

THE FUTURE OF CONNECTIVITY



OPTICAL FIBRE CABLES

PRODUCT CATALOGUE

LMConnect

APAR EMPOWERING A SMARTER WORLD SINCE 1958





#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



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.

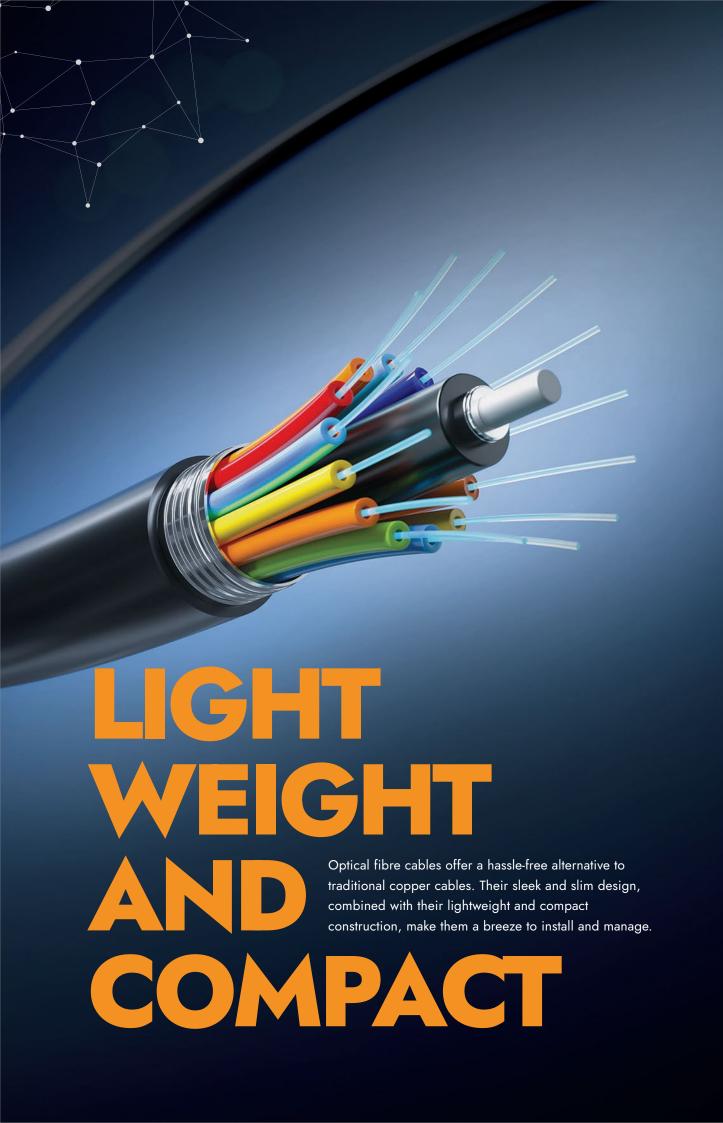
LAN CABLES - TARANG SHAKTI

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.





FIBRE TO THE HOME

FTTH CABLES

CATALOGUE CABLE CODING SYSTEM













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144

1 Installation

- A = Aerial Self Support
- B = Direct Buried
- D = Duct
- M = Figure 8
- 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

001 to 144

M = Micro Module

5 | Fibre/Tube Or Buffer

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

2



OPTICAL FIBRE COLOUR CODING

	FIBRE OPTIC COLOUR CO	DDING AS PER E	IA/TIA	598 INTERNATIONAL STA	ANDARD
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	Q	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	

 $^{^{\}star}$ "-" Marked are ring marked fibre.

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

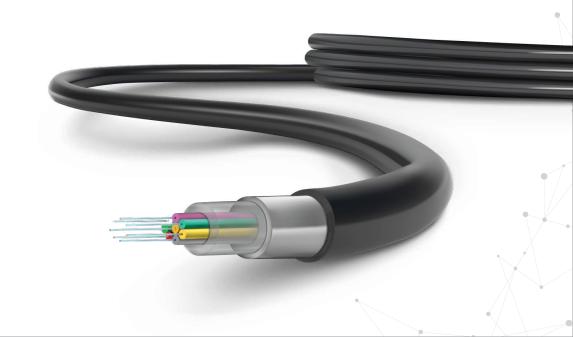


FIBRE OPTIC CABLE PRODUCT VARIETY

LMConnect

Product: FTTX: Application: Last mile connectivity.

01	Flat Drop Cable	1F-24F	PXNL###1X4###
02	Flat Indoor Drop Cable	1F-4F	PRNT###1X4###
03	Flat Indoor Drop Cable (Fig-8)	1F-4F	MRMT###1W4###
04	Simplex Cable	1F	PRNT0011X4001
05	Duplex Cable	2F	PRNT0021X4002
06	Breakout Cable	1F-24F	DRNT###1X0###



FLAT DROP INDOOR CABLE

PRNT###1X4###

1F-24F



PRODUCT INFORMATION

APAR's flat drop cable is suitable for indoor/outdoor applications.

The cable is unitube round drop design. The cable consists of optical fibres in jelly filled loose tube. This core is covered by two embedded FRP rods for additional tensile strength, extruded with thermoplastic material to give the cable a strong and smooth finish. A Toneable copper wire (Optional) for fibre traceability. This last mile product is available in 1-24F.

PRODUCT APPLICATION

- FTTx communication system.
- ◆ Junction communication system.
- Inter-office connections for video/data/internet transmission.
- Short Span aerial.

PRODUCT FEATURES

- Available in wide range of 1F-24F, in both single-mode and multi-mode fibre variants.
- Tensile and crush resistance, UV protection.
- Small size, lightweight, flexible and easy to install.
- Special bend insensitive fibres for indoor usage.

COMPLIANCE STANDARDS

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







Best Flexibility

Water Resistant

UV Protected



FIBRE COUNT	FIBRE/ TUBE	NOMINAL CABLE DIAMETER (MM)	NOMINAL CABLE WEIGHT (KG/KM)	MAXIMUM TENSILE STRENGTH (N)
2F - 8F	2 - 8	4.3 x 9.5	45 ± 10%	1335
12F	12	4.3 x 9.5	45 ± 10%	1335
24F	24	5.0 x 10.2	55 ± 10%	1335

MECHANICAL AND ENVIRONMENTAL CHARACTERISTICS

NAME OF TEST	REFERENCE STANDARD	OFFERED VALUES		
Cable Bending Radius	IEC-60794-1-21-E11	Long term = 20D, Short term = 10D		m = 10D
Crush Resistance (N/10 cm)	IEC-60794-1-21-E3	500N		
Impact strength (N.m)	IEC-60794-1-21-E4	5.0		
Temperature Cycling	IEC-60794-1-22-F1	Installation -20°C to +70°C	Operation -20°C to +70°C	Storage -20°C to +70°C

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

FLAT DROP INDOOR CABLE

PRNT###1X4###

COLOURED FIBRES

1F-4F



PRODUCT INFORMATION

APAR's Flat drop cable is suitable for indoor applications. This cable is a bare fibre design for easy access to fibre. Optical fibres are directly covered by LSZH jacket (Low smoke zero halogen compound) for indoor usage. Two rigid Strength members(FRP/Steel wire) are embedded in a jacket to give the cable extra tensile strength. This last mile product is available in 1-4F.

PRODUCT APPLICATION

- ◆ FTTx communication system
- Junction communication system.
- Inter-office connections for video/data/internet transmission.

PRODUCT FEATURES

- Available in 1F-4F, in both single-mode and multi-mode fibre variants.
- Tensile and crush resistance, UV protection.
- Small size, lightweight, flexible and easy to install.
- Special bend insensitive fibres for indoor usage.

COMPLIANCE STANDARDS

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



Easy Strippable



Best Flexibility



Water Resistant



UV Protected





FIBRE COUNT	FIBRE/TUBE	NOMINAL CABLE DIAMETER (MM)	NOMINAL CABLE WEIGHT (KG/KM)	MAXIMUM TENSILE STRENGTH (N)
1F	1	2.0 x 3.0	9.3±3	100
2F	2	2.0 x 3.0	9.3±3	100
4F	4	2.0 x 3.0	9.3±3	100

MECHANICAL AND ENVIRONMENTAL CHARACTERISTICS

NAME OF TEST	REFERENCE STANDARD	OFFERED VALUES
Cable Bending Radius	IEC-60794-1-21-E11	Long term = 20D, Short term = 10D
Crush Resistance (N/10 cm)	IEC-60794-1-21-E3	500N
Impact strength (N.m)	IEC-60794-1-21-E4	1.0
Temperature Cycling	IEC-60794-1-22-F1	Installation Operation Storage -20°C to +70°C -20°C to +70°C -20°C to +70°C

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 Length 0.5Km, 1Km, 2Km, 4Km, 6Km (tolerance +/- 5%)
- Packing Material- Wooden Drum
- Customized drum lengths are available on request.

FLAT INDOOR DROP CABLE (FIG-8)

MRMT###1W4###

1F-4F

LMConnect

PRODUCT INFORMATION

APAR's Flat drop cable is suitable for indoor application. The cable is unitube flat drop design. The cable consists of optical fibres directly covered with a LSZH jacket (Low smoke zero halogen compound). Two rigid strength members and one steel rod are embedded in jacket to give extra tensile strength to cable. The messenger steel wire is arranged in a way that it gives cable a figure-8 layout. LSZH material is completely suitable for indoor applications. This last mile product is available in 1-4F.

PRODUCT APPLICATION

- FTTx communication system
- Junction communication system.
- Inter-office connections for video/data/internet transmission.

PRODUCT FEATURES

- Available in wide range of 1F-4F, in both single-mode and multi-mode fibre variants.
- Tensile and crush resistance, UV protection.
- Small size, lightweight, flexible and easy to install.
- Special bend insensitive fibres for indoor usage.
- Completely dielectric option also available.

COMPLIANCE STANDARDS

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







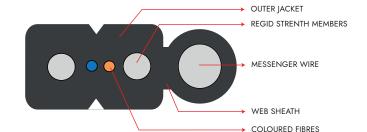
Best Flexibility



Water Resistant



UV Protected





FIBRE COUNT	FIBRE/TUBE	NOMINAL CABLE DIAMETER (MM)	NOMINAL CABLE WEIGHT (KG/KM)	MAXIMUM TENSILE STRENGTH (N)
1F	1	2.0 x 5.3	22±3	500
2F	2	2.0 x 5.3	22±3	500
4F	4	2.0 x 5.3	22±3	500

MECHANICAL AND ENVIRONMENTAL CHARACTERISTICS

NAME OF TEST	REFERENCE STANDARD	OFFERED VALUES
Cable Bending Radius	IEC-60794-1-21-E11	Long term = 20D, Short term = 10D
Crush Resistance (N/10 cm)	IEC-60794-1-21-E3	500N
Impact strength (N.m)	IEC-60794-1-21-E4	1. 0
Temperature Cycling	IEC-60794-1-22-F1	Installation Operation Storage -20°C to +70°C -20°C to +70°C -20°C to +70°C

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 Length 0.5Km, 1Km, 2Km, 4Km, 6Km (tolerance +/- 5%)
- Packing Material- Wooden Drum
- Customized drum lengths are available on request.



PRODUCT INFORMATION

APAR's simplex cable is a single fibre cable suitable for indoor application. The cable is unitube consisting of one tight buffered optical fibre covered with aramid yarns jacketed by LSZH (Low smoke zero halogen compound) completely suitable for indoor usage.

PRODUCT APPLICATION

- Trunking lines direct to telecommunications closet
- Fibre patch panels.
- Link between electronic equipment and fibre patch panels.
- Connectorized to patch cords and pigtails.

PRODUCT FEATURES

- Available in both single-mode and multi-mode fibre variants.
- Easy to strip.
- Mini size, flexible and easy to install.
- Special bend insensitive fibres for indoor usage.

COMPLIANCE STANDARDS

IEC 60793, IEC 60794, IEC 60332-1, EIA/TIA, ITU-T, Telcordia GR-20, EN187000



Easy Strippable



Best Flexibility



Water Resistant



UV Protected







FIBRE COUNT	FIBRE/TUBE	NOMINAL CABLE DIAMETER (MM)	NOMINAL CABLE WEIGHT (KG/KM)	MAXIMUM TENSILE STRENGTH (N)
1F	1	2.0	3.6 ± 10%	100

MECHANICAL AND ENVIRONMENTAL CHARACTERISTICS

NAME OF TEST	REFERENCE STANDARD	OFFERED VALUES
Cable Bending Radius	IEC-60794-1-21-E11	Long term = 20D, Short term = 10D
Crush Resistance (N/10 cm)	IEC-60794-1-21-E3	100N
Impact strength (N.m)	IEC-60794-1-21-E4	1. 0
Temperature Cycling	IEC-60794-1-22-F1	Installation Operation Storage -20°C to +70°C -20°C to +70°C -20°C to +70°C

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

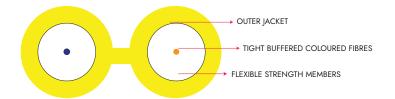
LMConnect

PRODUCT INFORMATION

APAR's duplex cable is suitable for indoor application. This cable is a dual fibre design. This cable consists of two tight buffered optical fibres covered with aramid yarns jacketed by LSZH (Low smoke zero halogen compound). LSZH is completely suitable for indoor usage.

PRODUCT APPLICATION

- Trunking lines direct to telecommunications closet.
- Fibre patch panels.
- Link between electronic equipment and fibre patch panels.
- Connectorized to patch cords and pigtails.



PRODUCT FEATURES

- Available in both single-mode and multi-mode fibre variants.
- Easy to strip.
- Mini size, flexible and easy to install.
- Special bend insensitive fibres for indoor usage.

COMPLIANCE STANDARDS

IEC 60793, IEC 60794, IEC 60332-1, EIA/TIA, ITU-T, Telcordia GR-20, EN187000



Easy Strippable



Best Flexibility



Water Resistant



UV Protected





FIBRE COUNT	FIBRE/TUBE	NOMINAL CABLE DIAMETER (MM)	NOMINAL CABLE WEIGHT (KG/KM)	MAXIMUM TENSILE STRENGTH (N)
1F	1	2.0 x 4.3	7.3 ± 10%	200

MECHANICAL AND ENVIRONMENTAL CHARACTERISTICS

NAME OF TEST	REFERENCE STANDARD	OFFERED VALUES	
Cable Bending Radius	IEC-60794-1-21-E11	Long term = 20D, Short term = 10D	
Crush Resistance (N/10 cm)	IEC-60794-1-21-E3	100N	
Impact strength (N.m)	IEC-60794-1-21-E4	1. 0	
Temperature Cycling	IEC-60794-1-22-F1	Installation Operation Storage -20°C to +70°C -20°C to +70°C -20°C to +70°C	

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

BREAKOUT CABLE DRNT###1X0### 1F-24F



PRODUCT INFORMATION

APAR's breakout cable is suitable for indoor and outdoor applications. The cable consists of optical fibres converted to simplex modules which are stranded over FRP (fibre reinforced plastic rod). The FRP rod is an excellent central strength member. This core is covered by jacketing material LSZH (Low smoke zero halogen compound). This last mile is product is available in 1-24F.

PRODUCT APPLICATION

- Harsh Environment.
- Mining.
- Inter-office connections for video/data/internet transmission.

PRODUCT FEATURES

- Available in wide range of 1F-24F, in both single-mode and multi-mode fibre variants.
- Tensile and crush resistance, UV protection.
- Lightweight, Small size, flexible and easy to install.
- Completely dielectric cable.

COMPLIANCE STANDARDS

IEC 60793, IEC 60794, IEC 60332-1, EIA/TIA, ITU-T, Telcordia GR-20, EN187000







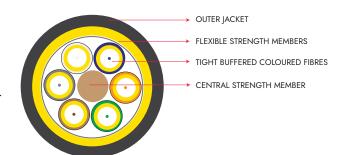
Best Flexibility



Water Resistant



UV Protected







FIBRE COUNT	FIBRE/BUFFER	NOMINAL CABLE DIAMETER (MM)	NOMINAL CABLE WEIGHT (KG/KM)	MAXIMUM TENSILE STRENGTH (N)
2F	1	8.7	50±10%	1000
4F	1	8.7	70±10%	1000
6F	1	8.7	70±10%	1000
12F	1	12.5	145±10%	1500
24F	1	14.5	175±10%	1500

MECHANICAL AND ENVIRONMENTAL CHARACTERISTICS

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





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