

3M™ Volition™ Indoor Fiber Optic Cable – Tight Buffer



Volition Network Solution from 3M includes horizontal and backbone cable with OM1, OM2, OM3 and OM4 multimode and 9/125um singlemode fiber as part of the system.

The horizontal cable provides the physical link between the fiber connector patch panel in the floor distribute and the fiber connector in the outlet. Volition Indoor Tight Buffer cable is available from 1 to 72 cores format.

Each fiber is tight coated to a 900 micron diameter, with a durable, protective material and the coating(tight buffer material).Cables are available and the cable jacket can be LSOH or PVC.

3M Fiber Specification for Indoor Tight Buffer Cable

62.5/125 OM1 Multimode	Attenuation	Bandwidth	Index of Refraction
	≤3.5dB/km@850nm	>200MHz-km@850nm	1.496
	≤1.5dB/km@1300nm	>600MHz-km@1300nm	1.491
50/125 OM2 Multimode	Attenuation	Bandwidth	Index of Refraction
	≤3.5dB/km@850nm	>500MHz-km@850nm	1.482
	≤1.5dB/km@1300nm	>500MHz-km@1300nm	1.477
50/125 OM3 Multimode	Attenuation	Bandwidth	Index of Refraction
	≤3.5dB/km@850nm	>2000MHz-km@850nm Laser	1.482
	≤1.5dB/km@1300nm	>500MHz-km@1300nm	1.477
50/125 OM4 Multimode	Attenuation	Bandwidth	Index of Refraction
	≤3.5dB/km@850nm	>4700MHz-km@850nm Laser	1.482
	≤1.5dB/km@1300nm	>500MHz-km@1300nm	1.477
9/125 Single Mode	Attenuation		Index of Refraction
	≤0.7dB/km@1310nm		1.467
	≤0.7dB/km@1550nm		1.468

Features and Benefits

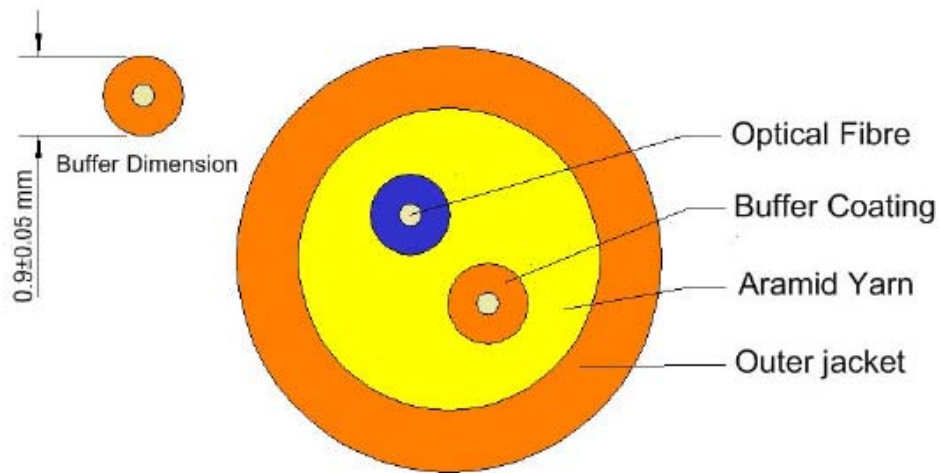
Features

- Small cable diameter
- Available in SM,OM1, OM2, OM3, OM4 and SM
- Produced to industry specification

Benefits

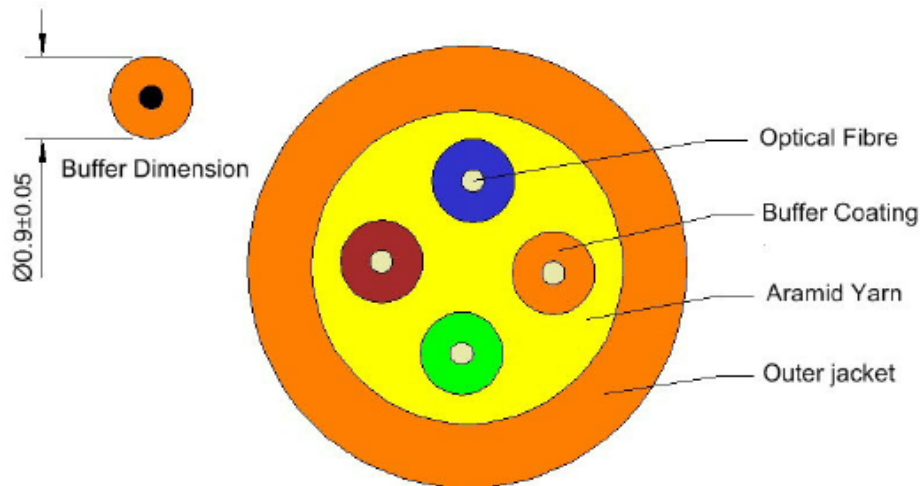
- Minimizes weight and optimizes cable installation
- Complete range of cables
- Ensures system compatibility and interoperability

Cable specification for 2 Fibers Cable



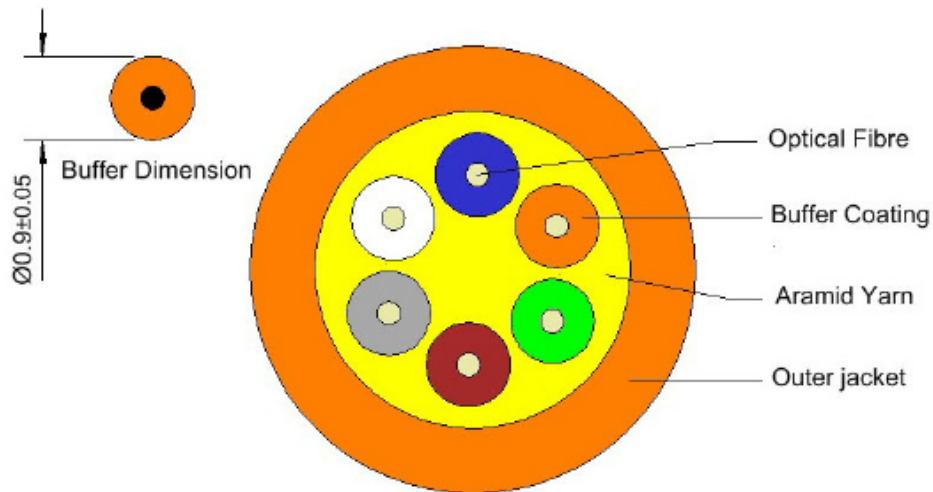
Technical Parameters					
Parameter	Units	Value / Details			
Fibre Count		2			
Cable Type		PVC Riser	PVC Plenum	LSZH	
Buffer & Sheath Colours		See Table-1, 2 relevant colour			
Buffer Diameter	mm	0.9 ± 0.05			
Cable Diameter	mm	4.8 ± 0.2			
Outer Sheath Radial Thickness	mm	0.7			
Approx. Cable Weight	Kg/km	17	19	18	
Bending Radius	Dynamic	≥ 20 x Cable Diameter			
	Static	≥ 10 x Cable Diameter			
Tensile Strength	Installation	N	660	440	660
	Operation	N	198	132	198
Crush Resistance	N/10cm	1000			
Operational Temperature	°C	-20 to +70	0 to +70	-20 to +70	
Installation Temperature	°C	-10 to +60	0 to +60	0 to +60	
Storage Temperature	°C	-40 to +70	-40 to +70	-40 to +70	
Drum Length	m	Up to 3000			

Cable specification for 4 Fibers Cable



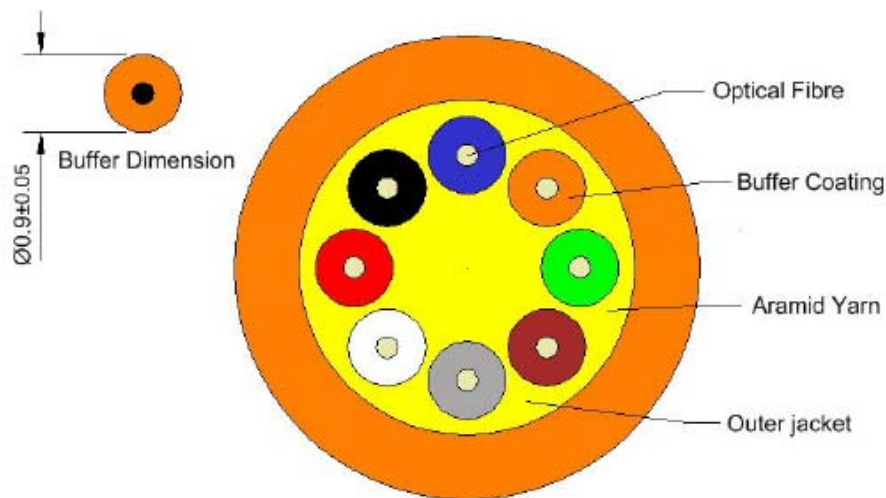
Technical Parameters					
Parameter	Units	Value / Details			
Fibre Count		4			
Cable Type		PVC Riser	PVC Plenum	LSZH	
Buffer & Sheath Colours		See Table-1, 2 relevant colour			
Buffer Diameter	mm	0.9 ± 0.05			
Cable Diameter	mm	4.8 ± 0.2			
Outer Sheath Radial Thickness	mm	0.7			
Approx. Cable Weight	Kg/km	19	21	20	
Bending Radius	Dynamic	$\geq 20 \times$ Cable Diameter			
	Static	$\geq 10 \times$ Cable Diameter			
Tensile Strength	Installation	N	660	440	660
	Operation	N	198	132	198
Crush Resistance	N/10cm	1000			
Operational Temperature	$^{\circ}\text{C}$	-20 to +70	0 to +70	-20 to +70	
Installation Temperature	$^{\circ}\text{C}$	-10 to +60	0 to +60	0 to +60	
Storage Temperature	$^{\circ}\text{C}$	-40 to +70	-40 to +70	-40 to +70	
Drum Length	m	Up to 3000			

Cable specification for 6 Fibers Cable



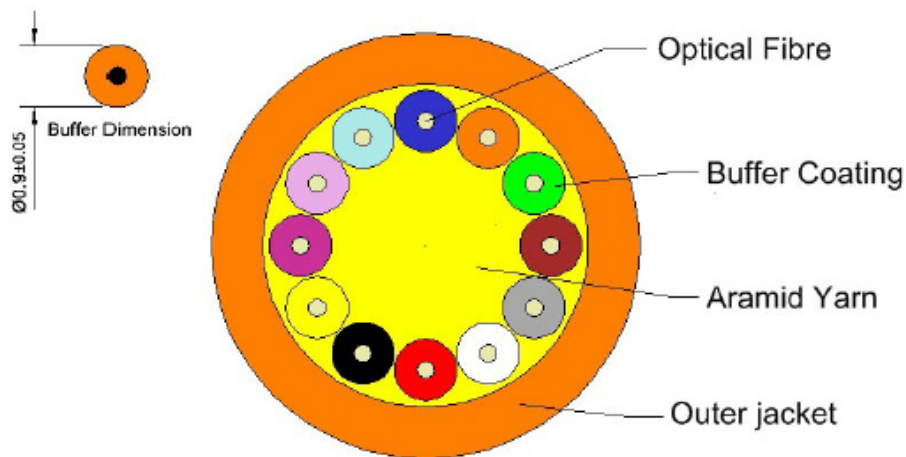
Technical Parameters					
Parameter	Units	Value / Details			
Fibre Count		6			
Cable Type		PVC Riser	PVC Plenum	LSZH	
Buffer & Sheath Colours		See Table-1, 2 relevant colour			
Buffer Diameter	mm	0.9 ± 0.05			
Cable Diameter	mm	4.8±0.2			
Outer Sheath Radial Thickness	mm	0.7			
Approx. Cable Weight	Kg/km	21	23	22	
Bending Radius	Dynamic	≥ 20 x Cable Diameter			
	Static	≥ 10 x Cable Diameter			
Tensile Strength	Installation	N	660	440	660
	Operation	N	198	132	198
Crush Resistance	N/10cm	1000			
Operational Temperature	°C	-20 to +70	0 to +70	-20 to +70	
Installation Temperature	°C	-10 to +60	0 to +60	0 to +60	
Storage Temperature	°C	-40 to +70	-40 to +70	-40 to +70	
Drum Length	m	Up to 3000			

Cable specification for 8 Fibers Cable



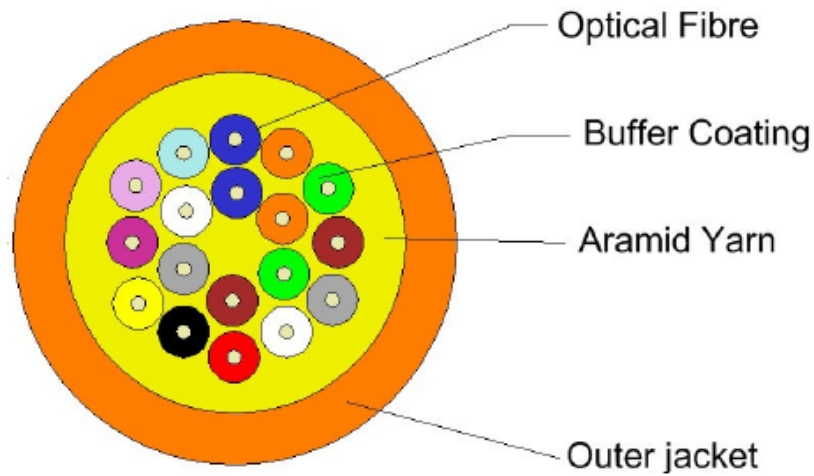
Technical Parameters					
Parameter	Units	Value / Details			
Fibre Count		8			
Cable Type		PVC Riser	PVC Plenum	LSZH	
Buffer & Sheath Colours		See Table-1, 2 relevant colour			
Buffer Diameter	mm	0.9 ± 0.05			
Cable Diameter	mm	5.4±0.2			
Outer Sheath Radial Thickness	mm	0.75			
Approx. Cable Weight	Kg/km	26	28	26	
Bending Radius	Dynamic	≥ 20 x Cable Diameter			
	Static	≥ 10 x Cable Diameter			
Tensile Strength	Installation	N	660	440	660
	Operation	N	198	132	198
Crush Resistance	N/10cm	1000			
Operational Temperature	°C	-20 to +70	0 to +70	-20 to +70	
Installation Temperature	°C	-10 to +60	0 to +60	0 to +60	
Storage Temperature	°C	-40 to +70	-40 to +70	-40 to +70	
Drum Length	m	Up to 3000			

Cable specification for 12 Fibers Cable



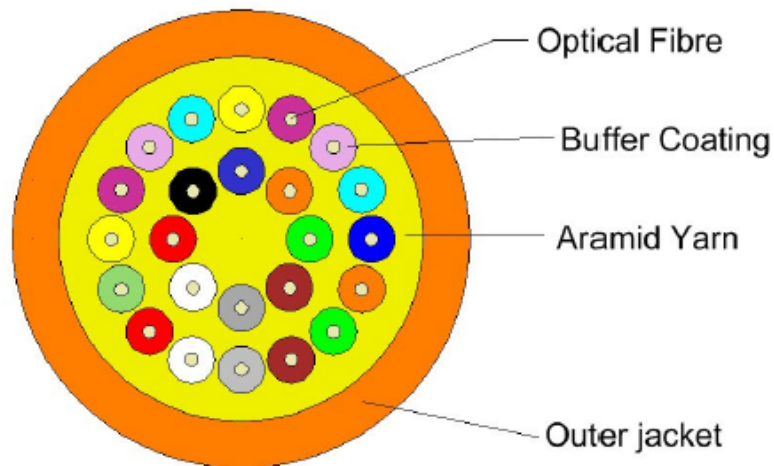
Technical Parameters					
Parameter	Units	Value / Details			
Fibre Count		12			
Cable Type		PVC Riser	PVC Plenum	LSZH	
Buffer & Sheath Colours		See Table-1, 2 relevant colour			
Buffer Diameter	mm	0.9 ± 0.05			
Cable Diameter	mm	6.2±0.2			
Outer Sheath Radial Thickness	mm	0.75			
Approx. Cable Weight	Kg/km	32	35	33	
Bending Radius	Dynamic	≥ 20 x Cable Diameter			
	Static	≥ 10 x Cable Diameter			
Tensile Strength	Installation	N	660	440	660
	Operation	N	198	132	198
Crush Resistance	N/10cm	1000			
Operational Temperature	°C	-20 to +70	0 to +70	-20 to +70	
Installation Temperature	°C	-10 to +60	0 to +60	0 to +60	
Storage Temperature	°C	-40 to +70	-40 to +70	-40 to +70	
Drum Length	m	Up to 3000			

Cable specification for 16 Fibers Cable



Technical Parameters					
Parameter		Units	Value / Details		
Fibre Count			16		
Cable Type			PVC Riser	PVC Plenum	LSZH
Buffer & Sheath Colours			See Table-3, 2 relevant colour		
Buffer Diameter		mm	0.9 ± 0.05		
Buffers per subunit			No subunit		
Subunit Diameter		mm	No subunit		
Subunit Counts			No subunit		
Cable Diameter		mm	7.8 ± 0.2		
Outer Sheath Radial Thickness		mm	0.9		
Approx. Cable Weight		Kg/km	48	51	49
Bending Radius	Dynamic		≥ 20 x Cable Diameter		
	Static		≥ 10 x Cable Diameter		
Tensile Strength	Installation	N	1320	660	1320
	Operation	N	396	198	396
Crush Resistance		N/10cm	1000		
Operational Temperature		°C	-20 to +70	0 to +70	-20 to +70
Installation Temperature		°C	-10 to +60	0 to +60	0 to +60
Storage Temperature		°C	-40 to +70	-40 to +70	-40 to +70
Drum Length		m	Up to 1000		

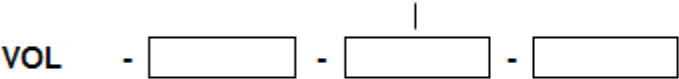
Cable specification for 24 Fibers Cable



Technical Parameters				
Parameter	Units	Value / Details		
Fibre Count		24		
Cable Type		PVC Riser	PVC Plenum	LSZH
Buffer & Sheath Colours		See Table-3, 2 relevant colour		
Buffer Diameter	mm	0.9 ± 0.05		
Buffers per subunit		No subunit		
Subunit Diameter	mm	No subunit		
Subunit Counts		No subunit		
Cable Diameter	mm	8.8 ± 0.2		
Outer Sheath Radial Thickness	mm	0.9		
Approx. Cable Weight	Kg/km	60	64	61
Bending Radius	Dynamic	≥ 20 x Cable Diameter		
	Static	≥ 10 x Cable Diameter		
Tensile Strength	Installation	N	1320	660
	Operation	N	396	198
Crush Resistance	N/10cm	1000		
Operational Temperature	°C	-20 to +70	0 to +70	-20 to +70
Installation Temperature	°C	-10 to +60	0 to +60	0 to +60
Storage Temperature	°C	-40 to +70	-40 to +70	-40 to +70
Drum Length	m	Up to 1000		

Ordering Information

	Fiber count	
	1	12
	2	16
2core zipcord	2z	24
	4	36
	6	48
	8	72



- Fiber type**
- SM- SM G.652D
 - A2- SM G.657A2
 - OM1-OM1 62.5/125
 - OM2-OM2 50/125
 - OM3-OM3 50/125
 - OM4-OM4 50/125

- Jacket type**
- TP - Tight buffer PVC
 - TL - Tight buffer LSOH
 - OUP - Out-door loose tube PE
 - OUL - Out-door loose tube LSOH
 - OAP - Out-door loose tube Armored PE
 - OAL - Out-door loose tube Armored LSOH

Important Notice

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