5	93	27
10	0,85	95	94,1	90	30
16	1,05	95	94,0	81	30
20	1,20	92	90,8	77	30
31,25	1,50	90	88,5	75	30
62,5	2,10	88	85,9	70	30
100	2,70	86	83,3	58	28
200	3,85	84	80,2	50	26
300	4,70	82	77,3	47	24
400	5,10	80	74,9	45	23
500	5,70	78	72,3	42	22
600	6,75	75	68,3	40	21
800	7,90	73	65,1	37	19
900	8,60	72	63,4	36	18
1000	9,15	70	60,2	34	17

VOKA-HMTT
F/FTP 4PR AWG 23/1 LSOH

Multimedia • 1000 MHz



APPLICATION

Special data cable for analogue and digital satellite signal transmission as well as for data transmission via Ethernet protocol.

Use: IEEE 802.3: 10/100/1000/10GBase-T; FDDI, broadband, video, ISDN, ATM, PoE, Multimedia

STANDARDS

EN 50288-5-1; IEC 61156-5; EN 50173-1; ISO/IEC 11801 2nd edition
IEC 60332-1; IEC 60332-3-24; IEC 60754-2; EN 61034; IEC 61034
RoHS 2002/95/EC

CONSTRUCTION

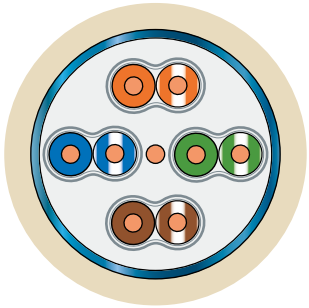
Conductor: copper, solid, bare, AWG 23/1
Core insulation: SFS-PE
Core identification: wh-bu, wh-or, wh-gn, wh-bn
Core stranding: cores twisted to layers
Screen: pair screen (PIMF) (plastic-laminated aluminium foil); drain wire; overall screen: aluminium compound foil
Sheath: halogen-free compound (FRNC); colour: ivory RAL 1015; imprint: VOKA-HMTT F/FTP 4PR AWG 23/1 <00000m>

ELECTRICAL CHARACTERISTICS

(Conductor) loop resistance max.	15 Ω/100 m
Insulation resistance min.	5 GΩ x km
Char. impedance 1 – 100 MHz	100 ±15 Ω
Char. impedance 100 – 250 MHz	100 ±22 Ω
Char. impedance 250 – 1000 MHz	100 ±25 Ω
Transfer impedance max. (10 MHz)	30 mΩ/m
Mutual capacitance nom.	45 nF/km
Relative propagation velocity ca.	0,78 c
Screen attenuation ≤ 1000 MHz min.	60 dB
Test voltage	700 V-AC

THERMAL & MECHANICAL PROPERTIES

Temperature range during installation	0°C to +50°C
Temperature range stationary	-20°C to +60°C
Min. bending radius under tensile load	8 x diameter
Min. bending radius without tensile load	4 x diameter
Maximum traction	100 N



dimension	sheath thickness appr. mm	diameter appr. mm	cable weight ca. kg/km	copper index kg/km	calorific potential MJ/km
4 x 2 x AWG23/1	0,60	7,4	58	22	520

We reserve changes which serve technical progress • Copper base 100,00 € / 100,00 kg
Price upon quantity-specific request • Also available as duplex version

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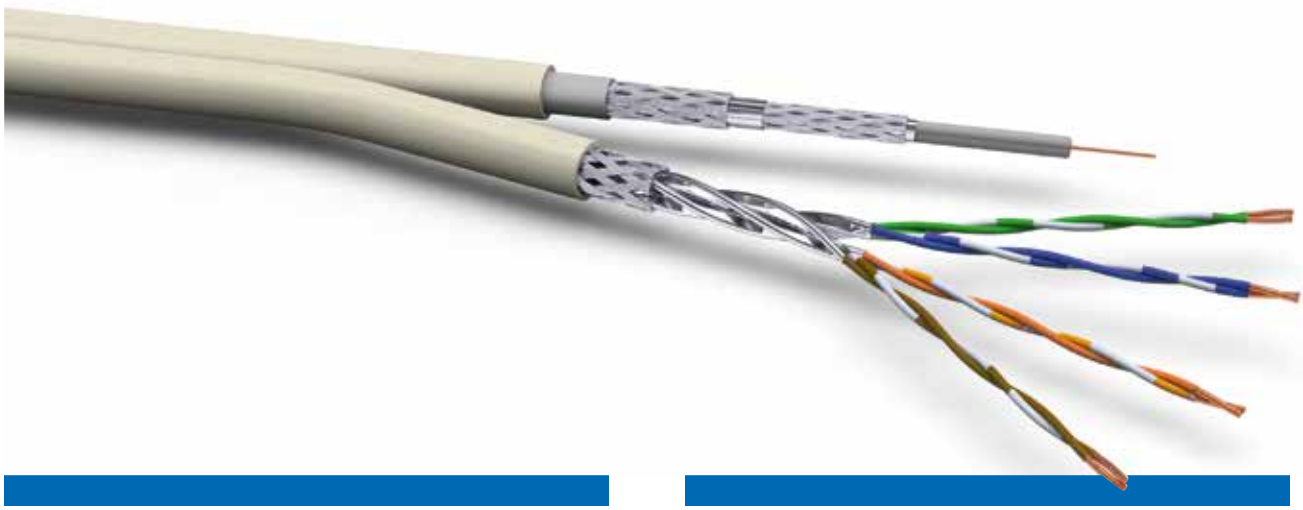
Transmission characteristics

The stated performance data are characteristic measurements.

f (MHz)	Attenuation (dB/100 m)		NEXT (dB)		RL (dB)	
	NOM	MIN	NOM	MIN	NOM	MIN
1	1,9	2,0	100	75	24	-
4	3,5	3,6	100	75	28	-
10	5,5	5,7	100	75	30	23
16	7,0	7,2	100	75	30	23
20	7,8	8,1	100	75	30	23
31,25	9,6	10,1	100	75	30	22,3
62,5	13,9	14,5	100	72	30	21,5
100	17,7	18,5	98	69	30	20,1
200	25,1	26,8	93	65	27	18,5
250	28,1	29,7	93	63	27	17,3
300	31,0	33,4	88	62	25	16,8
600	46,0	49,0	78	58	23	14,7
900	57,8	62,0	73	55	20	13,4
1000	60,2	65,3	71	54	19	13,1

VOKA-HMTT
S/FTP X1000 SAT/BK

Multimedia • 1000 MHz



APPLICATION

Special data cable for analogue and digital satellite signal transmission as well as for data transmission via Ethernet protocol.

Use: IEEE 802.3: 10/100/1000/10GBase-T; FDDI, broadband, video, ISDN, ATM, Multimedia, PoE, satellite transmission

STANDARDS

EN 50288-4-1; IEC 61156-5; EN 50173-1; ISO/IEC 11801 2nd edition
IEC 60332-1; IEC 60332-3-22; IEC 60754-2; EN 61034; IEC 61034
RoHS 2002/95/EC

CONSTRUCTION

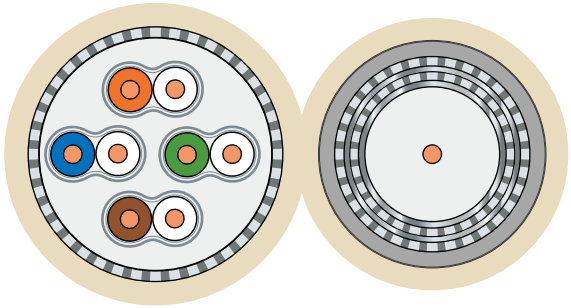
Conductor: copper, solid, bare, AWG 23/1
Core insulation: SFS-PE
Core identification: wh-bu, wh-or, wh-gn, wh-bn
Core stranding: cores twisted to layers
Screen: pair screen (PIMF) (plastic-laminated aluminium foil); tinned copper wire braid
Sheath: halogen-free compound (FRNC); colour: ivory RAL 1015

ELECTRICAL CHARACTERISTICS

(Conductor) loop resistance max.	14,5 Ω/100 m
Insulation resistance min.	5 GΩ x km
Char. impedance 1 – 100 MHz	100 ±15 Ω
Char. impedance 100 – 250 MHz	100 ±22 Ω
Char. impedance 250 – 1000 MHz	100 ±25 Ω
Transfer impedance max. (10 MHz)	3 mΩ/m
Mutual capacitance nom.	45 nF/km
Relative propagation velocity ca.	0,78 c
Screen attenuation ≤ 1000 MHz min.	75 dB
Test voltage	700 V-AC

THERMAL & MECHANICAL PROPERTIES

Temperature range during installation	0°C to +50°C
Temperature range stationary	-20°C to +60°C
Min. bending radius under tensile load	8 x diameter
Min. bending radius without tensile load	4 x diameter
Maximum traction	160 N



dimension	sheath thickness appr. mm	diameter appr. mm	cable weight ca. kg/km	copper index kg/km	calorific potential MJ/km
4 x 2 x AWG23/1	0,60	14,5 x 7,6			710

We reserve changes which serve technical progress • Copper base 100,00 € / 100,00 kg
Price upon quantity-specific request • Also available as duplex version

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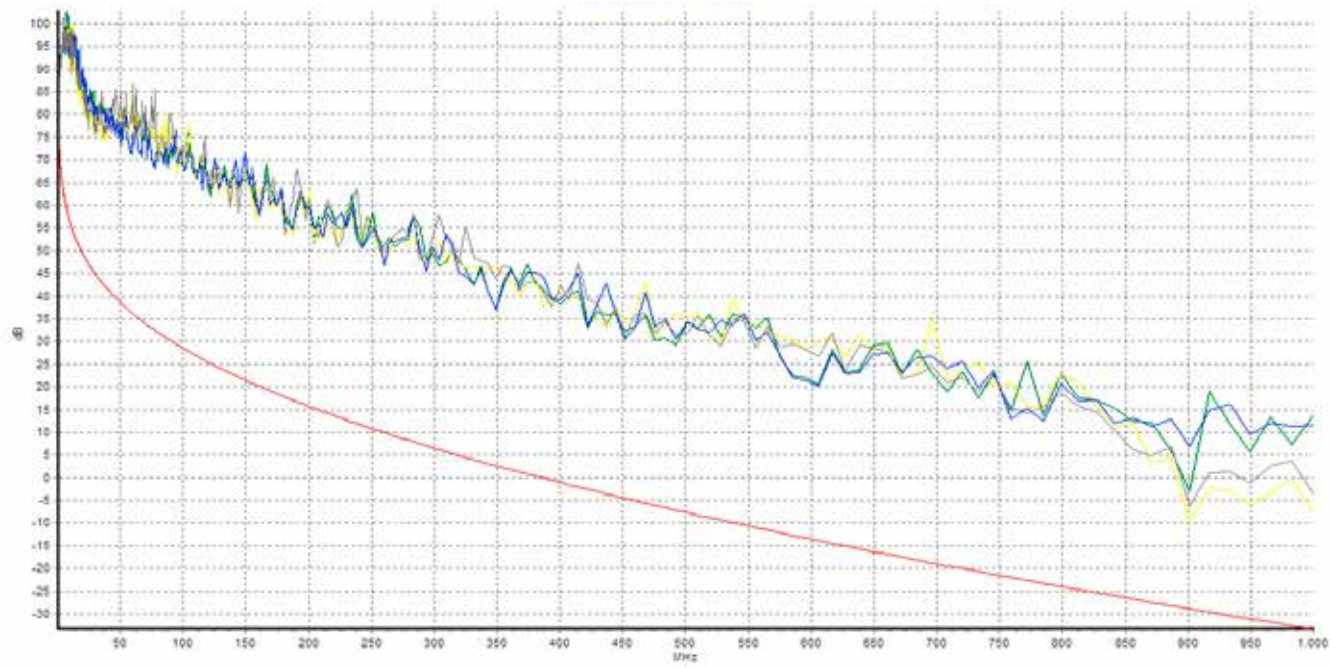
Transmission characteristics

The stated performance data are characteristic measurements.

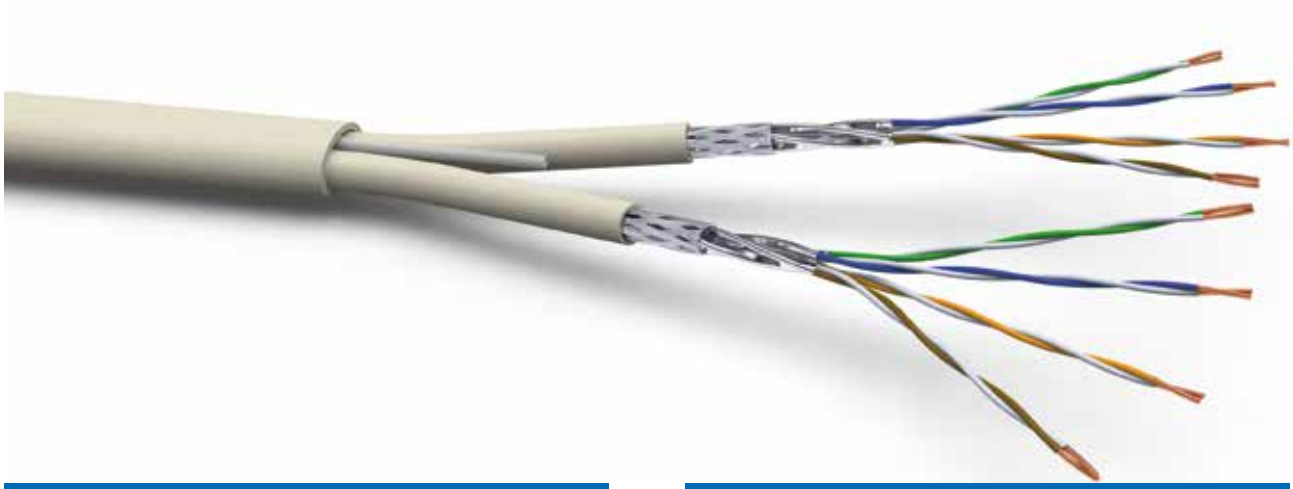
f (MHz)	Attenuation (dB/100 m)	NEXT (dB)	ACR (dB/100 m)	EL-FEXT (dB/100 m)	RL (dB)
	NOM	NOM	NOM	NOM	NOM
1	1,7	100	98,3	95	25
4	3,2	100	96,8	93	28
10	5,2	100	94,8	92	30
16	6,5	100	93,5	91	30
20	7,3	100	92,7	90	30
31,25	9,4	100	90,6	86	30
62,5	13,6	100	86,4	82	30
100	17,0	100	83,0	77	30
155	22,2	98	75,8	73	28
200	24,3	95	70,7	70	26
300	30,2	93	62,8	67	25
400	35,2	90	54,8	64	24
500	39,1	87	47,9	62	23
600	43,5	85	41,5	60	23
800	50,0	80	30,0	56	22
900	55,2	78	21,8	53	21
1000	58,1	75	16,9	50	20

ACR Powersum (dB/100 m)



VOKA-HMTT
S/FTP X1000 FTTx

Multimedia • 1000 MHz



APPLICATION

Data cable for analogue and digital signal transmission in the frequency range up to 1000 MHz. Designed for subsequent fibre optic installation.
Use: IEEE 802.3; 10/100/1000/10GBase-T; FDDI, broadband, video, ISDN, ATM, Multimedia, PoE

STANDARDS

EN 50288-4-1; IEC 61156-5; EN 50173-1; ISO/IEC 11801 2nd edition
IEC 60332-1; IEC 60332-3-22; IEC 60754-2; EN 61034; IEC 61034
RoHS 2002/95/EC

CONSTRUCTION

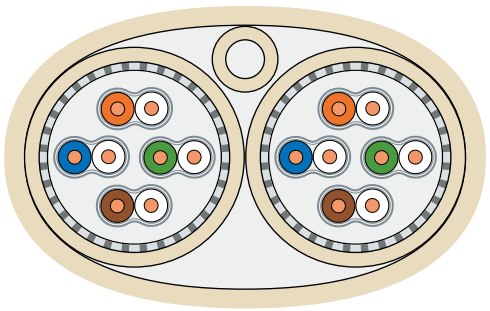
Conductor: copper, solid, bare, AWG 23/1
Core insulation: SFS-PE
Core identification: wh-bu, wh-or, wh-gn, wh-bn
Core stranding: cores twisted to layers
Pair screen (PIMF): plastic-laminated aluminium foil
Additional overall screen: tinned copper wire braid
Sheath: halogen-free compound (FRNC); colour: ivory RAL 1015

ELECTRICAL CHARACTERISTICS

(Conductor) loop resistance max.	14,5 Ω/100 m
Insulation resistance min.	5 GΩ x km
Char. impedance 1 – 100 MHz	100 ±15 Ω
Char. impedance 100 – 250 MHz	100 ±22 Ω
Char. impedance 250 – 1000 MHz	100 ±25 Ω
Transfer impedance max. (10 MHz)	3mΩ/m
Mutual capacitance nom.	45 nF/km
Relative propagation velocity ca.	0,78 c
Screen attenuation ≤ 1000 MHz min.	75 dB
Test voltage	700 V-AC

THERMAL & MECHANICAL PROPERTIES

Temperature range during installation	0°C to +50°C
Temperature range stationary	-20°C to +60°C
Min. bending radius under tensile load	8 x diameter
Min. bending radius without tensile load	4 x diameter
Maximum traction	200 N



dimension	sheath thickness appr. mm	diameter appr. mm	cable weight ca. kg/km	copper index kg/km	calorific potential MJ/km
4 x 2 x AWG23/1	0,60	16,5 x 9,0	180	68	830

We reserve changes which serve technical progress • Copper base 100,00 € / 100,00 kg
Price upon quantity-specific request • Also available as duplex version

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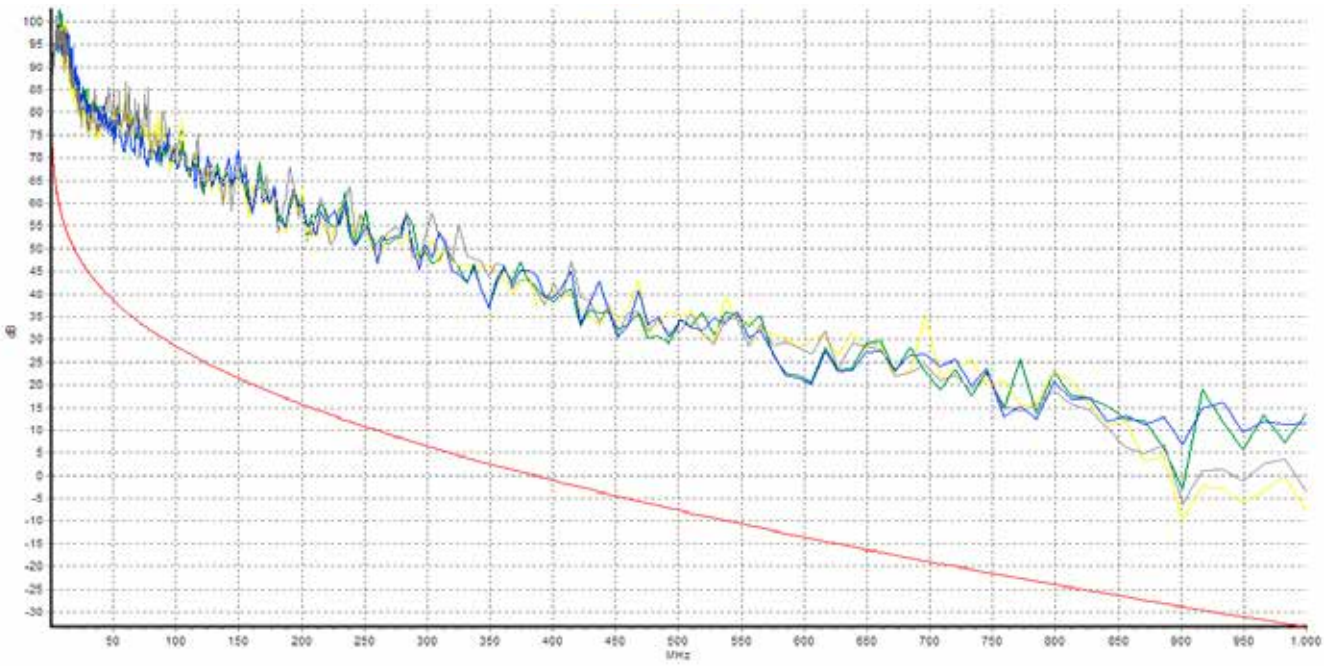
Phone: +49 3741 590-0 • Fax: +49 3741 590-270 • E-mail: voka@voka.de • Internet: www.voka.de

Transmission characteristics

The stated performance data are characteristic measurements.

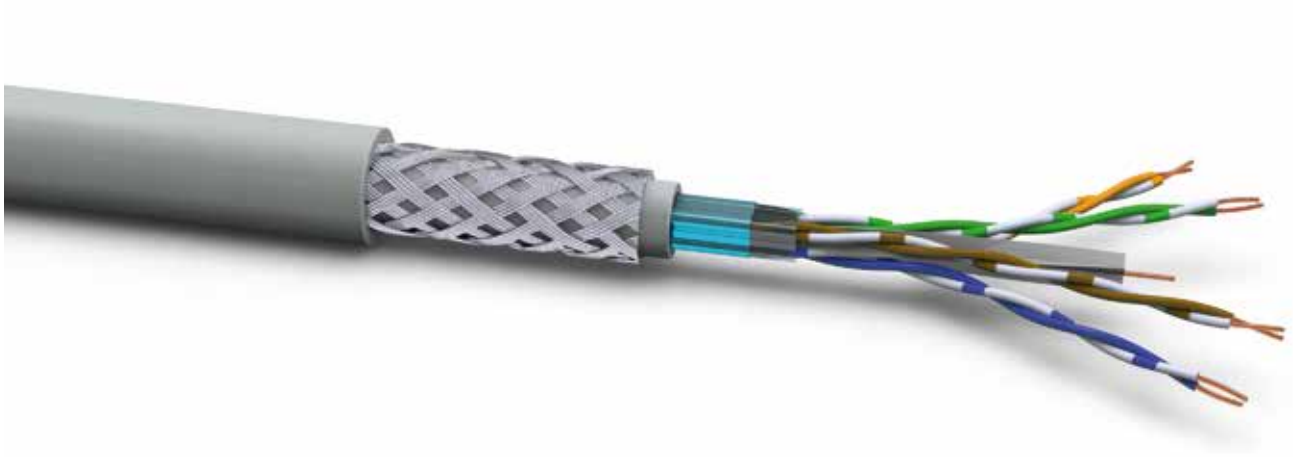
f (MHz)	Attenuation (dB/100 m)	NEXT (dB)	ACR (dB/100 m)	EL-FEXT (dB/100 m)	RL (dB)
	NOM	NOM	NOM	NOM	NOM
1	1,7	100	98,3	95	25
4	3,2	100	96,8	93	28
10	5,2	100	94,8	92	30
16	6,5	100	93,5	91	30
20	7,3	100	92,7	90	30
31,25	9,4	100	90,6	86	30
62,5	13,6	100	86,4	82	30
100	17,0	100	83,0	77	30
155	22,2	98	75,8	73	28
200	24,3	95	70,7	70	26
300	30,2	93	62,8	67	25
400	35,2	90	54,8	64	24
500	39,1	87	47,9	62	23
600	43,5	85	41,5	60	23
800	50,0	80	30,0	56	22
900	55,2	78	21,8	53	21
1000	58,1	75	16,9	50	20

ACR Powersum (dB/100 m)



VOKA-LAN HD 350 ARMOURED F/UTP(S)H 4PR AWG 23/1

Heavy Duty • 350 MHz
Category 6



APPLICATION

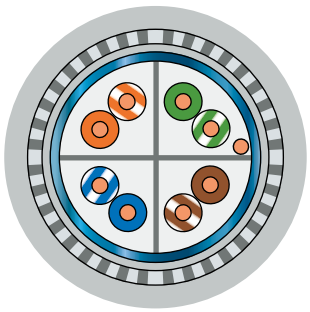
HD data transmission cable with overall foil screen for the frequency range up to 350 MHz, good system reserves and excellent screening effect. For high-quality requirements and all current data services as well as gigabit Ethernet. Very robust due to additional steel braid and reinforced outer sheath.
Use: 10/100/1000Base-T; CDDI/TPDDI; ISDN; ATM 155 MBit/s, TP_PMD 125 Mbit/s, Token Ring 4/16 Mbit/s, analogue telephony

STANDARDS

ISO/IEC 11801 2nd edition; EN 50173-1; TIA/EIA 568; EN 50288-5-1
IEC 61156-5; IEC 60811-2-1; IEC 60332-1; IEC 60332-3-24
IEC 60754-2: EN 61034; IEC 61034; RoHS 2002/95/EC

CONSTRUCTION

Conductor: copper, solid, bare, AWG 23/1
Core insulation: SFS-PE
Core identification: whbu-bu, whor-or, whgn-gn, whbn-bn
Core stranding: cores twinned to pairs, pairs layed up to cable core
Screen: plastic-laminated aluminium foil; drain wire
Armouring: steel wire braid
Sheath: halogen-free compound (FRNC); colour: grey RAL 7035



ELECTRICAL CHARACTERISTICS

(Conductor) loop resistance max.	19 Ω/100 m
Insulation resistance min.	5 GΩ x km
Char. impedance 1 – 100 MHz	100 ±15 Ω
Char. impedance 100 – 250 MHz	100 ±22 Ω
Transfer impedance (10 MHz) nom.	≤ 30 mΩ/m
Mutual capacitance nom.	50 nF/km
Relative propagation velocity ca.	0,67 c
Screen attenuation ≤ 250 MHz min.	40 dB
Test voltage	700 V-AC

THERMAL & MECHANICAL PROPERTIES

Temperature range during installation	-5°C to +50°C
Temperature range stationary	-25°C to +70°C
Min. bending radius under tensile load	10 x diameter
Min. bending radius without tensile load	5 x diameter
Maximum traction	280 N

dimension	sheath thickness appr. mm	diameter appr. mm	cable weight ca. kg/km	copper index kg/km	calorific potential MJ/km
4 x 2 x AWG 23/1	0,90	11,0	155	19	445

We reserve changes which serve technical progress • Copper base 100,00 € / 100,00 kg
Price upon quantity-specific request • Also available as duplex version

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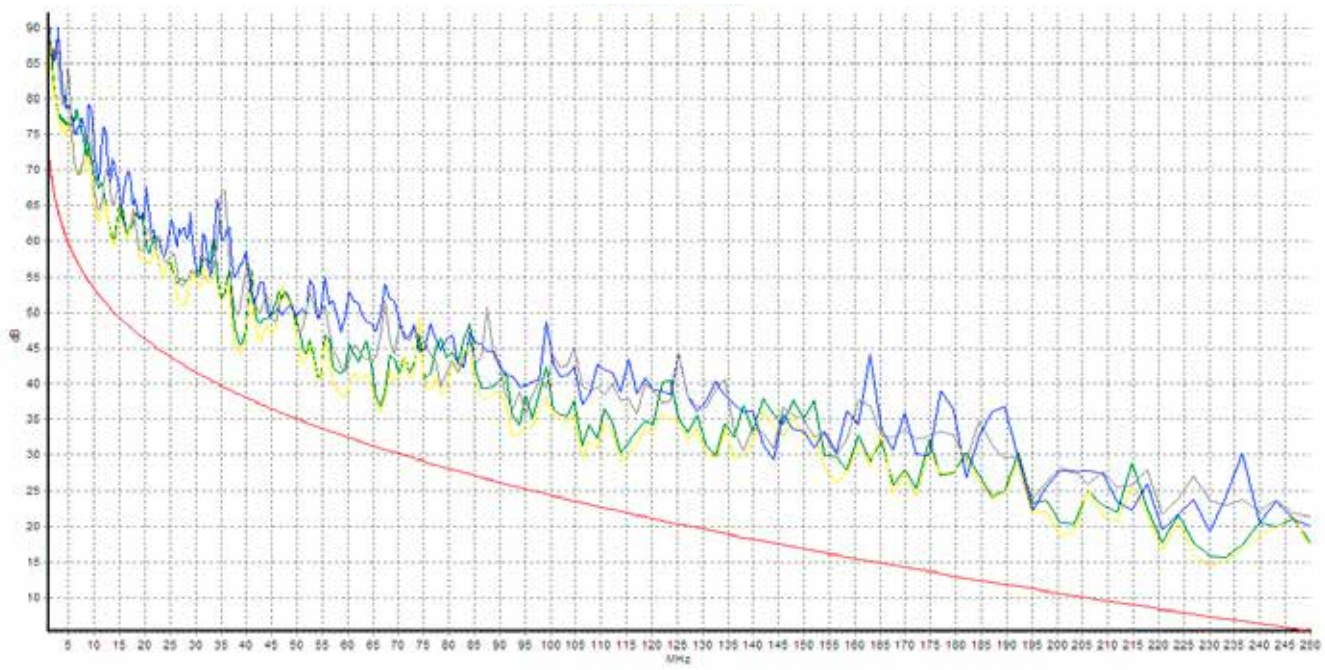
Transmission characteristics

The stated performance data are characteristic measurements.

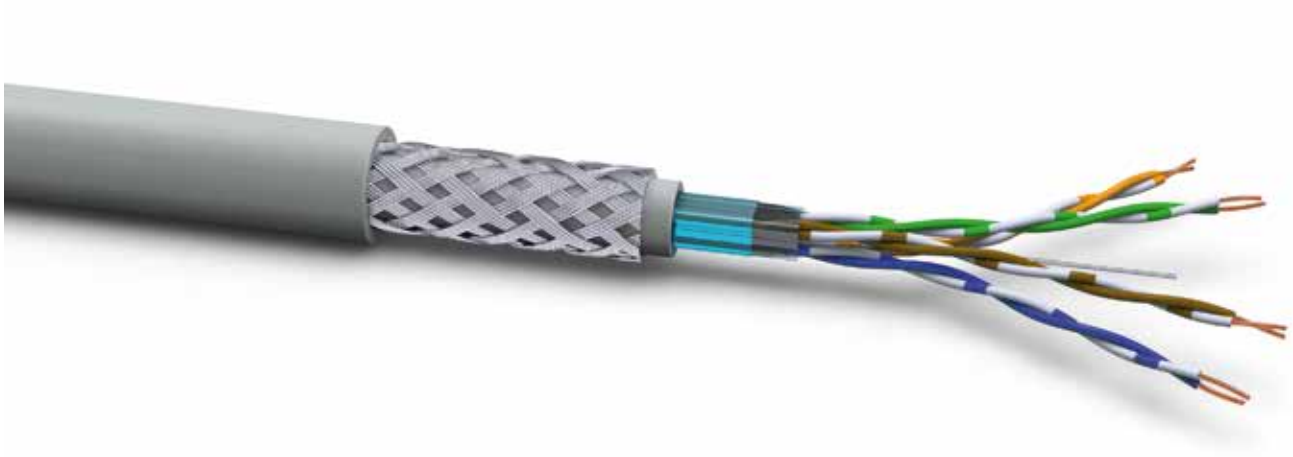
f (MHz)	Attenuation (dB/100 m)	NEXT (dB)	ACR (dB/100 m)	EL-FEXT (dB/100 m)	RL (dB)
	NOM	NOM	NOM	NOM	NOM
1	1,8	85	83	90	24
4	3,4	80	77	80	27
10	5,4	75	70	73	30
16	6,9	70	63	68	30
20	7,8	68	60	66	30
31,25	9,8	66	56	63	30
62,5	13,8	64	50	59	30
100	17,5	62	44	54	28
155	21,8	57	35	52	25
200	24,9	55	30	48	24
250	27,5	53	25	47	23
350	33,0	50	17	44	22

ACR Powersum (dB/100 m)



VOKA-LAN HD 200 ARMOURED F/UTP(S)H 4PR AWG 24/1

Heavy Duty • 200 MHz
Category 5e



APPLICATION

Data cable for analogue and digital signal transmission in the frequency range up to 200 MHz. Very robust due to additional steel braid and reinforced outer sheath.

Use: IEEE 802.3: 10/100/1000Base-T; FDDI, ISDN, ATM

STANDARDS

TIA/EIA 568; ISO/IEC 11801 2nd edition; EN 50173-1; EN 50288-2-1
IEC 61156-5; IEC 60332-1; IEC 60332-3-24; IEC 60754-2; EN 61034
IEC 61034; RoHS 2002/95/EC

CONSTRUCTION

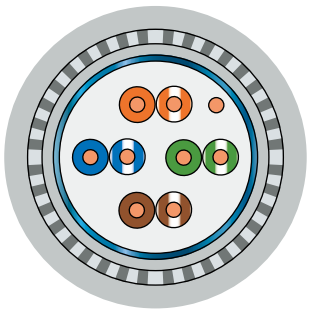
Conductor: copper, solid, bare, AWG 24/1
Core insulation: SFS-PE
Core identification: whbu-bu, whor-or, whgn-gn, whbn-bn
Core stranding: cores twisted to layers
Screen: insulating foil, plastic-laminated aluminium foil; drain wire
Armouring: steel wire braid
Sheath: halogen-free compound (FRNC); colour: grey RAL 7035

ELECTRICAL CHARACTERISTICS

(Conductor) loop resistance max.	19 Ω/100 m
Insulation resistance min.	5 GΩ x km
Char. impedance 1 – 100 MHz	100 ±15 Ω
Transfer impedance max. (10 MHz)	30 mΩ/m
Mutual capacitance nom.	50 nF/km
Relative propagation velocity ca.	0,74 c
Screen attenuation ≤ 125 MHz min.	40 dB
Test voltage	700 V-AC

THERMAL & MECHANICAL PROPERTIES

Temperature range during installation	-5°C to +50°C
Temperature range stationary	-25°C to +70°C
Min. bending radius under tensile load	10 x diameter
Min. bending radius without tensile load	5 x diameter
Maximum traction	250 N



dimension	sheath thickness appr. mm	diameter appr. mm	cable weight ca. kg/km	copper index kg/km	calorific potential MJ/km
4 x 2 x AWG 24/1	0,90	9,5	127	18	390

We reserve changes which serve technical progress • Copper base 100,00 € / 100,00 kg
Price upon quantity-specific request • Also available as duplex version

VOKA
Vogtländisches Kabelwerk GmbH • Breitscheidstr. 122 • 08525 Plauen • Germany
Phone: +49 3741 590-0 • Fax: +49 3741 590-270 • E-mail: voka@voka.de • Internet: www.voka.de

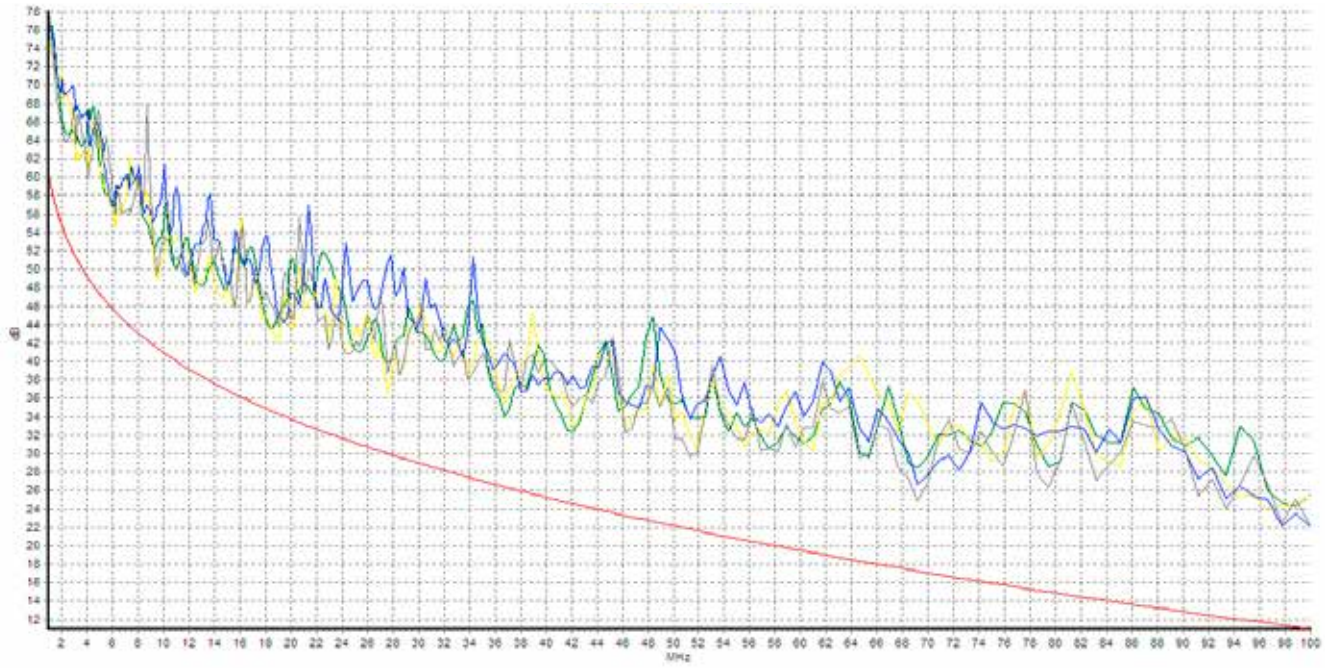
Transmission characteristics

The stated performance data are characteristic measurements.

f (MHz)	Attenuation (dB/100 m)	NEXT (dB)	ACR (dB/100 m)	EL-FEXT (dB/100 m)	RL (dB)
	NOM	NOM	NOM	NOM	NOM
1	1,9	80	78,1	68	24
4	3,7	75	71,3	56	30
10	5,6	70	64,4	46	34
16	7,2	68	60,8	43	35
20	7,9	65	57,1	41	34
31,25	10,3	60	49,7	36	33
62,5	14,4	56	41,6	32	31
100	18,2	50	31,8	26	28
155	22,7	45	22,3	24	26
200	26,0	42	16,0	22	24

The stated performance data are characteristic measurements.

ACR Powersum (dB/100 m)



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VOGTLÄNDISCHES
KABELWERK GMBH

CABLES MADE IN GERMANY