

Indoor cables

3_1_0



General Information			Applications					Data Sheet
Cable type	Cable design	Max. number of fibres	Connection cable	Pigtail cable	Breakout cable	Tertiary cabling	Premises cabling – backbone	Data sheet
PATCHline Simplex	Semi-tight buffer	1	✗	✗		✗		3_1_1
	Tight buffer	1	✗	✗		✗		3_1_1
PATCHline Duplex	Semi-tight buffer	2	✗			✗		3_1_2
	Tight buffer	2	✗			✗		3_1_2
PATCHline Duplex+	Semi-tight buffer	2	✗		✗	✗		3_1_3
	Tight buffer	2	✗		✗	✗		3_1_3
KONlan (Breakout)	Semi-tight buffer	2–24	✗		✗	✗	✗	3_1_41
KONlan mini (Mini Breakout)	Semi-tight buffer	2–12	✗		✗	✗	✗	3_1_45
	Tight buffer	2–12	✗		✗	✗	✗	3_1_46

General Information		Methods of Deployment					Termination		Data Sheet	
Cable type	Cable design	Direct, short distances	Laying in trunking	Ducts, trays	Building riser, empty plastic pipes, raised floors and plenums	Building riser, plastic pipes, raised floors and plenums, industrial environment	Blowing into pipe systems	On-site connector termination	Splice in termination box	Data sheet
PATCHline Simplex	Semi-tight buffer	✗	✗					✗	✗	3_1_1
	Tight buffer	✗	✗					✗		3_1_1
PATCHline Duplex	Semi-tight buffer	✗	✗					✗	✗	3_1_2
	Tight buffer	✗	✗					✗		3_1_2
PATCHline Duplex+	Semi-tight buffer	✗		✗	✗			✗	✗	3_1_3
	Tight buffer	✗	✗	✗	✗			✗		3_1_3
KONlan (Breakout)	Semi-tight buffer	✗	✗	✗	✗	✗	✗	✗	✗	3_1_41
KONlan mini (Mini Breakout)	Semi-tight buffer	✗	✗	✗	✗	✗		✗	✗	3_1_45
	Tight buffer	✗	✗	✗	✗	✗		✗		3_1_46

Subject to changes without notice

T3 / 2007/002

PATCHline Simplex

3_1_1

Fibre optic cable

Simplex cable with one semi-tight buffered fibre

LLK-J-K(KGH)
J-W(ZN)H

Construction:

- FRNC outer sheath
- Aramid fibres and glass yarns
- Semi-tight buffered fibre

Temperature range:

- Operating temperature: -5° ... +60°C
- Storage temperature: -25° ... +70°C
- Installation temperature: 0° ... +50°C

Description:

- For direct connector assembly
- Semi-tight buffered fibre
- Easy to assemble
- Halogen-free and flame-retardant cable sheath

Jacket colour:

- Orange similar to RAL 2003
- Other colours on request

Standards:

- Standards, see also data sheet 3_0_9

Application:

- Indoors
- Cable pigtail
- Access, connection and patch cables

Remarks:

- Instructions for installation and use see data sheet 3_1_0
- Cable is available with different fibre types 2_1_2x_x and 2_1_3x_x
- Special labelling of outer sheath on request



Technical data

Type ø in mm	Max. no. of fibres units	Weight kg/km	Max. tensile strength		Combustion energy MJ/m
			short term N	long term N	
2.1	1	5.0	260	160	0.09
2.8	1	9.0	260	180	0.14

Type ø in mm	Min. bending radius		Max. crush resistance N/cm
	with tensile mm	without tensile mm	
2.1	20xD	15xD	150
2.8	20xD	15xD	150

Subject to changes without notice



PATCHline Duplex

3_1_2

Fibre optic cable
Duplex cable with two semi-tight buffered fibres

LLK-J-Z2K(KGH)
 J-W(ZN)H

Construction:

- FRNC outer sheath
- Aramid fibre and glass yarns
- Semi-tight buffered fibre

Temperature range:

- Operating temperature: -5° ... +60°C
- Storage temperature: -25° ... +70°C
- Installation temperature: 0° ... +50°C

Description:

- For direct connector assembly
- Semi-tight buffered fibre
- Easy to assemble
- Compact dimensions, high flexibility
- Halogen-free and flame-retardant cable sheath

Jacket colour:

- Orange similar to RAL 2003
- Other colours on request

Standards:

- Standards, see also data sheet 3_0_9

Application:

- Indoors
- Access, connection and patch cables

Remarks:

- Instructions for installation and use see data sheet 3_1_0
- Cable is available with different fibre types 2_1_2x_x and 2_1_3x_x
- Special labelling of outer sheath on request



Technical data

Type mm	Max. no. of fibres units	Weight kg/km	Max. tensile strength		Combustion energy MJ/m
			short term N	long term N	
4.2 x 2.1	2x1	9.7	400	220	0.28
5.6 x 2.8	2x1	14.3	450	250	0.31

Type mm	Min. bending radius		Max. crush resistance N/cm
	with tensile mm	without tensile mm	
4.2 x 2.1	20xD	15xD	200
5.6 x 2.8	20xD	15xD	200

Subject to changes without notice

T3 / 2007/008



PATCHline Duplex+

3_1_3

Fibre optic cable

Duplex cable with two semi-tight buffered fibres

LLK-J-2K(KGH)H
J-WV(ZN)HH

Construction:

- FRNC outer sheath
- FRNC inner sheath
- Aramid fibres and glass yarns
- Semi-tight buffered fibre

Temperature range:

- Operating temperature: -5° ... +60°C
- Storage temperature: -25° ... +70°C
- Installation temperature: 0° ... +50°C

Description:

- For direct connector assembly
- Semi-tight buffered conductor
- Easy to assemble
- Compact dimensions, high flexibility
- Halogen-free and flame-retardant cable sheath

Jacket colour:

- Orange similar to RAL 2003
- Other colours on request

Standards:

- Standards, see also data sheet 3_0_9

Application:

- Indoors
- Access, connection and patch cables

Remarks:

- Instructions for installation and use see data sheet 3_1_0
- Cable is available with different fibre types 2_1_2x_x and 2_1_3x_x
- Special labelling of outer sheath on request



Technical data

Type mm	Max. no. of fibres units	Weight kg/km	Max. tensile strength		Combustion energy MJ/m
			short term N	long term N	
5.3 x 3.1	2x1	30	450	250	0.36
6.6 x 3.8	2x1	35	550	300	0.53

Type mm	Min. bending radius		Max. crush resistance N/cm
	with tensile mm	without tensile mm	
5.3 x 3.1	20xD	15xD	200
6.6 x 3.8	20xD	15xD	200

Subject to changes without notice



KONlan

3_1_41

Breakout cable

Installation cable with up to 24 simplex cables with central strength member

LLK-J-nK(KGH)H
J-W(ZN)HH

Construction:

- FRNC outer sheath
- FRNC 2.1 mm simplex cable with one semi-tight buffered fibre
- GFK central strength member

Temperature range:

- Operating temperature: -10° ... +60°C
- Storage temperature: -25° ... +70°C
- Installation temperature: 0° ... +50°C

Description:

- For direct connector assembly
- Up to 24 simplex cables enclosed by outer sheath
- High flexibility
- Mechanical robustness
- Halogen-free and flame-retardant cable sheath

Jacket colour:

- Orange similar to RAL 2003
- Other colours on request

Standards:

- Standards, see also data sheet 3_0_9

Application:

- Indoors
- Universal cable for premise cabling

Remarks:

- Instructions for installation and use see data sheet 3_1_0
- Cable is available with different fibre types 2_1_2x_x and 2_1_3x_x
- Special labelling of outer sheath on request



Technical data

Max. no. of fibres units	Cable ø mm	Weight kg/km	Max. tensile strength		Combustion energy MJ/m
			short term N	long term N	
2	7.2	35	2000	1500	0.74
4	7.2	50	2000	1500	0.97
6	8.8	75	2000	1500	1.12
8	10.2	110	2000	1500	1.30
12	13.2	170	2000	1500	1.63
24	14.8	350	2000	1500	2.48

Max. no. of fibres units	Min. bending radius		Max. crush resistance N/cm
	with tensile mm	without tensile mm	
2	20xD	15xD	200
4	20xD	15xD	200
6	20xD	15xD	200
8	20xD	15xD	200
12	20xD	15xD	200
24	20xD	15xD	200

Subject to changes without notice



T3 / 2007/008

KONlan mini, semi-tight buffer

3_1_45

Mini Breakout cable

Installation cable with up to 12 semi-tight buffered fibres

LLK-J-nK(GH)
J-W(ZN)H

Construction:

- FRNC outer sheath
- Glass yarns
- Semi-tight buffered fibre

Temperature range:

- Operating temperature: -10° ... +60°C
 Storage temperature: -25° ... +70°C
 Installation temperature: 0° ... +50°C

Description:

- Ideal for splicing
- Up to 12 semi-tight buffered fibres enclosed in outer sheath
- Compact dimensions, high flexibility, good bending behaviour
- Mechanical robustness
- Halogen-free and flame-retardant cable sheath

Jacket colour:

- Orange similar to RAL 2003
- Other colours on request

Standards:

- Standards, see also data sheet 3_0_9

Remarks:

- Fibre and loose tube colour acc. to data sheet 3_0_3
- Instructions for installation and use see data sheet 3_1_0
- Cable is available with different fibre types 2_1_2x_x and 2_1_3x_x
- Special labelling of outer sheath on request



Application:

- Indoors
- Universal cable for premise cabling

Technical data

Max. no. of fibres units	Cable ø mm	Weight kg/km	Max. tensile strength		Combustion energy MJ/m
			short term N	long term N	
2	6.3	33	1500	1000	0.41
4	6.3	36	1500	1000	0.41
6	6.6	39	1500	1000	0.49
8	6.9	42	1500	1000	0.52
12	7.2	45	1500	1000	0.64

Max. no. of fibres units	Min. bending radius		Max. crush resistance N/cm
	with tensile mm	without tensile mm	
2	20xD	15xD	150
4	20xD	15xD	150
6	20xD	15xD	150
8	20xD	15xD	150
12	20xD	15xD	150

Subject to changes without notice



KONlan mini, tight buffer

3_1_46

Mini Breakout cable

Installation cable with up to 12 tight buffered fibres

LLK-J-nV(GH)
J-V(ZN)H

Construction:

- FRNC outer sheath
- Glass yarns
- Tight buffered fibre

Temperature range:

- Operating temperature: -10° ... +60°C
- Storage temperature: -25° ... +70°C
- Installation temperature: 0° ... +50°C

Description:

- For direct connector assembly
- Up to 12 tight buffered fibres enclosed in outer sheath
- Compact dimensions, high flexibility, good bending behaviour
- Mechanical robustness
- Halogen-free and flame-retardant cable sheath

Jacket colour:

- Orange similar to RAL 2003
- Other colours on request

Standards:

- Standards, see also data sheet 3_0_9

Remarks:

- Fibre and loose tube colour acc. to data sheet 3_0_3
- Instructions for installation and use see data sheet 3_1_0
- Cable is available with different fibre types 2_1_2x_x and 2_1_3x_x
- Special labelling of outer sheath on request



Application:

- Indoors
- Universal application for premise cabling

Technical data

Max. no. of fibres units	Cable ø mm	Weight kg/km	Max. tensile strength		Combustion energy MJ/m
			short term N	long term N	
2	6.3	33	1500	1000	0.41
4	6.3	36	1500	1000	0.41
6	6.6	39	1500	1000	0.49
8	6.9	42	1500	1000	0.52
12	7.2	45	1500	1000	0.64

Max. no. of fibres units	Min. bending radius		Max. crush resistance N/cm
	with tensile mm	without tensile mm	
2	20xD	15xD	150
4	20xD	15xD	150
6	20xD	15xD	150
8	20xD	15xD	150
12	20xD	15xD	150

Subject to changes without notice



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KONlan mini, tight buffer

3_1_46

Mini Breakout cable

Installation cable with up to 12 tight buffered fibres

LLK-J-nV(GH)
J-V(ZN)H

Construction:

- FRNC outer sheath
- Glass yarns
- Tight buffered fibre

Temperature range:

- Operating temperature: -10° ... +60°C
- Storage temperature: -25° ... +70°C
- Installation temperature: 0° ... +50°C

Description:

- For direct connector assembly
- Up to 12 tight buffered fibres enclosed in outer sheath
- Compact dimensions, high flexibility, good bending behaviour
- Mechanical robustness
- Halogen-free and flame-retardant cable sheath

Jacket colour:

- Orange similar to RAL 2003
- Other colours on request

Standards:

- Standards, see also data sheet 3_0_9

Remarks:

- Fibre and loose tube colour acc. to data sheet 3_0_3
- Instructions for installation and use see data sheet 3_1_0
- Cable is available with different fibre types 2_1_2x_x and 2_1_3x_x
- Special labelling of outer sheath on request



Application:

- Indoors
- Universal application for premise cabling

Technical data

Max. no. of fibres units	Cable ø mm	Weight kg/km	Max. tensile strength		Combustion energy MJ/m
			short term N	long term N	
2	6.3	33	1500	1000	0.41
4	6.3	36	1500	1000	0.41
6	6.6	39	1500	1000	0.49
8	6.9	42	1500	1000	0.52
12	7.2	45	1500	1000	0.64

Max. no. of fibres units	Min. bending radius		Max. crush resistance N/cm
	with tensile mm	without tensile mm	
2	20xD	15xD	150
4	20xD	15xD	150
6	20xD	15xD	150
8	20xD	15xD	150
12	20xD	15xD	150

Subject to changes without notice



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BRUniversal 150

3_9_1

Universal fibre optic cable with central loose tube
Longitudinally watertight in combination with a halogen-free and flame-retardant sheath

LLK-D(OGH)
 J/A-DQ(ZN)BH

Construction:

- FRNC outer sheath
- Glass yarns with water-blocking tape
- Gel-filled loose tube
- Fibres with primary coating

Temperature range:

Operating temperature: -20° ... +60°C
 Storage temperature: -20° ... +70°C
 Installation temperature: 0° ... +50°C
 The maximum operating temperature of type 1D25 is 70°C.

Description:

- Central loose tube with up to 24 fibres
- High permissible tensile strength
- Longitudinally and laterally watertight
- Rodent protection
- Compact design, high flexibility, small bending radius
- Robust sheath
- Halogen-free and flame-retardant cable sheath

Jacket colour:

- Green similar to RAL 6018
- Other colours on request

Standards:

- Standards, see also data sheet 3_0_9

Remarks:

- Fibre and loose tube colour acc. to data sheet 3_0_3
- Instructions for installation and use see data sheet 3_9_0
- Cable is available with different fibre types 2_1_2x_x and 2_1_3x_x
- Special labelling of outer sheath on request



Application:

- Indoors and outdoors

Technical data

Type	Max. no. of fibres units	Cable ø mm	Weight kg/km	Max. tensile strength		Combustion energy MJ/m
				short term N	long term N	
1D25	12	8.5	65	2000	1500	1.0
1D30	24	8.8	70	2000	1500	1.4

Type	Min. bending radius		Max. crush resistance N/cm
	with tensile mm	without tensile mm	
1D25	20xD	15xD	300
1D30	20xD	15xD	200



BRUniversal 250

3_9_2

Universal fibre optic cable with central loose tube
Longitudinally watertight in combination with a halogen-free and flame-retardant sheath

LLK-D(Q2GH)
 J/A-DQ(ZN)BH

Construction:

- FRNC outer sheath
- Glass yarns with water-blocking tape
- Gel-filled loose tube
- Fibres with primary coating

Temperature range:

Operating temperature: -20° ... +60°C
 Storage temperature: -20° ... +70°C
 Installation temperature: 0° ... +50°C
 The maximum operating temperature of type 1D25 is 70°C.

Description:

- Central loose tube with up to 24 fibres
- High permissible tensile strength
- High crush resistance
- Longitudinally and laterally watertight
- Enhanced rodent protection
- Compact design, high flexibility, small bending radiuses
- Robust sheath
- Halogen-free and flame-retardant cable sheath

Jacket colour:

- Green similar to RAL 6018
- Other colours on request

Standards:

- Standards, see also data sheet 3_0_9

Remarks:

- Fibre and loose tube colour acc. to data sheet 3_0_3
- Instructions for installation and use see data sheet 3_9_0
- Instructions for installation and use see data sheet 3_1_0
- Cable is available with different fibre types 2_1_2x_x and 2_1_3x_x
- Special labelling of outer sheath on request



Technical data

Type	Max. no. of fibres units	Cable ø mm	Weight kg/km	Max. tensile strength		Combustion energy MJ/m
				short term N	long term N	
1D25	12	9.8	120	3000	2500	1.1
1D30	24	10.1	130	3000	2500	1.5

Type	Min. bending radius		Max. crush resistance N/cm
	with tensile mm	without tensile mm	
1D25	20xD	15xD	300
1D30	20xD	15xD	300

Subject to changes without notice

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BRUniversal 300

3_9_3_1

Universal fibre optic cable with stranded loose tubes
Longitudinally watertight in combination with a halogen-free and flame-retardant sheath

LLK-SGnD(QGH)
 J/A-DQ(ZN)BH

Construction:

- FRNC outer sheath
- Glass yarns
- Water-blocking tape
- Gel-filled loose tubes
- Fibres with primary coating
- Water-blocking tape
- GFK central strength member

Temperature range:

- Operating temperature: -40° ... +70°C
- Storage temperature: -40° ... +70°C
- Installation temperature: 0° ... +50°C

Jacket colour:

- Green similar to RAL 6018
- Other colours on request

Description:

- Up to 12 stranded loose tubes with up to 288 fibres
- High permissible tensile strength
- High crush resistance
- Longitudinally and laterally watertight
- Suitable for blowing into pipe systems
- Rodent protection
- Compact design, high flexibility
- Robust sheath
- Halogen-free and flame-retardant cable sheath

Standards:

- Standards, see also data sheet 3_0_9

Remarks:

- Fibre and loose tube colour acc. to data sheet 3_0_3
- Instructions for installation and use see data sheet 3_9_0
- Cable is available with different fibre types 2_1_2x_x and 2_1_3x_x
- Special labelling of outer sheath on request



Application:

- Indoors and outdoors

Technical data

Type	Max. no. of fibres units	Cable ø mm	Weight kg/km	Max. tensile strength		Combustion energy MJ/m
				short term N	long term N	
SG 5D25	60	12.1	150	5000	3000	2.3
SG 6D25	72	12.7	175	5000	3000	3.2
SG 8D25	96	14.2	210	5000	3000	4.1
SG 10D25	120	15.9	250	5000	3000	5.0
SG 12D25	144	17.5	330	5000	3000	6.0

Type	Min. bending radius		Max. crush resistance N/cm
	with tensile mm	without tensile mm	
SG 5D25	20xD	15xD	300
SG 6D25	20xD	15xD	300
SG 8D25	20xD	15xD	300
SG 10D25	20xD	15xD	300
SG 12D25	20xD	15xD	300



BRUniversal 600

3_9_5_1

Universal fibre optic cable with stranded loose tubes
Longitudinally watertight in combination with a halogen-free and flame-retardant sheath

LLK-SGnD(Q15GH)
 J/A-DQ(ZN)BH

Construction:

- FRNC outer sheath
- Glass yarns
- Water-blocking tape
- Gel-filled loose tubes
- Fibres with primary coating
- Water-blocking tape
- GFK central strength member

Temperature range:

- Operating temperature: -40° ... +70°C
- Storage temperature: -40° ... +70°C
- Installation temperature: 0° ... +50°C

Jacket colour:

- Green similar to RAL 6018
- Other colours on request

Description:

- Up to 12 stranded loose tubes with up to 288 fibres
- High permissible tensile strength
- High crush resistance
- Longitudinally and laterally watertight
- Suitable for blowing into pipe systems
- Enhanced rodent protection
- Compact design, high flexibility
- Robust sheath
- Halogen-free and flame-retardant cable sheath

Standards:

- Standards, see also data sheet 3_0_9

Remarks:

- Fibre and loose tube colour acc. to data sheet 3_0_3
- Instructions for installation and use see data sheet 3_9_0
- Cable is available with different fibre types 2_1_2x_x and 2_1_3x_x
- Special labelling of outer sheath on request



Application:

- Indoors and outdoors

Technical data

Type	Max. no. of fibres units	Cable ø mm	Weight kg/km	Max. tensile strength		Combustion energy MJ/m
				short term N	long term N	
SG 5D25	60	13.0	180	8000	6000	3.0
SG 6D25	72	13.5	200	8000	6000	3.3
SG 8D25	96	14.9	240	8000	6000	4.2
SG 10D25	120	16.5	300	8000	6000	5.1
SG 12D25	144	19.7	380	8000	6000	6.1

Type	Min. bending radius		Max. crush resistance N/cm
	with tensile mm	without tensile mm	
SG 5D25	20xD	15xD	300
SG 6D25	20xD	15xD	300
SG 8D25	20xD	15xD	300
SG 10D25	20xD	15xD	300
SG 12D25	20xD	15xD	300

Subject to changes without notice



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BRUniversal 900

3_9_4_1

Universal fibre optic cable with stranded loose tube
Longitudinally watertight in combination with a halogen-free and flame-retardant sheath

LLK-SGnD(Q2GH)
 J/A-DQ(ZN)BH

Construction:

- FRNC outer sheath
- Glass yarns
- Water-blocking tape
- Gel-filled loose tubes
- Fibres with primary coating
- Water-blocking tape
- GFK central strength member

Temperature range:

- Operating temperature: -40° ... +70°C
- Storage temperature: -40° ... +70°C
- Installation temperature: 0° ... +50°C

Jacket colour:

- Green similar to RAL 6018
- Other colours on request

Description:

- Up to 12 stranded loose tubes with up to 288 fibres
- High permissible tensile strength
- High crush resistance
- Longitudinally and laterally watertight
- Suitable for blowing into pipe systems
- Enhanced rodent protection
- Compact design, high flexibility
- Robust sheath
- Halogen-free and flame-retardant cable sheath

Standards:

- Standards, see also data sheet 3_0_9

Remarks:

- Fibre and loose tube colour acc. to data sheet 3_0_3
- Instructions for installation and use see data sheet 3_9_0
- Cable is available with different fibre types 2_1_2x_x and 2_1_3x_x
- Special labelling of outer sheath on request



Application:

- Indoors and outdoors

Technical data

Type	Max. no. of fibres units	Cable ø mm	Weight kg/km	Max. tensile strength		Combustion energy MJ/m
				short term N	long term N	
SG 5D25	60	13.8	210	11000	9000	3.1
SG 6D25	72	14.3	230	11000	9000	3.4
SG 8D25	96	15.6	270	11000	9000	4.3
SG 10D25	120	17.1	350	11000	9000	5.2
SG 12D25	144	20.2	430	11000	9000	6.2

Type	Min. bending radius		Max. crush resistance N/cm
	with tensile mm	without tensile mm	
SG 5D25	20xD	15xD	300
SG 6D25	20xD	15xD	300
SG 8D25	20xD	15xD	300
SG 10D25	20xD	15xD	300
SG 12D25	20xD	15xD	300



BRUniversal 300W

3_9_41_1

Fibre optic cable with stranded loose tubes - armoured
Glass yarn strength members, corrugated steel tape for higher mechanical and chemical resistance

LLK-SGnD(QGWH)
 A-DQ(ZN)BWH

Construction:

- FRNC outer sheath
- Corrugated steel tape
- Glass yarns
- Water-blocking tape
- Gel-filled loose tube
- Water-blocking tape
- Fibres with primary coating
- GFK central strength member

Application:

- Indoors and outdoors

Temperature range:

- Operating temperature: -40° ... +70°C
- Storage temperature: -40° ... +70°C
- Installation temperature: 0° ... +50°C

Jacket colour:

- Green similar to RAL 6018
- Other colours on request

Description:

- Up to 12 stranded loose tubes with up to 288 fibres
- High permissible tensile strength
- Very high crush resistance
- Longitudinally and laterally watertight
- Suitable for blowing into pipe systems
- Excellent rodent protection
- Grease-free cable core
- Robust sheath
- Halogen-free cable sheath

Standards:

- Standards, see also data sheet 3_0_9

Remarks:

- Fibre and loose tube colour acc. to data sheet 3_0_3
- Instructions for installation and use see data sheet 3_2_0
- Cable is available with different fibre types 2_1_2x_x and 2_1_3x_x
- Special labelling of outer sheath on request



Technical data

Type	Max. no. of fibres units	Cable ø mm	Weight kg/km	Max. tensile strength		Combustion energy MJ/m
				short term N	long term N	
SG 5D25	60	14.0	230	5000	3000	2.5
SG 6D25	72	15.0	250	5000	3000	3.4
SG 8D25	96	17.1	290	5000	3000	4.3
SG 10D25	120	18.0	340	5000	3000	5.2
SG 12D25	144	20.1	400	5000	3000	6.2

Type	Min. bending radius		Max. crush resistance N/cm
	with tensile mm	without tensile mm	
SG 5D25	20xD	15xD	400
SG 6D25	20xD	15xD	400
SG 8D25	20xD	15xD	400
SG 10D25	20xD	15xD	400
SG 12D25	20xD	15xD	400

Subject to changes without notice

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BRUniversal 300+W

3_9_42_1

Fibre optic cable with stranded loose tubes - armoured
Glass yarn strength members, corrugated steel tape for higher mechanical and chemical resistance

LLK-SGnD(OGHWH)
 A-DQ(ZN)BHHW

Construction:

- FRNC outer sheath
- Corrugated steel tape
- FRNC inner sheath
- Glass yarns
- Water-blocking tape
- Gel-filled loose tube
- Fibres with primary coating
- Water-blocking tape
- GFK central strength member

Application:

- Indoors and outdoors

Temperature range:

- Operating temperature: -40° ... +70°C
- Storage temperature: -40° ... +70°C
- Installation temperature: 0° ... +50°C

Jacket colour:

- Green similar to RAL 6018
- Other colours on request

Description:

- Up to 12 stranded loose tubes with up to 288 fibres
- High permissible tensile strength
- Very high crush resistance
- Longitudinally and laterally watertight
- Suitable for blowing into pipe systems
- Excellent rodent protection
- Grease-free cable core
- Halogen-free and flame-retardant cable sheaths

Standards:

- Standards, see also data sheet 3_0_9

Remarks:

- Fibre and loose tube colour acc. to data sheet 3_0_3
- Instructions for installation and use see data sheet 3_2_0
- Cable is available with different fibre types 2_1_2x_x and 2_1_3x_x
- Special labelling of outer sheath on request



Technical data

Type	Max. no. of fibres units	Cable ø mm	Weight kg/km	Max. tensile strength		Combustion energy MJ/m
				short term N	long term N	
SG 5D25	60	20.1	350	8100	5700	2.6
SG 6D25	72	21.1	370	7100	5700	3.5

Type	Min. bending radius		Max. crush resistance N/cm
	with tensile mm	without tensile mm	
SG 5D25	20xD	15xD	450
SG 6D25	20xD	15xD	450

BRUniversal 150+W

3_9_8

Fibre optic cable with central loose tube - armoured

Glass yarn strength members, corrugated steel tape for higher mechanical and chemical resistance

LLK-D(QGHWH)
A-DQ(ZN)BHW

Construction:

- FRNC outer sheath
- Corrugated steel tape
- FRNC inner sheath
- Glass yarns with waterblocking tape
- Gel-filled loose tube
- Fibres with primary coating

Temperature range:

- Operating temperature: -20° ... +60°C
- Storage temperature: -40° ... +70°C
- Installation temperature: 0° ... +50°C

Jacket colour:

- Green similar to RAL 6018
- Other colours on request

Description:

- Central loose tube with up to 24 fibres
- High permissible tensile strength
- Longitudinally and laterally watertight
- Excellent rodent protection
- Compact structure, high flexibility
- Robust sheath
- Halogen-free and flame-retardant cable sheaths

Standards:

- Standards, see also data sheet 3_0_9

Remarks:

- Fibre and loose tube colour acc. to data sheet 3_0_3
- Instructions for installation and use see data sheet 3_2_0
- Cable is available with different fibre types 2_1_2x_x and 2_1_3x_x
- Special labelling of outer sheath on request



Application:

- Indoors and outdoors

Technical data

Type	Max. no. of fibres units	Cable ø mm	Weight kg/km	Max. tensile strength		Combustion energy MJ/m
				short term N	long term N	
1D25	12	14.8	185	2000	1500	1.6
1D30	24	14.8	190	2000	1500	2.0

Type	Min. bending radius		Max. crush resistance N/cm
	with tensile mm	without tensile mm	
1D25	20xD	15xD	300
1D30	20xD	15xD	300

Subject to changes without notice

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BRUniversal 150W

3_9_9

Fibre optic cable with central loose tube - armoured
Glass yarn strength members, corrugated steel tape for higher mechanical and chemical resistance

LLK-D(QGWH)
 A-DQ(ZN)BWH

Construction:

- FRNC outer sheath
- Corrugated steel tape
- Glass yarns with water-blocking tape
- Gel-filled loose tube
- Fibres with primary coating

Temperature range:

- Operating temperature: -20° ... +60°C
- Storage temperature: -40° ... +70°C
- Installation temperature: 0° ... +50°C

Description:

- Central loose tube with up to 24 fibres
- High permissible tensile strength
- Longitudinally and laterally watertight
- Excellent rodent protection
- Compact structure, high flexibility
- Robust sheath
- Halogen-free cable sheath

Jacket colour:

- Green similar to RAL 6018
- Other colours on request

Standards:

- Standards, see also data sheet 3_0_9

Remarks:

- Fibre and loose tube colour acc. to data sheet 3_0_3
- Instructions for installation and use see data sheet 3_2_0
- Cable is available with different fibre types 2_1_2x_x and 2_1_3x_x
- Special labelling of outer sheath on request



Technical data

Type	Max. no. of fibres units	Cable ø mm	Weight kg/km	Max. tensile strength		Combustion energy MJ/m
				short term N	long term N	
1D25	12	10.8	90	2000	1500	1.0
1D30	24	10.8	100	2000	1500	1.4

Type	Min. bending radius		Max. crush resistance N/cm
	with tensile mm	without tensile mm	
1D25	20xD	15xD	300
1D30	20xD	15xD	300

KONversal

3_90_1

Breakout Cable

Installation cable with up to 24 simplex units with central strength member

LLK-J-nK(QGH)H
AT-V(ZN)HH

Construction:

- FRNC outer sheath
- FRNC 2.1 mm simplex unit with one semi-tight buffered fibre
- GFK central strength member

Temperature range:

- Operating temperature: -20° ... +60°C
- Storage temperature: -25° ... +70°C
- Installation temperature: 0° ... +50°C

Description:

- Direct connector assembling
- Up to 24 simplex cable enclosed by outer sheath
- High flexibility
- Mechanical robustness
- Halogen-free and flame-retardant cable sheath

Jacket colour:

- Green similar to RAL 6018
- Other colours on request

Standards:

- Standards, see also data sheet 3_0_9

Application:

- Indoor and outdoor
- Universal cable for premises cabling

Remarks:

- Instructions for installation and use see data sheet 3_1_0
- Cable is available with different fibre types 2_1_2x_x and 2_1_3x_x
- Special labelling of outer sheath on request



Technical data

Max. no. of fibres units	Cable ø mm	Weight kg/km	Max. tensile strength		Combustion energy MJ/m
			short term N	long term N	
2	10.5	45	2500	1500	0.74
4	10.5	60	2500	1500	0.97
6	11.6	85	2500	1500	1.12
8	12.7	120	2500	1500	1.30
12	15.9	180	2500	1500	1.63
24	17.3	210	2500	1500	1.90

Max. no. of fibres units	Min. bending radius		Max. crush resistance N/cm
	with tensile mm	without tensile mm	
2	20xD	15xD	200
4	20xD	15xD	200
6	20xD	15xD	200
8	20xD	15xD	200
12	20xD	15xD	200
24	20xD	15xD	200

Subject to changes without notice



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