ZORA Outdoor OM2 Single-mode Fiber Cable (6-144 cores)

ZOR Outdoor OM2 Multimode Fibre Optic Cable 6-144 Cores

ZORA's Robust outdoor single-mode fiber cable (6-144 cores) for long-distance, high-speed transmission. Perfect for telecom, broadband, and harsh environments

ZORA outdoor non-metal loose tube fiber optic cables are designed with a high number of fiber cores to provide the versatility and flexibility required to support demanding installations.

With fiber cores up to 288, our non-metallic loose tube fibers comply with EIA/TIA, REA/RUS PE-90 and GR-20 standards.

Product Features

- 06~144 cores
- Loose casing design
- The outer material is PE
- Good mechanical and temperature properties
- High strength loose tube sleeve, hydrolysis resistant

- The tube is filled with special oil paste to provide critical protection for the optical fiber
- Pressure resistance and flexibility
- PSP enhances moisture resistance
- Small diameter, light weight and easy to install

Applications

- Impracticable
- Outdoor application
- As the backbone network of LAN, MAN, WAN
- 10Gbps 40/100Gbps Ethernet network
- Storage Local Area Network (SAN), data center

Conform to standards

- Bellcore GR-20-CORE
- ISO/IEC11801
- ANSI/TIA 568-2.D
- CENELEC EN 50173
- IEC60794-1

Ordering Informatio

Product name	Packing specification	Packing specification
ZRC51SM-6	ZORA 6-core indoor OS2 fiber optic cable	2 km/roll
ZRC51SM-8	ZORA 8-core indoor OS2 fiber optic cable	2 km/roll
ZRC51SM-12	ZORA 12-core indoor OS2 fiber optic cable	2 km/roll
ZRC51SM-24	ZORA 24-core indoor OS2 fiber optic cable	2 km/roll
ZRC51SM-48	ZORA 48-core indoor OS2 fiber optic cable	2 km/roll
ZRC51SM-96	ZORA 48-core indoor OS2 fiber optic cable	2 km/roll

Technical specification

Structure	
Outdoor coat	
Coat material	HDPE
The average coat thickness	Averages 1.8 mm
The internal strength consists	FRP
Cable reinforcement material (metal armor)	NO
Fiber size	50/125μm

Buffer protective layer diameter	
Main buffer layer diameter	250μm ± 5μm
Loose casing material	PBT
Compressive strength (IEC794-1)	
Installation/transport (100 mm)	1000 N / 300 N
Minimum bending radius (IEC794-1)	
Install/transport	20 x diameter / 10 x diameter
Operating Temperature	
Installation / Transportation	-40℃ ~ +70℃

Technical Data - Transmission						
Fiber type	**Attenuation**				**Bandwidth**	**Bandwidth**
Conditions	---		---		**850 nm**	**1300 nm**
	1310 nm	**1550 nm**	**850 nm**	**1300 nm**		
Units	**dB/km**	**dB/km**	**dB/km**	**dB/km**	**MHz/km**	**MHz/km**

G652D	≤0.36	≤0.22	---	---	---	---
G655	≤0.40	≤0.23	---	---	---	---
OM1	---	---	≤3.5	≤1.2	≥200	≥500
OM2	---	---	≤3.3	≤1.2	≥500	≥500
OM3	---	---	≤3.3	≤1.2	≥1500	≥500
OM4	---	---	≤3.3	≤1.2	≥3500	≥500

Technical Data - Machinery

Specification	6-42 fibre optics (6 fibre optics per tube)	48-84 fibre optics (12 fibre optics per tube)	96 fibres (12 fibres per tube)
Number of loose sleeves	1-7 Loose Tubing	4-7 Loose Tubing	8 Loose Tubing
Cable diameter	Approx. 10.1 mm	Approx. 11.0 mm	Approx. 11.9 mm
Cable weight	Approximately 87 (kg/km)	Approx. 103 (kg/km)	Approx. 121 (kg/km)
Strength Component	2.25mm	2.8mm	3.7mm

Diameter			
Maximum Tensile Tension Installation	1000N	1500N	3000N
Maximum Tensile Tension Operation	400N	600N	1000N

Outdoor OM2 Multimode Fibre Optic Cable 6-144 Cores FAQ

What is OM2 Multimode Fibre Optic Cable, and what does it mean for outdoor use?

OM2 Multimode Fibre Optic Cable is a type of optical fibre with a core size of 50 micrometres (µm) designed to carry multiple light signals (modes) simultaneously. It supports data transmission up to 10 Gigabit Ethernet over distances of 82 meters and is commonly used for 1 Gigabit Ethernet applications. For outdoor use, OM2 cables are constructed with rugged, weather-resistant jackets (often UV- and water-resistant) to withstand environmental challenges like moisture, temperature fluctuations, and sunlight exposure, making them suitable for installations between buildings or in harsh outdoor settings.

What are the typical applications for Outdoor OM2 Multimode Fibre Optic Cable with 6-144 cores?

Outdoor OM2 Multimode Fibre Optic Cables with 6-144 cores are ideal for high-density networking applications. They are commonly used in campus networks, industrial settings, or enterprise backbones where multiple connections are needed over relatively short distances (up to 550 meters at lower speeds). Examples include connecting buildings in a university or business complex, supporting security systems, or linking data centres within a confined area requiring moderate bandwidth.

How many cores are available in Outdoor OM2 Multimode Fibre Optic Cable, and what does this mean?

Outdoor OM2 Multimode Fibre Optic Cable is available with 6 to 144 cores, meaning it can contain anywhere from 6 to 144 individual optical fibres within a single cable. The number of cores determines how many separate data channels can be supported. For instance, a 6-core cable suits smaller setups, while a 144-core cable is perfect for large-scale deployments needing extensive connectivity, like telecommunications or multi-building networks.

What are the key features of Outdoor OM2 Multimode Fibre Optic Cable that make it suitable for outdoor environments?

Key features include a durable, weatherproof outer jacket (often made of polyethylene or similar materials) that resists UV radiation, water, and extreme temperatures. It may also include tight buffering or loose-tube designs with gel or water-blocking materials to protect the fibres from moisture. Additionally, some versions are armoured for extra protection against physical damage, making them robust for underground or aerial installations.

What is the maximum distance OM2 Multimode Fibre Optic Cable can support for data transmission?

OM2 Multimode Fibre Optic Cable supports 10 Gigabit Ethernet up to 82 meters and 1 Gigabit Ethernet up to 550 meters. The actual distance depends on the equipment used (typically LED-based sources) and the network speed. For outdoor applications, it’ s best suited for shorter runs, such as between nearby buildings, due to its multimode nature and susceptibility to modal dispersion over longer distances.

Can Outdoor OM2 Multimode Fibre Optic Cable be upgraded to higher standards like OM3 or OM4?

OM2 cables cannot be "upgraded" to OM3 or OM4 because the difference lies in the fibre’ s physical properties, such as bandwidth and core optimization. OM3 and OM4 are laser-optimized with higher bandwidth (e.g., OM3 supports 10 Gigabit Ethernet up to 300 meters). However, OM2 cables can often coexist with newer standards in a network, and replacing them with OM3 or OM4 is a straightforward swap if longer distances or higher speeds are needed, provided the connectors and equipment are compatible.