



FAR EAST

HDPE MICRODUCTS

FOR FIBER OPTICS

Utility Companies
Broadband Network
Hospital
Campus
Developers
Government



The Cable Protection Systems



FAR EAST
ADVANCE PLASTICS CORPORATION



INTRODUCTION

In today's world, where technology, data & connectivity are more integral than ever, Far East empowers high-speed telecommunications networks with a comprehensive range of innovative products, from Far East HDPE Microducts to advanced accessories. Our relentless pursuit of excellence is underpinned by continuous investments in cutting edge manufacturing technologies & a knowledgeable workforce.

With the fast growing demands of network today, the Far East HDPE Microducts allow for a more economic & advantageous method for optic fiber installation through better utilization of space within existing ducts.

Microducts are typically small-diameter, flexible, or semi-flexible, while ducts are larger in diameter. They are designed to provide clean, continuous, low-friction paths for placing optical cables that have relatively low pulling tension limits.

Microducts are made of the highest quality HDPE outer layer with smooth inner layer.

All production is made according to specification of DIN 8074 / 8075

APPLICATIONS

Far East HDPE Microducts are a versatile & scalable network of products. This ducting is ideal for telecommunication providers, FTTH solutions, hospitals, utility & energy providers, transportation, entertainment government facilities, corporate complexes, university campuses, military site application & anywhere high speed communications are needed



Utility Companies

System monitoring & controlling, & network data communication.



Broadband Network

FTTH (Fiber To The Home) & FTTX (Fiber To The X = multiple destinations) providers using optical fiber to provide high speed service to end subscribers.



Hospital

Secure the entire hospital network to stay current with advances in data-intensive medical technology & limits staff & patient disruptions.



Campus

Adapts communication technologies to the tools of education in campus environments plus allows for interaction between outside organizers nationally & abroad for greater cooperation.



Developers

Helps with fiber installation to the home so that developers can provide high speed internet service to their customers while allowing for upgrades.



Government

Fiber moves, adds & changes are made quickly & enable segmented & secure networks in the same microduct configuration.

FAR EAST HDPE MICRODUCTS - CONCEPT

- As fiber cables become lighter, there is an increasing need for improved “Constructability” and “Efficiency.”
- Far East HDPE Microducts maintain its key strengths– “PHYSICAL STRENGTH” and “EXCELLENT CONSTRUCTABILITY”—while reducing both size and weight to optimize work efficiency.

Covering Duct (Inner)

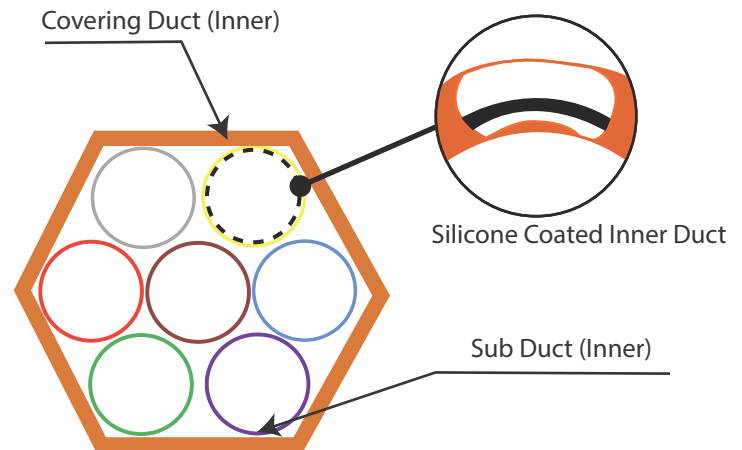
Protects inner ducts from external pressures
Prevents damage during the removal of the outer duct

Silicone Coated Inner Duct

Provides smooth protection for cables

Sub Duct (Inner)

Offers an integrated structure for cost-effective installation without the need for additional insertion work.



SILICORE INNER LAYER GROOVE

The inner layer of the pipe is coated with silicone to minimize friction during the insertion of silicone optics. Customers can select either a smooth inner surface or a ribbed inner surface, depending on application requirements.



FAR EAST HDPE MICRODUCT



Low Friction



Various Configuration



Connector Easy



High Durability

The Far East HDPE Microduct pipe is a bundle of pipes that is made up of several Microduct Single pipes. This pipe bundle is used in network applications such as FttH (Fibre to the Home)

They are suitable for direct buried installation & for inserting or pushing into cable shafts, into HDPE Ducts or other pipe system. Microduct Multi pipes can be used in construction sites such as open cut, Micro trenching, Mini trenching & HDD.

DESCRIPTION

Dimensions

Available in configuration with 4 to 7 pathways, with sizes ranging from 7 - 20 mm OD; Versions DI (direct install) & DB (direct buried)

Pipe Construction

Standard version : Microduct Multi DB with 1 mm, flexible PE outer sheathing, no adhesion with the individual ducts. The standard sheathing is orange or black, optionally with stripes. Other color variation on labelled using inkjet printing at a distance of a meter.

Material : HDPE

Joining Technology : Plug-in Connections

Form of Delivery : Metal Drums

FAR EAST HDPE MICRODUCT

FEATURES

- **Constructability & Safety**

- Easily inserted owing to:

1. "Multi Ducts in One"

No need for additional work to insert inner ducts

2. "Coiled up to 1,500 Meters"

No fittings required between manholes

- Excellent Flexibility does NOT require EXTRA Manholes at the job site below.

1. Curved Sections
2. High and low-level installations in difficult areas

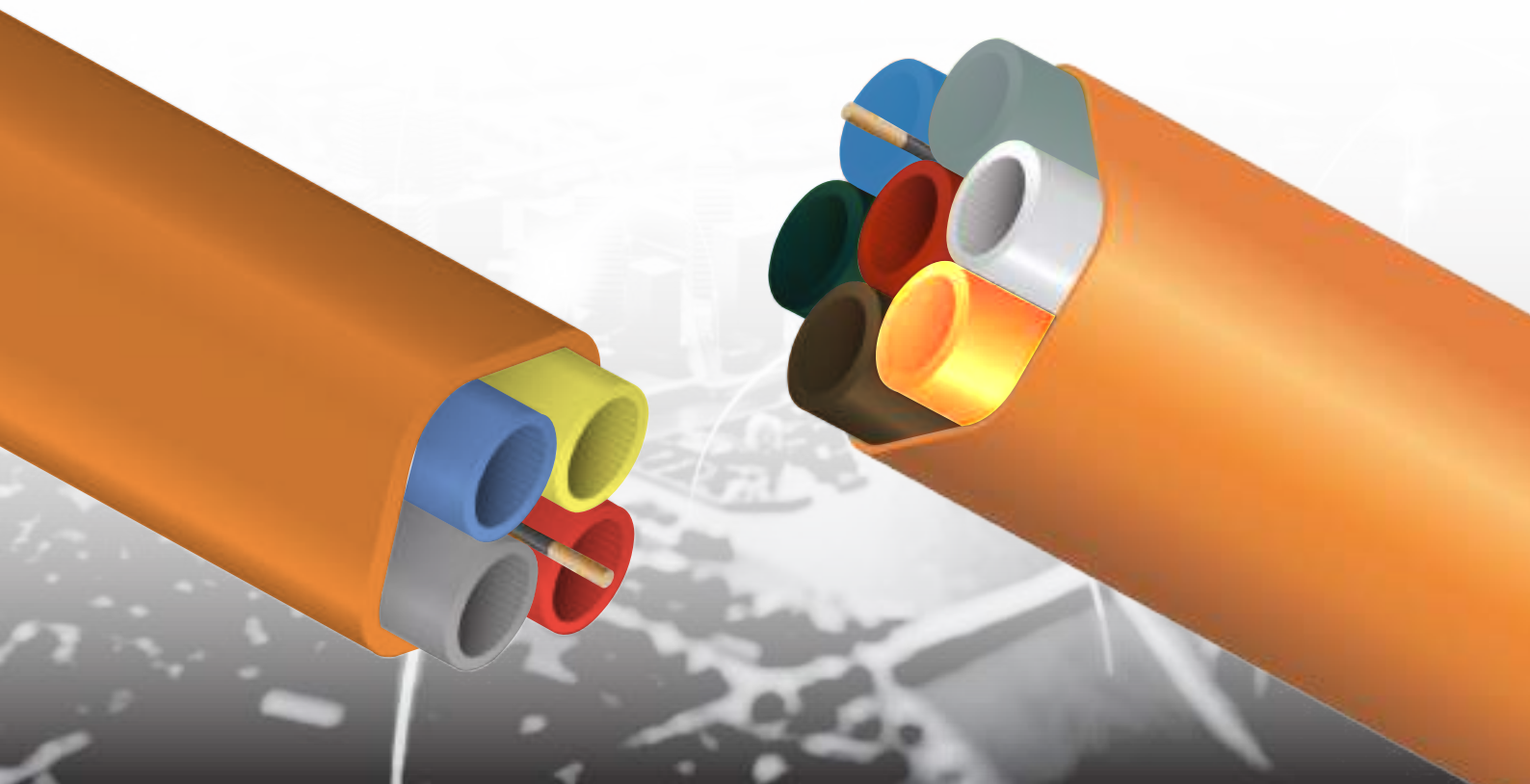
- UV protection to prevent duct cracking.

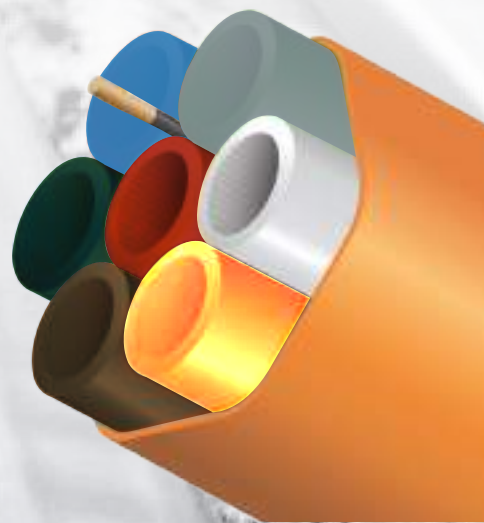
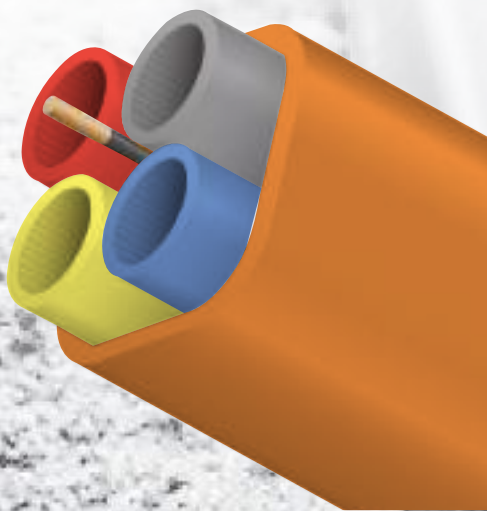
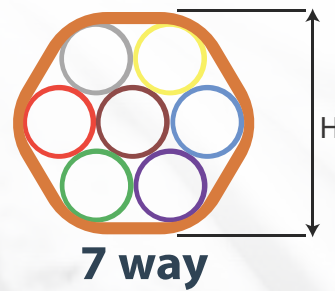
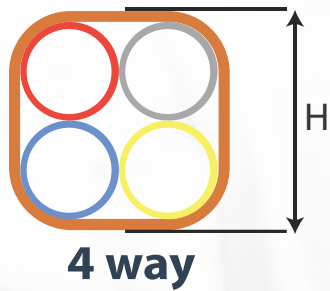
- **Material for Strength**

- The corrugated surface, made from HDPE, the most durable and crack-resistant material, provides strong protection against external pressures
- It is shrink-proof and offers excellent durability against heavy soil loads
- Its compression strength is more than twice that of Micro Ducts.

- **Other Notable Features**

- Maximized space efficiency with integrated Multi-Ducts
- Air-blown installation supports distances over 1 km, even in challenging conditions like "Curves" or "U-Turns"
- Various combination of Sub-Ducts available upon request
- Prevents twisting of inner ducts.





DIMENSIONS

Sizes (Casing)	Type	Bundle			Height (H) (mm.)	Length/roll (m.)
		Nominal OD (mm.)	Wall Thickness (mm.)			
			min	max		
14/10	4 way	30.0	0.9	1.3	28	1,000
						1,500
	7 way	44.0	0.9	1.3	42	1,000
						1,500
16/12	4 way	34.0	0.9	1.3	32	1,000
						1,500
	7 way	50.0	0.9	1.3	36	1,000
						1,500


Note: OD = Outside diameter, ID = Inside diameter

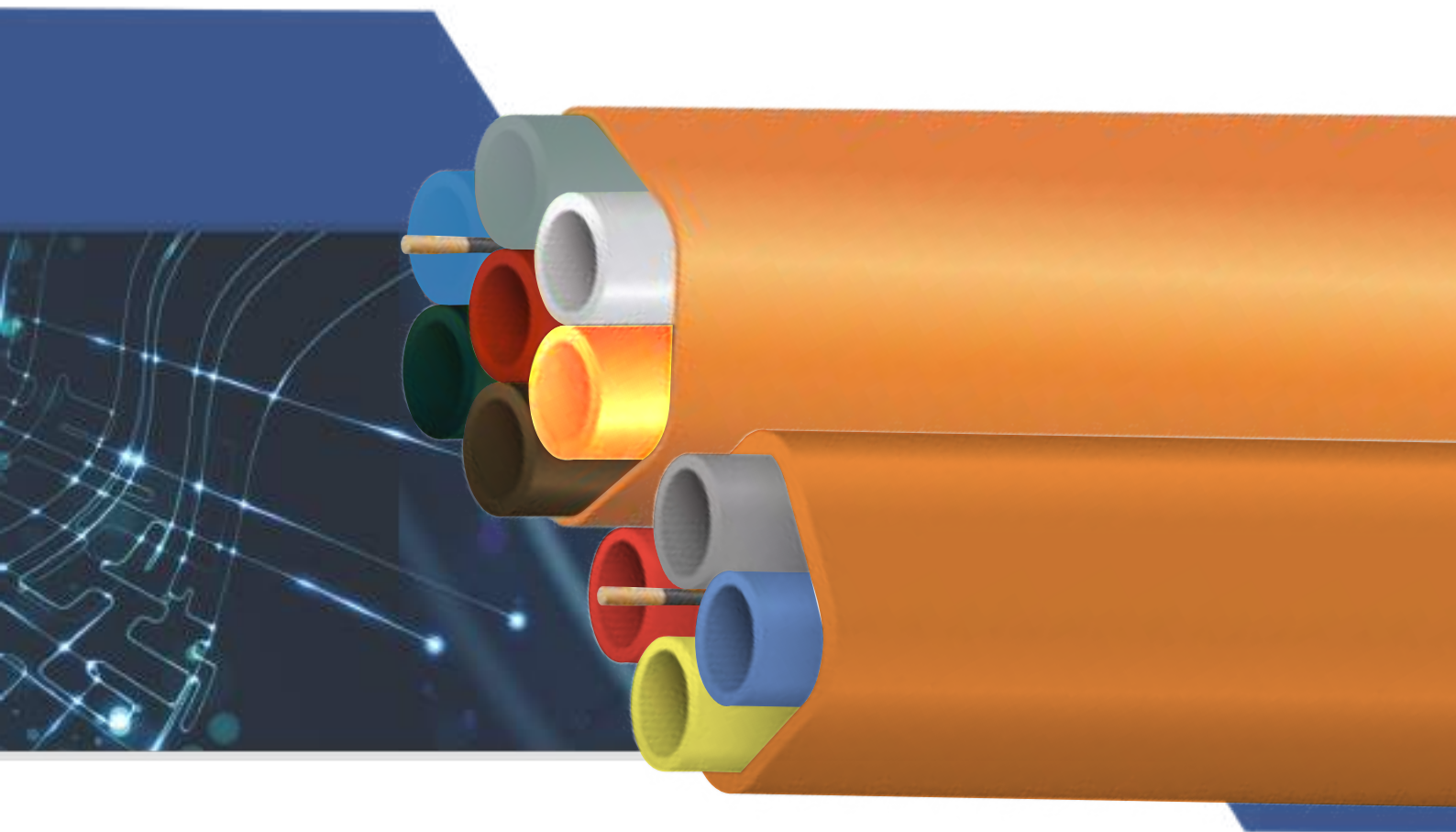
PROTECTED MICRODUCTS TESTING MANUAL

No.	Test Applicable	Test Conditions	Result	Method
1	Tensile performance	<ul style="list-style-type: none"> Length of microtube Microduct length under tension: >1m Tensile load on microduct: 1 x W Duration of load: 10mins. 	Under visual examination without magnification there shall be no damage after the test and the microduct shall the inner clearance test.	IEC 60794-1-21 Method E1
2	Crush	<ul style="list-style-type: none"> Sample length: 250mm Load (plate/plate): 500 N Duration time: 1min Recovery time: 1 H 	Under visual examination without magnification there shall be no damage after the test and the microduct shall the inner clearance test.	IEC 60794-1-21 Method E3A
3	Impact	<ul style="list-style-type: none"> Striking surface radius: 300mm Impact energy: 15 J Recovery time: 1 H Number of impacts: One in 3 different places spread not less than 500 mm. apart 	Under visual examination without magnification there shall be no damage after the test and the microduct shall the inner clearance test.	IEC 60794-1-21 Method E4
4	Microduct route verification test	Air pressure 12-15 bar with a ball of the required size in a small tube	Objects of the required size can be passed through the microduct.	IEC 60794-1-21 Method E23

SPECIFICATION

PARAMETERS	TELCO REQUIREMENTS
MICRODUCT ASSEMBLY Material Capacity Dimension Outer Sheath Thickness Color Markings	High Density Polyethylene 7-ways 50.6 mm x 46.3 mm 1.3 mm Yellow with Red Stripe The phrase "TELCO PROPERTY", Product Code/Item Type & Configuration, Manufacturer, Date Manufacture & Length of Markings Shall have (2) permanent red stripe markings printed 180 degrees apart.
MECHANICAL PROPERTIES Tensile Strength Crush Resistance Bending Radius, min	8,700 N 2,000 N 560 mm
PRIMARY DUCT Material Dimension Outside Diameter Outer Sheath Thickness Standard Dimension Ratio	High Density Polyethylene, Silicone coated, straight ribbed inner surface 16 mm ± 0.1 Ø 1.9 mm + 0.15 mm silicon SDR 8

PARAMETERS	TELCO REQUIREMENTS																
COLOR CODING	<table> <tr> <th>Position</th><th>Tube Color</th></tr> <tr><td>1</td><td>Red</td></tr> <tr><td>2</td><td>Orange</td></tr> <tr><td>3</td><td>Green</td></tr> <tr><td>4</td><td>Brown</td></tr> <tr><td>5</td><td>Slate</td></tr> <tr><td>6</td><td>White</td></tr> <tr><td>7</td><td>Blue</td></tr> </table> 	Position	Tube Color	1	Red	2	Orange	3	Green	4	Brown	5	Slate	6	White	7	Blue
Position	Tube Color																
1	Red																
2	Orange																
3	Green																
4	Brown																
5	Slate																
6	White																
7	Blue																
Fill ratio	10% - 80%																
Mechanical Properties Flattening @ 100% Deflection Elongation @ Break Burst Pressure Heat Reversion, 1hr @ 110°C	No Splitting & Cracking $\geq 500\%$ ≥ 4.3 MPa $\leq 3\%$																



Barangay Lantic, Carmona Cavite

Tel. No. : (02) 8724-2893

Email : info@feapc.ph

Website : www.fareastadvanceplastics.com

Facebook : Far East Advance Plastics Corporation