APAR
TELECOM SOLUTIONS

THE FUTURE OF
CONNECTIVITY

OPTICAL FIBRE CABLES

PRODUCT CATALOGUE

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APAR EMPOWERING A SMARTER WORLD SINCE 1958

Presence in

140+ Countries

9 Manufacturing Units

#1 Largest global aluminium & alloy conductor manufacturer

#3 Largest global manufacturer of Transformer oils

#1 Largest manufacturer of Renewable & Speciality Cables in India

Manufacturer of OFC & Hybrid Cables

65 YEARS of Manufacturing Experience

$1.8 BILLION FY23 Consolidated Revenue

19.3% CAGR Last 5 years

49% EXPORT REVENUES

apar.com

TELECOM SOLUTIONS
OVERVIEW

APAR is a leading Global Telecom Solutions company focusing on innovative solutions for global markets. The uniqueness lies in its design and manufacturing capabilities supported by backward integration. The wide range of tele-communication Optical Fibre Cable and Hybrid Cable products have been carved out from its rich experience across Telecom, Defense, Power and Transport industries over the years. APAR Telecom services has capability and potential to create digital networks, passive infrastructure gateways and network densification for Urban (Mobility Networks and FTTx, broadband Networks), Rural (Middle Mile and Last mile connectivity), Defense MHA (Border & Cantonment Fortification) and Enterprise Connectivity (across multiple Industries).

APAR's Telecom Solutions is driven by Innovation, customer-centricity and sustainability.

WORLD CLASS
PRODUCTION FACILITIES

APAR offers an extensive range of fibre optic cables for outdoor, indoor and speciality applications, ranging from 1F to 864F, and up to 1152F in ribbon design, with an installed capacity of 200,000 km of cable per annum. We are also capable of manufacturing and delivering customised cables for special applications, such as specific diameter micro cables for FTTX, drop cables with G 657 bend insensitive fibre for last-mile connectivity, and long span ADSS (All Dielectric Self-supporting) aerial cables designed to be strung alongside power lines.

Our state-of-the-art machinery enables us to manufacture all types of fibre optic cables along with highly equipped quality system, accredited with ISO 9001:2015, ISO 14001:2015, ISO 45001:2018, ISO 27001:2013 & TL9000 from BSI and IRCLASS. Over the past 25 years, we have supplied wide range of Fibre Optic Cables across various sectors.

World Class Fibre Optic Cable Manufacturing Facilities.

APAR TELECOM SOLUTIONS

OFC - OPTICAL FIBRE CABLES

APAR Telecom tailors high-capacity cable solutions for data centers, ISPs, telcos, and worldwide internet companies. APAR Fibre optic cables surpass copper lines in both capacity and transmission distance, enhancing internet speed upto 100 Gbps. APAR offers a comprehensive range of fibre optic cables for different communication needs, including aerial, underground, microduct, ribbon, IO, and indoor cables meeting international standards in a contemporary manufacturing facility certified with ISO, OHSAS, and TL9000. APAR's commitment to quality ensures that cables are manufactured to global standards and customer specifications.

APAR Telecom, a Global Telecom Solutions Leader, offers innovative connectivity solutions for:

Urbanisation: Mobility Networks across 4G/5G/6G and FTTx broadband Networks.

Rural Connectivity: Bridging the digital gap of fibre across rural regions.

Border Fortefication: Defence & MHA with border communication solutions.

Enterprise: Data centers, Railways & Metro's, Airports, Power Utilities, Renewable Solar & Wind Solutions, Oil & Gas, Mining, Space and many more.

HYBRID CABLES - GIGAVOLT

The Giga-Volt hybrid solution incorporates both fibre and copper conductors in one cable that deliver power and data to a remote device through copper and fibre medium. As the connectivity needs converges, APAR hybrid cables will assist builders to meet their demand with this unique cable designs across multiple use cases across 5G, Wi-fi, DAS, IOT & M2M

Reduced Environmental Impact: Giga-Volt combines power and data transmission into a single cable, eliminating the need for separate cables and reducing overall material usage.

Cost-Effective Installation: By deploying a single Giga-Volt cable instead of separate power and data cables, service providers save time, space, and capital during installation.

Faster Network Rollout: Giga-Volt acts as a unified solution, streamlining network infrastructure and facilitating faster deployment of advanced networks like 5G.

Simplified Cable Management: Using a single Giga-Volt cable reduces complexity by eliminating the need to manage multiple cables at the field level.

Lower Total Cost of Ownership (TCO): Giga-Volt offers a slim design and supports all network topologies, potentially leading to a lower overall cost of ownership for the network.

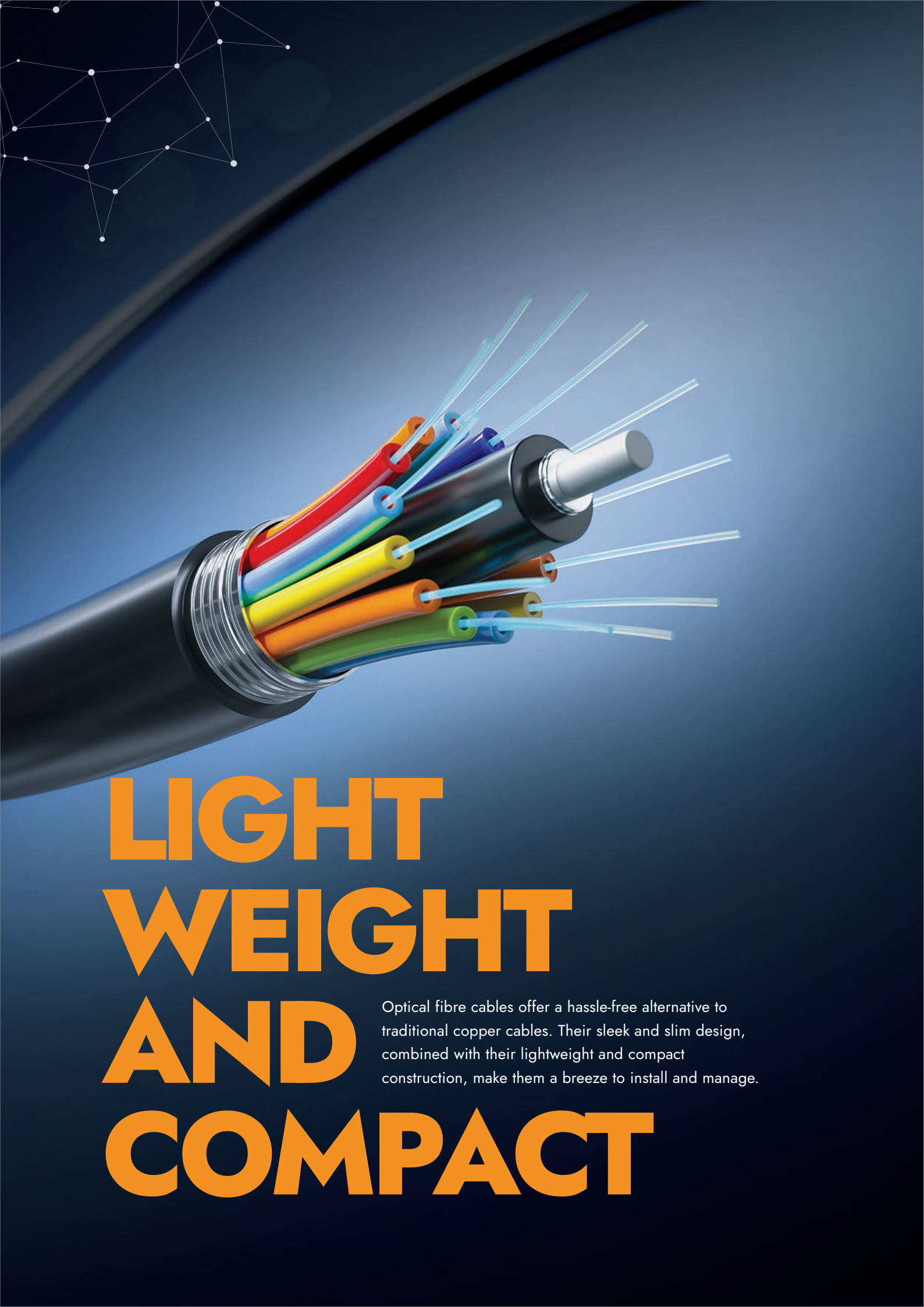
LAN CABLES - TARANG SHAKTI

High-performance connectivity meets personalized solutions at APAR While known for superior materials and global standards (ANSI/TIA, ISO/IEC, EN, UL/ETL/TUV), APAR goes beyond LAN cables. We distinguish ourselves by:

Customised Solutions: Avoid off-the-shelf. Our skilled team creates LAN cable and optical fibre solutions for your specific needs, maximizing efficiency and exceeding expectations.

Engine of Innovation: We invest extensively in R&D, pushing technology forward. Access innovative solutions to meet rising bandwidth, speed, and reliability needs. We set industry standards, not merely meet them.

Devoted Partnerships: We value long-term connections over transactions. Our attentive crew ensures a smooth and worry-free experience from initial consultations to post-installation support.



LIGHT WEIGHT AND COMPACT

Optical fibre cables offer a hassle-free alternative to traditional copper cables. Their sleek and slim design, combined with their lightweight and compact construction, make them a breeze to install and manage.

CATALOGUE CABLE CODING SYSTEM

1	2	3	4	5	6	7	8	9	10
D	X	N	L	012	1	W	X	0	144

1 | Installation

A = Aerial Self Support
B = Direct Buried
D = Duct
M = Figure8
P = Drop/Rise

2 | Fire Rating

R = Flame Retardant
S = Fire Survival
X = No Fire Rating

3 | Construction

M = Metallic
N = Non-metallic

4 | Buffer Type

L = Loose Tube
R = Ribbon Tube
T = Tight Buffer
M = Micro Module

5 | Fibre/Tube Or Buffer

001 to 144

6 | Number Of Jackets

0 = No Jacket
1 = Single Jacket
2 = Double Jacket
3 = Triple Jacket

7 | Water Protect Type

W = Wet Tube - Wet Core
R = Wet Tube - Dry Core
Y = Dry Tube - Dry Core

8 | Type Of Armour

C = Glass Yarn
F = Steel Tape
W = Steel Wire
P = FRP
A = Aluminum Tape
X = No Armour
B = Wire Braided
U = ACSR Wire
M = Copper Wire

9 | Fibre Type

0 = G652D
1 = G654
2 = G655
3 = G656
4 = G657A1
5 = G657A2
6 = G657B1
7 = G657B2
9 = G657B3
10 = OM1
11 = OM2
12 = OM3
13 = OM4

10 | Fibre Count

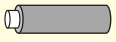
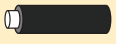
0001 to 1152

Example: Standard 44F Duct cable

Code = DXNL0121YX0144

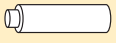
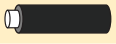
OPTICAL FIBRE COLOUR CODING

FIBRE OPTIC COLOUR CODING AS PER EIA/TIA 598 INTERNATIONAL STANDARD

1	Blue		13	Blue with Black Ring	
2	Orange		14	Orange- with Black Ring	
3	Green		15	Green- with Black Ring	
4	Brown		16	Brown- with Black Ring	
5	Grey		17	Grey- with Black Ring	
6	White		18	White- with Black Ring	
7	Red		19	Red- with Black Ring	
8	Black		20	Natural with Black Ring	
9	Yellow		21	Yellow- with Black Ring	
10	Violet		22	Violet- with Black Ring	
11	Pink		23	Pink- with Black Ring	
12	Aqua		24	Aqua- with Black Ring	

* "-" Marked are ring marked fibre.

FIBRE OPTIC BUFFER COLOUR CODING AS PER EIA/TIA 598 INTERNATIONAL STANDARD

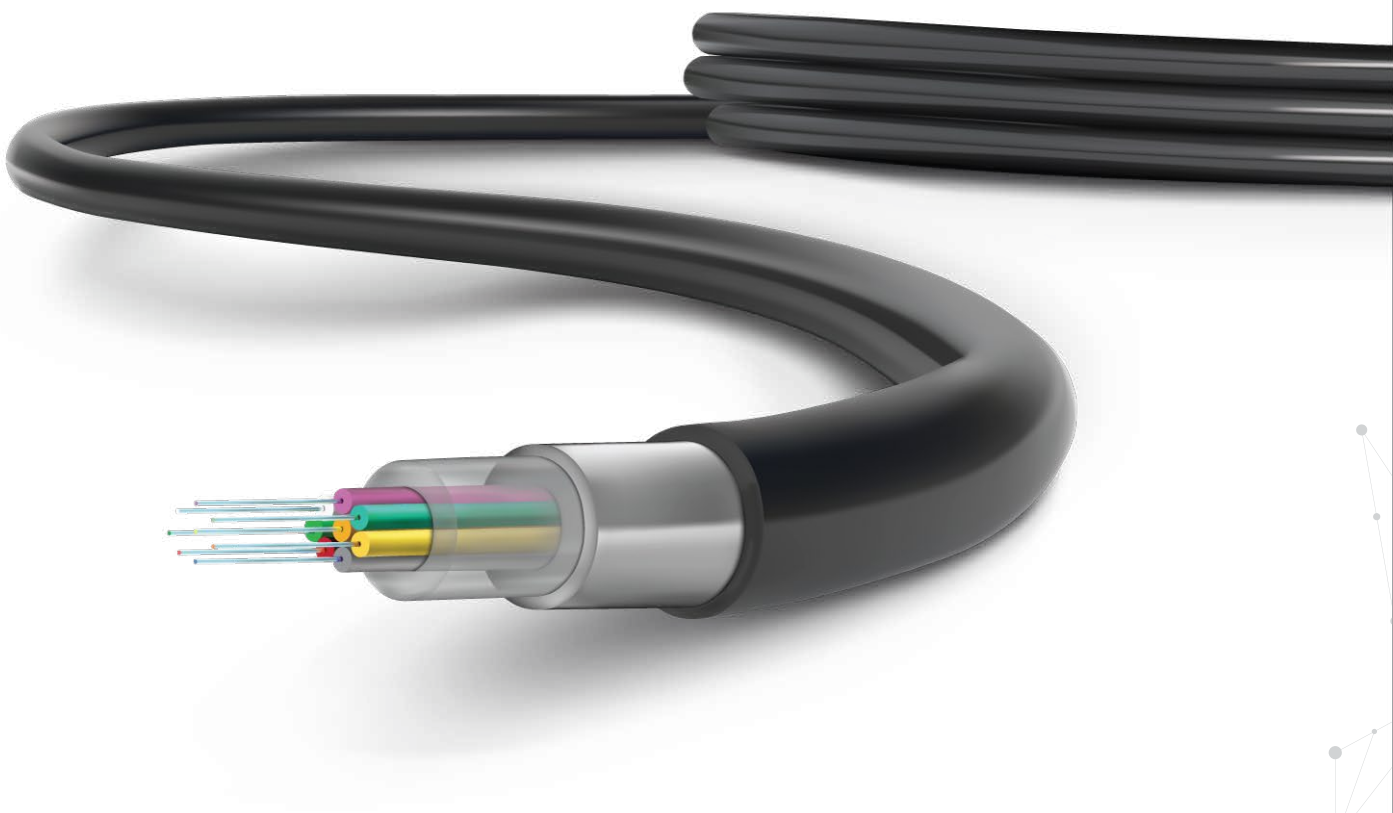
1	Blue		13	Blue with Black Strip	
2	Orange		14	Orange- with Black Strip	
3	Green		15	Green- with Black Strip	
4	Brown		16	Brown- with Black Strip	
5	Grey		17	Grey- with Black Strip	
6	White		18	White- with Black Strip	
7	Red		19	Red- with Black Strip	
8	Black		20	Black with Yellow Strip	
9	Yellow		21	Yellow- with Black Strip	
10	Violet		22	Violet- with Black Strip	
11	Pink		23	Pink- with Black Strip	
12	Aqua		24	Aqua- with Black Strip	

FIBRE OPTIC CABLE PRODUCT VARIETY

MicroFib

Product: Microduct Fibre Optic Cables : Application: In new or existing Micro Ducts

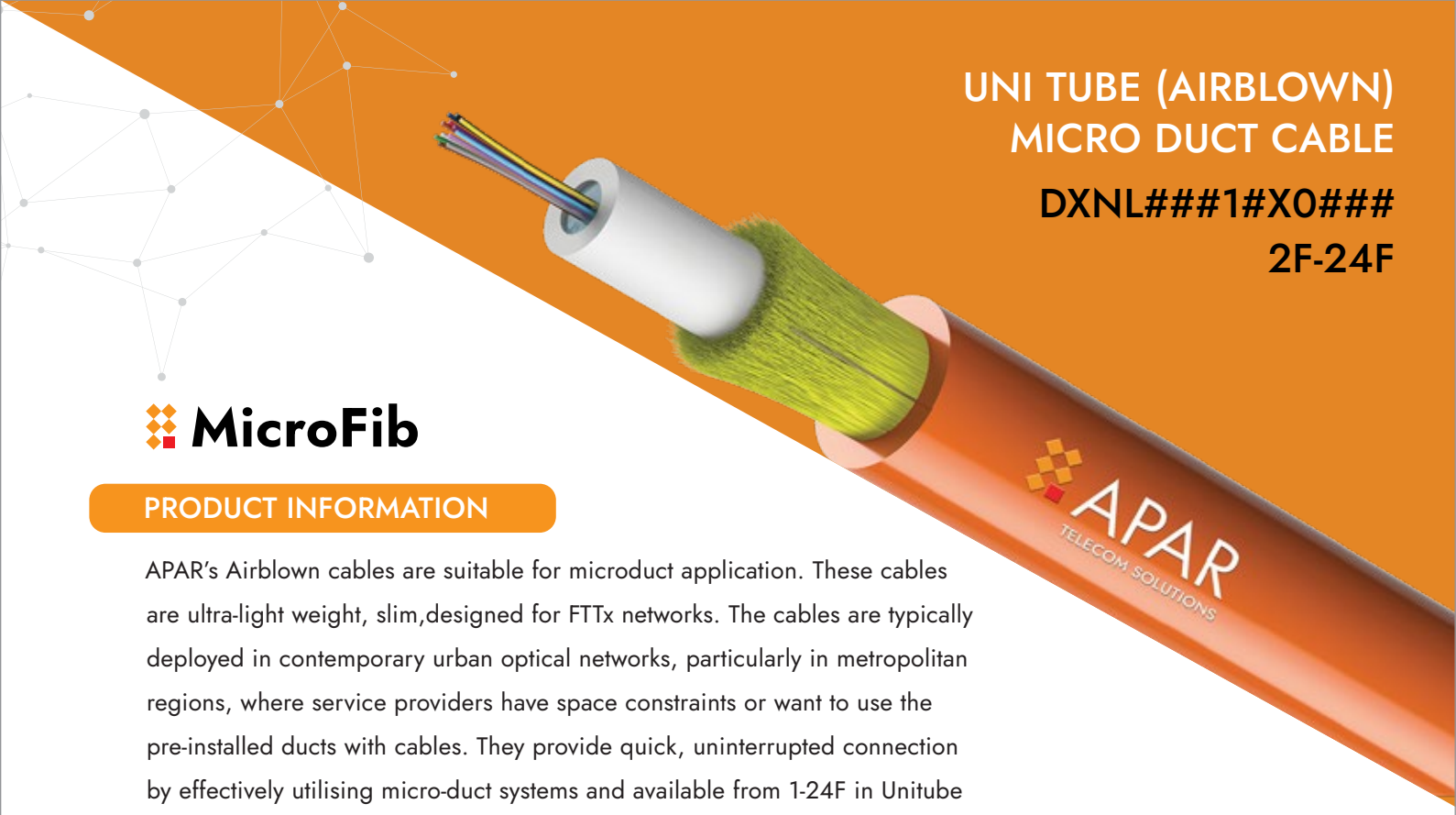
01	Uni Tube Single Jacket Microduct Cable	1F-24F	DXNL###1#X0###
02	Loose Tube Single Jacket Microduct Cable	1F-288F	DXNL###1#X0###



UNI TUBE (AIRBLOWN) MICRO DUCT CABLE

DXNL###1#X0###

2F-24F



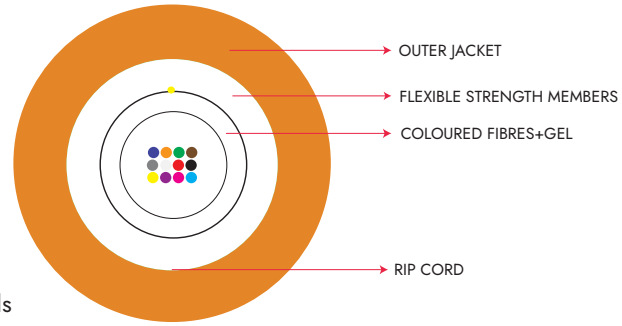
MicroFib

PRODUCT INFORMATION

APAR's Airblown cables are suitable for microduct application. These cables are ultra-light weight, slim,designed for FTTx networks. The cables are typically deployed in contemporary urban optical networks, particularly in metropolitan regions, where service providers have space constraints or want to use the pre-installed ducts with cables. They provide quick, uninterrupted connection by effectively utilising micro-duct systems and available from 1-24F in Unitube constructions.

PRODUCT APPLICATION

- The cable is designed for blowing in new or existing microducts for long distances
- Cables can be installed in dense and congested areas for narrow trenching



PRODUCT FEATURES

- Multiple designs with lowest diameters for optimum duct sizes
- Higher blowing performance with low friction jacketing materials
- Available up to 24 fibre count in either single-mode or multi-mode optical fibres with PE / Nylon Outer Jacket
- Tested and proven for blowing performances
- Operational Temperature -40°C to +70°C

COMPLIANCE STANDARDS

IEC 60793, IEC 60794, EIA/TIA, ITU-T, Telcordia GR-20, EN187000

Microduct Laying | UV Protected | Better Flexibility | Water Resistant | RoHS COMPLIANT

Note: Customized specifications can be made available upon specific request.

PHYSICAL PROPERTIES

JACKET	CABLE DIAMETER (MM)	CABLE WEIGHT (KG/KM)	TYPICAL DUCT SIZE (MM)	FIBRE COUNT RANGE	FIBRE/ TUBE	FIBRE SIZE PM	OPERATING TEMPERA-TURE RANGE	MAXIMUM TENSILE STRENGTH (N)
Nylon	2.0	3.0	5.0/3.5	1-12	1-12	200	-20 ~ +70°C	70
Nylon	2.5	6.7	5.0/3.5	24	24	200	-20 ~ +70°C	70
Nylon	2.6	7.0	5.0/3.5	1-24	1-24	200	-20 ~ +70°C	250
Nylon	3.3	11	8.0/5.0	1-24	1-24	250	-20 ~ +70°C	250
Nylon	3.7	12	8.0/5.0	1-24	1-24	250	-20 ~ +70°C	250

COLOUR CODING

FIBRE STANDARD COLOUR CODE

- If there are more 12 fibres per tube then single or double stripes marking will be offered in compliance to EIA/TIA

FIBRE STANDARD COLOUR CODE

- If there are more than 12 tubes per cable then single or double stripes marking will be offered in compliance to EIA/TIA 598.

PRINTING DETAILS

- APAR INDIA ~Fibre Count~ Fibre Type~ OFC ~Laser Symbol~ Telephone Symbol~Year of Manufacturing~ Cable ID~ Meter Marking
- Customized marking available on request.

PACKING DETAILS

- Packing Length - 2Km, 4Km, 6Km (tolerance +/- 5%)
- Packing Material - Wooden Drum
- Customized drum lengths are available on request.

LOOSE TUBE MICRO DUCT CABLE
DXNL###1#X0###

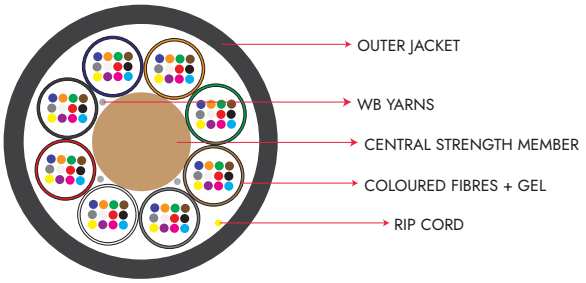
MicroFib

PRODUCT INFORMATION

APAR's MicroFib loose tube type fibre optic cable is designed for specific installations in microducts where there is higher bandwidth requirement particularly in urban & metropolitan regions. These cables can be blown into new or existing ducts. They provide quick, uninterrupted connection by effectively utilising micro-duct systems and available from 12-288F in multi/loosetube constructions. MicroFib is an excellent solution for both upgrading existing networks and installing new ones.

PRODUCT APPLICATION

- The cable is designed for longer blowing distances.
- The cable can be blown into new or existing microducts.
- Cables can be installed in dense and congested areas for narrow trenching



PRODUCT FEATURES

- Multiple designs with lowest diameters for optimum duct sizes
- Higher blowing performance with low friction jacketing materials
- Available up to 288 fibre count in either single-mode or multi-mode optical fibres with PE / Nylon Outer Jacket
- Tested and proven for blowing performances
- Operational Temperature -40°C to +70°C

COMPLIANCE STANDARDS

IEC 60793, IEC 60794, EIA/TIA, ITU-T, Telcordia GR-20, EN187000

Microduct Laying | UV Protected | Better Flexibility | Water Resistant | RoHS COMPLIANT

Note: Customized specifications can be made available upon specific request.

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PHYSICAL PROPERTIES

JACKET	CABLE DIAMETER (MM)	CABLE WEIGHT (KG/KM)	TYPICAL DUCT SIZE (MM)	FIBRE COUNT RANGE	FIBRE/ TUBE	FIBRE SIZE PM	OPERATING TEMPERA-TURE RANGE	MAXIMUM TENSILE STRENGTH (N)	MAXIMUM CRUSH RESISTANCE (N)
PE/Nylon)	3.8	14	8.5/6.0	1-48	1-24	200	-40 ~ +70°C	450	500
PE/Nylon)	3.8	15	8.5/6.0	1-48	1-12	200	-40 ~ +70°C	450	500
PE/Nylon)	4.3	20	8.5/6.0	1-48	1-12	250	-40 ~ +70°C	450	500
PE/Nylon)	5.3	25	10/8	1-72	1-12	250	-40 ~ +70°C	450	500
PE/Nylon)	4.5	22	8.5/6.0	1-96	1-24	200	-40 ~ +70°C	450	500
PE/Nylon)	5.5	29	10/8	96	12	200	-40 ~ +70°C	450	500
PE/Nylon)	6.3	40	14/10	96	12	250	-40 ~ +70°C	450	500
PE/Nylon)	5.8	34	10/8	144	24	200	-40 ~ +70°C	450	500
PE/Nylon)	7.0	49	14/10	144	12	200	-40 ~ +70°C	700	1000
PE/Nylon)	8.0	65	16/12	144	12	250	-40 ~ +70°C	700	1000
PE/Nylon)	8.1	65	16/12	288	12	200	-40 ~ +70°C	700	1000
PE/Nylon)	8.0	62	16/12	288	24	200	-40 ~ +70°C	700	1000

COLOUR CODING

FIBRE STANDARD COLOUR CODE

- If there are more 12 fibres per tube then single or double stripes marking will be offered in compliance to EIA/TIA

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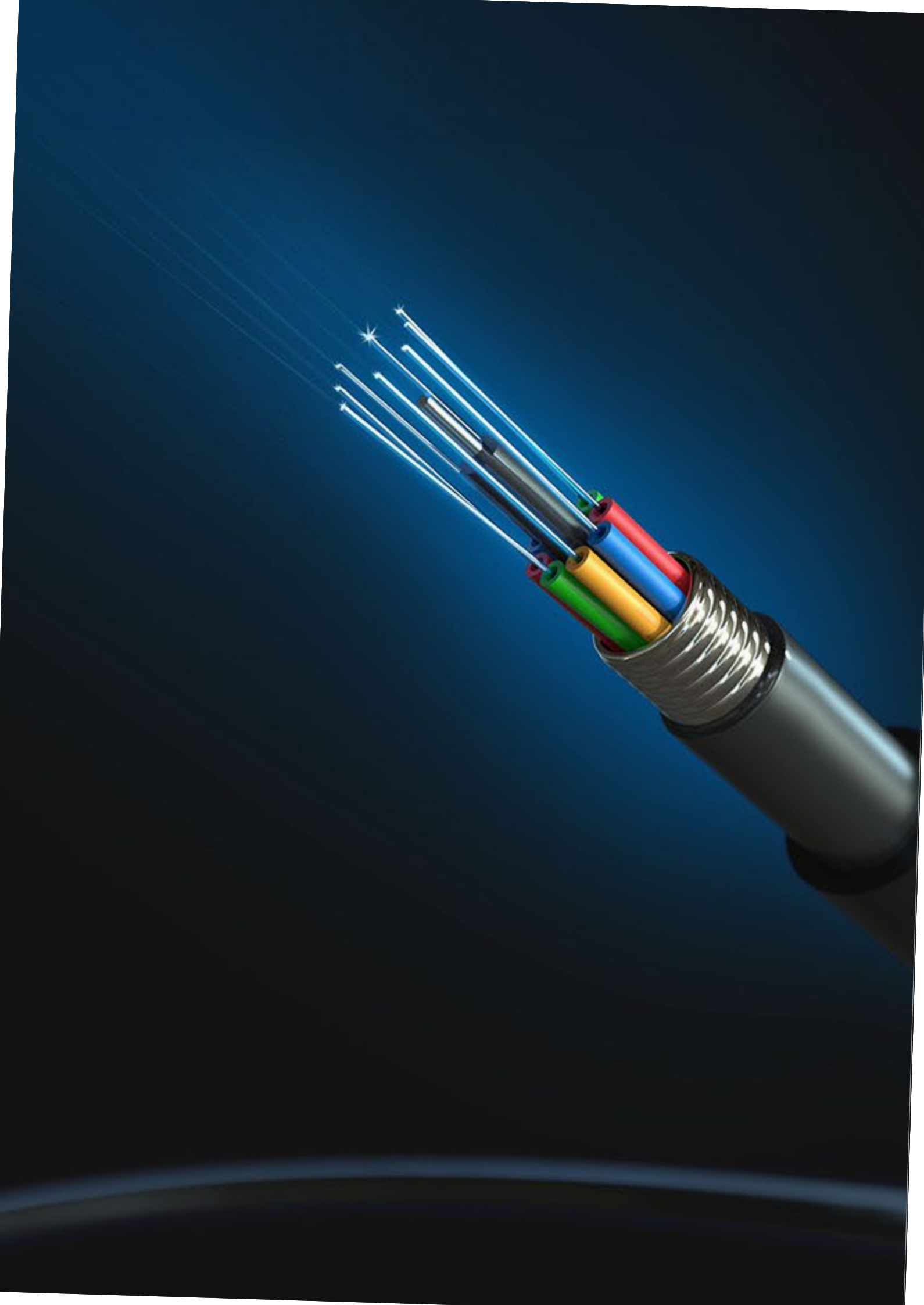
PRINTING DETAILS

- APAR INDIA ~Fibre Count~ Fibre Type~ OFC ~Laser Symbol~ Telephone Symbol~ Year of Manufacturing~ Cable ID~ Meter Marking
- Customized marking available on request.

PACKING DETAILS

- Packing Length- 2Km, 4Km, 6Km (tolerance +/- 5%)
- Packing Material- Wooden Drum
- Customized drum lengths are available on request.



DURABLE ENOUGH FOR OUTDOOR USE

Optical fibre cables are renowned for their unparalleled durability and resistance to environmental factors. They have the ability to withstand moisture, temperature fluctuations, and corrosion with ease, making them an excellent choice for use in harsh outdoor environments

APAR

Tomorrow's solutions today

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