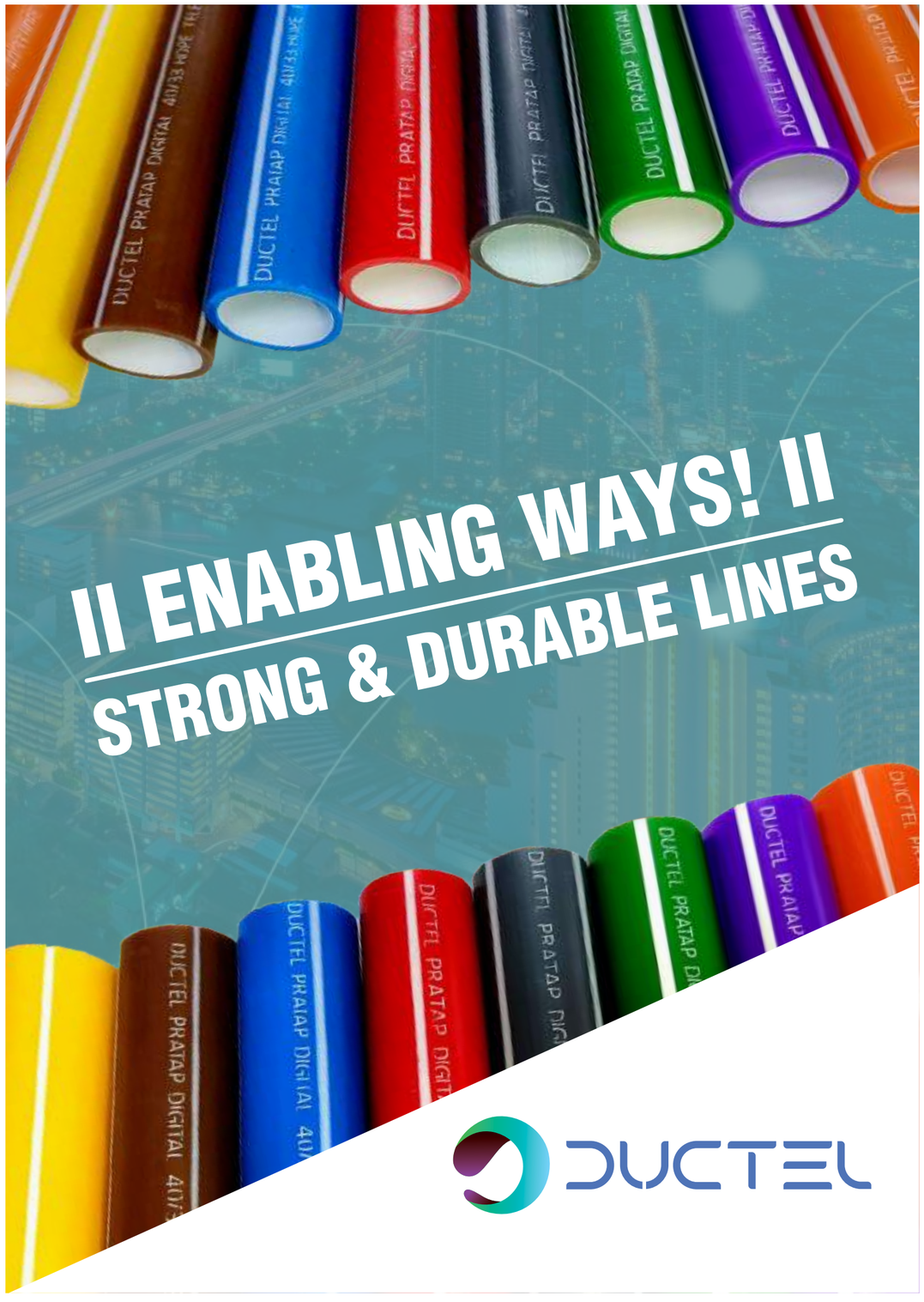

II ENABLING WAYS! II
STRONG & DURABLE LINES
DUCTEL PRATAP DIGITAL
DUCTEL

We create, innovate & deliver best quality Cable Protection System

PRATAP GROUP OF COMPANIES

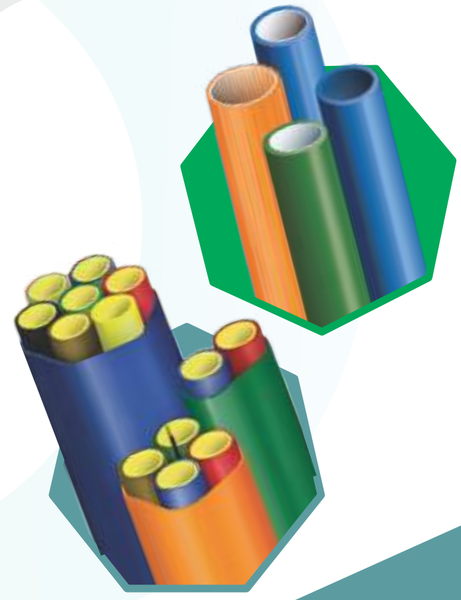
Pratap Group of Companies is a conglomerate having diversified in different verticals including **Telecom, Manufacturing, Power, Infrastructure, Hospitality, Education, Automobile, GIS Services, Mining, and Agriculture. Established in 1987 by Mr. Pratap Singh Shekhawat,** a marine engineer by profession (Ex- Indian Navy), Pratap Group of Companies has garnered a strong hold in multiple business sectors across the nation.

We are a strong team of 17,000+ employees catering to the client base of more than 100 renowned companies in India.

Pratap Group of companies has a reach in 28 States and 8 UTS across the nation. Our flagship company of Telecom sector, Pratap Technocrats Pvt. Ltd. has reached new heights by becoming **one of India's largest Telecom, IT Infra Services delivery providers.** We have established a trusted relationship with various IPs & Telcos with PAN India presence because of our exceptional quality products and services.

Pratap Group of Companies has **24+ years of rich experience** in the Tower sector including OME/ IME/ E2E, Fiber Managed Services-O&M, and set up of Network Operation Centers. Our expertise enables us to manage the bigger portfolio of towers and fiber in both urban and rural areas. Currently, we are overseeing more than **1.8 lacs telecom cell sites** and **4.5 lacs KMs of optical fiber cable** for different telecom operators and telecom infrastructure providers along with successful execution of approximately **50,000 kms of underground OFC lay.**

The company currently has a strong foothold in various geographies, successfully serving multiple operators and telecom infrastructure providers. Pratap Group of Companies has earned several **prestigious awards** by Telecom Operators and Infra Providers for our outstanding performance.



PRATAP DIGITAL COMMUNICATIONS PVT. LTD.

CORSIS TECHNOLOGIES PVT LTD.
Manufacturing of optical fiber cable

VOLTTERS TECHNOLOGIES PVT LTD.
Manufacturing of LI-ION Batteries

DUCTEL

ABOUT DUCTEL

DUCTEL

A brand of PRATAP DIGITAL COMMUNICATIONS PVT. LTD. (A unit of Pratap Group) an ISO 9001:2015, TL 9000:2016, OSHAS & EMS certified company is specialized in manufacturing of "Ducts" which are the backbone of any cable protection (especially electrical and telecommunications cable) system. We are headquartered in the centre of India, Indore, Pithampur (Madhya Pradesh).
Our manufacturing plant is well equipped with fully automatic machines for **manufacturing of wide range of "DUCTS"** of different colours, sizes and options From **PLB Duct, Tracer Duct, Micro Duct, Fig.8 (Aerial) Duct, Co-extrude Duct and HDPE/MDPE Pipe.** Pratap Digital Communications is one among few companies which is focused to provide all solutions to customers and has been able to gain a remarkable position in the market. With Ductel we are focused to provide best **cable protection system** with a manufacturing capacity of more than **1.5 lacs kilometres (kms)** of Ducts annually. Our modern machinery with versatility of design supports us to manufacture ducts for multiple applications in several industries. Our advance **R&D centre and field laying teams** are constantly working together on innovation to create value for our customers.

We offer customized solutions of Ducts design to deliver the most **economical and reliable** products to our customer based on their application.

VISION

To be reckoned as stalwarts of manufacturing industry to produce communication network backbone products for building futuristic networks.

MISSION

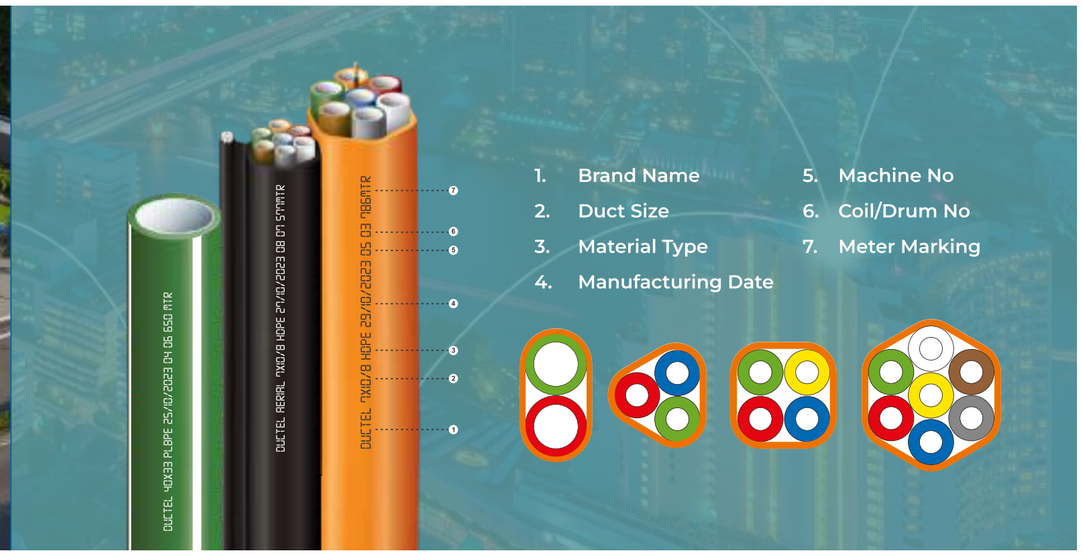
To deliver the highest quality of work with continuous innovation, market study, and systems in place and to ensure cost-effective and timely deliveries with the highest standard of compliance in the industry.

CORE VALUES

Corsis Technologies follows a strong code of conduct and aims to secure a position as a valuable manufacturer that leverages skills, achievements, and ability in a direction that provides a niche in customer experience. Because of our strong core values, we are able to achieve success in the industry.

> **Digitization & Automation** The incorporation of digitization & automation in the manufacturing of our products ensures increased productivity & efficiency resulting in delivering the best.
> **High-quality products:** We strive to be our best and deliver the best. Each of our product is carefully manufactured.
> **Customer satisfaction:** Our customers are our priority. We provide exceptional customer service through quality products, efficient services, and innovative solutions.
> **Excellence and Innovation:** Innovation and excellence are an integral part of Pratap Digital Communications Pvt. Ltd. We thrive to implement innovative ideas and solutions to achieve excellence.
> **Teamwork & integrity:** We work in a collaborative environment for successful cross-cultural collaboration, streamlined inter- departmental cooperation and efficient processes. Integrity drives us towards honesty and fulfilling our commitments, ultimately winning our customers trust and respect.

DUCTEL



ABOUT PLB DUCT:

PLB DUCT Is the technology associated with cable protection system, allowing them to be efficient and safe installation and protection underground as well as aerial cable system. It is commonly used in telecommunication and electrical installation to house fiber optics cables, electrical wires or of the.

The key benefits of using PLB duct include:
1.High Protection: PLB ducts are shielding cables from damage caused by external factors such as moisture, harsh deployment conditions, tuberculation, deposits, corrosive substance, rodents, termites, ultra violet rays ,accidental impact or rapid crack propagation (RCP).

2.Organization: The ducts ensure proper organization and separation of different type of cable, preventing them becoming entangled or causing interference (specially in case of together installation of telecommunications and Electrical cable).

3.Easy Installation: PLB duct are designed for easy installation featuring a parallel lifting mechanism that allows for quick and convenient access to the cable whenever maintenance, replacement and repairs are required.

4.Flexibility: PLB Ducts are available in various size and configuration, making them suitable for a wide range of application and adaptable to different installation requirements.

5.Cost-effectiveness: the use of PLB Ducts reduce the likelihood of cable damage, minimizing the need of repairs or replacements, thus leading to cost saving in long run.

6.Efficiency: The organized and protected cable layout offered by the HDPE DUCT system allows for easier cable management, troubleshooting, and future upgrades or modifications.

7.Multi paths for future laying: Multi Path ducts can be installed and that can be used for present and future installation of cables efficiently.
8. Low life-cycle costs

9. Reduced logistic ,transportation, handling and installation cost as compare to steel counterparts.

10. Flexible, non-rusting materials minimizes leaks common in corroded steel pathways.

Overall, HDPE DUCT system is widely used in various industries and applications, including telecommunications, power distribution, and infrastructure projects, where the efficient installation and protection of cables are crucial.

Ductel manufactures various types of Ducts from PLB to multipath ducts from special high density polyethylene (HDPE) for deployment in Underground and Sub-duct applications. Our ducts are manufactured with Ultra-Violet Resistant compound to provide long term protection from exposed storage and impart extra strength for Harsh Deployment Conditions. Ductel provides best quality of PLB Duct and do continuous innovation in Duct designing as per customer requirement and their application.

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MATERIAL

All our products are made only from good quality HDPE, so we can always guarantee the top quality final product.

Material properties at 27 °C:

- Density between 0.940 g/cc to 0.958 g/cc
- Melt Flow Rate (190°C/5 kg) 0.2-1.1 gr/10 Minutes
- Flexural Modulus > 690N/mm2 at 1% strain
- Hardness (20°C) (Shore D) Between 60 and 65 units
- OIT - 30 minutes min.
- Tensile 20 N/mm min.

Recommended

- Installation temperature -10°C to 65°C
- Storage temperature -30°C to 70°C Operating Temperature -30°C to 70°C

INNER LAYER

Ducts & Micro Ducts Installations are done by an air blowing & pulling technique that reduces the risk of damage to the fiber cable, accelerates installation time and increases the installation distance.

Ductel Ducts & Micro Ducts can be produced with a permanent Silicone lining. Permanent solid silicone is co-extruded inside the tube of Ducts & Micro Ducts creating a permanent slippery wall.

Upgrade Silicone Lining helps to increase the blowing speed and reduce the time on installation by reducing the coefficient of friction.

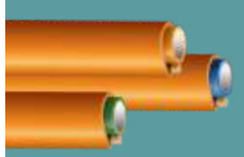
BUNDAL FIG 8 AERIAL DUCT

MICRO FIG 8 AERIAL DUCT

HDPE WATER PIPES

MICRO DUCT BUNDAL

MICRO DUCT SINGLE



MICRO TRACE DUCT

DUCTEL

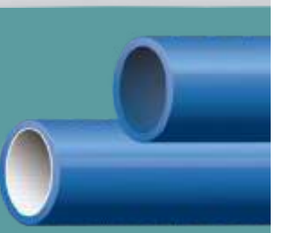
SMOOTH OUT RIBBED IN DUCT

FIG 8 AERIAL DUCT

CO-EXTRUDED DUCT

RIBBED IN/OUT DUCT

FIRE RESISTANT DUCT



HDPE DUCT

DUCTEL

PLB DUCT

PRODUCT DETAIL - CONSTRUCTION DIAGRAM OF PLB DUCT

DUCTEL is known for providing the best PLB HDPE Duct products in INDIA as well as in abroad. DUCTEL PLB HDPE Duct pipes or High-Density Polyethylene Permanently Lubricated Ducts are the high flow capacity ducts, offering a very high-quality option for the underground laying of OFC or optical fiber cable. As a leading supplier of PLB HDPE Ducts products in, our products are mainly used to lay Optical Fiber Cable as underground conduits. These HDPE telecom ducts are manufactured with high-density polyethylene materials. The material and the high-density polyethylene offer a pronounced resistance against heavy earth loads. Additionally, it is also great in offering impact and crush resistance.

FEATURES

Permanent Inner lubricant 'Smooth layer' co-extruded with HDPE reduces the co-efficient of friction and enhances, blowing performance during installation.
Longer cable pulls over multiple bends.
Enhanced ultra-violet (UV) protection capacity.
Anti-termite and anti-rodent (optional) capabilities.
Reduction of overall cost of installation, maintenance and future upgrades.

PRODUCT APPLICATIONS

• Telecommunication • Computer Network • Railways Information Network Highways • Cable Service Providers • Broadband network • Electric cable installation

ASSOCIATED ACCESSORIES & TOOLS

1-Plastic Coupler to join two duct lengths- air tight and water tight.
2-End Plug to seal duct ends prior to the installation of the cable.
3-Cable Sealing Plug to seal duct ends after insertion of the cable.
4-End Cap made of hard rubber, fitted on both ends of duct coil after manufacturing.
5-Duct Cutter to cut duct cleanly and with square ends.
6-C Spanner to tighten plastic coupler.

STANDARDS/GRS :

TEC/GR/FA/CDS-008/04/AUG-19, ISO 3126, BIS & Bellcore-356

COLOR NOTATION

DUCT COLOR	BL	OR	GR	BR	SL	RD	YL	VI

TECHNICAL DATA

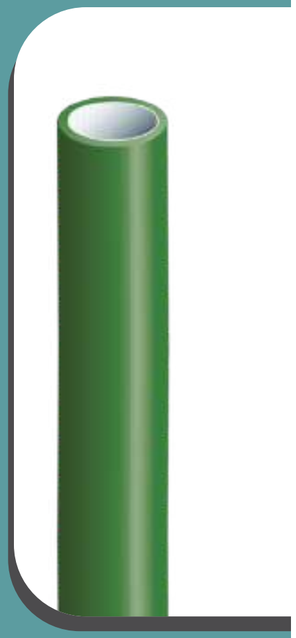
DUCT SIZEs	32/26 mm	40/33 mm	50/42 mm	63/50 mm	110/80 mm
Wall Thickness	3.0 mm	3.5 mm	4.0 mm	6.5 mm	15.0 mm
Inner Side Diameter	26 mm	33 mm	42 mm	50 mm	80 mm
Outer Side Diameter	32 mm	40 mm	50 mm	63 mm	100 mm
Max OD of Cable that can blow inside the duct	12 mm	16 mm	21 mm	25 mm	40 mm
Standard Length	1000 mm	1000 mm	1000 mm	500 mm	200 mm

CUSTOMIZATION AVAILABLE ON REQUEST

IN SIDE RIBBED DUCT

PRODUCT DETAIL - IN SIDE RIBBED DUCT

DUCTEL is known for providing telecom inner ribbed duct design in INDIA as well as in abroad. DUCTEL internal longitudinal ribbing ducts reduces friction between the cable and duct wall during cable placement inside the duct. The optimized geometry produces a 'suction effect' that multiples the pulling force and optical fiber cable floats in the HDPE duct with enhanced velocity.
Excellent low temperature properties, allows installation in cold climates also.



FEATURES

Design of inner ribbed duct allows for faster & easy installation of the cable by lowering the coefficient of friction.
Enhances aerodynamics during blowing and provides an extra movement.
This creates a jet engine-like forward propulsion within the duct.
The operational expenditure gets reduced as less maintenance is required over long haul duct routes.
Excellent low temperature properties, allows installation in cold climates continuous lengths reduce joining costs.

PRODUCT APPLICATIONS

• Telecommunication • Computer Network • Railways Information Network Highways • Cable Service Providers • Broadband network • Electric cable installation

ASSOCIATED ACCESSORIES & TOOLS

1-Plastic Coupler to join two duct lengths- air tight and water tight.
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5-Duct Cutter to cut duct cleanly and with square ends.
6-C Spanner to tighten plastic coupler.

STANDARDS/GRS

COLOR NOTATION

DUCT COLOR	BL	OR	GR	BR	SL	RD	YL	VI

TECHNICAL DATA

WALL TYPE	SDR 9	SDR 11	SDR 13.5	SDR 15.5	SDR 17	SCH 40	SCH 80
NOM OD (IN)	1.315	1.315	1.315	1.315	1.315	1.315	1.315
"OD TOLERANCE+/-"	0.007	0.007	0.007	0.007	0.007	0.007	0.007
MIN WALL (IN)	0.146	0.12	0.097	0.084	0.077	0.133	0.179
"WALL TOLERANCE+"	0.02	0.02	0.02	0.02	0.02	0.02	0.021
AVG ID (IN)	0.963	1.015	1.061	1.087	1.101	0.989	0.896
MIN ID (IN)	0.943	0.995	1.041	1.067	1.081	0.969	0.875
WEIGHT (LB/FT)	0.25	0.215	0.183	0.165	0.154	0.233	0.292
BEND RADIUS SUP (IN)	13	13	13	13	13	13	13
BEND RADIUS UNSUP (IN)	26	26	26	26	26	26	26
SWPS (LB)	1288	1078	894	792	722	1340	1533
LENGTH PER COIL (M)	200-1000	200-1000	200-1000	200-1000	200-1000	200-1000	200-1000

CUSTOMIZATION AVAILABLE ON REQUEST

IN SIDE RIBBED DUCT

DUCT SIZE- 1 1/4"(IN)

WALL TYPE	SDR 9	SDR 11	SDR 13.5	SDR 15.5	SDR 17	SCH 40	SCH 80
NOM OD (IN)	1.66	1.66	1.66	1.66	1.66	1.66	1.66
"OD TOLERANCE+/-"	0.008	0.008	0.008	0.008	0.008	0.008	0.008
MIN WALL (IN)	0.184	0.151	0.123	0.107	0.098	0.14	0.191
"WALL TOLERANCE+"	0.022	0.020	0.020	0.020	0.020	0.020	0.023
AVG ID (IN)	1.23	1.298	1.354	1.386	1.404	1.32	1.215
MIN ID (IN)	1.208	1.278	1.334	1.366	1.384	1.3	1.192
WEIGHT (LB/FT)	0.386	0.328	0.279	0.25	0.233	0.309	0.398
BEND RADIUS SUP (IN)	17	17	17	17	17	17	17
BEND RADIUS UNSUP (IN)	34	34	34	34	34	34	34
SWPS (LB)	2052	1717	1425	1234	1150	1604	2116

DUCT SIZE- 1 1/2"(IN)

WALL TYPE	SDR 9	SDR 11	SDR 13.5	SDR 15.5	SDR 17	SCH 40	SCH 80
NOM OD (IN)	1.9	1.9	1.9	1.9	1.9	1.9	1.9
"OD TOLERANCE+/-"	0.010	0.010	0.010	0.010	0.010	0.010	0.010
MIN WALL (IN)	0.211	0.173	0.141	0.123	0.112	0.145	0.200
"WALL TOLERANCE+"	0.025	0.021	0.02	0.02	0.02	0.02	0.024
AVG ID (IN)	1.413	1.493	1.558	1.594	1.616	1.55	1.436
MIN ID (IN)	1.388	1.472	1.538	1.574	1.596	1.53	1.412
WEIGHT (LB/FT)	0.501	0.424	0.358	0.32	0.297	0.366	0.479
BEND RADIUS SUP (IN)	19	19	19	19	19	19	19
BEND RADIUS UNSUP (IN)	38	38	38	38	38	38	38
SWPS (LB)	2688	2249	1867	1607	1507	1919	2564

DUCT SIZE- 2"(IN)

WALL TYPE	SDR 9	SDR 11	SDR 13.5	SDR 15.5	SDR 17	SCH 40	SCH 80
NOM OD (IN)	2.375	2.375	2.375	2.375	2.375	2.375	2.375
"OD TOLERANCE+/-"	0.012	0.012	0.012	0.012	0.012	0.012	0.012
MIN WALL (IN)	0.264	0.216	0.176	0.153	0.14	0.154	0.218
"WALL TOLERANCE+"	0.032	0.026	0.021	0.02	0.02	0.02	0.026
AVG ID (IN)	1.775	1.877	1.962	2.009	2.035	2.007	1.873
MIN ID (IN)	1.743	1.851	1.941	1.989	2.015	1.987	1.847
WEIGHT (LB/FT)	0.784	0.661	0.553	0.492	0.457	0.494	0.666
BEND RADIUS SUP (IN)	24	24	24	24	24	24	24
BEND RADIUS UNSUP (IN)	48	48	48	48	48	48	48
SWPS (LB)	4200	3515	2917	2466	2355	2579	2545

DUCT SIZE- 2 1/2"(IN)

WALL TYPE	SDR 9	SDR 11	SDR 13.5	SDR 15.5	SDR 17	SCH 40	SCH 80
NOM OD (IN)	2.875	2.875	2.875	2.875	2.875	2.875	2.875
"OD TOLERANCE+/-"	0.014	0.014	0.014	0.014	0.014	0.014	0.014
MIN WALL (IN)	0.319	0.261	0.213	0.185	0.169	0.203	0.276
"WALL TOLERANCE+"	0.038	0.031	0.026	0.022	0.02	0.024	0.033
AVG ID (IN)	2.159	2.282	2.383	2.443	2.477	2.405	2.25
MIN ID (IN)	2.121	2.251	2.357	2.421	2.457	2.381	2.217
WEIGHT (LB/FT)	1.135	0.955	0.8	0.705	0.65	0.765	1.003
BEND RADIUS SUP (IN)	29	29	29	29	29	29	29
BEND RADIUS UNSUP (IN)	58	58	58	58	58	58	58
SWPS (LB)	6155	5151	4274	3592	3450	4090	5409

DUCT SIZE- 3"(IN)

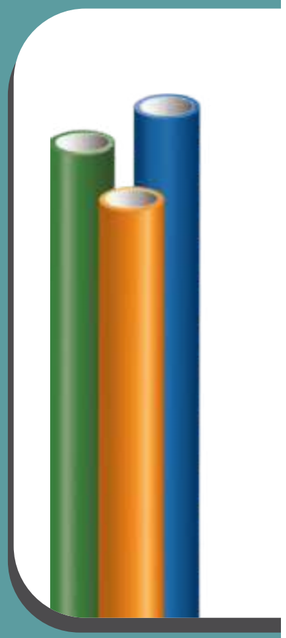
WALL TYPE	SDR 9	SDR 11	SDR 13.5	SDR 15.5	SDR 17	SCH 40	SCH 80
NOM OD (IN)	3.5	3.5	3.5	3.5	3.5	3.5	3.5
"OD TOLERANCE+/-"	0.018	0.018	0.018	0.018	0.018	0.018	0.018
MIN WALL (IN)	0.389	0.318	0.259	0.226	0.206	0.216	0.3
"WALL TOLERANCE+"	0.047	0.038	0.031	0.027	0.025	0.026	0.036
AVG ID (IN)	2.635	2.786	2.911	2.981	3.023	3.002	2.824
MIN ID (IN)	2.588	2.748	2.88	2.954	2.998	2.976	2.788
WEIGHT (LB/FT)	1.673	1.405	1.171	1.036	0.953	0.994	1.335
BEND RADIUS SUP (IN)	39	39	39	39	39	39	39
BEND RADIUS UNSUP (IN)	78	78	78	78	78	78	78
SWPS (LB)	9122	7633	6335	5342	5114	5348	7238

CUSTOMIZATION AVAILABLE ON REQUEST

MICRO DUCT

PRODUCT DETAIL - MICRO DUCT

DUCTEL is known for providing Micro Duct design in INDIA as well as in abroad. DUCTEL manufacture wide range of micro ducts (5 mm to 27 mm OD) with co-extruded lubricant layer (optional) that reduce cofficient of friction between duct wall and cable outer jacket. Micro ducts are a great way of getting the most versatility out of your current empty duct system and we can install multiple ducts that can be pathway for future optical fiber laying also.



FEATURES

Available in small diameter from 5mm OD – 27mm OD.
Utilize space in an pre installed/occupied duct.
Substantially reduce construction costs & deployment time.

PRODUCT APPLICATIONS

• Telecommunication • Computer Network • Railways Information Network
Highways • Cable Service Providers • Broadband network • Electric cable installation

ASSOCIATED ACCESSORIES & TOOLS

1-Plastic Coupler to join two duct lengths- air tight and water tight.
2-End Plug to seal duct ends prior to the installation of the cable.
3-Cable Sealing plug to seal duct ends after insertion of the cable.
4-End Cap made of hard rubber, fitted on both ends of duct coil after manufacturing.
5-Duct Cutter to cut duct cleanly and with square ends.
6-C Spanner to tighten plastic coupler.

STANDARDS/GRS

COLOR NOTATION

DUCT COLOR	BL	OR	GR	BR	SL	RD	YL	VI

TECHNICAL DATA

MICRODUCT SIZE (MM)	5/3.5	7/3.5	8/6	8.5/6	10/8	12/10	12.7/8	12.7/10
NOM OD (MM)	5	7	8	8.5	10	12	12.7	12.7
MIN ID (MM)	3.4	3.7	5.8	5.9	8.1	9.9	7.9	9.8
WEIGHT (KG/KM)	8.9	26.8	20.8	26.8	26.8	31.3	74.4	47.6
BEND RADIUS SUP (MM)	50.8	76.2	76.2	76.2	101.6	127	127	127
BEND RADIUS UNSUP (MM)	101.6	152.4	152.4	177.8	203.2	228.6	254	254
SWPS (N)	147	431	338	427	414	507	1192	743
APPLICATION (DB)	–	DB	–	DB	DI	–	DB	DB
APPLICATION (DI)	DI	–	DI	DI	DI	DI	–	DI
CABLE OD RANGE	1.8-2.6	1.8-2.6	3.0 – 4.5	3.0 – 4.5	4.0 – 6.0	5.0 – 7.5	4.0 – 6.0	5.0 – 7.5

TECHNICAL DATA

MICRODUCT SIZE (MM)	14/10	16/12	16/13	18/10	18/14	22/16	22/18	27/20
NOM OD (MM)	14	15.9	16	18	18	22	22	26.7
MIN ID (MM)	9.8	11.6	12.8	10	13.6	15.4	18	20.7
WEIGHT (KG/KM)	74.4	86.3	64.0	163.7	98.2	172.6	123.5	196.4
BEND RADIUS SUP (MM)	152.4	152.4	152.4	177.8	177.8	228.6	228.6	279.4
BEND RADIUS UNSUP (MM)	279.4	330.2	330.2	355.6	355.6	457.2	431.8	533.4
SWPS (N)	1174	1357	1019	2584	1566	2736	1890	3118
APPLICATION (DB)	DB	DB	–	DB	DB	DB	DB	DB
APPLICATION (DI)	–	–	DI	–	–	–	DI	–
CABLE OD RANGE	5.0 – 7.5	6.0 – 9.0	6.5 – 9.8	5.0 – 7.5	7.0 – 10.5	8.0 – 12.0	9.0 - 13.5	10.0 – 15.0
LENGTH PER COIL (M)	200-1000	200-1000	200-1000	200-1000	200-1000	200-1000	200-1000	200-1000

CUSTOMIZATION AVAILABLE ON REQUEST

Safe working pull strength is calculated at 80% of tensile or breaking strength
* Unsupported Bend Radius guidelines should be followed during the installation process. The Supported Bend Radius are post-installation measurements.
Fill Ratio (Cable OD/Duct ID)*100% it should be greater than 50% & less than 75%

PRODUCT DETAIL - BUNDLED MICRO DUCT

DUCTEL is known for providing Bundled Micro Duct with Polythene over sheath design in INDIA as well as in abroad. DUCTEL manufacture wide range of Bundled Micro ducts (2 to 7 Ducts) with co-extruded lubricant layer (Optional) that reduce coefficient of friction between duct wall and cable outer jacket. Bundled Micro Ducts provided multiple pathways for cables that can be secured for future also.

FEATURES

Multiple configurations available from 2to 7 Ducts
Multiple pathways for one installation cost, allows flexibility and future growth
No special tools or equipment needed
Installation uses the same as traditional conduit or inner duct fill ratio upto 75%
Inside slick permanent linning that provide 60% friction of coefficient.
Locatable Wire (optional): 20AWG insulated copper wire.

Product Applications

• Telecommunication • Computer Network • Railways Information Network Highways • Cable Service Providers • Broadband Network • Electric Cable Installation

Associated Accessories & Tools

1-Plastic Coupler to join two duct lengths- air tight and water tight.
2-End Plug to seal duct ends prior to the installation of the cable
3-Cable Sealing plug to seal duct ends after insertion of the cable
4-End Cap made of hard rubber, fitted on both ends of duct coil after manufacturing
5-Duct Cutter to cut duct cleanly and with square ends
6-C Spanner to tighten plastic coupler

STANDARDS/GRS

COLOR NOTATION

DUCT COLOR	BL	OR	GR	BR	SL	RD	YL	VI

TECHNICAL DATA

2-WAY DUCT

MICRODUCT OD/ID (MM)	5/3.5	8.5/6	10/8	12.7/10	14/10	16/12	16/13	18/14	22/16	27/20
NOM OD (IN)	0.45	0.77	0.87	1.1	1.19	1.35	1.35	1.56	1.82	2.27
MICRODUCT MIN ID (MM)	3.4	5.9	8.1	9.8	9.8	11.6	12.8	13.6	15.4	20.7
MICRODUCT MIN ID (IN)	0.13	0.23	0.32	0.39	0.39	0.46	0.5	0.54	0.61	0.81
OVERSHEATH (IN)	0.03	0.05	0.04	0.05	0.04	0.05	0.05	0.07	0.07	0.05
WEIGHT (LB/FT)	0.025	0.075	0.07	0.119	0.149	0.183	0.153	0.244	0.33	0.374
BEND RADIUS SUP* (IN)	7	12	9	11	12	14	14	16	18	33
BEND RADIUS UNSUP* (IN)	11	19	17	22	24	27	27	31	36	55
SWPS† (LBS)	133	404	373	635	795	976	824	1316	1788	2042

3-WAY DUCT

MICRODUCT OD/ID (MM)	5/3.5	8.5/6	10/8	12.7/10	14/10	16/12	16/13	18/14	22/16	27/20
NOM OD (IN)	0.51	0.85	0.99	1.14	1.25	1.49	1.49	1.67	1.79	2.37
MICRODUCT MIN ID (MM)	3.40	5.90	8.10	9.80	9.80	11.60	12.80	13.60	15.40	20.70
MICRODUCT MIN ID (IN)	0.130	0.23	0.32	0.39	0.39	0.46	0.50	0.54	0.61	0.81
OVERSHEATH (IN)	0.04	0.06	0.07	0.07	0.03	0.07	0.07	0.07	0.05	0.05
WEIGHT (LB/FT)	0.04	0.11	0.128	0.191	0.193	0.292	0.247	0.330	0.413	0.532
BEND RADIUS SUP* (IN)	7.00	11.00	9.00	12.00	19.00	15.00	20.00	22.00	18.00	31.00
BEND RADIUS UNSUP* (IN)	11.00	19.00	18.00	24.00	31.00	30.00	33.00	37.00	36.00	52.00
SWPS† (LBS)	220	593	684	1021	1026	1559	1331	1776	2111	2847

CUSTOMIZATION AVAILABLE ON REQUEST

BUNDLED MICRO DUCT

4-WAY DUCT

MICRODUCT OD/ID (MM)	5/3.5	8.5/6	10/8	12.7/10	14/10	16/12	16/13	18/14	22/16	27/20
NOM OD (IN)	0.56	0.93	1.04	1.34	1.47	1.66	1.65	1.86	2.23	2.68
MICRODUCT MIN ID (MM)	3.40	5.90	8.10	9.80	9.80	11.60	12.80	13.60	15.40	20.70
MICRODUCT MIN ID (IN)	0.13	0.23	0.32	0.39	0.39	0.46	0.50	0.54	0.61	0.81
OVERSHEATH (IN)	0.04	0.06	0.04	0.07	0.07	0.07	0.07	0.07	0.07	0.07
WEIGHT (LB/FT)	0.05	0.136	0.120	0.236	0.320	0.368	0.308	0.417	0.613	0.751
BEND RADIUS SUP* (IN)	7.00	12.00	9.00	13.00	13.00	17.00	25.00	19.00	28.00	40.00
BEND RADIUS UNSUP* (IN)	12.00	20.00	17.00	27.00	25.00	33.00	41.00	37.00	47.00	67.00
SWPS† (LBS)	276	733	635	1260	1709	1963	1658	2243	2840	4024

7-WAY DUCT

MICRODUCT OD/ID (MM)	5/3.5	7/5.5	8.5/6	10/8	12.7/10	14/10	16/12	16/13	18/14	22/16	27/20
NOM OD (IN)	0.670	0.930	1.130	1.290	1.640	1.770	2.030	2.030	2.270	2.740	3.250
MICRODUCT MIN ID (MM)	3.4	5.6	5.9	8.1	9.8	9.8	11.6	12.8	13.6	15.4	20.7
MICRODUCT MIN ID (IN)	0.13	0.22	0.23	0.32	0.39	0.39	0.46	0.5	0.54	0.61	0.81
OVERSHEATH (IN)	0.040	0.050	0.060	0.050	0.070	0.050	0.070	0.07	0.070	0.070	0.050
WEIGHT (LB/FT)	0.075	0.116	0.207	0.204	0.36	0.465	0.579	0.471	0.656	1.047	1.126
BEND RADIUS SUP* (IN)	7.00	9.00	16.00	13.00	16.00	18.00	20.00	20.00	31.00	38.00	49.00
BEND RADIUS UNSUP* (IN)	13	19	26	26	33	35	40	41	52	63	81
SWPS† (LBS)	409	633	1112	1080	1926	2474	3079	2530	3522	5588	6013

LENGTH PER COIL: 200 TO 1000 METER

† Safe working pull strength is calculated at 80% of tensile or breaking strength
* Unsupported Bend Radius guidelines should be followed during the installation process.
The Supported Bend Radius are post-installation measurements

FIGURE-8 AERIAL DUCT

PRODUCT DETAIL - FIGURE-8 AERIAL DUCT

DUCTEL is known for providing Fig.8 duct design in INDIA as well as in abroad. DUCTEL manufacture wide range of Fig.8 aerial ducts with co-extruded lubricant layer (Optional) & messenger wire that reduce cofficient of friction between Duct wall and cable outer jacket as well as provide strength for aerial installation. This design is suitable for the aerial installation of the fiber optic cable. Right of way (ROW) is a challenge when it comes to buried installations as it impacts the time and cost of deployment. Optical fiber cable protected by fig.8 aerial ducts can reduce ROW issues and installation time.

FEATURES

It protects the overhead cables from hostile environmental degradation.
Co-extruded messenger wire used in air suspension.
Comes with an extra UV protection.
Extra high-strength galvanized steel strand utilizes industry standard aerial strand.
Hardware Installation uses the same tools & equipment as standard aerial.
Installation practices fill ratio upto 75%.

PRODUCT APPLICATIONS

• Telecommunication • Computer Network • Railways Information Network
Highways • Cable Service Providers • Broadband Network • Electric Cable Installation

ASSOCIATED ACCESSORIES & TOOLS

1-Plastic Coupler to join two duct lengths- air tight and water tight.
2-End Plug to seal duct ends prior to the installation of the cable.
3-Cable Sealing plug To seal duct ends after insertion of the cable.
4-End Cap made of hard rubber, fitted on both ends of duct coil after manufacturing.
5-Duct Cutter to cut duct cleanly and with square ends.
6-C Spanner to tighten plastic coupler.
7-Web Slitting for Fig.8 duct.
8- Jacket Slitter.

STANDARDS/GRS

COLOR NOTATION

DUCT COLOR: BL | OR | GR | BR | SL | RD | YL | VI

TECHNICAL DATA

MICRODUCT SIZE (MM)	1 1/4"	1 1/4"	1 1/2"	2"
EHS GALV STRAND (IN)	1/4"	3/8"	1/4"	3/8"
AVG MIN ID /IN)	1.556	1.556	1.89	2.348
MIN ID (IN)	1.246	1.246	1.55	1.98
HEIGHT (IN)	2.236	2.387	2.572	3.181
WIDTH (IN)	1.556	1.556	1.89	2.348
WEIGHT (LB/FT)	0.435	0.584	0.584	0.796
BEND RADIUS SUP (IN)	34	36	39	43
BEND RADIUS UNSUP (IN)	56	60	64	71
SWPS (LBS)	1630	2777	2120	3139
STRAND SWPS (LBS)	6,650	15400	6650	15400
LENGTH PER COIL (M)	200-1000	200-1000	200-1000	200-1000

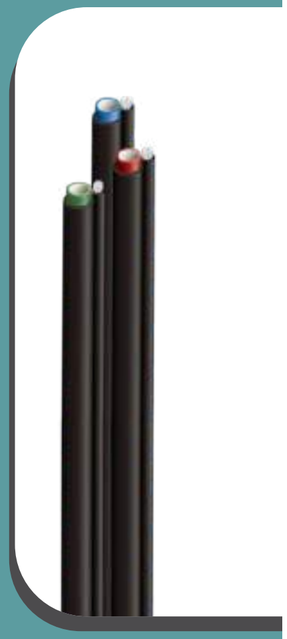
CUSTOMIZATION AVAILABLE ON REQUEST

† Safe working pull strength is calculated at 80% of tensile or breaking strength
* Unsupported Bend Radius guidelines should be followed during the installation process.
The Supported Bend Radius are post-installation measurements

FIGURE-8 AERIAL MICRODUCTS

PRODUCT DETAIL - FIGURE-8 AERIAL MICRODUCTS

DUCTEL is known for providing Micro Duct Aerial Fig.8 design in INDIA as well as in Abroad. DUCTEL manufacture wide range of Micro Ducts Aerial Fig.8 with coextruded lubricant layer (Optional) & messenger wire that reduce cofficient of friction between duct wall and cable outer jacket as well as provide strength for aerial installation. This design is suitable for the aerial installation of the fiber optic micro cable. Right of way (ROW) is a challenge when it comes to buried installations as it impacts the time and cost of deployment. Micro fibers cables protected by fig.8 ducts can reduce ROW issues and installation time.



FEATURES

It protects the overhead cables from hostile environmental degradation.
Co-extruded messenger wire used in air suspension.
Comes with an extra UV protection.
Extra high-strength galvanized steel strand utilizes industry standard aerial strand hardware.
Installation uses the same tools & equipment as standard aerial installation practices
Fill ratio upto 75%.

PRODUCT APPLICATIONS

• Telecommunication • Computer Network • Railways Information Network
Highways • Cable Service Providers • Broadband network • Electric cable installation

ASSOCIATED ACCESSORIES & TOOLS

1-Plastic Coupler to join two duct lengths- air tight and water tight.
2-End Plug to seal duct ends prior to the installation of the cable.
3-Cable Sealing plug To seal duct ends after insertion of the cable.
4-End Cap made of hard rubber, fitted on both ends of duct coil after manufacturing.
5-Duct Cutter to cut duct cleanly and with square ends.
6-C Spanner to tighten plastic coupler
7-Web slitting for fig.8 duct.
8-Jacket Slitter.
9-Micro duct straight cutter.

STANDARDS/GRS

COLOR NOTATION

DUCT COLOR: BL | OR | GR | BR | SL | RD | YL | VI

TECHNICAL DATA

MICRODUCT SIZE (MM)	12.7/10	18/14
EHS GALV STRAND (IN)	3/16"	3/16"
MIN ID (MM/IN)	9.8/0.39	13.6/0.54
HEIGHT (MM)	29.0	34.0
WIDTH (MM)	15.3	20.6
OVER SHEATH (IN)	0.050	0.050
WEIGHT (LB/FT)	0.161	0.207
BEND RADIUS SUP (IN)	5	18
BEND RADIUS UNSUP (IN)	10	30
SWPS (LBS)	473	734
STRAND SWPS (LBS)	3,990	3,990
LENGTH PER COIL (M)	200-1000	200-1000

CUSTOMIZATION AVAILABLE ON REQUEST

† Safe working pull strength is calculated at 80% of tensile or breaking strength
* Unsupported Bend Radius guidelines should be followed during the installation process.
The Supported Bend Radius are post-installation measurements

FIGURE-8 AERIAL BUNDLED MICRODUCTS

PRODUCT DETAIL- FIGURE-8 AERIAL BUNDLED MICRODUCT

DUCTEL Is known for providing bundled micro Fig.8 duct design in INDIA as well as in abroad. DUCTEL manufacture wide range of bundled micro fig.8 duct with co-extruded lubricant layer (optional) & messenger wire that reduce coefficient of friction between duct wall and cable outer jacket as well as provide strength for aerial installation. This design is suitable for the aerial installation of the fiber optic micro cable. Right of way (ROW) is a challenge when it comes to buried installations as it impacts the time and cost of deployment. Aerial micro fibers protected by fig.8 ducts can reduce ROW issues and installation time. Bundled micro fig.8 ducts provide multiple pathways for cables that can be secured for future also.

FEATURES

It protects the overhead cables from hostile environmental degradation.
Co-extruded messenger wire used in air suspension.
Comes with an extra UV protection.
Extra high-strength galvanized steel strand utilizes industry standard aerial strand hardware.
Installation uses the same tools & equipment as standard aerial installation practices.
Provide Pathways for cable installation in future.
Fill ratio upto 75%.

PRODUCT APPLICATIONS

• Telecommunication • Computer Network • Railways Information Network Highways • Cable Service Providers • Broadband network • Electric cable installation

ASSOCIATED ACCESSORIES & TOOLS

1-Plastic Coupler to join two duct lengths- air tight and water tight.
2-End Plug to seal duct ends prior to the installation of the cable.
3-Cable Sealing plug To seal duct ends after insertion of the cable.
4-End Cap made of hard rubber, fitted on both ends of duct coil after manufacturing.
5-Duct Cutter to cut duct cleanly and with square ends.
6-C Spanner to tighten plastic coupler
7-Web slitting for fig.8 duct.
8-Jacket Slitter.
9-Micro duct straight cutter.

STANDARDS/GRS

TRACER MICRO DUCT

PRODUCT DETAIL - TRACER MICRO DUCT

DUCTEL is known for providing telecom traceable micro duct design in INDIA as well as in abroad. We manufacture ducts with a copper wire embedded on the outer surface of the duct. The purpose of copper wire is to trace the duct when buried underground, The tracing is done by a simple handheld device (Metal Detector). The copper wire for tracing can be in bundled standard .

FEATURES

20 AWG insulated copper locate wire.
Ruggedized with oversheath for harsh conditions.
Easy to locatable when grounded.
Comes with UV Protection.

PRODUCT APPLICATIONS

• Telecommunication • Computer Network • Railways Information Network Highways • Cable Service Providers • Broadband Network • Electric Cable Installation

Associated Accessories & Tools

1-Plastic Coupler to join two duct lengths- air tight and water tight.
2-End Plug to seal duct ends prior to the installation of the cable.
3-Cable Sealing plug to seal duct ends after insertion of the cable.
4-End Cap made of hard rubber, fitted on both ends of duct coil after manufacturing
5-Duct Cutter to cut duct cleanly and with square ends.
6-C Spanner to tighten plastic coupler.

STANDARDS/GRS:

Micro ducts are smaller diameter conduit, manufactured from HDPE (High Density Polyethylene).
Includes a 20 AWG insulated copper wire.

COLOR NOTATION

DUCT COLOR	BL	OR	GR	BR	SL	RD	YL	VI

TECHNICAL DATA

DUCT TYPE	2-WAY	2-WAY	2-WAY	4-WAY	4-WAY	7-WAY
MICRODUCT SIZE (MM)	12.7/10	16/13	18/14	12.7/10	18/14	12.7/10
"MICRODUCT MIN ID (MM/IN)"	9.8/0.39	12.8/0.58	13.6/0.54	9.8/0.39	13.6/0.54	9.8/0.39
EHS GALV STRAND (IN)	1/4	1/4	1/4	1/4	1/4	1/4
HEIGHT (IN)	1.82	2.14	2.24	2.03	2.53	2.31
WIDTH (IN)	0.67	0.89	0.88	1.38	1.89	1.5
OVER SHEATH (IN)	0.085	0.13	0.085	0.085	0.085	0.085
WEIGHT (LB/FT)	0.323	0.424	0.457	0.448	0.611	0.547
BEND RADIUS SUP (IN)	10	21	43	18	38	25
BEND RADIUS UNSUP (IN)	17	43	71	29	63	42
SWPS (LBS)	1,094	1,649	1,671	1620	2643	2700
STRAND SWPS (LBS)	6,650	6,650	6,650	6,650	6,650	6,650
LENGTH PER COIL (M)	200-1000	200-1000	200-1000	200-1000	200-1000	200-1000

CUSTOMIZATION AVAILABLE ON REQUEST

† Safe working pull strength is calculated at 80% of tensile or breaking strength
* Unsupported Bend Radius guidelines should be followed during the installation process.
The Supported Bend Radius are post-installation measurements

COLOR NOTATION

DUCT COLOR	BL	OR	GR	BR	SL	RD	YL	VI

TECHNICAL DATA

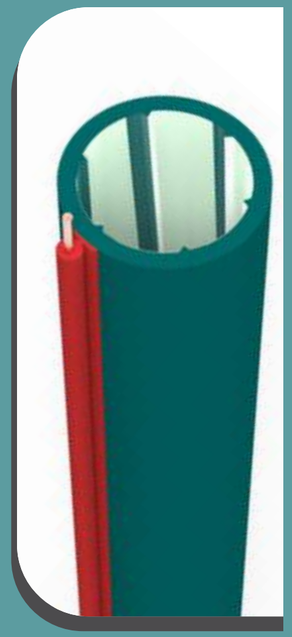
MICRODUCT SIZE (MM)	7/4	8.5/6	12.7/8	12.7/10	14/10	16/12	18/14
MIN ID (MM/IN)	3.7/0.15	5.9/0.23	7.8/0.31	9.8/0.39	9.8/0.39	11.6/0.46	13.6/0.54
HEIGHT (MM)	9.3	11.7	15.2	15.2	15	18.8	20.8
WIDTH (MM)	7.8	10.2	13.5	13.5	16.7	17	19.1
OVERSHEATH (IN)	0.015	0.03	0.015	0.015	0.02	0.02	0.02
WEIGHT (LB/FT)	0.024	0.033	0.061	0.041	0.065	0.074	0.083
BEND RADIUS SUP (IN)	4	5	6	6	7	8	9
BEND RADIUS UNSUP (IN)	7	10	12	12	14	16	18
SWPS (LBS)	130	178	328	216	346	392	445
LENGTH PER COIL (M)	200-1000	200-1000	200-1000	200-1000	200-1000	200-1000	200-1000

CUSTOMIZATION AVAILABLE ON REQUEST

TRACER DUCT

PRODUCT DETAIL - TRACER DUCT

DUCTEL is known for providing telecom tracable duct design in INDIA as well as in abroad. We manufacture ducts with a Copper wire embedded on the outer surface of the duct. He purpose of copper wire is to trace the duct when buried underground, The tracing is done by a simple handheld device (metal detector). The copper wire for tracing can be in Bundled Standard as well as single wire.



FEATURES

1 x 18 AWG insulated copper locate wire.
Ruggedized with oversheath for harsh conditions.
Easy to locatable when grounded.

PRODUCT APPLICATIONS

• Telecommunication • Computer Network • Railways Information Network
Highways • Cable Service Providers • Broadband Network • Electric Cable Installation

ASSOCIATED ACCESSORIES & TOOLS

1-Plastic coupler to join two duct lengths- air tight and water tight.
2-End plug to seal duct ends prior to the installation of the cable.
3-Cable sealing plug to seal duct ends after insertion of the cable.
4-End cap made of hard rubber, fitted on both ends of duct coil after manufacturing.
5-Duct cutter to cut duct cleanly and with square ends.
6-C spanner to tighten plastic coupler.

STANDARDS/GRS:

Wire is 18 AWG copper clad 30.041 ohm/1,000 ft 68°F

COLOR NOTATION

DUCT COLOR: BL | OR | GR | BR | SL | RD | YL | VI

TECHNICAL DATA

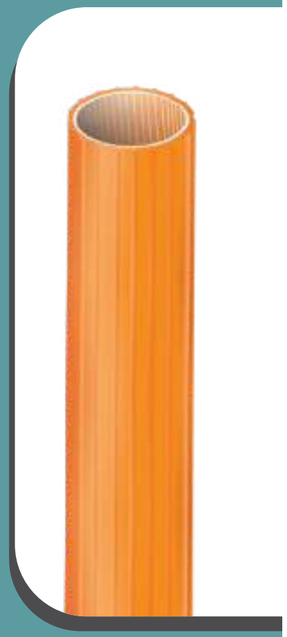
	1/2"		3/4"		1"		1 1/4"		1 1/2"			2"		
WALL TYPE	SDR 11	SDR 13.5	SDR 11	SDR 13.5	SDR 11	SDR 13.5	SDR 11	SDR 13.5	SCH 40	SDR 11	SDR 13.5	SCH 40	SDR 11	SDR 13.5
NOMINAL OD (IN)	0.84	0.84	1.05	1.05	1.315	1.315	1.66	1.66	1.9	1.9	1.9	2.375	2.375	2.375
HEIGHT (IN)	1.079	1.079	1.28	1.28	1.557	1.557	1.903	1.903	2.135	2.145	2.145	2.61	2.622	2.622
WIDTH (IN)	0.84	0.84	1.05	1.05	1.315	1.315	1.66	1.66	1.9	1.9	1.9	2.375	2.375	2.375
MIN WALL (IN)	0.076	0.062	0.095	0.078	0.12	0.097	0.151	0.123	0.145	0.173	0.141	0.154	0.216	0.176
MIN ID (IN)	0.648	0.676	0.82	0.854	1.035	1.081	1.318	1.374	1.57	1.512	1.578	2.027	1.891	1.981
LOCATE WIRE (AWG)	18	18	18	18	18	18	18	18	18	18	18	18	18	18
WEIGHT (LB/FT)	0.096	0.083	0.14	0.121	0.211	0.179	0.323	0.275	0.361	0.42	0.354	0.48	0.648	0.54
BEND RADIUS SUP* (IN)	9	8	11	11	14	13	17	17	19	19	19	24	24	24
BEND RADIUS UNSUP* (IN)	16	16	21	21	26	26	34	34	38	38	38	48	48	48
SWPS (LB)	497	365	765	661	1220	894	1962	1425	1919	2569	1875	2579	4008	2917
LENGTH PER COIL (M)	200-1000		200-1000		200-1000		200-1000		200-1000			200-1000		

*Internal or external ribs are in addition to the average wall and for determining OD and ID dimensions.
**The average rib height to be added is 0.020"
SWPS (Safe Working Pull Strength) is calculated using a 25% safety factor with the minimum resin tensile strength of 3,000 psi, the average OD and average wall thickness.

RIBBED IN/OUT DUCT

PRODUCT DETAIL - RIBBED IN/OUT DUCT

DUCTEL is known for providing telecom PLB Duct inner and outer ribbed design in INDIA as well as in abroad. The internal longitudinal ribs for a reduced coefficient of friction, while the external ribs help prevent spiraling and reduce friction when pulling inner duct into larger conduits.



FEATURES

External ribs help reduce spiraling during duct installation and installation.
forces when installed into conduit Internal ribs reduce the coefficient of friction.
Excellent low temperature properties, allows installation in cold climates.
Comes with UV Protection.
60% Lower Friction of Coefficient than standard ducts.

PRODUCT APPLICATIONS

• Telecommunication • Computer Network • Railways Information Network
Highways • Cable Service Providers • Broadband Network • Electric Cable Installation

ASSOCIATED ACCESSORIES & TOOLS

1-Plastic Coupler to join two duct lengths- air tight and water tight.
2-End plug to seal duct ends prior to the installation of the cable.
3-Cable sealing plug to seal duct ends after insertion of the cable.
4-End cap made of hard rubber, fitted on both ends of duct coil after manufacturing.
5-Duct cutter to cut duct cleanly and with square ends.
6-C spanner to tighten plastic coupler.

STANDARDS/GRS:

ASTM F-2160, ASTM D-3350

COLOR NOTATION

DUCT COLOR: BL | OR | GR | BR | SL | RD | YL | VI

CUSTOMIZATION AVAILABLE ON REQUEST

SIZE	1"	1 1/4"	1 1/2"
WALL TYPE	TSIDR 9	TSIDR 9	TSIDR 9
AVG OD (IN)	1.274	1.58	1.88
MIN WALL (IN)	0.111	0.115	0.157
WALL TOLERANCE +	0.02	0.02	0.02
MIN ID (IN)	0.952	1.258	1.558
WEIGHT (LB/FT)	0.206	0.263	0.405
BEND RADIUS SUP (IN)	13	17	19
BEND RADIUS UNSUP (IN)	26	34	38
SWPS (LB)	1168	1678	2226
LENGTH PER COIL (M)	200-1000	200-1000	200-1000

*Internal or external ribs are in addition to the average wall and for determining OD and ID dimensions.
**The average rib height to be added is 0.020"
SWPS (Safe Working Pull Strength) is calculated using a 25% safety factor with the minimum resin tensile strength of 3,000 psi, the average OD and average wall thickness.

FIRE RESISTANT DUCT

PRODUCT DETAIL - FIRE RESISTANT DUCT

DUCTEL is known for providing telecom Fire Resistance Duct design in INDIA as well as in abroad. We manufacture ducts with LSZH material having self extinguishing property. They are designed for use in applications where smoke, toxic fumes, and acidic gas pose a health risk and possible damage to electronic equipment. Examples include enclosed public areas and poorly ventilated areas such as tunnels, mass transit corridors, behind-the-wall, control rooms, and confined spaces.

FEATURES

LSZH: Low Smoke Zero Halogen.
Very low smoke generation for better visibility No halogens, safer to use in confined spaces.

PRODUCT APPLICATIONS

• Telecommunication • Computer Network • Railways Information Network Highways • Cable Service Providers • Broadband Network • Electric Cable Installation

ASSOCIATED ACCESSORIES & TOOLS

1-Plastic Coupler to join two duct lengths- air tight and water tight.
2-End Plug to seal duct ends prior to the installation of the cable
3-Cable Sealing plug to seal duct ends after insertion of the cable
4-End Cap made of hard rubber, fitted on both ends of duct coil after manufacturing
5-Duct Cutter to cut duct cleanly and with square ends
6-C Spanner to tighten plastic coupler

STANDARDS/GRS:

ASTM F-2160, ASTM D-3350

COLOR NOTATION

DUCT COLOR	BL	OR	GR	BR	SL	RD	YL	VI

TECHNICAL DATA

	1/2"		3/4"		1"		1 1/4"	
WALL TYPE	SCH 40	SDR 13.5	SCH 40	SDR 13.5	SCH 40	SDR 13.5	SCH 40	SDR 13.5
NOMINAL OD (IN)	0.84	0.840	1.05	1.05	1.315	1.315	1.660	1.660
OD TOLERANCE+/-	0.004	0.004	0.005	0.005	0.007	0.007	0.008	0.008
MIN WALL (IN)	0.109	0.062	0.113	0.078	0.133	0.097	0.140	0.123
WALL TOLERANCE +	0.02	0.020	0.02	0.020	0.02	0.020	0.02	0.020
AVG ID (IN)	0.602	0.696	0.804	0.874	1.029	1.101	1.360	1.394
MIN ID (IN)	0.578	0.672	0.779	0.849	1.002	1.074	1.332	1.366
WEIGHT (LB/FT)	0.129	0.084	0.172	0.122	0.252	0.194	0.304	0.270
BEND RADIUS SUP* (IN)	8	8	10	10	13	13	17	17
BEND RADIUS UNSUP* (IN)	16	16	20	20	26	26	34	34
SWPS (LB)	339	206	450	321	756	504	1,264	1,123
LENGTH PER COIL (M)	200-1000		200-1000		200-1000		200-1000	

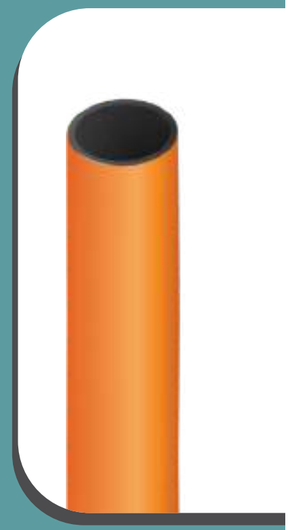
CUSTOMIZATION AVAILABLE ON REQUEST

Internal or external ribs are in addition to the average wall and for determining OD and ID dimensions.
The average rib height to be added is 0.020"

CO-EXTRUDED DUCT

PRODUCT DETAIL - CO-EXTRUDED DUCT

DUCTEL is known for providing telecom Co-Extruded duct Inner and outer ribbed design in INDIA as well as in abroad. We manufacture co-extruded duct by same material over the inner black wall of ducts to provide visual identification.



FEATURES

Co-Extruded color layer provide color identification.
Color layer is made from same material as inner wall keeping performance unaffected
Better UV Resistance and anti-oxidant for better life.

PRODUCT APPLICATIONS

• Telecommunication • Computer Network • Railways Information Network Highways • Cable Service Providers • Broadband Network • Electric Cable Installation

ASSOCIATED ACCESSORIES & TOOLS

1-Plastic Coupler to join two duct lengths- air tight and water tight.
2-End Plug to seal duct ends prior to the installation of the cable.
3-Cable Sealing plug To seal duct ends after insertion of the cable.
4-End Cap made of hard rubber, fitted on both ends of duct coil after manufacturing.
5-Duct Cutter to cut duct cleanly and with square ends.
6-C Spanner to tighten plastic coupler.

STANDARDS/GRS:

ASTM F-2160, ASTM D-3350

COLOR NOTATION

DUCT COLOR	BL	OR	GR	BR	SL	RD	YL	VI

TECHNICAL DATA

DUCT SIZE- 1"(IN)

WALL TYPE	SDR 9	SDR 11	SDR 13.5	SDR 15.5	SDR 17	SCH 40	SCH 80
NOM OD (IN)	1.315	1.315	1.315	1.315	1.315	1.315	1.315
"OD TOLERANCE+/-"	0.007	0.007	0.007	0.007	0.007	0.007	0.007
MIN WALL (IN)	0.146	0.12	0.097	0.084	0.077	0.133	0.179
"WALL TOLERANCE+"	0.02	0.02	0.02	0.02	0.02	0.02	0.021
AVG ID (IN)	1.003	1.055	1.101	1.127	1.141	1.029	0.936
MIN ID (IN)	0.983	1.035	1.081	1.107	1.121	1.009	0.915
WEIGHT (LB/FT)	0.234	0.199	0.167	0.149	0.138	0.217	0.276
BEND RADIUS SUP (IN)	13	13	13	13	13	13	13
BEND RADIUS UNSUP (IN)	26	26	26	26	26	26	26
SWPS (LB)	1288	1078	894	792	722	1340	1533

CUSTOMIZATION AVAILABLE ON REQUEST

SWPS (Safe Working Pull Strength) is calculated using a 25% safety factor with the minimum resin tensile strength of 3,000 psi, the average OD and average wall thickness.
4. Internal or external ribs are in addition to the average wall and for determining OD and ID dimensions. The average rib height to be added is 0.020" 5. Add 0.016 #/ft for ribbed products 1 1/2" and less. For 2" and larger, add 0.025 #/ft

CO-EXTRUDED DUCT

DUCT SIZE- 1 1/4"(IN)

WALL TYPE	SDR 9	SDR 11	SDR 13.5	SDR 15.5	SDR 17	SCH 40	SCH 80
NOM OD (IN)	1.66	1.66	1.66	1.66	1.66	1.66	1.66
"OD TOLERANCE+/-"	0.008	0.008	0.008	0.008	0.008	0.008	0.008
MIN WALL (IN)	0.184	0.151	0.123	0.107	0.098	0.14	0.191
"WALL TOLERANCE+"	0.022	0.02	0.02	0.02	0.02	0.02	0.023
AVG ID (IN)	1.27	1.338	1.394	1.426	1.444	1.36	1.255
MIN ID (IN)	1.248	1.318	1.374	1.406	1.424	1.34	1.232
WEIGHT (LB/FT)	0.37	0.312	0.263	0.234	0.217	0.293	0.382
BEND RADIUS SUP (IN)	17	17	17	17	17	17	17
BEND RADIUS UNSUP (IN)	34	34	34	34	34	34	34
SWPS (LB)	2052	1717	1425	1234	1150	1604	2116

DUCT SIZE- 1 1/2"(IN)

WALL TYPE	SDR 9	SDR 11	SDR 13.5	SDR 15.5	SDR 17	SCH 40	SCH 80
NOM OD (IN)	1.9	1.9	1.9	1.9	1.9	1.9	1.9
"OD TOLERANCE+/-"	0.01	0.01	0.01	0.01	0.01	0.01	0.01
MIN WALL (IN)	0.211	0.173	0.141	0.123	0.112	0.145	0.2
"WALL TOLERANCE+"	0.025	0.021	0.02	0.02	0.02	0.02	0.024
AVG ID (IN)	1.453	1.533	1.598	1.634	1.656	1.59	1.476
MIN ID (IN)	1.428	1.512	1.578	1.614	1.636	1.57	1.452
WEIGHT (LB/FT)	0.485	0.408	0.342	0.304	0.281	0.35	0.463
BEND RADIUS SUP (IN)	19	19	19	19	19	19	19
BEND RADIUS UNSUP (IN)	38	38	38	38	38	38	38
SWPS (LB)	2688	2249	1867	1607	1507	1919	256

DUCT SIZE- 2"(IN)

WALL TYPE	SDR 9	SDR 11	SDR 13.5	SDR 15.5	SDR 17	SCH 40	SCH 80
NOM OD (IN)	2.375	2.375	2.375	2.375	2.375	2.375	2.375
"OD TOLERANCE+/-"	0.012	0.012	0.012	0.012	0.012	0.012	0.012
MIN WALL (IN)	0.264	0.216	0.176	0.153	0.14	0.154	0.218
"WALL TOLERANCE+"	0.032	0.026	0.021	0.02	0.02	0.02	0.026
AVG ID (IN)	1.815	1.917	2.002	2.049	2.075	2.047	1.913
MIN ID (IN)	1.783	1.891	1.981	2.029	2.055	2.027	1.887
WEIGHT (LB/FT)	0.759	0.636	0.528	0.467	0.432	0.469	0.641
BEND RADIUS SUP (IN)	24	24	24	24	24	24	24
BEND RADIUS UNSUP (IN)	48	48	48	48	48	48	48
SWPS (LB)	4200	3515	2917	2466	2355	2579	2545

DUCT SIZE- 2 1/2"(IN)

WALL TYPE	SDR 9	SDR 11	SDR 13.5	SDR 15.5	SDR 17	SCH 40	SCH 80
NOM OD (IN)	2.875	2.875	2.875	2.875	2.875	2.875	2.875
"OD TOLERANCE+/-"	0.014	0.014	0.014	0.014	0.014	0.014	0.014
MIN WALL (IN)	0.319	0.261	0.213	0.185	0.169	0.203	0.276
"WALL TOLERANCE+"	0.038	0.031	0.026	0.022	0.02	0.024	0.033
AVG ID (IN)	2.199	2.322	2.423	2.483	2.517	2.445	2.29
MIN ID (IN)	2.161	2.291	2.397	2.461	2.497	2.421	2.257
WEIGHT (LB/FT)	1.11	0.93	0.775	0.68	0.625	0.74	0.978
BEND RADIUS SUP (IN)	29	29	29	29	29	29	29
BEND RADIUS UNSUP (IN)	58	58	58	58	58	58	58
SWPS (LB)	6155	5151	4274	3592	3450	4090	5409

DUCT SIZE- 3"(IN)

WALL TYPE	SDR 9	SDR 11	SDR 13.5	SDR 15.5	SDR 17	SCH 40	SCH 80
NOM OD (IN)	3.5	3.5	3.5	3.5	3.5	3.5	3.5
"OD TOLERANCE+/-"	0.018	0.018	0.018	0.018	0.018	0.018	0.018
MIN WALL (IN)	0.389	0.318	0.259	0.226	0.206	0.216	0.3
"WALL TOLERANCE+"	0.047	0.038	0.031	0.027	0.025	0.026	0.036
AVG ID (IN)	2.675	2.826	2.951	3.021	3.063	3.042	2.864
MIN ID (IN)	2.628	2.788	2.92	2.994	3.038	3.016	2.828
WEIGHT (LB/FT)	1.648	1.38	1.146	1.011	0.928	0.969	1.31
BEND RADIUS SUP (IN)	39	39	39	39	39	39	39
BEND RADIUS UNSUP (IN)	78	78	78	78	78	78	78
SWPS (LB)	9122	7633	6335	5342	5114	5348	7238

LENGTH PER COIL: 200 TO 1000 METER

MDPE PIPES

PRODUCT DETAIL - MDPE PIPES

DUCTEL is known for providing MDPE Pipes in INDIA as well as in abroad. Inherent characteristics of MDPE such as corrosion & crack resistant, tough and flexible makes polyethylene piping systems the most preferred means for transportation and distribution of water, petrol and natural gases worldwide.

FEATURES

Tough and highly reliable in aggressive soils.
Lighter in weight as compared to metal pipes.
Excellent resistant to subsidence, traffic vibrations point leading and marshy ground.

PRODUCT APPLICATIONS

Oil and gases Sector

ASSOCIATED ACCESSORIES & TOOLS

1-Plastic Coupler to join two duct lengths- air tight and water tight.
2-End Plug to seal duct ends prior to the installation of the cable.
3-Cable Sealing plug to seal duct ends after insertion of the cable.
4-End Cap made of hard rubber, fitted on both ends of duct coil after manufacturing.
5-Duct Cutter to cut duct cleanly and with square ends.
6-C Spanner to tighten plastic coupler.

STANDARDS/GRS:

ISO-4427, IS-14885, BS-7281, DIN-8074/75

COLOR NOTATION

DUCT COLOR	BL	OR	GR	BR	SL	RD	YL	VI

TECHNICAL DATA

WALL TYPE	SDR 9	SDR 11	SDR 11	SDR 13.5
NOM OD (MM)	16/20/25	16/20/25	16/20/25	16/20/25
Min. Wall Thickness	2.3	2.3	3	3
NOM OD (MM)	32	32	32	32
Min. Wall Thickness	2.3	2.3	3	3.6
NOM OD (MM)	40	40	40	40
Min. Wall Thickness	2.3	3	3.7	4.5
NOM OD (MM)	50	50	50	50
Min. Wall Thickness	2.9	3.7	4.6	5.6
NOM OD (MM)	63	63	63	63
Min. Wall Thickness	3.6	4.7	5.8	7.1
NOM OD (MM)	75	75	75	75
Min. Wall Thickness	4.3	5.5	6.8	8.4
NOM OD (MM)	90	90	90	90
Min. Wall Thickness	5.2	6.6	8.2	10.1
NOM OD (MM)	110	110	110	110
Min. Wall Thickness	6.3	8.1	10	12.3
NOM OD (MM)	125	125	125	125
LENGTH PER COIL (M)	200-1000	200-1000	200-1000	200-1000

CUSTOMIZATION AVAILABLE ON REQUEST

HDPE PIPES

PRODUCT DETAIL - HDPE PIPES

DUCTEL is known for providing HDPE Pipes in INDIA as well as in abroad. PE Piping systems & fittings to offer complete solutions for building water & waste networks complying to various National & International standards. Pipe range offered covers sizes from 20 mm O.D. to 400 mm O.D. using PE63/PE80/PE100 HDPE/MDPE 100% virgin resin as raw material coupled with world-class manufacturing & testing process with Pressure Class from PN 2.5 to PN 16 for various applications.

FEATURES

Resistant to sunlight/UV resistant.
Replacement for metal pipes
Smooth inner surface with a high flow rate elastic in nature; requires fewer fittings
Superior corrosion and chemical resistance.

PRODUCT APPLICATIONS

Agriculture – Lift and gravity irrigation • Potable water supply
Delivery pipe for submersible pumps • Light Weight

ASSOCIATED ACCESSORIES & TOOLS

1-Plastic Coupler to join two duct lengths- air tight and water tight.
2-End Plug to seal duct ends prior to the installation of the cable
3- Cable Sealing plug to seal duct ends after insertion of the cable
4-End Cap made of hard rubber, fitted on both ends of duct coil after manufacturing
5-Duct Cutter to cut duct cleanly and with square ends
6-C Spanner To tighten plastic coupler

STANDARDS/GRS:

IS 4984:2016

COLOR NOTATION

DUCT COLOR	YL	RD	BL	GR	BK with Blue Stipe	Black with Yellow stipe

TECHNICAL DATA

WALL TYPE	OD	SDR-41		SDR-33		SDR-26		SDR-26		SDR-17		SDR-13.6		SDR-11		SDR-9		SDR-7.4		SDR-6	
Wall Thickness	Nominal	Min.	Max.	Min.	Max.	Min.	Max.	Min.	Max.	Min.	Max.	Min.	Max.	Min.	Max.	Min.	Max.	Min.	Max.	Min.	Max.
	16															1.8	2.1	2.2	2.5	2.7	3.1
	20													1.9	2.2	2.3	2.6	2.7	3.1	3.4	3.8
	25											1.9	2.2	2.3	2.6	2.8	3.2	3.4	3.8	4.2	4.7
	32									1.9	2.2	2.4	2.7	2.9	3.3	3.6	4.1	4.4	4.9	5.4	6
	40							1.9	2.2	2.4	2.7	3	3.4	3.7	4.2	4.5	5.1	5.4	6	6.7	7.5
	50					2	2.3	2.4	2.7	3	3.4	3.7	4.2	4.6	5.2	5.6	6.3	6.8	7.6	8.4	9.3
	63				2.5	2.4	2.9	3	3.4	3.7	4.2	4.7	5.3	5.8	6.5	7	7.8	8.6	9.6	10.5	11.7
	75	1.9	2.2	2.3	2.6	2.9	3.3	3.6	4.1	4.5	5.1	5.6	6.3	6.9	7.7	8.4	9.3	10.2	11.3	12.5	13.9
	90	2.2	2.5	2.8	3.2	3.5	4	4.3	4.8	5.3	5.9	6.7	7.5	8.2	9.1	10	11.1	12.2	13.5	15	16.6
	110	2.7	3.1	3.4	3.8	4.3	4.8	5.9	6.6	6.5	7.3	8.1	9	10	11.1	12	13.6	14.9	16.5	18.4	20.3

CUSTOMIZATION AVAILABLE ON REQUEST

ISO & TSEC CERTIFICATIONS

ISO 14001:2015
Quality Management System

ISO 45001:2018
Occupational Health & Safety Management System

ISO 14001:2015
Environmental Management System

ISO 10002:2004
Quality Management Customer Satisfaction System

ISO 27001:2013
Information Security Management System

TL 9000:2016
Quality Management System for Telecom Industry

BSNL TSEC
ALL COLOURS

PLANT & MACHINERY

Our **state-of-the-art manufacturing plant** consists of the latest **& ultramodern machinery for** manufacturing of Per Lubricated Ducts (PLB DUCT) **ranging from PLB Duct, Tracer Duct, Micro Duct, Fig.8 (Aerial) Duct, Co-extrude Duct and HDPE/MDPE Pipe and other Special Ducts.** We have a **capacity to manufacture more than 1.5 lacs kilometers (kms) ducts annually.** Pratap Digital Communications Pvt. Ltd. follows a **stringent quality control system** with **advanced testing facilities** to meet national and international standards.

- **MANUFACTURING**
- **CAPACITY**
- **ADVANCE TECHNOLOGY**
- **MORDERN MACHINERY**
- **QUALITY ASSURANCE**
- **MORDERN TESTING**
- **NATIONAL STANDARDS**
- **INTERNATIONAL STANDARDS**

CENTER OF EXCELLENCE

Our centre of excellence continuously works on innovation to create value for our customers by **offering customized solutions** of duct designs based on the applications. We work closely with our customers to understand their **requirements and explore the best possible solutions** to deliver our customers. **Exceptional quality products.** Our R&D center and field laying team reducing the construction, cost of docs, based on **suitability, reliability, viability, operability, maintainability, capacity, and functionality** of the product.

To improve the testing workflow, we use automation and advanced sensing technology for equipment inspection.

Test and measurement of duct parameters are conducted at various stages of production to ensure **long-term system reliability.** The capability of each length of PLB Duct is tested to meet the required **Impact test, MFI, Density** OIT characteristics with testing of raw materials before it goes to FG. To determine the capability of the cable to withstand the rigors of installation, we conduct various **reliability** tests including **crush, Tensile, Elongation, Impact ovality, Hydraulic and ICF Test.**

This is some using specially designed equipment that simulates field conditions according to international standards. Special emphasis is placed on tensile strength, environmental performance, and internal cofficient of friction.

- **INNOVATION**
- **EXCEPTIONAL QUALITY**
- **CUSTOMIZATION**
- **INSPECTION & TESTING**

CSR & GREEN EARTH INITIATIVES

As a socially responsible organization, Pratap Digital Communications Pvt. Ltd. executes its operations by **complying with social responsibilities** We **limited environmental ramifications.** Undertaking various initiatives towards a sustainable environment, Pratap Digital Communications Pvt. Ltd. ensure is committed towards making the society a better place to live The Board's CSR committee is chaired by **CMD-Pratap Group Mr. Devendra Singh Shekhawat,** aiming to help & contribute for a better tomorrow. **Our company has established the following priorities for Team Pratap CSR Initiative:**

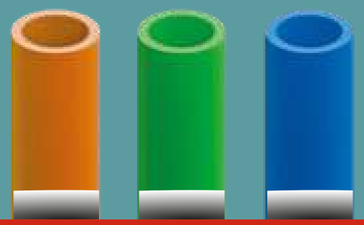
- Green earth initiatives and setting up of solar power plant to save energy
- Committed for 10k plantation annually and doing it consecutively from last few years
- Promoting preventive health care
- Making safe drinking water available in schools at rural areas
- Organizing Blood donation camps every year
- Initiative for nutritious food for children

OUR ASSOCIATIONS

Our high-quality products have garnered **sturdy business relationships in** the industry. **Ductel has strong associations** and is closely working with **large enterprises Oil & Gas pipelines,** Smart Cities, Service Providers, **Government, Telecommunication, and Railways.**

Colour Code Table

The following tables show the two possible colour codes for the individual duct numbers in the bundle. This colour sequence applies to all bundling variants.



Duct No	Colour Combinationion	
1	Red	
2	Green	
3	Blue	
4	Yellow	
5	White	
6	Gray	
7	Brown	
8	Violet	
9	Turquoise	
10	Black	
11	Orange	
12	Pink	

Seamless Solutions
Duct Innovations


DUCTEL
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STRONG & DURABLE LINES
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