

# RELPIPE HDPE DUCT



**Reliance**  
POLYMERS

## TECHNICAL DATA SHEET

HDPE duct pipes pre-lubricated with silicone core suitable for telecommunication and fiber optic cables. They are derived by combining the strength and flexibility of PE material with a suitable lubricating layer on the inner surface of the ducts.

The purpose of HDPE duct is to provide a clear, protected pathway for a cable, or for smaller conduits. The HDPE cable ducts are manufactured for mechanical protection to fibre optic, electrical cables etc. Basically HDPE ducts are used for installations of local and long-distance telephone networks, cable television transmissions, information transfer networks, etc. HDPE ducts are manufactured from high quality HDPE material and co-extruded with special lubricant providing a low friction smooth surface for easy cable drawing/blowing. The outer HDPE shell makes the pipe more tough and durable and enables the duct to withstand the pressure during high speed air blowing of cable as well as retain the roundness under soil pressure and traffic load.

### 1. Sizes produced are :

OFC Duct : 29/23, 32/26, 39/33, 40/33, 40/34.2, 50/42, 63/55, 75/67 mm OD/ID  
Micro Duct : 14/10 mm OD/ID

### 2. Typical Properties:

#### TECHNICAL SPECIFICATION FOR 40/33mm Size PLB HDPE DUCT

S.No	Parameter	Unit	Specified Value
1	Melt Flow Index (Base Resin) (@ 5Kgs /190°C)	gms/10mins	0.2-1.1
2	Density (@27°C) (Base Resin)	Kg/m <sup>3</sup>	940-958
	Finished Product Requirements		
3	Workman Ship	-	Duct Shall be free of blisters and other defect
	<b>Dimensions</b>		
4	Outer Diameter (Outside)	mm	40
	Nominal	mm	+0.4
5	Wall Thickness - Nominal	mm	3.5
	Tolerance	mm	± 0.2
6	Ovality	mm	< 1.4

7	Inner Diameter	mm	33
8	Thickness of the Inner Layer	mm	0.28 - 0.42
9	Standard Length Nominal Tolerance	Meters Meters	1000 ± 100
10	Color of Duct	-	1. Blue : IT/MES Cables 2. Yellow : Other Cables
11	Tensile Strength & Elongation	N/mm2 %	Min 20 > 500
12	Reversion	%	Max 3
13	Internal Coefficient of Friction	--	≤ 0.20
14	Environmental Stress Cracking Resistance Test	Hours	No Crack or Split
15	Impact Strength	-	No Crack or Split
16	Crush Resistance Test	%	Max 10 (Upon application of load) Max 2 ( Upon removal of load)
17	Oxidation Induction Time (OIT)	Minutes	Min 30
18	Hydrostatic Pressure Test (@80°C/3.8mpa/48Hours)	Hours	No localized Swelling or Leakage during the test period
19	Printing on Duct	--	<ul style="list-style-type: none"> <li>• Customer Name</li> <li>• Manufacturer Name</li> <li>• Size of Duct</li> <li>• Coil No.</li> <li>• Manufacturing Date</li> <li>• Meter Marking + Customer Requirement</li> </ul>
20	Design Standard		
	PLB Duct Shall be of two layers	-	Two concentric layers Outer - HDPE, Inner - Silicone Lubricant Master Batch
	Inner Layer Composition	-	Continuous and Integral part with HDPE outer layer and white in color, inner layer of solid permanent lubricant shall be continuous all through and shall not come out during storage and usage throughout the life of the duct
	Suitability	-	Installing underground through which optic fibre cable is blown/Pulled.
	Maximum bending radius	-	25 times of OD of the duct
21	Accessories		
	Cable Sealing Plug / End Plug / End cap		HDPE ducts will be supplied with Cable Sealing Plug / End Plug / End Cap

### 3. Shelf Life :

The typical benchmark for HDPE Duct life expectancy is 8 months when stored in Open.

#### **4. Typical Processing Conditions :**

Processing temperature: 180 – 240 OC

Processing parameters mentioned above are for reference only and not to be considered as specifications. They may vary based on the product to be manufactured.

#### **5. Applications :**

Protection for telecom OFC.

#### **6. Storage Recommendations:**

The storage area should have a relatively smooth, level surface free of stones, debris or other materials that could damage the pipe. Where adequate ground conditions do not exist or when a bed cannot be prepared, the pipe may be placed on planking evenly spaced along the pipe length.

HDPE has a certain ability to resist ultraviolet light. However, with the extension of time and the increase of UV intensity, HDPE will gradually degrade. Duct coils to store in Covered area.

For outdoor storage : HDPE pipe is durable and suitable for outdoor storage. However, special care should be taken when temperatures drop below freezing. When HDPE pipe is exposed to freezing conditions, the flexibility of the pipe tends to reduce, which means it's more likely to break if handled improperly.

#### **7. Recycling :**

The addition of not more than 5-10 percent of the manufacturer's own rework material conforming to this standard is permissible. No other rework material shall be used.

#### **8. After end of Use / Disposal :**

HDPE plastic can be recycled up to 10 times before its quality is compromised. Most recycled HDPE is combined with virgin pellets to maintain the high quality of plastic. HDPE is always checked at the recycling centre to ensure its quality before processing, so it's worth always recycling any HDPE waste.

(Note : Specifications are derived from respective Standards followed for manufacturing of Pipes. )