

Interconnect Cable — Simplex and Duplex

Tight Buffer — Riser & Plenum Rated

Applications

- Patch panels
- Workstation equipment connections
- Horizontal distribution in open office environments

Product Description

Interconnect Cables are designed for low fiber-count premises environments. They are small and very flexible, making them ideal for confined spaces. Their aesthetic appearance makes these cables suitable for use in open office environments. Available in 1 or 2 fibers. One sub-unit is marked to permit easy identification of transmit and receive fibers. Length markings to facilitate installation.

Jacket Material	PVC
Tight Buffer	PVC
Strength Member	Aramid Yarn
Color Code (Tight Buffer)	Per EIA/TIA 598-A, see page 10.2
Jacket Color	
Single-mode	Yellow
62.5/125 μm	Orange
50/125 μm / 1 Gbe	Orange
50/125 μm / 10 Gbe	Aqua

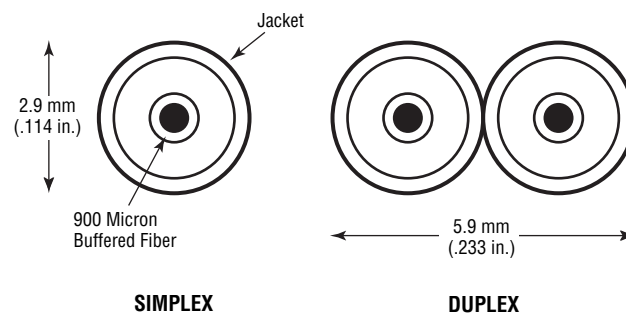
Ratings

Riser	
UL Type	OFNR
cUL Type	OFN FT4
Flame Resistance	UL 1666
Plenum	
UL Type	OFNP
cUL Type	OFN FT6
Flame Resistance	NFPA 262

Specifications

Temperature Range	
Storage	-40 to +70°C
Operating	-20 to +70°C
Crush Resistance (EIA-455-41)	200 N/cm
Impact Resistance (EIA-455-25)	20 Impacts @ 1.0 N-m
Cyclic Flexing (EIA-455-104)	2000 cycles, min.
Min. Bend Radius	
Installation	15 x OD
Long Term	10 x OD
Optical Specifications	See page 10.2

Fiber Bundle Detail



No. of Fibers	Belden Part Number				Outside Diameter		Weight		Max. Install Load	
	62.5 / 125μm Std. / 1 Gbe	50 / 125μm Std. / 1 Gbe	50 / 125μm 10 Gbe – 300M	Single-mode Enhanced	Inch	mm	Lbs./1000'	kg/km	Lbs.	N

Interconnect Cable Series

Riser (NEC/CEC OFNR/OFN FT4)										
1	M97112	M9A001	M9C001	M9W001	0.114	2.9	6	9	90	400
2	M96915	M9A002	M9C002	M9W002	0.11 x 0.23	2.9 x 5.9	12	18	180	801
Plenum (NEC/CEC OFNP/OFN FT6)										
1	M98086	M9A003	M9C003	M9W003	0.114	2.9	6	9	90	400
2	M96919	M9A004	M9C004	M9W004	0.11 x 0.23	2.9 x 5.9	13	19	180	801

All optical fiber products can be supplied in compliance with RoHS regulations. Please contact Customer Service for more details.

Distribution Cable

Tight Buffer — Indoor Riser, Plenum & LSZH Rated

Applications

- Low to high fiber count requirements
- In-building backbone
- Fiber-to-the-desk applications
- Computer room

Product Description

Flexible thermoplastic jacket provides excellent handling characteristics. Fibers and cable sub-units are color coded for easy identification. Length markings in meters for easy determination of cable length. Full dielectric construction, no grounding required. For Riser offering, MSHA approved cables are available.

Jacket Material

Riser & Non-unitized Plenum	PVC
Unitized Plenum	PVDF
Low Smoke Zero Halogen	LSZH

Tight Buffer

Riser & Plenum	PVC
Low Smoke Zero Halogen	LSZH

Strength Member

Aramid Yarn

Color Code (Tight Buffer)

Per EIA/TIA 598-A, see page 10.2

Jacket Color

Single-mode	Yellow
62.5/125 μ m	Orange (Green for LSZH only)
50/125 μ m / 1 Gbe	Orange
50/125 μ m / 10 Gbe	Aqua

Ratings

Riser

UL Type	OFNR
cUL Type	OFN FT4
Flame Resistance	UL 1666

Plenum

UL Type	OFNP
cUL Type	OFN FT6
Flame Resistance	NFPA 262

Low Smoke Zero Halogen

UL Type	OFNR
cUL Type	OFN FT4
Flame Resistance	UL 1666

Specifications

Temperature Range

Storage	-40 to +80°C
Operating	-20 to +70°C

Crush Resistance (EIA-455-41) 2000 N/cm

Impact Resistance (EIA-455-25) 2000 Impacts @ 1.6 N-m

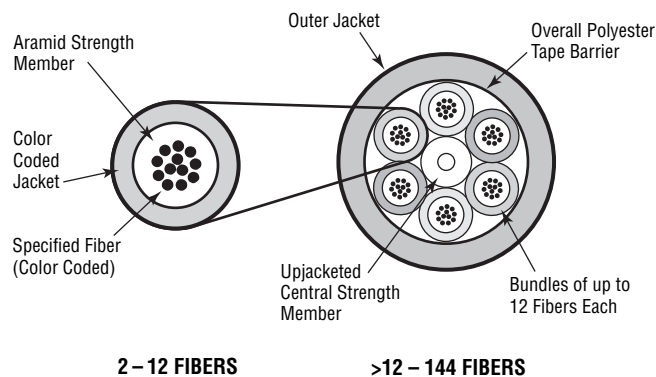
Cyclic Flexing (EIA-455-104) 2000 cycles, min.

Min. Bend Radius

Installation	15 x OD
Long Term	10 x OD

Optical Specifications See page 10.2

Fiber Bundle Detail



Distribution CableTight Buffer — Indoor Riser, Plenum & LSZH Rated (*continued*)

No. of Fibers	Belden Part Number				Outside Diameter		Weight		Max. Install Load	
	62.5 / 125µm Std. / 1 Gbe	50 / 125µm Std. / 1 Gbe	50 / 125µm 10 Gbe – 300M	Single-mode Enhanced	Inch	mm	Lbs./1000'	kg/km	Lbs.	N

Distribution Cable Series**Riser (NEC/CEC OFNR/OFN FT4)**

2	M9B037	M9A037	M9C037	M9W037	0.184	4.67	13	19	180	801
4	M9B038	M9A038	M9C038	M9W038	0.200	5.08	16	24	195	867
6	M9B039	M9A039	M9C039	M9W039	0.220	5.59	19	28	270	1201
8	M9B040	M9A040	M9C040	M9W040	0.235	5.97	22	33	270	1201
12	M9B042	M9A042	M9C042	M9W042	0.255	6.48	27	40	300	1334
24	M9B601*	M9A601*	M9C601*	M9W601*	0.325	8.26	42	63	390	1735
24	M9B602	M9A602	M9C602	M9W602	0.496	12.60	83	124	960	4270
36	M9B604	M9A604	M9C604	M9W604	0.644	16.36	137	204	1440	6405
48	M9B606	M9A606	M9C606	M9W606	0.627	15.93	131	195	945	4203
72	M9B609	M9A609	M9C609	M9W609	0.750	19.10	195	290	1350	6005
96	M9B622	M9A622	M9C622	M9W622	0.895	22.70	290	432	1983	8820
144	M9B619	M9A619	M9C619	M9W619	0.964	24.49	314	467	2745	12210

Composite Riser Cables

6xSM/12x62.5 M96992

12xSM/12x62.5 M96963

6xSM/12x50 M96909

12xSM/12x50 M96908

Plenum (NEC/CEC OFNP/OFN FT6)

2	M9B043	M9A043	M9C043	M9W043	0.184	4.67	14	21	180	801
4	M9B044	M9A044	M9C044	M9W044	0.174	4.42	13	19	195	867
6	M9B045	M9A045	M9C045	M9W045	0.190	4.83	16	24	270	1201
8	M9B046	M9A046	M9C046	M9W046	0.222	5.64	19	28	270	1201
12	M9B048	M9A048	M9C048	M9W048	0.225	5.72	22	33	300	1334
24	M9B611*	M9A611*	M9C611*	M9W611*	0.330	8.38	40	60	390	1735
24	M9B612	M9A612	M9C612	M9W612	0.493	12.52	89	132	1263	5618
36	M9B614	M9A614	M9C614	M9W614	0.594	15.09	134	199	1913	8509
48	M9B616	M9A616	M9C616	M9W616	0.599	15.21	131	195	1245	5538
72	M9B620	M9A620	M9C620	M9W620	0.754	19.15	197	293	2093	9310
96	M9B623	M9A623	M9C623	M9W623	0.904	22.96	268	399	2160	9608
144	M9B621	M9A621	M9C621	M9W621	1.047	26.59	365	543	3645	16213

Composite Plenum Cables

6xSM/6x62.5 M97174

6xSM/12x62.5 M97041

12xSM/12x62.5 M97219

6xSM/6x50 M97412

6xSM/12x50 M97411

12xSM/12x50 M96780

LSZH (NEC/CEC OFNR/OFN FT4)

2	M9B100	M9A100	M9C100	M9W100	0.184	4.70	15	22	180	800
4	M9B101	M9A101	M9C101	M9W101	0.200	5.10	17	25	195	867
6	M9B102	M9A102	M9C102	M9W102	0.220	5.60	21	31	270	1201
8	M9B103	M9A103	M9C103	M9W103	0.235	6.00	24	36	270	1201
12	M9B104	M9A104	M9C104	M9W104	0.255	6.50	29	43	300	1334
16	M9B105	M9A105	M9C105	M9W105	0.347	8.80	43	63	315	1400
24	M9B107	M9A107	M9C107	M9W107	0.386	9.80	54	79	450	2000
36	M9B111	M9A111	M9C111	M9W111	0.798	20.00	214	313	1619	7200
48	M9B112	M9A112	M9C112	M9W112	0.835	21.20	237	347	1619	7200
72	M9B114	M9A114	M9C114	M9W114	0.883	22.40	270	395	1619	7200
96	M9B116	M9A116	M9C116	M9W116	0.973	24.70	364	532	1619	7200
144	M9B120	M9A120	M9C120	M9W120	1.087	27.60	384	561	1619	7200

All optical fiber products can be supplied in compliance with RoHS regulations. Please contact Customer Service for more details.
Construction for LSZH cables differs from the drawing. Alternative fiber counts are available.

*Single jacket design.

Breakout Style Cable

Tight Buffer — Indoor Riser, Plenum & LSZH Rated

Applications

- Low to medium fiber count requirements
- In-building backbone or horizontal deployment
- Office wiring
- Factory floor automation and harsh environment installations

Product Description

Full dielectric construction, no grounding required. Available with 2 to 36 fibers. Fiber subunits are color coded for easy identification. Length markings in meters for easy determination of cable length. For Riser offering, MSHA approved cables are available.

Outer Jacket Material

Riser & Plenum	PVC
Plenum	PVDF
Low Smoke Zero Halogen	LSZH

Sub-unit Jacket Material

Riser & Plenum	PVC
Low Smoke Zero Halogen	LSZH

Tight Buffer

Riser & Plenum	PVC
Low Smoke Zero Halogen	LSZH

Strength Member

Aramid Yarn

Color Code (Tight Buffer) Per EIA/TIA 598-A, see page 10.2

Jacket Color

Single-mode	Yellow
62.5/125 μ m	Orange (Green for LSZH only)
50/125 μ m / 1 Gbe	Orange
50/125 μ m / 10 Gbe	Aqua

Ratings

Riser

UL Type	OFNR
cUL Type	OFN FT4
Flame Resistance	UL 1666

Plenum

UL Type	OFNP
cUL Type	OFN FT6
Flame Resistance	NFPA 262

Low Smoke Zero Halogen

UL Type	OFNR
cUL Type	OFN FT4
Flame Resistance	UL 1666

Specifications

Temperature Range

Storage	-40 to +80°C
Operating	-20 to +70°C

Crush Resistance (EIA-455-41) 2000 N/cm

Impact Resistance (EIA-455-25) 2000 Impacts @ 1.6 N-m

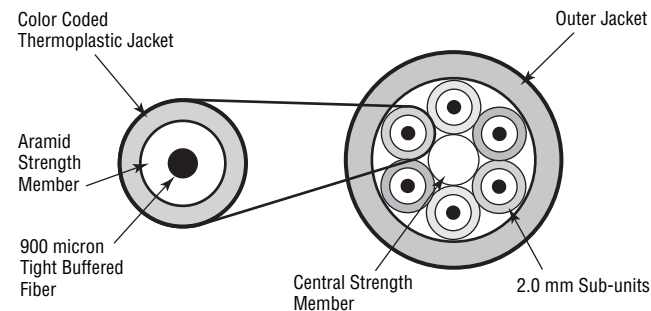
Cyclic Flexing (EIA-455-104) 2000 cycles, min.

Min. Bend Radius

Installation	15 x OD
Long Term	10 x OD

Optical Specifications See page 10.2

Fiber Bundle Detail



Breakout Style CableTight Buffer — Indoor Riser, Plenum & LSZH Rated (*continued*)

No. of Fibers	Belden Part Number				Outside Diameter		Weight		Max. Install Load	
	62.5 / 125µm Std. / 1 Gbe	50 / 125µm Std. / 1 Gbe	50 / 125µm 10 Gbe – 300M	Single-mode Enhanced	Inch	mm	Lbs./1000'	kg/km	Lbs.	N

Breakout Cable Series

Riser (NEC/CEC OFNR/OFN FT4)										
2	M9B005	M9A005	M9C005	M9W005	0.260	6.60	24	36	180	801
4	M9B006	M9A006	M9C006	M9W006	0.321	8.15	35	52	345	1535
6	M9B007	M9A007	M9C007	M9W007	0.358	9.09	54	80	543	2415
8	M9B008	M9A008	M9C008	M9W008	0.405	10.29	69	103	600	2700
10	M9B009	M9A009	M9C009	M9W009	0.455	11.56	86	128	600	2700
12	M9B010	M9A010	M9C010	M9W010	0.514	13.06	110	164	600	2700
18	M9B011	M9A011	M9C011	M9W011	0.520	13.21	104	155	600	2700
24	M9B012	M9A012	M9C012	M9W012	0.590	14.99	135	201	600	2700
36	M9B083	M9A083	M9C083	M9W083	0.680	17.27	168	250	600	2700
Plenum (NEC/CEC OFNP/OFN FT6)										
2	M9B013	M9A013	M9C013	M9W013	0.230	5.84	20	30	180	801
4	M9B014	M9A014	M9C014	M9W014	0.263	6.68	30	45	345	1535
6	M9B015	M9A015	M9C015	M9W015	0.309	7.85	41	61	465	2068
8	M9B016	M9A016	M9C016	M9W016	0.336	8.53	55	82	600	2700
10	M9B017	M9A017	M9C017	M9W017	0.385	9.78	73	109	600	2700
12	M9B018	M9A018	M9C018	M9W018	0.391	9.93	65	97	600	2700
18	M9B019	M9A019	M9C019	M9W019	0.456	11.58	89	132	600	2700
24	M9B020	M9A020	M9C020	M9W020	0.544	13.82	117	174	600	2700
36	M9B082	M9A082	M9C082	M9W082	0.612	15.54	154	229	600	2700
LSZH (NEC/CEC OFNR/OFN FT4)										
2	M9B130	M9A130	M9C130	M9W130	0.290	7.37	39	57	270	1200
4	M9B131	M9A131	M9C131	M9W131	0.351	8.92	38	55	285	1268
6	M9B132	M9A132	M9C132	M9W132	0.358	9.09	52	76	543	2415
8	M9B133	M9A133	M9C133	M9W133	0.405	10.29	67	98	600	2700
10	M9B134	M9A134	M9C134	M9W134	0.455	11.56	110	162	600	2700
12	M9B135	M9A135	M9C135	M9W135	0.514	13.06	110	161	600	2700
18	M9B136	M9A136	M9C136	M9W136	0.520	13.21	103	151	600	2700
24	M9B137	M9A137	M9C137	M9W137	0.590	14.99	138	202	600	2700
36	M9B138	M9A138	M9C138	M9W138	0.680	17.27	171	250	600	2700

All optical fiber products can be supplied in compliance with RoHS regulations. Please contact Customer Service for more details.
2.5 mm Breakout Cables are also available.

Industrial Armored Cable

Tight Buffer — Riser & Plenum Rated

Applications

- Industrial environments
- Rugged installations
- Manufacturing plants
- Mining operations
- Telecommunications and data trunk
- Inter- and intra-building installations

Product Description

Heavy duty construction with interlocking aluminum armor (steel available on request) provides excellent mechanical protection from cutting or crushing and eliminates need for innerduct. Rodent resistant. Also available for outside plant. Loose tube design available on request.

Jacket Material	Riser & Plenum	PVC
Buffer Tube		PVC
Strength Member		Aramid Yarn
Central Strength Member		E-Glass
Armor		Aluminum
Color Code (Buffer)		Per EIA/TIA 598-A, see page 10.2
Jacket Color	Single-mode 62.5/125 μm 50/125 μm / 1 Gbe 50/125 μm / 10 Gbe	Yellow Orange Orange Aqua

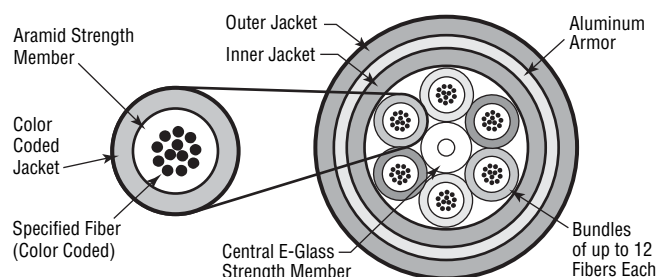
Ratings

Riser	UL Type	OFRC
	cUL Type	OFC FT4
	Flame Resistance	UL 1666
Plenum	UL Type	OFCP
	cUL Type	OFC FT6
	Flame Resistance	NFPA 262

Specifications

Temperature Range	Storage	-40 to +70°C
	Operating	-20 to +70°C
Crush Resistance (EIA-455-41)		2000 N/cm
Impact Resistance (EIA-455-25)		2000 Impacts @ 3.0 N-m
Min. Bend Radius	Installation	20 x OD
	Long Term	15 x OD
Optical Specifications		See page 10.2

Fiber Bundle Detail



No. of Fibers	Belden Part Number				Outside Diameter		Weight		Max. Install Load	
	62.5 / 125μm Std. / 1 Gbe	50 / 125μm Std. / 1 Gbe	50 / 125μm 10 Gbe – 300M	Single-mode Enhanced	Inch	mm	Lbs./1000'	kg/km	Lbs.	N

Industrial Armored Series

Riser (NEC/CEC OFCR/OFC FT4)										
6	M9B230	M9A230	M9C230	M9W230	0.570	14.50	126	188	270	1201
12	M9B231	M9A231	M9C231	M9W231	0.620	15.70	149	222	300	1334
24	M9B232*	M9A232*	M9C232*	M9W232*	0.670	17.00	179	266	390	1735
24	M9B233	M9A233	M9C233	M9W233	0.845	21.46	263	391	600	2700
36	M9B234	M9A234	M9C234	M9W234	0.970	24.64	368	548	600	2700
48	M9B235	M9A235	M9C235	M9W235	0.970	24.64	368	548	600	2700
72	M9B236	M9A236	M9C236	M9W236	1.095	27.82	481	716	600	2700
96	M9B237	M9A237	M9C237	M9W237	1.245	31.62	625	930	600	2700
144	M9B238	M9A238	M9C238	M9W238	1.320	33.55	675	1005	600	2700
Plenum (NEC/CEC OFCP/OFC FT6)										
6	M9B240	M9A240	M9C240	M9W240	0.471	12.00	87	129	270	1201
12	M9B241	M9A241	M9C241	M9W241	0.506	12.90	103	153	300	1334
24	M9B242*	M9A242*	M9C242*	M9W242*	0.631	16.00	151	225	390	1735
24	M9B243	M9A243	M9C243	M9W243	0.781	19.84	289	430	600	2700
36	M9B244	M9A244	M9C244	M9W244	0.881	22.38	309	460	600	2700
48	M9B245	M9A245	M9C245	M9W245	0.906	23.01	320	476	600	2700
72	M9B246	M9A246	M9C246	M9W246	1.056	26.82	451	671	600	2700
96	M9B247	M9A247	M9C247	M9W247	1.256	31.90	608	905	600	2700
144	M9B248	M9A248	M9C248	M9W248	1.331	33.81	687	1022	600	2700

Additional optical fiber cable constructions are available upon request. All optical fiber products can be supplied in compliance with RoHS regulations. Please contact Customer Service for more details.

*Single jacket design.

Tactical Cable

Tight Buffer — Outdoor

Applications

- ENG vehicles
- Outdoor news, sporting or other events
- Digital camera transmission
- Military communications
- Re-deployable communications

Product Description

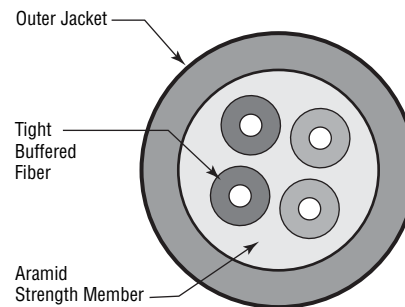
Small and lightweight with a rugged jacket, Tactical Cable provides a durable design for repeated deployment and retrieval cycles and a superior level of crush resistance. Designed to military standards. 50/125 micron fiber available on request.

Jacket Material	UV-resistant PU
Buffer	Polyester
Strength Member	Aramid Yarn
Color Code (Jacket & Fibers)	Per EIA/TIA 598-A, see page 10.2

Specifications

Temperature Range	
Storage	-70 to +85°C
Operating	-55 to +85°C
Crush Resistance (EIA-455-41)	440 N/cm
Impact Resistance (EIA-455-25)	200 Impacts @ 2.2 N-m
Cyclic Flexing (EIA-455-104)	2000 cycles, min.
Min. Bend Radius	
Installation	15 x OD
Long Term	8 x OD
Optical Specifications	See page 10.2

Fiber Bundle Detail



No. of Fibers	Belden Part Number		Outside Diameter		Weight		Max. Install Load	
	62.5 / 125µm Std. / 1 Gbe	Single-mode Enhanced	Inch	mm	Lbs./1000'	kg/km	Lbs.	N

Tactical Series

Outdoor								
2	M96571	M96566	0.217	5.5	19	28	330	1468
4	M96551	M96639	0.225	5.7	21	31	330	1468
6	M96572	M96567	0.236	6.0	23	34	330	1468
8	M96573	M96568	0.250	6.3	26	39	330	1468
10	M96574	M96569	0.265	6.7	28	42	330	1468
12	M96575	M96570	0.280	7.1	31	46	330	1468

Please contact the Technical Support Group for proper connectivity integration and installation guidance. All optical fiber products can be supplied in compliance with RoHS regulations. Please contact Customer Service for more details.

Ribbon Cable

Riser and Plenum Rated

Applications

- Inter-equipment connections
- NEBS applications

Product Description

Small size is ideal for connections in tight spaces. Color coded fibers. Suitable for use with standard ribbon connectors. Flexible, with half-inch minimum bend radius. Tight center-to-center tolerances. Optional identification printing available.

Jacket Material	PVC
Strength Member	Aramid Yarn
Color Code (Jacket & Fibers)	Per EIA/TIA 598-A, see page 10.2
Jacket Color	
Single-mode	Yellow
62.5/125µm	Orange
50/125 µm / 1 Gbe	Orange
50/125 µm / 10 Gbe	Aqua

Ratings

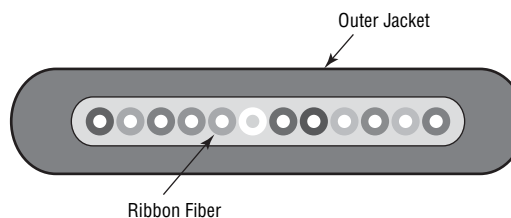
Riser	
UL Type	OFNR
cUL Type	OFN FT4
Flame Resistance	UL 1666

Plenum	
UL Type	OFNP
cUL Type	OFN FT6
Flame Resistance	NFPA 262

Specifications

Temperature Range	
Storage	-40 to +80°C
Operating	-20 to +70°C
Crush Resistance (EIA-455-41)	2000 N/cm
Impact Resistance (EIA-455-25)	2000 Impacts @ 1.6 N-m
Cyclic Flexing (EIA-455-104)	2000 cycles, min.
Min. Bend Radius	
Installation	15 x OD
Long Term	10 x OD
Optical Specifications	See page 10.2

Fiber Bundle Detail



No. of Fibers	Belden Part Number				Outside Diameter		Weight		Max. Install Load	
	62.5 / 125µm Std. / 1 Gbe	50 / 125µm Std. / 1 Gbe	50 / 125µm 10 Gbe – 300M	Single-mode Enhanced	Inch	mm	Lbs./1000'	kg/km	Lbs.	N

Ribbon Series

Riser (NEC/CEC OFNR/OFN FT4)										
2	M9B630	M9A630	M9C630	M9W630	0.114	2.9	5	7	100	444
4	M9B631	M9A631	M9C631	M9W631	0.78 x 0.115	2.0 x 2.9	4	6	100	444
6	M9B632	M9A632	M9C632	M9W632	0.78 x 0.137	2.0 x 3.5	6	9	100	444
8	M9B633	M9A633	M9C633	M9W633	0.78 x 0.158	2.0 x 4.0	6	9	100	444
12	M9B634	M9A634	M9C634	M9W634	0.78 x 0.180	2.0 x 4.6	7	10	100	444
Plenum (NEC/CEC OFNP/OFN FT6)										
2	M9B640	M9A640	M9C640	M9W640	0.114	2.9	5	7	100	444
4	M9B641	M9A641	M9C641	M9W641	0.78 x 0.115	2.0 x 2.9	4	6	100	444
6	M9B642	M9A642	M9C642	M9W642	0.78 x 0.137	2.0 x 3.5	6	9	100	444
8	M9B643	M9A643	M9C643	M9W643	0.78 x 0.158	2.0 x 4.0	6	9	100	444
12	M9B644	M9A644	M9C644	M9W644	0.78 x 0.180	2.0 x 4.6	7	10	100	444

Fiber Ribbon Cable is to be sold as bulk cable and has not been qualified for field connectorization.

All optical fiber products can be supplied in compliance with RoHS regulations. Please contact Customer Service for more details.

Single Jacket, All Dielectric Cable

Loose Tube — Outdoor, and Indoor/Outdoor Riser Rated

Applications

- Medium to high fiber count requirements
- Inter-building duct installations
- Lashed aerial
- Indoor/outdoor
- Industrial outside plant

Product Description

Gel-filled buffer tube prevents water migration. All-dielectric strength member. Available as Riser rated cable, thereby eliminating the need for service entrance splicing to in-building cable. Full dielectric construction, no grounding required. Available with up to 216 fibers. Length markings in meters for easy determination of cable length.

Jacket Material	
Outdoor	PE
Riser	PVC
Buffer Tube	PBT
Strength Member	Aramid Yarn
Central Strength Member	E-Glass
Color Code (Buffer)	Per EIA/TIA 598-A, see page 10.2
Jacket Color	Black

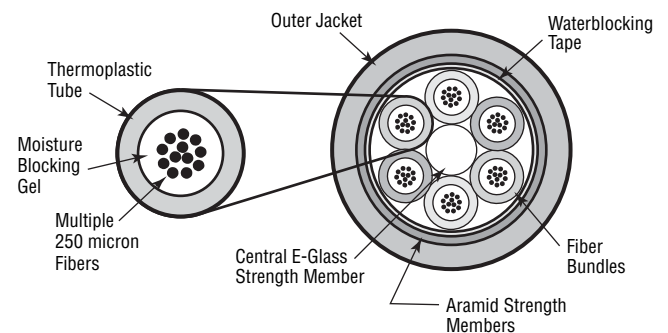
Ratings

Riser	
UL Type	OFNR
cUL Type	OFN FT4
Flame Resistance	UL 1666

Specifications

Temperature Range (Outdoor Series)	
Storage	-50 to +80°C
Operating	-40 to +70°C
Temperature Range (Riser Series)	
Storage	-40 to +80°C
Operating	-40 to +70°C
Crush Resistance (EIA-455-41)	2000 N/cm
Impact Resistance (EIA-455-25)	2000 Impacts @ 1.6 N-m
Min. Bend Radius	
Installation	20 x OD
Long Term	15 x OD
Optical Specifications	See page 10.2

Fiber Bundle Detail



No. of Fibers	Fibers Per Tube	Belden Part Number				Outside Diameter		Weight		Max. Install Load	
		62.5 / 125µm Std. / 1 Gbe	50 / 125µm Std. / 1 Gbe	50 / 125µm 10 Gbe – 300M	Single-mode Enhanced	Inch	mm	Lbs./1000'	kg/km	Lbs.	N

Loose Tube Series

Outdoor											
6	6	M9B510T	M9A510T	M9C510T	M9W510T	0.38	9.65	44	65	600	2700
12	6	M9B511T	M9A511T	M9C511T	M9W511T	0.38	9.65	44	65	600	2700
24	6	M9B500T	M9A500T	M9C500T	M9W500T	0.38	9.65	45	67	600	2700
36	6	M9B502T	M9A502T	M9C502T	M9W502T	0.38	9.65	47	70	600	2700
48	12	M9B505T	M9A505T	M9C505T	M9W505T	0.48	12.19	70	104	600	2700
72	12	M9B507T	M9A507T	M9C507T	M9W507T	0.48	12.19	70	104	600	2700
96	12	M9B513T	M9A513T	M9C513T	M9W513T	0.55	13.89	93	138	600	2700
144	12	M9B509T	M9A509T	M9C509T	M9W509T	0.70	17.78	149	222	600	2700
216	12	M9B520T	M9A520T	M9C520T	M9W520T	0.72	18.16	148	220	600	2700
Riser (NEC/CEC OFNR/OFN FT4)											
6	6	M9B810	M9A810	M9C810	M9W810	0.38	9.65	63	94	600	2700
12	6	M9B811	M9A811	M9C811	M9W811	0.38	9.65	62	92	600	2700
24	6	M9B812	M9A812	M9C812	M9W812	0.38	9.65	61	91	600	2700
36	6	M9B813	M9A813	M9C813	M9W813	0.38	9.65	60	89	600	2700
48	12	M9B814	M9A814	M9C814	M9W814	0.48	12.20	89	132	600	2700
72	12	M9B815	M9A815	M9C815	M9W815	0.48	12.20	87	129	600	2700
96	12	M9B816	M9A816	M9C816	M9W816	0.55	13.89	114	170	600	2700
144	12	M9B817	M9A817	M9C817	M9W817	0.70	17.78	187	278	600	2700

Alternative fiber counts are available.

All optical fiber products can be supplied in compliance with RoHS regulations. Please contact Customer Service for more details.

Single Jacket, All Dielectric Cable

Loose Tube — Indoor/Outdoor Plenum Rated

Applications

- Medium to high fiber count requirements
- Inter-building duct installations
- Lashed aerial
- Indoor/outdoor
- Campus backbones
- Data Centers
- High Density Cable Trays

Product Description

Dry waterblocking technology used within tubes and under jacket. Available as Plenum rated cable, thereby eliminating the need for service entrance splicing to in-building cable. Small diameter and bend radius facilitate installation in tight spaces. Full dielectric construction, no grounding required. Available with up to 144 fibers. Fibers grouped into sets of 12 for maximum density. Length markings in meters for easy determination of cable length.

Jacket Material	
Non-unitized	PVC
Unitized	PVDF
Buffer Tube	PVC
Strength Member	E-Glass and Aramid Yarn
Central Strength Member	Upjacketed
Color Code (Buffer)	Per EIA/TIA 598-A, see page 10.2
Jacket Color	Black

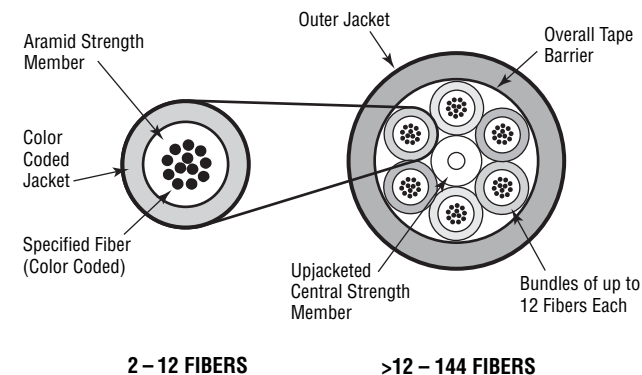
Ratings

Plenum	
UL Type	OFNP
cUL Type	OFN FT6
Flame Resistance	NFPA 262

Specifications

Temperature Range	
Storage	-40 to +80°C
Operating	-40 to +70°C
Installation	0 to +60°C
Crush Resistance (EIA-455-41)	2000 N/cm
Impact Resistance (EIA-455-25)	2000 Impacts @ 1.6 N-m
Cyclic Flexing (EIA-455-104)	2000 cycles, min.
Min. Bend Radius	
Installation	20 x OD
Long Term	15 x OD
Optical Specifications	See page 10.2

Fiber Bundle Detail



No. of Fibers	Fibers Per Tube	Belden Part Number				Outside Diameter		Weight		Max. Install Load	
		62.5 / 125µm Std. / 1 Gbe	50 / 125µm Std. / 1 Gbe	50 / 125µm 10 Gbe - 300M	Single-mode Enhanced	Inch	mm	Lbs./1000'	kg/km	Lbs.	N

Loose Tube Series

Plenum (NEC/CEC OFNP/OFN FT6)											
6	6	M9B202	M9A202	M9C202	M9W202	0.265	6.70	33	49	320	1423
12	12	M9B204	M9A204	M9C204	M9W204	0.265	6.70	33	49	320	1423
24	12	M9B205	M9A205	M9C205	M9W205	0.359	9.12	47	70	405	1801
36	12	M9B206	M9A206	M9C206	M9W206	0.359	9.12	47	70	405	1801
48	12	M9B207	M9A207	M9C207	M9W207	0.359	9.12	48	71	405	1801
72	12	M9B209	M9A209	M9C209	M9W209	0.429	10.90	71	106	585	2602
96	12	M9B211	M9A211	M9C211	M9W211	0.501	12.73	105	156	903	4017
144	12	M9B215	M9A215	M9C215	M9W215	0.665	16.89	189	281	1263	5618

Alternative fiber counts and hybrid constructions are available.

All optical fiber products can be supplied in compliance with RoHS regulations. Please contact Customer Service for more details.

Double Jacket, Armored Cable

Loose Tube – Outdoor, and Indoor/Outdoor Riser Rated

Applications

- Direct burial
- Low to high fiber count requirements
- Inter-building duct installations
- Indoor/outdoor
- Industrial outside plant

Product Description

Gel-filled buffer tube prevents water migration. Available as Riser rated cable, thereby eliminating the need for service entrance splicing to in-building cable. Rodent resistant. Available in sizes up to 216 fibers. Length markings in meters for easy determination of cable length.

Jacket Material	
Outdoor	PE
Riser	PVC
Buffer Tube	
Outdoor	PBT
Riser	PVC
Strength Member	
	Aramid Yarn
Central Strength Member	
	E-Glass
Armor	
	Corrugated Steel Tape
Color Code (Buffer)	
	Per EIA/TIA 598-A, see page 10.2
Jacket Color	
	Black

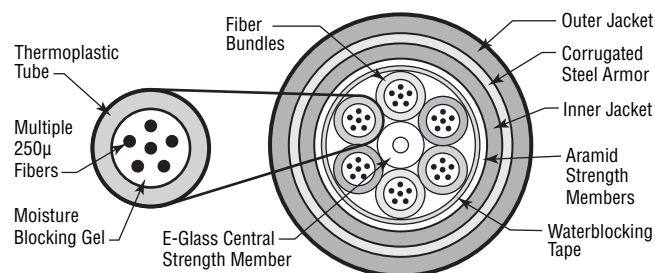
Ratings

Riser	
UL Type	OFCR
cUL Type	OFC FT4
Flame Resistance	UL 1666

Specifications

Temperature Range (Outdoor)	
Storage	-50 to +80°C
Operating	-40 to +70°C
Temperature Range (Riser)	
Storage	-40 to +80°C
Operating	-40 to +70°C
Crush Resistance (EIA-455-41)	
	2000 N/cm
Impact Resistance (EIA-455-25)	
	2000 Impacts @ 1.6 N-m
Min. Bend Radius	
Installation	20 x OD
Long Term	15 x OD
Optical Specifications	
	See page 10.2

Fiber Bundle Detail



No. of Fibers	Fibers Per Tube	Belden Part Number				Outside Diameter		Weight		Max. Install Load	
		62.5 / 125µm Std. / 1 Gbe	50 / 125µm Std. / 1 Gbe	50 / 125µm 10 Gbe – 300M	Single-mode Enhanced	Inch	mm	Lbs./1000'	kg/km	Lbs.	N

Loose Tube Series — Armored

Outdoor											
6	6	M9B381T	M9A381T	M9C381T	M9W381T	0.53	13.46	101	150	600	2700
12	6	M9B382T	M9A382T	M9C382T	M9W382T	0.53	13.46	102	152	600	2700
24	6	M9B384T	M9A384T	M9C384T	M9W384T	0.53	13.46	103	153	600	2700
36	6	M9B386T	M9A386T	M9C386T	M9W386T	0.53	13.46	103	153	600	2700
48	12	M9B389T	M9A389T	M9C389T	M9W389T	0.65	16.51	144	214	600	2700
72	12	M9B391T	M9A391T	M9C391T	M9W391T	0.65	16.51	142	211	600	2700
96	12	M9B398T	M9A398T	M9C398T	M9W398T	0.69	17.53	168	250	600	2700
144	12	M9B393T	M9A393T	M9C393T	M9W393T	0.87	22.10	241	359	600	2700
216	12	M9B400T	M9A400T	M9C400T	M9W400T	0.87	22.10	241	359	600	2700
Riser (NEC/CEC OFCR/OFC FT4)											
6	6	M9B890	M9A890	M9C890	M9W890	0.54	13.72	138	205	600	2700
12	6	M9B891	M9A891	M9C891	M9W891	0.54	13.72	137	204	600	2700
24	6	M9B892	M9A892	M9C892	M9W892	0.54	13.72	136	202	600	2700
36	6	M9B893	M9A893	M9C893	M9W893	0.54	13.72	135	201	600	2700
48	12	M9B894	M9A894	M9C894	M9W894	0.66	16.76	176	262	600	2700
72	12	M9B895	M9A895	M9C895	M9W895	0.66	16.76	172	256	600	2700
96	12	M9B896	M9A896	M9C896	M9W896	0.70	17.78	206	307	600	2700
144	12	M9B897	M9A897	M9C897	M9W897	0.88	22.35	302	449	600	2700

All optical fiber products can be supplied in compliance with RoHS regulations. Please contact Customer Service for more details.

Double Jacket, Heavy-Duty Cable

Loose Tube — Outdoor

Applications

- Direct burial
- Harsh environments
- Applications requiring good ozone-, moisture- and weather-resistance

Product Description

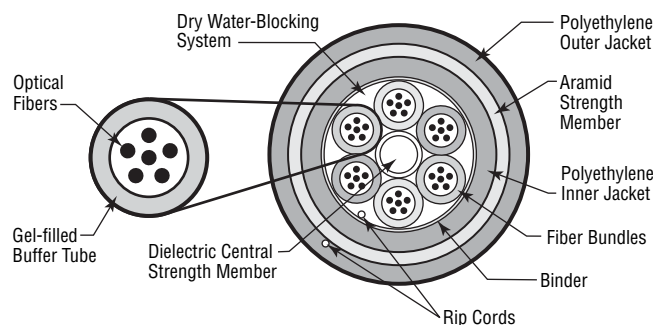
Gel-filled buffer tube prevents water migration.
Available with up to 216 fibers.

Jacket Material	
Outer Jacket:	PE
Inner Jacket:	PE
Buffer Tube	
	PBT
Strength Member	
	Aramid Yarn
Central Strength Member	
	E-Glass
Core Wrap	
	Water Swellable Tape
Color Code (Buffer)	
	Per EIA/TIA 598-A, see page 10.2
Jacket Color	
	Black

Specifications

Temperature Range	
Storage	-50 to +80°C
Operating	-40 to +70°C
Crush Resistance (EIA-455-41)	
	2000 N/cm
Impact Resistance (EIA-455-25)	
	2000 Impacts @ 1.6 N-m
Min. Bend Radius	
Installation	20 x OD
Long Term	15 x OD
Optical Specifications	
	See page 10.2

Fiber Bundle Detail



No. of Fibers	Fibers Per Tube	Belden Part Number				Outside Diameter		Weight		Max. Install Load	
		62.5 / 125µm Std. / 1 Gbe	50 / 125µm Std. / 1 Gbe	50 / 125µm 10 Gbe – 300M	Single-mode Enhanced	Inch	mm	Lbs./1000'	kg/km	Lbs.	N

Loose Tube Series — Heavy Duty

Outdoor											
2	2	M9B840	M9A840	M9C840	M9W840	0.44	11.18	60	89	600	2700
4	4	M9B841	M9A841	M9C841	M9W841	0.44	11.18	60	89	600	2700
6	6	M9B842	M9A842	M9C842	M9W842	0.44	11.18	60	89	600	2700
8	4	M9B843	M9A843	M9C843	M9W843	0.44	11.18	60	89	600	2700
12	6	M9B844	M9A844	M9C844	M9W844	0.44	11.18	60	89	600	2700
18	6	M9B845	M9A845	M9C845	M9W845	0.44	11.18	60	89	600	2700
24	6	M9B846	M9A846	M9C846	M9W846	0.44	11.18	60	89	600	2700
36	6	M9B847	M9A847	M9C847	M9W847	0.44	11.18	60	89	600	2700
48	12	M9B848	M9A848	M9C848	M9W848	0.54	13.72	136	202	600	2700
72	12	M9B849	M9A849	M9C849	M9W849	0.54	13.72	136	202	600	2700
96	12	M9B820	M9A820	M9C820	M9W820	0.61	15.37	152	226	600	2700
144	12	M9B821	M9A821	M9C821	M9W821	0.76	19.30	255	379	600	2700
216	12	M9B822	M9A822	M9C822	M9W822	0.76	19.30	255	379	600	2700

All optical fiber products can be supplied in compliance with RoHS regulations. Please contact Customer Service for more details.

Central Tube Cable

Loose Tube—Outdoor, and Outdoor Armored

Applications

- Campus OSP backbones
- Drop cable
- Telecommunications and data trunk
- Direct burial (armored only)
- Lashed aerial

Product Description

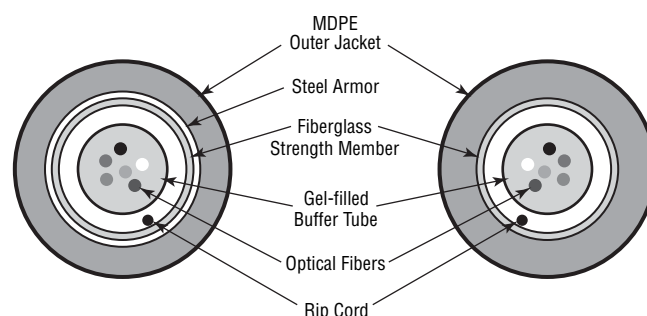
Economical option for low fiber counts. Quick and easy end preparation. Fully waterblocked with gel-filled buffer tube. No rods – easy handling. Crush, impact and abrasion resistant.

Jacket Material	PE
Buffer Tube	PBT
Core Wrap	Water Swellable Tape
Strength Member	Fiberglass
Armor	Corrugated Steel
Color Codes (Jacket & Fibers)	Per EIA/TIA 598-A, see page 10.2
Jacket Color	Black

Specifications

Temperature Range	
Storage	-40 to +70°C
Operating	-40 to +70°C
Crush Resistance (EIA-455-41)	2000 N/cm
Impact Resistance (EIA-455-25)	2000 Impacts @ 1.6 N-m
Min. Bend Radius	
Installation	20 x OD
Long Term	15 x OD
Optical Specifications	See page 10.2

Fiber Bundle Detail



SINGLE ARMOR

ALL DIELECTRIC

No. of Fibers	Belden Part Number				Outside Diameter		Weight		Max. Install Load	
	62.5 / 125µm Std. / 1 Gbe	50 / 125µm Std. / 1 Gbe	50 / 125µm 10 Gbe – 300M	Single-mode Enhanced	Inch	mm	Lbs./1000'	kg/km	Lbs.	N

Central Tube Series

Outdoor										
2	M9B150	M9A150	M9C150	M9W150	0.325	8.26	36	54	600	2700
4	M9B151	M9A151	M9C151	M9W151	0.325	8.26	36	54	600	2700
6	M9B152	M9A152	M9C152	M9W152	0.325	8.26	36	54	600	2700
8	M9B153	M9A153	M9C153	M9W153	0.325	8.26	36	54	600	2700
10	M9B154	M9A154	M9C154	M9W154	0.325	8.26	36	54	600	2700
12	M9B155	M9A155	M9C155	M9W155	0.325	8.26	36	54	600	2700
Outdoor Armored										
2	M9B170	M9A170	M9C170	M9W170	0.410	10.41	72	108	600	2700
4	M9B171	M9A171	M9C171	M9W171	0.410	10.41	72	108	600	2700
6	M9B172	M9A172	M9C172	M9W172	0.410	10.41	72	108	600	2700
8	M9B173	M9A173	M9C173	M9W173	0.410	10.41	72	108	600	2700
10	M9B174	M9A174	M9C174	M9W174	0.410	10.41	72	108	600	2700
12	M9B175	M9A175	M9C175	M9W175	0.410	10.41	72	108	600	2700

All optical fiber products can be supplied in compliance with RoHS regulations. Please contact Customer Service for more details.

Micro Loose Tube Breakout Style Cable

Loose Tube – Outdoor, Indoor/Outdoor OFN & Indoor/Outdoor Riser Rated

Applications

- Ducts between buildings (above or below frost lines)
- Lashed aerial
- Telecommunications and data trunk

Product Description

Easy handling and termination of a breakout style cable. Loose buffer dimensions compatible with standard connectors (900 µm). Waterblocking gel for moisture protection. Breakout kits not required for connectorization.

Jacket Material

Outdoor	PE
Riser	PVC
General Purpose	TPE

Buffer tube

Outdoor + Riser	PBT
-----------------	-----

Strength Elements

Aramid Yarn

Strength Member(s)

Upjacketed Aramid

Color Codes (Jacket & Fibers)

Per EIA/TIA 598-A,
see page 10.2

Jacket Color

Black

Ratings

Riser

UL Type	OFNR
cUL Type	OFN FT4
Flame Resistance	UL 1666

General Purpose

UL/cUL Type	OFN
Flame Resistance	UL 1581

Specifications

Temperature Range

Storage	-40 to +70°C
Operating	-20 to +70°C

Crush Resistance (EIA-455-41)

600 N/cm

Impact Resistance (EIA-455-25)

20 Impacts @ 1.0 N-m

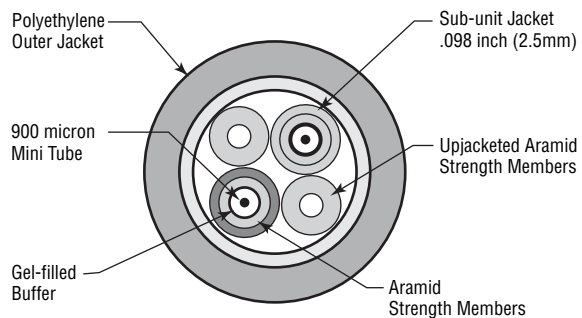
Min. Bend Radius

Installation	20 x OD
Long Term	15 x OD

Optical Specifications

See page 10.2

Fiber Bundle Detail



Micro Loose Tube Breakout Style Cable

Loose Tube – Outdoor, Indoor/Outdoor OFN & Indoor/Outdoor Riser Rated (*continued*)

No. of Fibers	Belden Part Number				Outside Diameter		Weight		Max. Install Load	
	62.5 / 125µm Std. / 1 Gbe	50 / 125µm Std. / 1 Gbe	50 / 125µm 10 Gbe – 300M	Single-mode Enhanced	Inch	mm	Lbs./1000'	kg/km	Lbs.	N
Micro Loose Tube Series										
Outdoor										
1	M9B700	M9A700	M9C700	M9W700	0.340	8.64	41	61	330	1468
2	M9B701	M9A701	M9C701	M9W701	0.360	9.14	41	61	345	1535
4	M9B702	M9A702	M9C702	M9W702	0.360	9.14	39	58	285	1267
6	M9B703	M9A703	M9C703	M9W703	0.418	10.62	54	80	405	1801
8	M9B704	M9A704	M9C704	M9W704	0.478	12.14	76	113	600	2700
12	M9B705	M9A705	M9C705	M9W705	0.614	15.60	129	192	600	2700
Indoor/Outdoor OFN										
1	M9B720	M9A720	M9C720	M9W720	0.344	8.74	50	74	330	1468
2	M9B721	M9A721	M9C721	M9W721	0.364	9.25	51	76	345	1535
4	M9B722	M9A722	M9C722	M9W722	0.364	9.25	49	73	285	1267
6	M9B723	M9A723	M9C723	M9W723	0.424	10.72	68	101	405	1801
8	M9B724	M9A724	M9C724	M9W724	0.482	12.24	77	115	600	2700
12	M9B725	M9A725	M9C725	M9W725	0.618	15.70	130	193	600	2700
Indoor/Outdoor Riser										
1	M9B740	M9A740	M9C740	M9W740	0.352	8.94	54	80	330	1468
2	M9B741	M9A741	M9C741	M9W741	0.372	9.45	55	82	345	1535
4	M9B742	M9A742	M9C742	M9W742	0.372	9.45	51	76	285	1267
6	M9B743	M9A743	M9C743	M9W743	0.432	10.97	74	110	405	1801
8	M9B744	M9A744	M9C744	M9W744	0.490	12.45	94	140	600	2700
12	M9B745	M9A745	M9C745	M9W745	0.626	15.90	151	229	600	2700

Please contact the Technical Support Group for proper connectivity integration and installation guidance.

All optical fiber products can be supplied in compliance with RoHS regulations. Please contact Customer Service for more details.

TrayOptic® Heavy-Duty, All Dielectric Cable

Loose Tube — Indoor/Outdoor Riser Rated

Applications

- Industrial and other harsh environment applications
- Factory automation
- Direct burial

Product Description

Laser Optimized Fiber to handle Gigabit Ethernet light sources and expanded bandwidth requirements. Passes IEEE 383-2003 flame test. Waterblocking agent for moisture protection. CPE outer jacket option provides extra chemical or abrasion resistance.

Fiber Type	62.5/125μ
Jacket Material	PVC or CPE
Strength Member	Aramid Yarn
Jacket Color	Orange

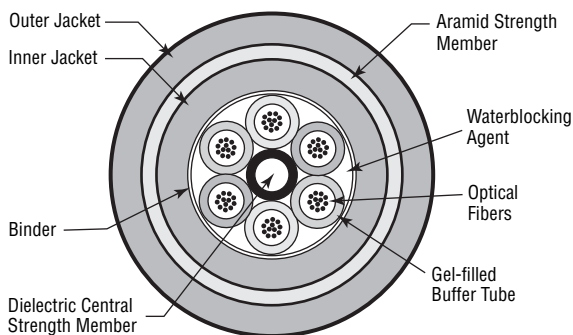
Ratings

Riser	
UL Type	OFNR
cUL Type	OFN FT4
Flame Resistance	IEEE 383-2003

Specifications

Temperature Range	
Storage	-40 to +70°C
Operating	-40 to +70°C
Crush Resistance (EIA-455-41)	2000 N/cm
Impact Resistance (EIA-455-25)	2000 impacts @ 1.6N-m
Cyclic Flexing (EIA-455-104)	25 cycles, 12 lbs., 20 x OD radius min.
Min. Bend Radius	
Installation	20 x OD
Long Term	15 x OD
Maximum Installation Load	600 lbs. (2700 N)
Optical Specifications	See page 10.2

Fiber Bundle Detail



No. of Fibers	Fibers Per Tube	Outside Diameter		PVC Jacket			CPE Jacket		
		Inches	mm	Belden Part No.	Weight Lbs./1000'	Weight kg/km	Belden Part No.	Weight Lbs./1000'	Weight kg/km

TrayOptic Series

Riser (NEC/CEC OFNR/OFN FT4)									
2	2	0.440	11.18	I100255	88	131	I100266	83	124
4	4	0.440	11.18	I100455	88	131	I100466	83	124
6	6	0.440	11.18	I100655	88	131	I100666	83	124
8	4	0.440	11.18	I400855	88	131	I400866	83	124
12	6	0.440	11.18	I601255	88	131	I601266	83	124
18	6	0.440	11.18	I601855	88	131	I601866	83	124
24	6	0.440	11.18	I602455	88	131	I602466	83	124
36	6	0.440	11.18	I603655	88	131	I603666	83	124
48	12	0.540	13.72	I604855	136	202	I604866	129	192
60	12	0.540	13.72	I606055	136	202	I606066	129	192
72	12	0.540	13.72	I607255	136	202	I607266	129	192

All optical fiber products can be supplied in compliance with RoHS regulations. Please contact Customer Service for more details.

Industrial Data Solutions® — Industrial Ethernet

TrayOptic® Heavy-Duty, All-Dielectric Fiber Optic Cables Loose Tube — Indoor/Outdoor Riser & Tray

Applications

- Industrial and other harsh environment applications
- Factory automation
- Direct burial

Product Description

Laser Optimized Fiber to handle Gigabit Ethernet light sources and expanded bandwidth requirements. Passes IEEE 383-2003 flame test. Waterblocking agent for moisture protection. CPE outer jacket option provides extra chemical or abrasion resistance.

Jacket Material	PVC or CPE
Strength Member	Aramid Yarn
Jacket Color	Orange

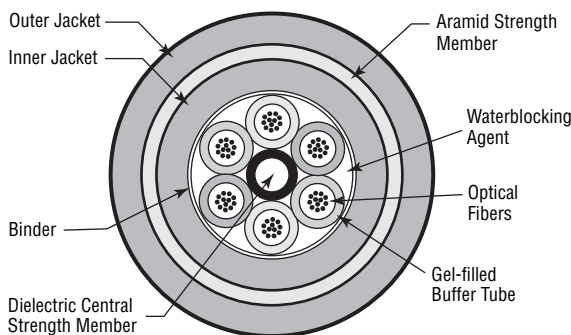
Ratings

Riser	
UL Type	OFNR
cUL Type	OFN FT4
Flame Resistance	IEEE 383-2003

Specifications

Temperature Range	
Storage	-40 to +70°C
Operating	-40 to +70°C
Crush Resistance (EIA-455-41)	500 lbs./in. min.
Impact Resistance (EIA-455-25)	3.3 ft.-lbs./25 impacts min. @ 2.2N-m
Cyclic Flexing (EIA-455-104)	25 cycles, 12 lbs., 20 x OD radius min.
Min. Bend Radius	
Installation	20 x OD
Long Term	15 x OD
Maximum Installation Load	600 lbs. (2700 N)
Optical Specifications	See page 10.2

Fiber Bundle Detail



No. of Fibers	Fibers Per Tube	Outside Diameter		PVC Jacket			CPE Jacket		
		Inches	mm	Belden Part No.	Weight Lbs./1000'	Weight kg/km	Belden Part No.	Weight Lbs./1000'	Weight kg/km

TrayOptic Series

Riser (NEC/CEC OFNR/OFN FT4)									
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8	4	0.440	11.18	I400855	88	131	I400866	83	124
12	6	0.440	11.18	I601255	88	131	I601266	83	124
18	6	0.440	11.18	I601855	88	131	I601866	83	124
24	6	0.440	11.18	I602455	88	131	I602466	83	124
36	6	0.440	11.18	I603655	88	131	I603666	83	124
48	12	0.540	13.72	I604855	136	202	I604866	129	192
60	12	0.540	13.72	I606055	136	202	I606066	129	192
72	12	0.540	13.72	I607255	136	202	I607266	129	192

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