

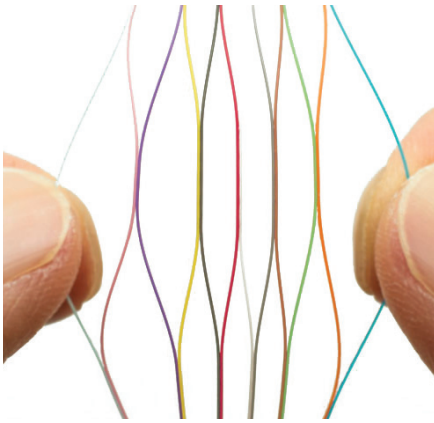


Rollable Ribbon Cable Solutions Guide:
Outside Plant
Inside Plant and Indoor/Outdoor

Double Density with Ribbon Splicing Benefits

Rollable Ribbon Cable Solutions Guide: Outside Plant

Double Density with Ribbon Splicing Benefits

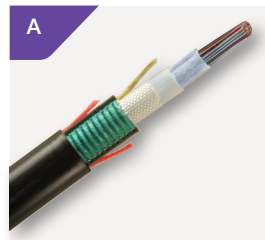


What is Rollable Ribbon?

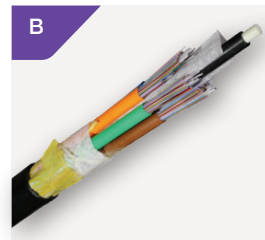
Rollable ribbon technology is the newest optical fiber ribbon design from Lightera. To form these ribbons, fibers are partially bonded to each other at intermittent points.

This design not only enables mass fusion ribbon splicing, but allows for easier individual fiber breakout than flat ribbons. The preferential bending plane of the rollable ribbons facilitates rolling and routing in smaller closures and splice trays, similar to individual fibers.

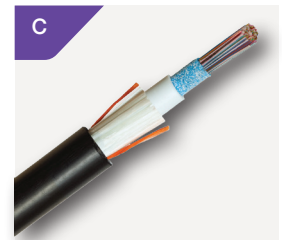
Outside Plant Cable Options



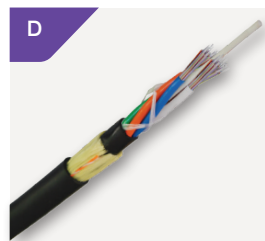
AccuRoll® Rollable Ribbon Cable (Dielectric and Armored Versions)



AccuTube®+ Rollable Ribbon Cable (Dielectric and Armored Versions)



DuctSaver® Rollable Ribbon Cable (Dielectric and Armored Versions)



PowerGuide® AccuTube®+ Rollable Ribbon ADSS Cable



RollR® Rollable Ribbon Microcable

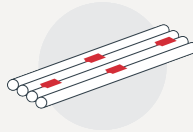
Why Rollable Ribbon?



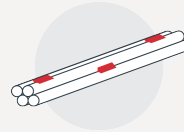
Maximizes Duct
Utilization



Smaller, Lighter
Weight



Enables Mass
Fusion Splicing



Easily Rolled
and Routed



Reduces
Prep Time

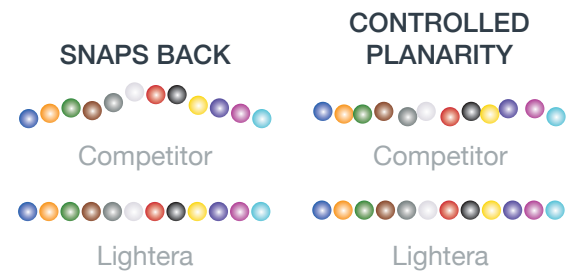
Why Lightera Optical Fiber?

AllWave®+ Zero Water Peak Optical Fiber is included in most cables.

- **Zero Water Peak:** Low loss through the optical spectrum
- **Bend Insensitivity:** Lower loss at longer wavelengths with tighter bends
- **Seamless Splicing**
- **Excellent Mechanical Reliability and Coating Performance**

Why Lightera Rollable Ribbon?

- **Excellent Spliceability**



- **Long-term Performance:** Fiber attachment locations in our rollable ribbon are formed by adding adhesive, versus cutting away.



Splicing Rollable Ribbons



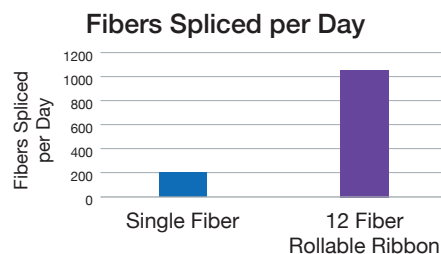
Furukawa S326R
High Precision Cleaver



Furukawa S124M12
Mass Fusion Splicer



Furukawa S218R-200
Thermal Fiber Stripper

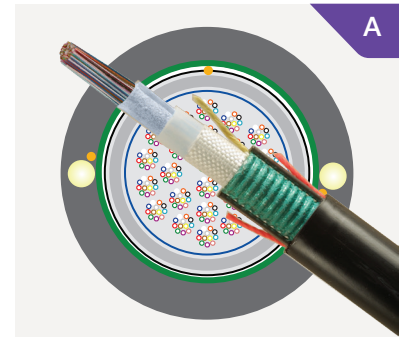


- Rollable ribbons are easily spliced with common ribbon splicing equipment
- Uses standard ribbon protection sleeves
- Significant productivity improvement versus single fiber splicing
- Easier prep due to gel-free construction
- Loss is similar to flat ribbon splicing or other fixed V-Groove splicer results

AccuRoll® Rollable Ribbon Cable: Familiar workhorse and field proven cable design with good combination of cost, density and handling capabilities

Highlights

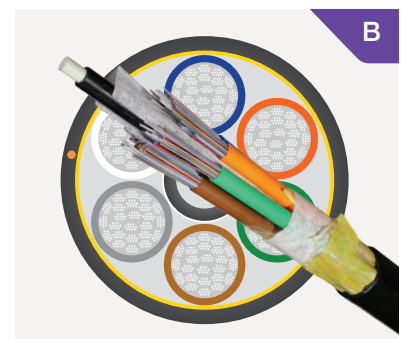
- Central tube design
- Excellent blowing performance
- Has preferred bending plane
- Smallest armored cable in Lightera ribbon cable portfolio



AccuTube®+ Rollable Ribbon Cable: Rugged cable for congested areas such as metropolitan shared hand-hole environments and frequent mid-span access applications

Highlights

- Ribbon in loose tube design
- Highest crush resistance of Lightera cable designs
- 1000 lbs. (4448 N) pulling tension
- Excellent mid-span access capabilities



DuctSaver® Rollable Ribbon Cable: Small form factor and extra flexibility for tight bending or coiling applications

Highlights

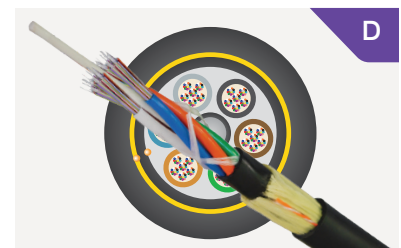
- Durable, highly crush-resistant central core design features helically applied strength members
- Superior cable coiling for simplified handling and installation compared to LXE designs
- Added protection of central core for increased robustness and ease of midspan access



PowerGuide® AccuTube®+ ADSS Rollable Ribbon Cable: Double jacket self supporting aerial loose tube cable

Highlights

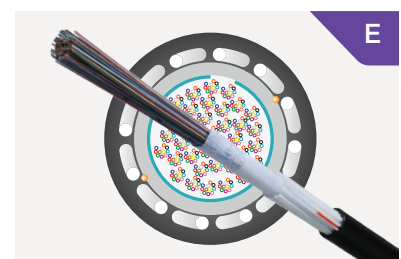
- Outstanding carrying capacity for high-growth, high-bandwidth applications
- Lower cable weight for easier handling and lower pole tension

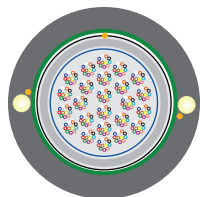


RollR® Rollable Ribbon Microcable: Small form factor and extra flexibility optimized for microduct applications

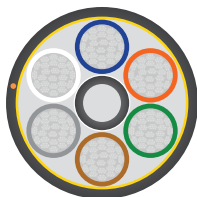
Highlights

- Optimized for air-blown, microduct installation
- Reduced outer diameter and high fiber density
- 250 or 200 μ m AllWave® FLEX Optical Fiber

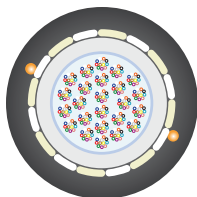




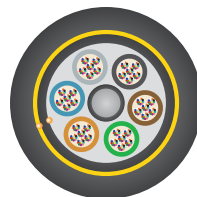
AccuRoll® RR
 Field proven design with good combination of cost, density, & handling capabilities



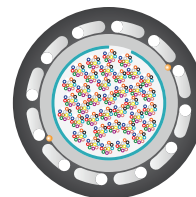
AccuTube®+ RR
 Rugged cable for congested areas and frequent mid-span access applications



DuctSaver® RR
 Small form factor and extra flexibility for tight bending or coiling applications



**PowerGuide®
 AccuTube®+ ADSS RR**
 Double jacket self supporting aerial loose tube cable



RollR® RR
 Small form factor and extra flexibility for micro-duct applications

BEST FOR: BLOWING
**BEST FOR:
 FREQUENT ACCESS**
BEST FOR: COILING
**BEST FOR:
 AERIAL APPLICATIONS**
**BEST FOR:
 MICRODUCTS**

Application

Cable Type	Ultra-High Fiber Counts	Density	Latency	Lashing	Blowing (Distance & Speed)
AccuTube+ RR Cable	★★★★★	★★★★★	★★★★★	★★★★★	★★★★
AccuRoll RR Cable	★★★★★	★★★★★	★★★★★	★★★★★	★★★★
DuctSaver RR Cable	★★★	★★★★★	★★★★★	★★★★★	★★★★
PowerGuide ADSS RR Cable	★★★★★	★★★★★	★★★★★	★★★★★	★★★★
RollR RR Cable	★★★★★	★★★★★	★★★★★	N/A	★★★★★

Cable Type	Crush and Kink Resistance in Harsh Environments			Mid-Span Access
	Kink Resistance (Beyond Min. Bend Diameter)	Coiling Ease of Handling	Crush (Beyond GR-20)	
AccuTube+ RR Cable	★★★★★	★★★★★	★★★★★	★★★★★
AccuRoll RR Cable	★★★★★	★★★★★	★★★★★	★★★★★
DuctSaver RR Cable	★★★	★★★★★	★★★	★★★
PowerGuide ADSS RR Cable	★★★★★	★★★★★	★★★★★	★★★★★
RollR RR Cable	★★★	★★★★★	★★★	★★★

Rollable Ribbon Cable Solutions Guide: Inside Plant and Indoor/Outdoor

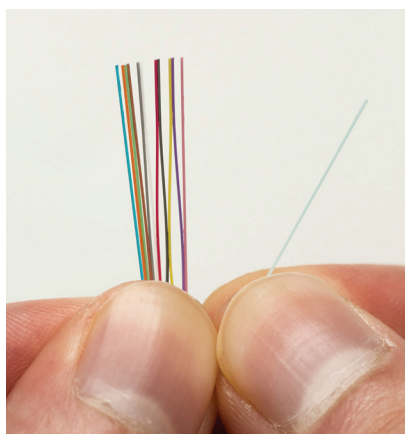
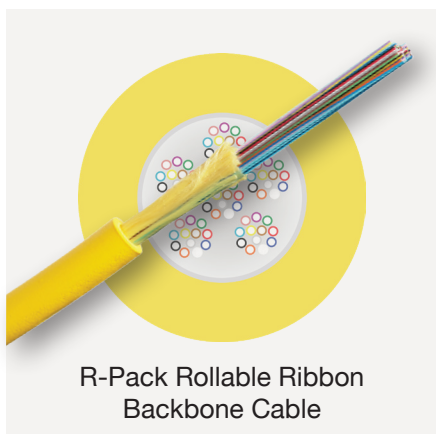
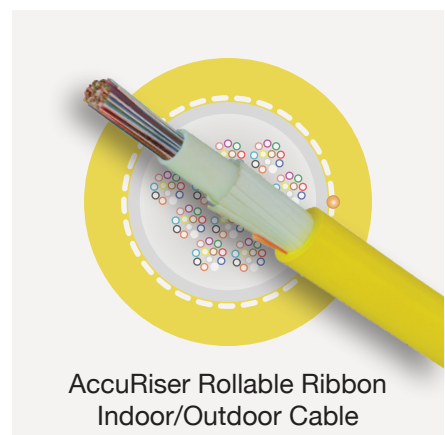
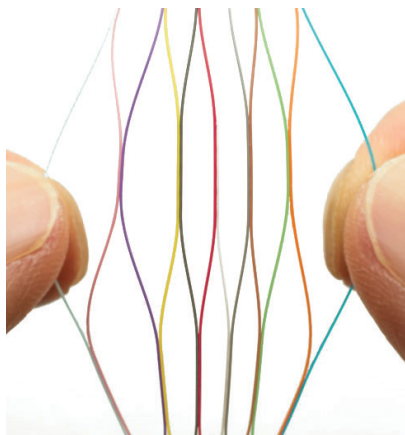
Double Density with Ribbon Splicing Benefits

What is Rollable Ribbon?

Rollable ribbon technology is the newest optical fiber ribbon design from Lightera.

To form these ribbons, fibers are partially bonded to each other at intermittent points.

Rollable ribbons combine mass fusion splicing speeds with the density of loose tubes, giving the best of both technologies.



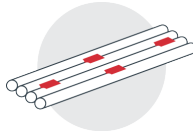
WHY ROLLABLE RIBBON?



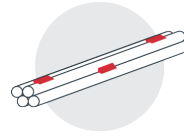
Maximizes
Duct
Utilization



Smaller,
Lighter
Weight



Enables
Mass Fusion
Splicing



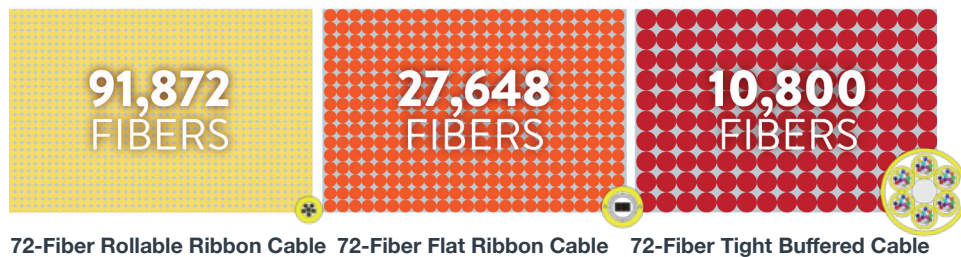
Easily Rolled
and Routed



Reduces
Prep Time

CABLE TRAY/LADDER RACK APPLICATIONS - 12x8"

More Fibers per Tray

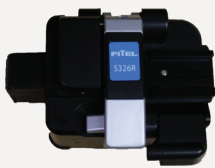


72-Fiber Rollable Ribbon Cable 72-Fiber Flat Ribbon Cable 72-Fiber Tight Buffered Cable

Increased density improves data center space efficiency

Different designs for different applications

SPlicing ROLLABLE RIBBONS



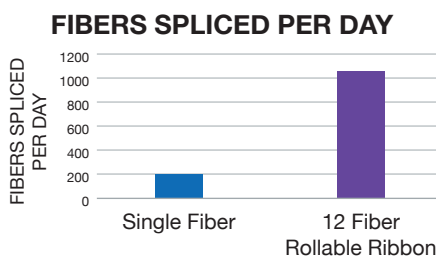
Furukawa S326R
High Precision Cleaver



Furukawa S124M12 Mass
Fusion Splicer



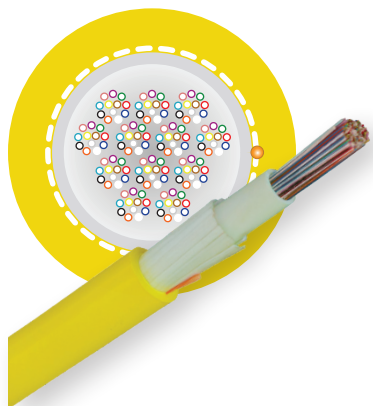
Furukawa S218R-200
Thermal Fiber Stripper



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ACCURISER ROLLABLE RIBBON CABLE

Versatile Indoor/Outdoor Cable Available in Very High Fiber Counts; Crush Resistant and Very Flexible



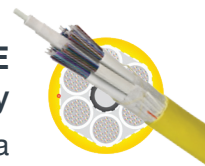
HIGHLIGHTS

- Versatile cable for indoor and outdoor environments
- Can run from handhole to distribution frame, eliminating splicing between outdoor and indoor cables
- Crush resistant and flexible
- Max fiber count 864 – AccuRiser 96-864, AccuTube RR I/O 1728
- Dual rated Low Smoke/Zero Halogen–UL 1666 and CPR rated $\geq$ Euroclass Cca

ACCUTUBE ROLLABLE RIBBON CABLE

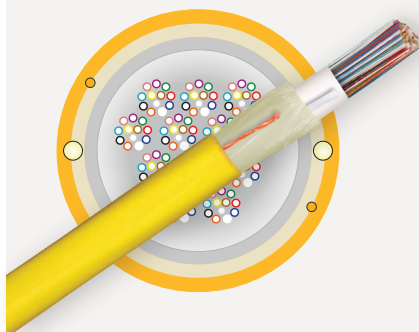
Indoor/Outdoor Building Cable - 1728 Fibers Only

CPR Rated: Euroclass B2ca



ACCUFLEX ROLLABLE RIBBON CABLE

Classic Indoor Cable for Versatile Deployments within Buildings

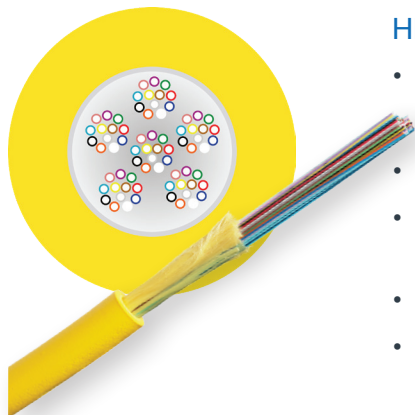


HIGHLIGHTS

- Plenum rated for flexible deployment options into air-handling spaces
- Fiber Count: 12-288
- For use within buildings, not outdoor rated

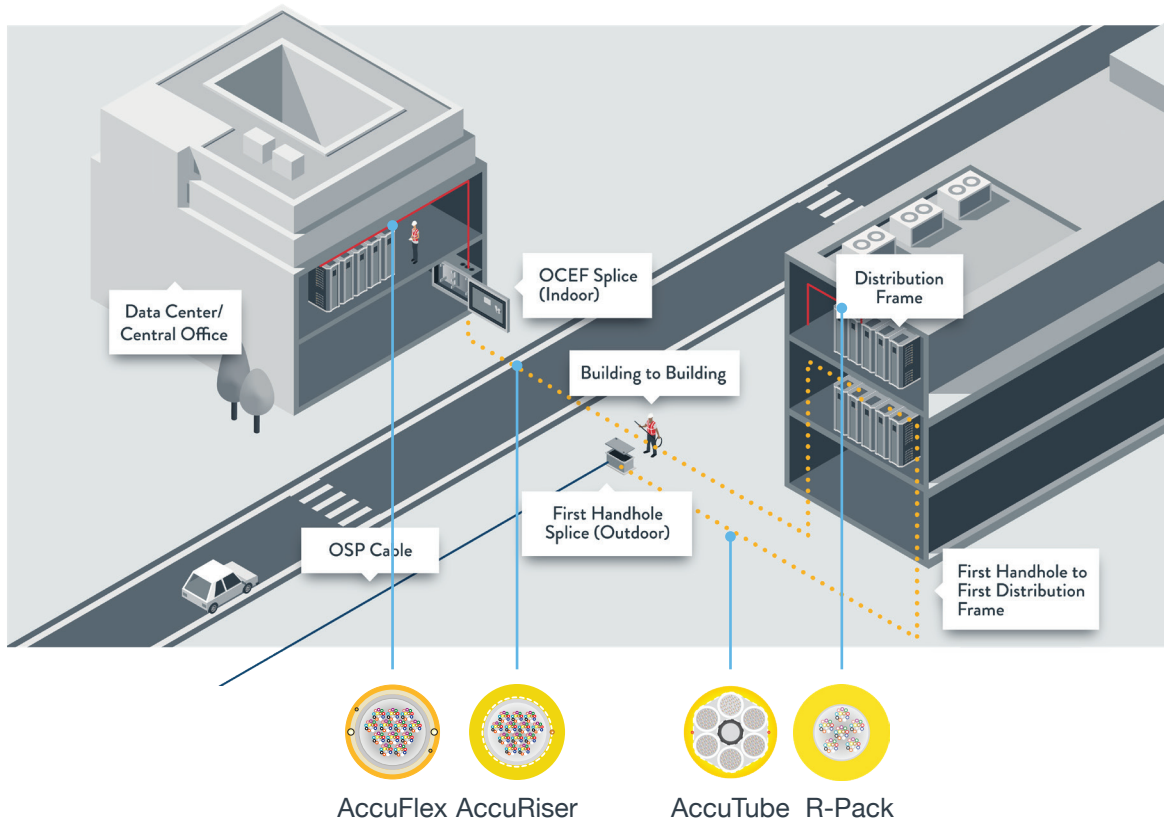
R-PACK ROLLABLE RIBBON BACKBONE CABLE

Compact, Lightweight Cable Rated for Horizontal Backbone Applications



HIGHLIGHTS

- Backbone distribution cable
Available in either OFNP or a Dual Rated LSZH Jacket
- Route in backbone applications like ladder racking
- Plenum available in 12-72 Fiber;
Dual Rated Riser/LSZH available in 12-144 Fiber
- CPR Rated $\geq$ Euroclass Cca
- Indoor/outdoor rated for short runs, building to building or first handhole



Cable Type	Applications			Flame Rating		
	Indoor/Outdoor Available	Vertical Spaces	Ladder Racks & Raceways	Plenum (Indoor Only)	Riser	CPR
R-Pack Backbone RR	✓	✓	✓	✓	✓	✓
AccuFlex RR		✓	✓	✓		
AccuRiser RR	✓	✓	✓		✓	✓
AccuTube I/O RR Building	✓	✓	✓		✓	✓