

catalog | **Optical Cables**  
**Atmos | GelKore**



**Technical  
Data Sheet**

**Central Tube Optical Cables**

Standard central tube with 2-12f

Steel Messenger Self Supporting  
Single Jacket

**FTTH / FTTB Applications**

**Application**

FTTH cables are used in the last portion of an all-optical network, such as fiber-to-the-home (FTTH) or fiber-to-the-business (FTTB) networks. Acts as a bridge between the distribution network and the subscriber premises.

**Benefits**

- Fiber Count up to 12f
- The dry water blocking materials can easily be removed without the use of cable cleaning solvents, yielding significant labor cost savings
- Easy access single tube design
- All dielectric design eliminates grounding and/or bonding
- Rapid deployment
- Single PE Jacket suitable for short-span applications

**Fiber types**

- G.651 multi-mode fiber
- G.652D single-mode fiber
- G.655 NZDS fiber for DWDM applications

**Full range of protections**

- Water blocked

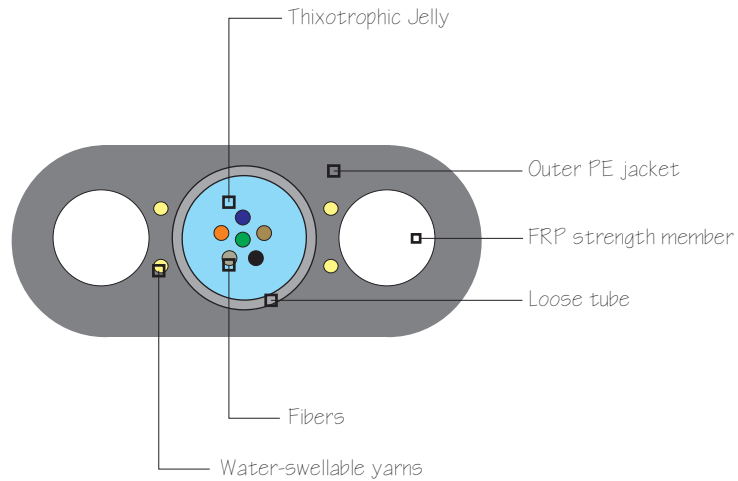
**Full range of applications**

- Outdoor
- Aerial

**Optional protections**

- N/A

**Cable cut-away**



**Typical parameters**

Number of fibers	Up to 12
Nominal outer diameter	5.5 mm (0.22 in.) X 8.5 mm (0.34 in.)
Cable weight	40 kg/km (27 lb/kft)
Max. bend radius	100 mm (3.94 in.)
Max. working tension	400 N (90 lbf)
Operating temperature range	-40 °C / 70 °C (-40 °F / 158 °F)

Specifications are subject to change without prior notice. 4SProducts cables are designed and tested per IEC specifications.



**Qualifications & Approvals**

Bellcore Standards  
ITU Standards  
TIA/EIA Standards

[www.4SProducts.com](http://www.4SProducts.com)

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**FTTH / FTTB Applications**

**Cable Properties**

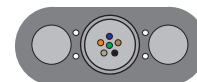
2-12 fibers FTTH/FTTB cable  
1 thixotropic jelly filled loose tube  
Water swellable yarns  
2 FRP rod strength elements  
Medium density polyethylene outer jacket

Basic optical fiber	All MM and SM type fiber
Strength member	2 FRP rod, 1.6 mm (0.06 in.) O.D.
Number of fibers in each tube	2-4-6-8-10-12
Number of loose tubes	1
Loose tube diameter	2.90 mm (0.12 in.) O.D.
Tube material	PBT (Polybutylene Terephthalate)
Color of loose tube	Natural
Color of fibers	Blue, Orange, Green, Brown, Slate, White, Red, Black, Yellow, Violet, Rose, Aqua
Tube filling compound	Thixotropic jelly
Core filling compound	No filling compound. There are water swellable yarns instead
Outer Jacket	Black PE 1.1 ± 0.1 mm (0.04 ± 0.01 in.) nominal thickness
Approximate overall diameter	5.5 mm (0.22 in.) / 8.5 mm (0.34 in.)

Mechanical Performance	Test Procedure	Specification
Tensile strength test	EIA/TIA-455-33	1350 N (during installation) 400 N (during operation)
Crush test	EIA/TIA-455-41	220 N/cm
Temperature cycling		-40°C / 70 °C (-40 °F / 158 °F)
Bend radius (during installation)	EIA/TIA-455-37	150 mm (5.19 in.)
Bend radius (during service)	EIA/TIA-455-37	100 mm (3.94 in.)
Water penetration test	EIA/TIA-455-82	1 m length in 24 hrs with no water leak



Specifications are subject to change without notice. The data given is subject to normal manufacturing tolerances.  
4SProducts Loose Tube Optical Cables are tested in accordance with the requirements of Bellcore GR-20.  
Performance specifications are measured per EIA Fiber Optic Test Procedures.



**Single-mode Fiber Specifications**

Fiber Type	Single-mode
	G.652D
	1310/1550 nm
Attenuation (max)	0.40 dB/km (1310 nm) 0.22 dB/km (1550 nm)
Chromatic Dispersion (max)	3.5 ps/(nm x km) (1310 nm) 18 ps/(nm x km) (1550 nm)
MDF	9.2 ± 0.5 μm

**Multi-mode Fiber Specifications**

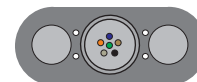
Fiber Type	Multi-mode	
	62.5 μm	50 μm
	850/1300 nm	850/1300 nm
Attenuation (max)	3.5 dB/km (850 nm) 1.5 dB/km (1300 nm)	3.5 dB/km (850 nm) 1.5 dB/km (1300 nm)
Bandwidth (min)	200 MHz.km (850 nm) 500 MHz.km (1300 nm)	500 MHz.km (850 nm) 600 MHz.km (1300 nm)
Numerical Aparature	0.275 ± 0.015	0.2 ± 0.02

**Environmental & General Properties**

Drum Size	35 in x 35 in x 39 in	90 cm x 90 cm x 100 cm
Drum Length	13123 ft ± 10%	4000 m ± 10%
Net Weight	27 lb/kft	40 kg/km



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## Technical Data Sheet

### GeIcKore ADSS Loose Tube Optical Cables

#### Single Jacket

Standard buffer tube with 2-216f

All Dielectric Self Supporting

Short span - average

Light - 60 m (197 ft.) max  
Medium - 46 m (151 ft.) max  
Heavy - 30 m (098 ft.) max

### Application

ADSS cables are used on overhead power lines and/or poles. The self supporting design allows installations independent of other wires/conductors.

### Benefits

- Fiber Count up to 216f
- Suitable for all types of aerial lines
- Rapid deployment
- Installs on live power lines
- Single PE Jacket suitable for short-span applications

### Fiber types

- G.651 multi-mode fiber
- G.652 single-mode fiber
- G.655 NZDS fiber for DWDM applications

### Full range of protections

- Water blocked

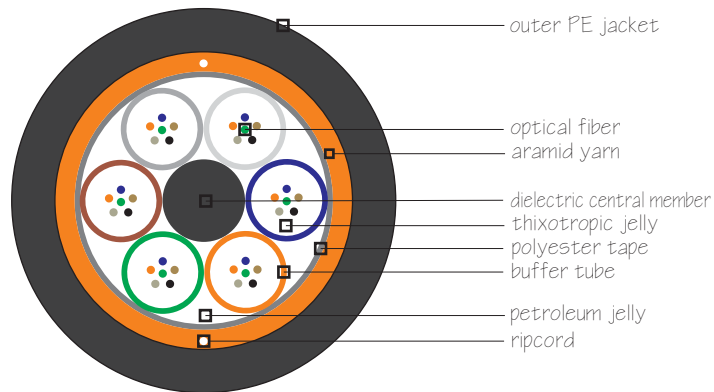
### Full range of applications

- Outdoor
- Aerial

### Optional protections

- Track resistant

### Cable cut-away



### Typical parameters

Number of fibers	Up to 216
Nominal outer diameter	11.2 mm (0.44 in) to 18.8 mm (0.74 in)
Cable weight	110 kg/km (074 lbs/kft) to 300 kg/km (202)
Max. bend radius	20 x cable O.D.
Max. working tension	2500 to 4000 N (562 to 899 lbf)
Operating temperature range	-40 °C / 70 °C (-40 °F / 158 °F)



### Qualifications & approvals

REA PE-90  
Bellcore Standards  
ITU Standards  
TIA/EIA Standards

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## Technical Data Sheet

### GeiKore ADSS Loose Tube Optical Cables

#### Single Jacket

Standard buffer tube with 2-216f

All Dielectric Self Supporting

Short span - average

Light - 60 m (197 ft.) max  
Medium - 46 m (151 ft.) max  
Heavy - 30 m (99 ft.) max

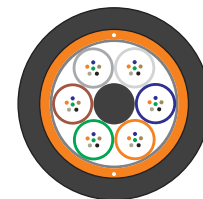
Cable Properties	Weight & cube	Tensile strength (N) NESC Medium
002 - 036f	diameter 11.2 mm (0.44 in) weight 110 Kg/km (074 lbs/kft)	operating 2500 install 4800
037 - 060f	diameter 12.6 mm (0.50 in) weight 140 Kg/km (094 lbs/kft)	operation 2700 install 5000
061 - 072f	diameter 12.6 mm (0.50 in) weight 140 Kg/km (094 lbs/kft)	operating 2700 install 5000
073 - 096f	diameter 14.6 mm (0.58 in) weight 180 Kg/km (121 lbs/kft)	operating 3000 install 5500
097 - 120f	diameter 18.8 mm (0.74 in) weight 300 Kg/km (202 lbs/kft)	operating 4000 install 7500
121 - 144f	diameter 18.8 mm (0.74 in) weight 300 Kg/km (202 lbs/kft)	operating 4000 install 7500
145 - 216f	diameter 18.8 mm (0.74 in) weight 300 Kg/km (202 lbs/kft)	operating 4000 install 7500

Mechanical Performance	Test Procedure	Specification
Low & high temperature cable	EIA/TIA-455-37A FOTP-37	20 x cable O.D. @ -30 °C and 60 °C
Impact resistance	EIA/TIA-455-25A FOTP-25	25 impact cycles
Compressive strength	EIA/TIA-455-41A FOTP-41	220 N/cm (124 lbs/in.)
Cable twist	EIA/TIA-455-85 FOTP-85	2 meter length ± 180°
Cable cyclic flexing	EIA/TIA-455-104 FOTP-104	20 x cable O.D. 25 cycles
Max. bend radius	EIA/TIA-455-37A FOTP-37	20 x cable O.D. 10 x cable O.D.
Span length on NESC conditions	Light Medium Heavy	60 m (197 ft.) max 46 m (151 ft.) max 30 m (99 ft.) max Sag 1.0%

Environmental Performance	Test Procedure	Specification
Temperature	EIA/TIA-455-3A FOTP-3	Operation -40 to +70 °C (-40 to +158 °F) Installation -20 to +70 °C (-04 to +158 °F) Storage/Shipping -40 to +75 °C (-40 to +168 °F)
Cable aging	EIA/TIA-455-37 FOTP-37	168 hours @ 85 °C
Cable Freezing	EIA/TIA-455-98 FOTP-98	Frozen in ice
Water penetration	EIA/TIA-455-82B FOTP-82	1 meter for 24 hours
Compound drip temperature	EIA/TIA-455-81B FOTP-81	75 °C
Color coding permanence	Telcordia GR-20	Colors stable after aging



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Performance specifications are measured per EIA Fiber Optic Test Procedures.



## Technical Data Sheet

GeI Kore ADSS Loose Tube Optical Cables

Single Jacket

Standard buffer tube with 2-216f

All Dielectric Self Supporting

Short span - average

Light - 110 m (361 ft.) max  
Medium - 092 m (302 ft.) max  
Heavy - 054 m (177 ft.) max

### Application

ADSS cables are used on overhead power lines and/or poles. The self supporting design allows installations independent of other wires/conductors.

### Benefits

- Fiber Count up to 216f
- Suitable for all types of aerial lines
- Rapid deployment
- Installs on live power lines
- Single PE Jacket suitable for short-span applications

### Fiber types

- G.651 multi-mode fiber
- G.652 single-mode fiber
- G.655 NZDS fiber for DWDM applications

### Full range of protections

- Water blocked

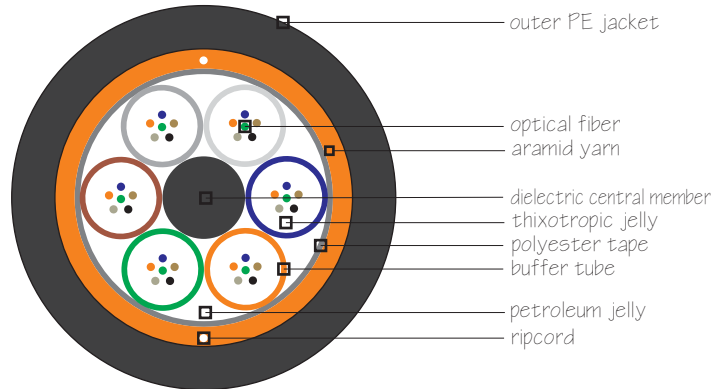
### Full range of applications

- Outdoor
- Aerial

### Optional protections

- Track resistant

### Cable cut-away



### Typical parameters

Number of fibers	Up to 216
Nominal outer diameter	11.6 mm (0.46 in) to 19.2 mm (0.76 in)
Cable weight	110 kg/km (074 lbs/kft) to 300 kg/km (202)
Max. bend radius	20 x cable O.D.
Max. working tension	3700 to 6700 N (832 to 1506 lbf)
Operating temperature range	-40 °C / 70 °C (-40 °F / 158 °F)



### Qualifications & approvals

REA PE-90  
Bellcore Standards  
ITU Standards  
TIA/EIA Standards

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## Technical Data Sheet

### GeiKore ADSS Loose Tube Optical Cables

#### Single Jacket

Standard buffer tube with 2-216f

All Dielectric Self Supporting

Short span - average

Light - 110 m (361 ft.) max  
Medium - 092 m (302 ft.) max  
Heavy - 054 m (177 ft.) max

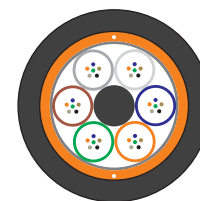
Cable Properties	Weight & cube	Tensile strength (N) NESC Medium
002 - 036f	diameter 11.6 mm (0.46 in) weight 110 Kg/km (074 lbs/kft)	operating 3700 install 6500
037 - 060f	diameter 13.0 mm (0.51 in) weight 140 Kg/km (094 lbs/kft)	operation 4100 install 7500
061 - 072f	diameter 13.0 mm (0.51 in) weight 140 Kg/km (094 lbs/kft)	operating 4100 install 7500
073 - 096f	diameter 15.0 mm (0.59 in) weight 180 Kg/km (121 lbs/kft)	operating 4900 install 9000
097 - 120f	diameter 19.2 mm (0.76 in) weight 300 Kg/km (202 lbs/kft)	operating 6700 install 12000
121 - 144f	diameter 19.2 mm (0.76 in) weight 300 Kg/km (202 lbs/kft)	operating 6700 install 12000
145 - 216f	diameter 19.2 mm (0.76 in) weight 300 Kg/km (202 lbs/kft)	operating 6700 install 12000

Mechanical Performance	Test Procedure	Specification
Low & high temperature cable	EIA/TIA-455-37A FOTP-37	20 x cable O.D. @ -30 °C and 60 °C
Impact resistance	EIA/TIA-455-25A FOTP-25	25 impact cycles
Compressive strength	EIA/TIA-455-41A FOTP-41	220 N/cm (124 lbs/in.)
Cable twist	EIA/TIA-455-85 FOTP-85	2 meter length ± 180°
Cable cyclic flexing	EIA/TIA-455-104 FOTP-104	20 x cable O.D. 25 cycles
Max. bend radius	EIA/TIA-455-37A FOTP-37	20 x cable O.D. 10 x cable O.D.
Span length on NESC conditions	Light Medium Heavy	110 m (361 ft.) max 092 m (302 ft.) max 054 m (177 ft.) max Sag 1.0%

Environmental Performance	Test Procedure	Specification
Temperature	EIA/TIA-455-3A FOTP-3	Operation -40 to +70 °C (-40 to +158 °F) Installation -20 to +70 °C (-04 to +158 °F) Storage/Shipping -40 to +75 °C (-40 to +168 °F)
Cable aging	EIA/TIA-455-37 FOTP-37	168 hours @ 85 °C
Cable Freezing	EIA/TIA-455-98 FOTP-98	Frozen in ice
Water penetration	EIA/TIA-455-82B FOTP-82	1 meter for 24 hours
Compound drip temperature	EIA/TIA-455-81B FOTP-81	75 °C
Color coding permanence	Telcordia GR-20	Colors stable after aging



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4SProducts Loose Tube Optical Cables are tested in accordance with the requirements of Bellcore GR-20.  
Performance specifications are measured per EIA Fiber Optic Test Procedures.





## Technical Data Sheet

### GelKore ADSS Loose Tube Optical Cables

#### Dual Jacket

Standard buffer tube with 2-216f

All Dielectric Self Supporting

Short span - average

Light - 150 m (492 ft.) max  
Medium - 122 m (400 ft.) max  
Heavy - 074 m (243 ft.) max

### Application

ADSS cables are used on overhead power lines and/or poles. The self supporting design allows installations independent of other wires/conductors.

### Benefits

- Fiber Count up to 216f
- Suitable for all types of aerial lines
- Rapid deployment
- Installs on live power lines
- Available for long, medium and short spans

### Fiber types

- G.651 multi-mode fiber
- G.652 single-mode fiber
- G.655 NZDS fiber for DWDM applications

### Full range of protections

- Water blocked

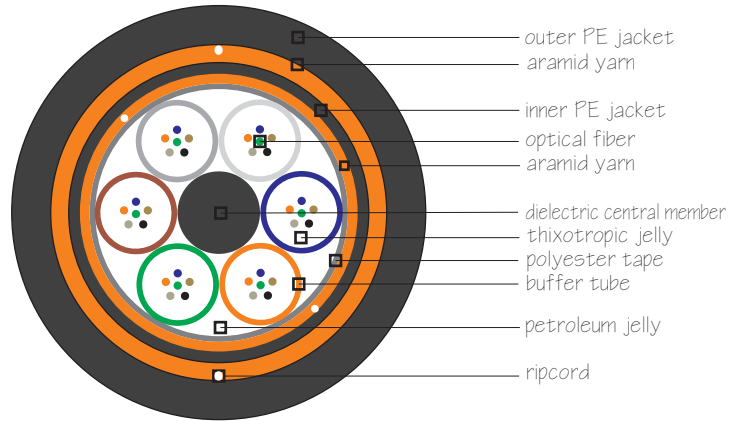
### Full range of applications

- Outdoor
- Aerial

### Optional protections

- Track resistant

### Cable cut-away



### Typical parameters

Number of fibers	Up to 216
Nominal outer diameter	13.3 mm (0.52 in) to 20.5 mm (0.81 in)
Cable weight	145 kg/km (097 lbs/kft) to 355 kg/km (238)
Max. bend radius	20 x cable O.D.
Max. working tension	5300 to 9400 N (1191 to 2113 lbf)
Operating temperature range	-40 °C / 70 °C (-40 °F / 158 °F)



### Qualifications & approvals

REA PE-90  
Bellcore Standards  
ITU Standards  
TIA/EIA Standards

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### GeiKore ADSS Loose Tube Optical Cables

#### Dual Jacket

Standard buffer tube with 2-216f

All Dielectric Self Supporting

Short span - average

Light - 150 m (492 ft.) max  
Medium - 122 m (400 ft.) max  
Heavy - 074 m (243 ft.) max

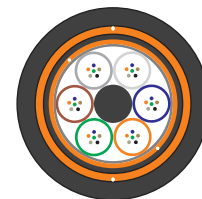
Cable Properties	Weight & cube	Tensile strength (N) NESC Medium
002 - 036f	diameter 13.3 mm (0.52 in) weight 145 Kg/km (097 lbs/kft)	operating 5300 install 9500
037 - 060f	diameter 14.7 mm (0.58 in) weight 180 Kg/km (121 lbs/kft)	operation 5900 install 10000
061 - 072f	diameter 14.7 mm (0.58 in) weight 180 Kg/km (121 lbs/kft)	operating 5900 install 10000
073 - 096f	diameter 16.5 mm (0.65 in) weight 230 Kg/km (155 lbs/kft)	operating 7000 install 13000
097 - 120f	diameter 20.5 mm (0.81 in) weight 355 Kg/km (238 lbs/kft)	operating 9400 install 16000
121 - 144f	diameter 20.5 mm (0.81 in) weight 355 Kg/km (238 lbs/kft)	operating 9400 install 16000
145 - 216f	diameter 20.5 mm (0.81 in) weight 355 Kg/km (238 lbs/kft)	operating 9400 install 16000

Mechanical Performance	Test Procedure	Specification
Low & high temperature cable	EIA/TIA-455-37A FOTP-37	20 x cable O.D. @ -30 °C and 60 °C
Impact resistance	EIA/TIA-455-25A FOTP-25	25 impact cycles
Compressive strength	EIA/TIA-455-41A FOTP-41	220 N/cm (124 lbs/in.)
Cable twist	EIA/TIA-455-85 FOTP-85	2 meter length ± 180°
Cable cyclic flexing	EIA/TIA-455-104 FOTP-104	20 x cable O.D. 25 cycles
Max. bend radius	EIA/TIA-455-37A FOTP-37	20 x cable O.D. 10 x cable O.D.
Span length on NESC conditions	Light Medium Heavy	150 m (492 ft.) max 122 m (400 ft.) max 074 m (243 ft.) max Sag 1.0%

Environmental Performance	Test Procedure	Specification
Temperature	EIA/TIA-455-3A FOTP-3	Operation -40 to +70 °C (-40 to +158 °F) Installation -20 to +70 °C (-04 to +158 °F) Storage/Shipping -40 to +75 °C (-40 to +168 °F)
Cable aging	EIA/TIA-455-37 FOTP-37	168 hours @ 85 °C
Cable Freezing	EIA/TIA-455-98 FOTP-98	Frozen in ice
Water penetration	EIA/TIA-455-82B FOTP-82	1 meter for 24 hours
Compound drip temperature	EIA/TIA-455-81B FOTP-81	75 °C
Color coding permanence	Telcordia GR-20	Colors stable after aging



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Performance specifications are measured per EIA Fiber Optic Test Procedures.



## Technical Data Sheet

### GeIcKore ADSS Loose Tube Optical Cables

#### Dual Jacket

Standard buffer tube with 2-216f

All Dielectric Self Supporting

Medium span - average  
Light - 290 m (951 ft.) max  
Medium - 250 m (820 ft.) max  
Heavy - 160 m (525 ft.) max

### Application

ADSS cables are used on overhead power lines and/or poles. The self supporting design allows installations independent of other wires/conductors.

### Benefits

- Fiber Count up to 216f
- Suitable for all types of aerial lines
- Rapid deployment
- Installs on live power lines
- Available for long, medium and short spans

### Fiber types

- G.651 multi-mode fiber
- G.652 single-mode fiber
- G.655 NZDS fiber for DWDM applications

### Full range of protections

- Water blocked

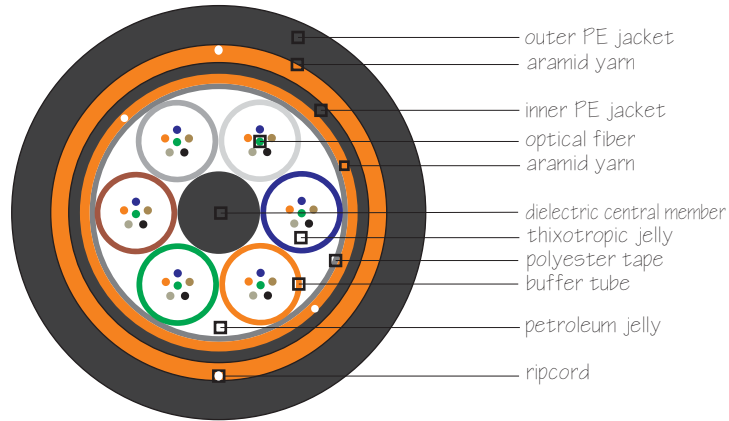
### Full range of applications

- Outdoor
- Aerial

### Optional protections

- Track resistant

### Cable cut-away



### Typical parameters

Number of fibers	Up to 216
Nominal outer diameter	14.1 mm (0.56 in) to 21.2 mm (0.84 in)
Cable weight	165 kg/km (111 lbs/kft) to 380 kg/km (255 lbs/kft)
Max. bend radius	20 x cable O.D.
Max. working tension	9800 to 17600 N (2203 to 3957 lbf)
Operating temperature range	-40 °C / 70 °C (-40 °F / 158 °F)



### Qualifications & approvals

REA PE-90  
Bellcore Standards  
ITU Standards  
TIA/EIA Standards

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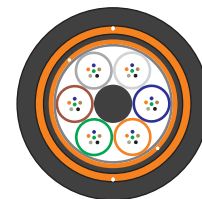
Cable Properties	Weight & cube	Tensile strength (N) NESC Medium
002 - 036f	diameter 14.1 mm (0.56 in) weight 165 Kg/km (111 lbs/kft)	operating 9800 install 16000
037 - 060f	diameter 15.5 mm (0.61 in) weight 200 Kg/km (134 lbs/kft)	operation 11100 install 18000
061 - 072f	diameter 15.5 mm (0.61 in) weight 200 Kg/km (134 lbs/kft)	operating 11100 install 18000
073 - 096f	diameter 17.3 mm (0.68 in) weight 245 Kg/km (165 lbs/kft)	operating 12900 install 21000
097 - 120f	diameter 21.2 mm (0.84 in) weight 380 Kg/km (255 lbs/kft)	operating 17600 install 29000
121 - 144f	diameter 21.2 mm (0.84 in) weight 380 Kg/km (255 lbs/kft)	operating 17600 install 29000
145 - 216f	diameter 21.2 mm (0.84 in) weight 380 Kg/km (255 lbs/kft)	operating 17600 install 29000

Mechanical Performance	Test Procedure	Specification
Low & high temperature cable	EIA/TIA-455-37A FOTP-37	20 x cable O.D. @ -30 °C and 60 °C
Impact resistance	EIA/TIA-455-25A FOTP-25	25 impact cycles
Compressive strength	EIA/TIA-455-41A FOTP-41	220 N/cm (124 lbs/in.)
Cable twist	EIA/TIA-455-85 FOTP-85	2 meter length ± 180°
Cable cyclic flexing	EIA/TIA-455-104 FOTP-104	20 x cable O.D. 25 cycles
Max. bend radius	EIA/TIA-455-37A FOTP-37	20 x cable O.D. 10 x cable O.D.
Span length on NESC conditions	Light Medium Heavy	290 m (951 ft.) max 250 m (820 ft.) max 160 m (525 ft.) max Sag 1.0%

Environmental Performance	Test Procedure	Specification
Temperature	EIA/TIA-455-3A FOTP-3	Operation -40 to +70 °C (-40 to +158 °F) Installation -20 to +70 °C (-04 to +158 °F) Storage/Shipping -40 to +75 °C (-40 to +168 °F)
Cable aging	EIA/TIA-455-37 FOTP-37	168 hours @ 85 °C
Cable Freezing	EIA/TIA-455-98 FOTP-98	Frozen in ice
Water penetration	EIA/TIA-455-82B FOTP-82	1 meter for 24 hours
Compound drip temperature	EIA/TIA-455-81B FOTP-81	75 °C
Color coding permanence	Telcordia GR-20	Colors stable after aging



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Performance specifications are measured per EIA Fiber Optic Test Procedures.



## Technical Data Sheet

### GelKore ADSS Loose Tube Optical Cables

#### Dual Jacket

Standard buffer tube with 2-216f

All Dielectric Self Supporting

Long span - average

Light - 640 m (2100 ft.) max  
Medium - 500 m (1640 ft.) max  
Heavy - 320 m (1050 ft.) max

### Application

ADSS cables are used on overhead power lines and/or poles. The self supporting design allows installations independent of other wires/conductors.

### Benefits

- Fiber Count up to 216f
- Suitable for all types of aerial lines
- Rapid deployment
- Installs on live power lines
- Available for long, medium and short spans

### Fiber types

- G.651 multi-mode fiber
- G.652 single-mode fiber
- G.655 NZDS fiber for DWDM applications

### Full range of protections

- Water blocked

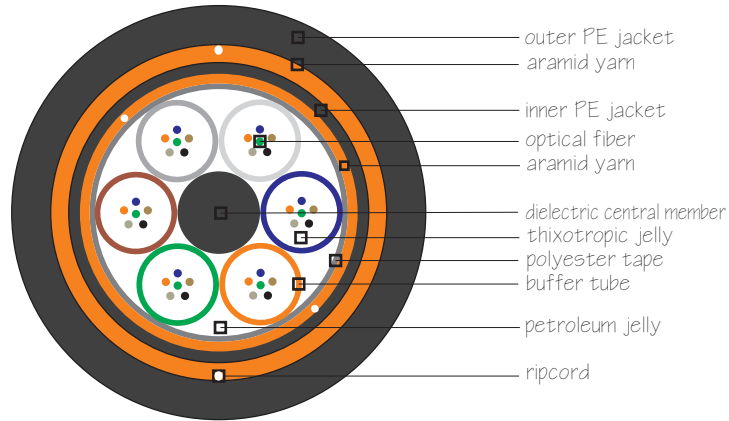
### Full range of applications

- Outdoor
- Aerial

### Optional protections

- Track resistant

### Cable cut-away



### Typical parameters

Number of fibers	Up to 216
Nominal outer diameter	14.6 mm (0.58 in) to 21.8 mm (0.86 in)
Cable weight	180 kg/km (121 lbs/kft) to 405 kg/km (272 lbs/kft)
Max. bend radius	20 x cable O.D.
Max. working tension	16100 to 27000 N (3619 to 6070 lbf)
Operating temperature range	-40 °C / 70 °C (-40 °F / 158 °F)



### Qualifications & approvals

REA PE-90  
Bellcore Standards  
ITU Standards  
TIA/EIA Standards

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## Technical Data Sheet

### GeiKore ADSS Loose Tube Optical Cables

#### Dual Jacket

Standard buffer tube with 2-216f

All Dielectric Self Supporting

Long span - average

Light - 640 m (2100 ft.) max  
Medium - 500 m (1640 ft.) max  
Heavy - 320 m (1050 ft.) max

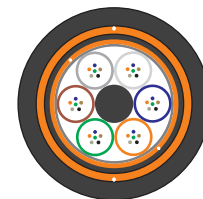
Cable Properties	Weight & cube	Tensile strength (N) NESC Medium
002 - 036f	diameter 14.6 mm (0.58 in) weight 180 Kg/km (121 lbs/kft)	operating 16100 install 27500
037 - 060f	diameter 16.0 mm (0.63 in) weight 215 Kg/km (144 lbs/kft)	operation 17300 install 30000
061 - 072f	diameter 16.0 mm (0.63 in) weight 215 Kg/km (144 lbs/kft)	operating 17300 install 30000
073 - 096f	diameter 17.8 mm (0.70 in) weight 265 Kg/km (178 lbs/kft)	operating 20000 install 35000
097 - 120f	diameter 21.8 mm (0.86 in) weight 405 Kg/km (272 lbs/kft)	operating 27500 install 45000
121 - 144f	diameter 21.8 mm (0.86 in) weight 405 Kg/km (272 lbs/kft)	operating 27000 install 45000
145 - 216f	diameter 21.8 mm (0.86 in) weight 405 Kg/km (272 lbs/kft)	operating 27000 install 45000

Mechanical Performance	Test Procedure	Specification
Low & high temperature cable	EIA/TIA-455-37A FOTP-37	20 x cable O.D. @ -30 °C and 60 °C
Impact resistance	EIA/TIA-455-25A FOTP-25	25 impact cycles
Compressive strength	EIA/TIA-455-41A FOTP-41	220 N/cm (124 lbs/in.)
Cable twist	EIA/TIA-455-85 FOTP-85	2 meter length ± 180°
Cable cyclic flexing	EIA/TIA-455-104 FOTP-104	20 x cable O.D. 25 cycles
Max. bend radius	EIA/TIA-455-37A FOTP-37	20 x cable O.D. 10 x cable O.D.
Span length on NESC conditions	Light Medium Heavy	640 m (2100 ft.) max 500 m (1640 ft.) max 320 m (1050 ft.) max Sag 1.5%

Environmental Performance	Test Procedure	Specification
Temperature	EIA/TIA-455-3A FOTP-3	Operation -40 to +70 °C (-40 to +158 °F) Installation -20 to +70 °C (-04 to +158 °F) Storage/Shipping -40 to +75 °C (-40 to +168 °F)
Cable aging	EIA/TIA-455-37 FOTP-37	168 hours @ 85 °C
Cable Freezing	EIA/TIA-455-98 FOTP-98	Frozen in ice
Water penetration	EIA/TIA-455-82B FOTP-82	1 meter for 24 hours
Compound drip temperature	EIA/TIA-455-81B FOTP-81	75 °C
Color coding permanence	Telcordia GR-20	Colors stable after aging



Specifications are subject to change without notice. The data given is subject to normal manufacturing tolerances.  
4SProducts Loose Tube Optical Cables are tested in accordance with the requirements of Bellcore GR-20.  
Performance specifications are measured per EIA Fiber Optic Test Procedures.



## Technical Data Sheet

### GelKore ADSS Loose Tube Optical Cables

#### Dual Jacket

Standard buffer tube with 2-216f

All Dielectric Self Supporting

Transmission span - average

Light - 950 m (3117 ft.) max  
Medium - 800 m (2625 ft.) max  
Heavy - 490 m (1608 ft.) max

### Application

ADSS cables are used on overhead power lines and/or poles. The self supporting design allows installations independent of other wires/conductors.

### Benefits

- Fiber Count up to 216f
- Suitable for all types of aerial lines
- Rapid deployment
- Installs on live power lines
- Available for long, medium and short spans

### Fiber types

- G.651 multi-mode fiber
- G.652 single-mode fiber
- G.655 NZDS fiber for DWDM applications

### Full range of protections

- Water blocked

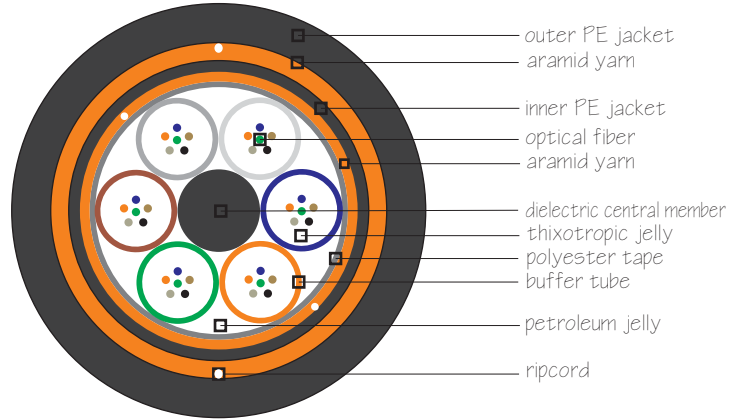
### Full range of applications

- Outdoor
- Aerial

### Optional protections

- Track resistant

### Cable cut-away



### Typical parameters

Number of fibers	Up to 216
Nominal outer diameter	15.8 mm (0.62 in) to 23.0 mm (0.91 in)
Cable weight	210 kg/km (141 lbs/kft) to 470 kg/km (316)
Max. bend radius	20 x cable O.D.
Max. working tension	22300 to 38000 N (5013 to 8543 lbf)
Operating temperature range	-40 °C / 70 °C (-40 °F / 158 °F)



### Qualifications & approvals

REA PE-90  
Bellcore Standards  
ITU Standards  
TIA/EIA Standards

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**Technical  
Data Sheet**

**GeiKore ADSS** Loose Tube Optical Cables

**Dual Jacket**

Standard buffer tube with 2-216f

All Dielectric Self Supporting

Transmission span - average

Light - 950 m (3117 ft.) max  
Medium - 800 m (2625 ft.) max  
Heavy - 490 m (1608 ft.) max

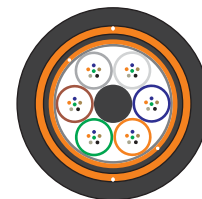
Cable Properties	Weight & cube	Tensile strength (N) NESC Medium
002 - 036f	diameter 15.8 mm (0.62 in) weight 210 Kg/km (141 lbs/kft)	operating 22300 install 38000
037 - 060f	diameter 17.1 mm (0.67 in) weight 245 Kg/km (165 lbs/kft)	operation 24800 install 42000
061 - 072f	diameter 17.1 mm (0.67 in) weight 245 Kg/km (165 lbs/kft)	operating 24800 install 42000
073 - 096f	diameter 19.0 mm (0.75 in) weight 290 Kg/km (195 lbs/kft)	operating 28000 install 48000
097 - 120f	diameter 23.0 mm (0.91 in) weight 470 Kg/km (316 lbs/kft)	operating 38000 install 58000
121 - 144f	diameter 23.0 mm (0.91 in) weight 470 Kg/km (316 lbs/kft)	operating 38000 install 58000
145 - 216f	diameter 23.0 mm (0.91 in) weight 470 Kg/km (316 lbs/kft)	operating 38000 install 58000

Mechanical Performance	Test Procedure	Specification
Low & high temperature cable	EIA/TIA-455-37A FOTP-37	20 x cable O.D. @ -30 °C and 60 °C
Impact resistance	EIA/TIA-455-25A FOTP-25	25 impact cycles
Compressive strength	EIA/TIA-455-41A FOTP-41	220 N/cm (124 lbs/in.)
Cable twist	EIA/TIA-455-85 FOTP-85	2 meter length ± 180°
Cable cyclic flexing	EIA/TIA-455-104 FOTP-104	20 x cable O.D. 25 cycles
Max. bend radius	EIA/TIA-455-37A FOTP-37	20 x cable O.D. 10 x cable O.D.
Span length on NESC conditions	Light Medium Heavy	950 m (3117 ft.) max 800 m (2625 ft.) max 490 m (1608 ft.) max Sag 2.0%

Environmental Performance	Test Procedure	Specification
Temperature	EIA/TIA-455-3A FOTP-3	Operation -40 to +70 °C (-40 to +158 °F) Installation -20 to +70 °C (-04 to +158 °F) Storage/Shipping -40 to +75 °C (-40 to +168 °F)
Cable aging	EIA/TIA-455-37 FOTP-37	168 hours @ 85 °C
Cable Freezing	EIA/TIA-455-98 FOTP-98	Frozen in ice
Water penetration	EIA/TIA-455-82B FOTP-82	1 meter for 24 hours
Compound drip temperature	EIA/TIA-455-81B FOTP-81	75 °C
Color coding permanence	Telcordia GR-20	Colors stable after aging



Specifications are subject to change without notice. The data given is subject to normal manufacturing tolerances.  
4SProducts Loose Tube Optical Cables are tested in accordance with the requirements of Bellcore GR-20.  
Performance specifications are measured per EIA Fiber Optic Test Procedures.





## Technical Data Sheet

### GelKore Loose Tube Optical Cables

NESC Heavy Conditions

Max. Span 152 m (500 ft.)

Standard buffer tube with 2-288f

Steel Messenger Self Supporting Fig-8 Sheath  
**Single Jacket / Dielectric Core**

### Application

Self supporting outdoor fiber optic cable in a figure 8 configuration for aerial installation on telecom poles. Designed for maximum typical span lengths of 152 m (500 ft.) under NESC heavy loading conditions.

### Benefits

- Fiber Count up to 288f
- Suitable for all types of light aerial applications except power lines
- Low installation costs
- Excellent handling characteristics
- Utilizes traditional aerial cable hardware
- Suitable for short and medium spans

### Fiber types

- G.651 multi-mode fiber
- G.652 single-mode fiber
- G.655 NZDS fiber for DWDM applications

### Full range of protections

- Water blocked

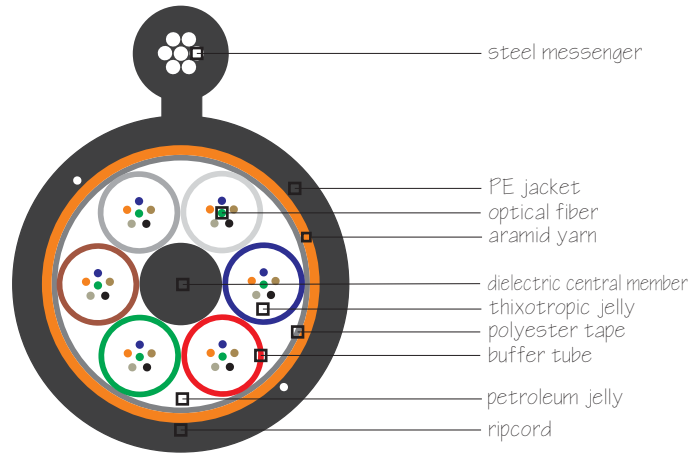
### Full range of applications

- Outdoor
- Aerial

### Optional protections

- HDPE jacket
- Single jacket / single armor
- Dual jacket / single armor

### Cable cut-away



### Typical parameters

Number of fibers	Up to 288	
Diameter	minor axes	11.6 mm (0.46 in)
	major axes	11.5 mm (0.45 in) to 21.5 mm(0.85)
Cable weight	316 kg/km (212 lbs/kft) to 522 kg/km (351 lbs/kft)	
Max. bend radius	20 x cable O.D.	
Max. working tension	13360 N (3000 lbf)	
Operating temperature range	-40 °C / 70 °C (-40 °F / 158 °F)	



### Qualifications & approvals

REA PE-90  
Bellcore Standards  
ITU Standards  
TIA/EIA Standards

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## Technical Data Sheet

### GelKore Loose Tube Optical Cables

NESC Heavy Conditions

Max. Span 152 m (500 ft.)

Standard buffer tube with 2-288f

Steel Messenger Self Supporting Fig-8 Sheath  
**Single Jacket / Dielectric Core**

Cable Properties	Diameter	Weight
002 - 060f	Jacket core diameter 11.5 mm (0.45 in) Jacket messenger diameter 11.6 mm (0.46 in)	316 kg/km (212 lbs/kft)
061 - 072f	Jacket core diameter 12.2 mm (0.48 in) Jacket messenger diameter 11.6 mm (0.46 in)	330 kg/km (222 lbs/kft)
073 - 096f	Jacket core diameter 14.1 mm (0.56 in) Jacket messenger diameter 11.6 mm (0.46 in)	364 kg/km (245 lbs/kft)
097 - 120f	Jacket core diameter 16.1 mm (0.63 in) Jacket messenger diameter 11.6 mm (0.46 in)	405 kg/km (272 lbs/kft)
121 - 192f	Jacket core diameter 17.6 mm (0.69 in) Jacket messenger diameter 11.6 mm (0.46 in)	420 kg/km (282 lbs/kft)
193 - 216f	Jacket core diameter 18.4 mm (0.72 in) Jacket messenger diameter 11.6 mm (0.46 in)	441 kg/km (296 lbs/kft)
217 - 240f	Jacket core diameter 19.5 mm (0.77 in) Jacket messenger diameter 11.6 mm (0.46 in)	467 kg/km (314 lbs/kft)
241 - 288f	Jacket core diameter 21.5 mm (0.85 in) Jacket messenger diameter 11.6 mm (0.46 in)	522 kg/km (351 lbs/kft)

Mechanical Performance	Test Procedure	Specification
Low & high temperature cable	EIA/TIA-455-37A FOTP-37	20 x cable O.D. @ -30 °C and 60 °C
Impact resistance	EIA/TIA-455-25A FOTP-25	25 impact cycles
Compressive strength	EIA/TIA-455-41A FOTP-41	220 N/cm (124 lbs/in.)
Cable twist	EIA/TIA-455-85 FOTP-85	2 meter length ± 180°
Cable cyclic flexing	EIA/TIA-455-104 FOTP-104	20 x cable O.D. 25 cycles
Max. bend radius	EIA/TIA-455-37A FOTP-37	20 x cable O.D. 10 x cable O.D.
Max. tensile load	EIA/TIA-455-33 FOTP-33	13360 N (3000 lbf)

Environmental Performance	Test Procedure	Specification
Temperature	EIA/TIA-455-3A FOTP-3	Operation -40 to +70 °C (-40 to +158 °F) Installation -20 to +70 °C (-04 to +158 °F) Storage/Shipping -40 to +75 °C (-40 to +168 °F)
Cable aging	EIA/TIA-455-37 FOTP-37	168 hours @ 85 °C
Cable Freezing	EIA/TIA-455-98 FOTP-98	Frozen in ice
Water penetration	EIA/TIA-455-82B FOTP-82	1 meter for 24 hours
Compound drip temperature	EIA/TIA-455-81B FOTP-81	75 °C
Color coding permanence	Telcordia GR-20	Colors stable after aging



Specifications are subject to change without notice. The data given is subject to normal manufacturing tolerances.  
4SProducts Loose Tube Optical Cables are tested in accordance with the requirements of Bellcore GR-20.  
Performance specifications are measured per EIA Fiber Optic Test Procedures.



## Technical Data Sheet

**GelKore** Loose Tube Optical Cables

NESC Heavy Conditions

Max. Span 152 m (500 ft.)

Standard buffer tube with 2-288f

Steel Messenger Self Supporting Fig-8 Sheath  
**Single Jacket / Single Armor**

### Application

Self supporting outdoor fiber optic cable in a figure 8 configuration for aerial installation on telecom poles. Designed for maximum typical span lengths of 152 m (500 ft.) under NESC heavy loading conditions.

### Benefits

- Fiber Count up to 288f
- Suitable for all types of light aerial applications except power lines
- Low installation costs
- Excellent handling characteristics
- Utilizes traditional aerial cable hardware
- Suitable for short and medium spans

### Fiber types

- G.651 multi-mode fiber
- G.652 single-mode fiber
- G.655 NZDS fiber for DWDM applications

### Full range of protections

- Water blocked
- Rodent resistant

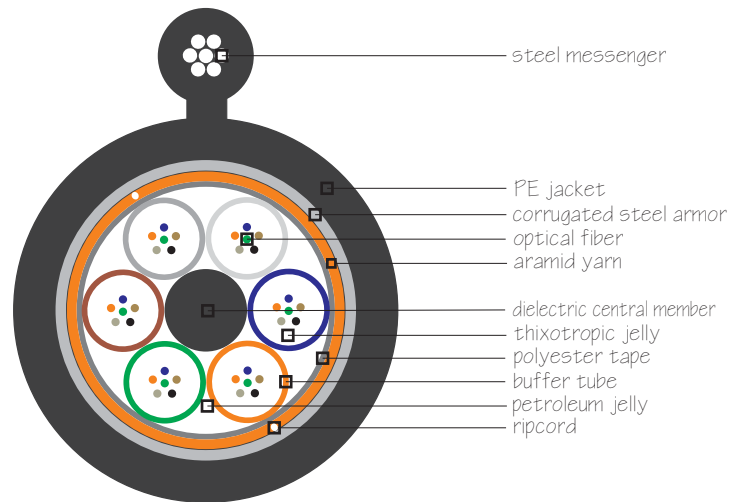
### Full range of applications

- Outdoor
- Aerial

### Optional protections

- HDPE jacket
- All dielectric
- Dual jacket / single armor

### Cable cut-away



### Typical parameters

Number of fibers	Up to 288	
Diameter	minor axes	11.6 mm (0.46 in)
	major axes	13.4 mm (0.53 in) to 23.5 mm(0.93)
Cable weight	370 kg/km (249 lbs/kft) to 620 kg/km (417 lbs/kft)	
Max. bend radius	20 x cable O.D.	
Max. working tension	13360 N (3000 lbf)	
Operating temperature range	-40 °C / 70 °C (-40 °F / 158 °F)	

Specifications are subject to change without prior notice. 4SProducts cables are designed and tested per IEC specifications.



### Qualifications & approvals

REA PE-90  
Bellcore Standards  
ITU Standards  
TIA/EIA Standards

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## Technical Data Sheet

### GelKore Loose Tube Optical Cables

NESC Heavy Conditions

Max. Span 152 m (500 ft.)

Standard buffer tube with 2-288f

Steel Messenger Self Supporting Fig-8 Sheath  
**Single Jacket / Single Armor**

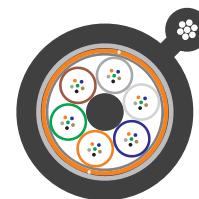
Cable Properties	Diameter	Weight
002 - 060f	Jacket core diameter 13.4 mm (0.53 in) Jacket messenger diameter 11.6 mm (0.46 in)	370 kg/km (249 lbs/kft)
061 - 072f	Jacket core diameter 14.2 mm (0.56 in) Jacket messenger diameter 11.6 mm (0.46 in)	390 kg/km (262 lbs/kft)
073 - 096f	Jacket core diameter 16.1 mm (0.63 in) Jacket messenger diameter 11.6 mm (0.46 in)	431 kg/km (290 lbs/kft)
097 - 120f	Jacket core diameter 18.1 mm (0.71 in) Jacket messenger diameter 11.6 mm (0.46 in)	480 kg/km (323 lbs/kft)
121 - 192f	Jacket core diameter 19.6 mm (0.77 in) Jacket messenger diameter 11.6 mm (0.46 in)	499 kg/km (335 lbs/kft)
193 - 216f	Jacket core diameter 20.4 mm (0.80 in) Jacket messenger diameter 11.6 mm (0.46 in)	523 kg/km (351 lbs/kft)
217 - 240f	Jacket core diameter 21.5 mm (0.85 in) Jacket messenger diameter 11.6 mm (0.46 in)	556 kg/km (374 lbs/kft)
241 - 288f	Jacket core diameter 23.5 mm (0.93 in) Jacket messenger diameter 11.6 mm (0.46 in)	620 kg/km (417 lbs/kft)

Mechanical Performance	Test Procedure	Specification
Low & high temperature cable	EIA/TIA-455-37A FOTP-37	20 x cable O.D. @ -30 °C and 60 °C
Impact resistance	EIA/TIA-455-25A FOTP-25	25 impact cycles
Compressive strength	EIA/TIA-455-41A FOTP-41	220 N/cm (124 lbs/in.)
Cable twist	EIA/TIA-455-85 FOTP-85	2 meter length ± 180°
Cable cyclic flexing	EIA/TIA-455-104 FOTP-104	20 x cable O.D. 25 cycles
Max. bend radius	EIA/TIA-455-37A FOTP-37	20 x cable O.D. 10 x cable O.D.
Max. tensile load	EIA/TIA-455-33 FOTP-33	13360 N (3000 lbf)

Environmental Performance	Test Procedure	Specification
Temperature	EIA/TIA-455-3A FOTP-3	Operation -40 to +70 °C (-40 to +158 °F) Installation -20 to +70 °C (-04 to +158 °F) Storage/Shipping -40 to +75 °C (-40 to +168 °F)
Cable aging	EIA/TIA-455-37 FOTP-37	168 hours @ 85 °C
Cable Freezing	EIA/TIA-455-98 FOTP-98	Frozen in ice
Water penetration	EIA/TIA-455-82B FOTP-82	1 meter for 24 hours
Compound drip temperature	EIA/TIA-455-81B FOTP-81	75 °C
Color coding permanence	Telcordia GR-20	Colors stable after aging



Specifications are subject to change without notice. The data given is subject to normal manufacturing tolerances.  
4SProducts Loose Tube Optical Cables are tested in accordance with the requirements of Bellcore GR-20.  
Performance specifications are measured per EIA Fiber Optic Test Procedures.



## Technical Data Sheet

**GelKore** Loose Tube Optical Cables

NESC Heavy Conditions

Max. Span 152 m (500 ft.)

Standard buffer tube with 2-288f

Steel Messenger Self Supporting Fig-8 Sheath  
**Dual Jacket / Single Armor**

### Application

Self supporting outdoor fiber optic cable in a figure 8 configuration for aerial installation on telecom poles. Designed for heavy duty applications and maximum typical span lengths of 152 m (500 ft.) under NESC heavy loading conditions.

### Benefits

- Fiber Count up to 288f
- Suitable for all types of light aerial applications except power lines
- Low installation costs
- Excellent handling characteristics
- Utilizes traditional aerial cable hardware
- Suitable for short and medium spans

### Fiber types

- G.651 multi-mode fiber
- G.652 single-mode fiber
- G.655 NZDS fiber for DWDM applications

### Full range of protections

- Water blocked
- Rodent resistant

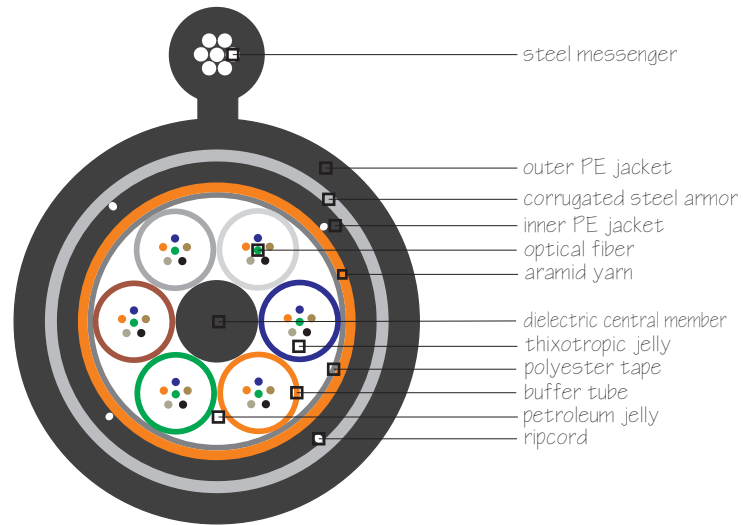
### Full range of applications

- Outdoor
- Aerial

### Optional protections

- HDPE jacket
- All dielectric
- Single jacket / single armor

### Cable cut-away



### Typical parameters

Number of fibers	Up to 288	
Diameter	minor axes	11.6 mm (0.46 in)
	major axes	15.3 mm (0.60 in) to 25.5 mm (1.00)
Cable weight	424 kg/km (285 lbs/kft) to 718 kg/km (482 lbs/kft)	
Max. bend radius	20 x cable O.D.	
Max. working tension	13360 N (3000 lbf)	
Operating temperature range	-40 °C / 70 °C (-40 °F / 158 °F)	



### Qualifications & approvals

REA PE-90  
Bellcore Standards  
ITU Standards  
TIA/EIA Standards

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## Technical Data Sheet

### GelKore Loose Tube Optical Cables

NESC Heavy Conditions

Max. Span 152 m (500 ft.)

Standard buffer tube with 2-288f

Steel Messenger Self Supporting Fig-8 Sheath  
**Dual Jacket / Single Armor**

Cable Properties	Diameter	Weight
002 - 060f	Jacket core diameter 15.3 mm (0.60 in) Jacket messenger diameter 11.6 mm (0.46 in)	424 kg/km (285 lbs/kft)
061 - 072f	Jacket core diameter 16.2 mm (0.64 in) Jacket messenger diameter 11.6 mm (0.46 in)	450 kg/km (302 lbs/kft)
073 - 096f	Jacket core diameter 18.1 mm (0.71 in) Jacket messenger diameter 11.6 mm (0.46 in)	498 kg/km (335 lbs/kft)
097 - 120f	Jacket core diameter 20.1 mm (0.79 in) Jacket messenger diameter 11.6 mm (0.46 in)	556 kg/km (374 lbs/kft)
121 - 192f	Jacket core diameter 21.5 mm (0.85 in) Jacket messenger diameter 11.6 mm (0.46 in)	578 kg/km (388 lbs/kft)
193 - 216f	Jacket core diameter 22.4 mm (0.88 in) Jacket messenger diameter 11.6 mm (0.46 in)	610 kg/km (410 lbs/kft)
217 - 240f	Jacket core diameter 23.5 mm (0.93 in) Jacket messenger diameter 11.6 mm (0.46 in)	645 kg/km (433 lbs/kft)
241 - 288f	Jacket core diameter 25.5 mm (1.00 in) Jacket messenger diameter 11.6 mm (0.46 in)	718 kg/km (482 lbs/kft)

Mechanical Performance	Test Procedure	Specification
Low & high temperature cable	EIA/TIA-455-37A FOTP-37	20 x cable O.D. @ -30 °C and 60 °C
Impact resistance	EIA/TIA-455-25A FOTP-25	25 impact cycles
Compressive strength	EIA/TIA-455-41A FOTP-41	220 N/cm (124 lbs/in.)
Cable twist	EIA/TIA-455-85 FOTP-85	2 meter length ± 180°
Cable cyclic flexing	EIA/TIA-455-104 FOTP-104	20 x cable O.D. 25 cycles
Max. bend radius	EIA/TIA-455-37A FOTP-37	20 x cable O.D. 10 x cable O.D.
Max. tensile load	EIA/TIA-455-33 FOTP-33	13360 N (3000 lbf)

Environmental Performance	Test Procedure	Specification
Temperature	EIA/TIA-455-3A FOTP-3	Operation -40 to +70 °C (-40 to +158 °F) Installation -20 to +70 °C (-04 to +158 °F) Storage/Shipping -40 to +75 °C (-40 to +168 °F)
Cable aging	EIA/TIA-455-37 FOTP-37	168 hours @ 85 °C
Cable Freezing	EIA/TIA-455-98 FOTP-98	Frozen in ice
Water penetration	EIA/TIA-455-82B FOTP-82	1 meter for 24 hours
Compound drip temperature	EIA/TIA-455-81B FOTP-81	75 °C
Color coding permanence	Telcordia GR-20	Colors stable after aging



Specifications are subject to change without notice. The data given is subject to normal manufacturing tolerances.  
4SProducts Loose Tube Optical Cables are tested in accordance with the requirements of Bellcore GR-20.  
Performance specifications are measured per EIA Fiber Optic Test Procedures.

