

DIRECT BURIED MICRO-DUCT CONNECTORS

Product Technical sheet



ABOUT

(a) Plas-fit Direct Buried connectors are used for the connection of micro-ducts for fiber-optic cables in the telecommunications industry with the following benefits:

- Designed for Direct Buried installation in harsh environments without need for any protective sheathing.
- Can be dismantled for re-use.
- Fast and easy installation without need for any tooling for assembly or removal.

(b) The connectors are resistant to pressures used in the industry for blowing cables through guide tubes (micro-ducts) and provide protection from dirt and water.

(c) The connectors are of a push-fit design for quick and easy installation and disassembly *.

(d) The connectors has transparent body for easy and secure installation and to verify that the micro- duct reaches the required position

(e) Minimal interference to cable passage to due unique design of the internal structure of the connector.

(d) The connectors comply with the relevant sections of EN 50411-2-8:2009 as described in the technical specification section.

AVAILABLE PRODUCTS

Cat No	Size
40007M3007	7mm x 7mm Direct Buried Connector
40008M3008	8mm x 8mm Direct Buried Connector
40010M3010	10mm x 10mm Direct Buried Connector
40012M3012	12mm x 12mm Direct Buried Connector
40014M3014	14mm x 14mm Direct Buried Connector
40016M3016	16mm x 16mm Direct Buried Connector
40020M3020	20mm x 20mm Direct Buried Connector
40007S3000	7mm Direct Buried End-Stop
40008S3000	8mm Direct Buried End-Stop
40010S3000	10mm Direct Buried End-Stop
40012S3000	12mm Direct Buried End-Stop
40014S3000	14mm Direct Buried End-Stop
40016S3000	16mm Direct Buried End-Stop
40020S3000	20mm Direct Buried End-Stop



* NOTE: if pipe and connectors has been under pressure, the grip-ring needs to be changed by recycling before re-using for other pipe.



MATERIALS

The following data is relevant for both Straight-Connectors and End-Stops:

#	Part	Raw Material	color
1	BODY	Polypropylene	Transparent
2	WASHER	Polypropylene	Transparent
3	NUT	Polypropylene	Blue
4	GRIP RING	POM	Depending on the size
5	O- RING	EPDM	Black

- All parts are made of plastic with maximum endurance for water and chemicals, and wide range of storage, installation and usage temperatures and humidity.
- Seal and internal parts are protected from dirt by the internal structure of the connector.
- The use of 100% plastic durable materials and unique structure of the connector allows using it in Direct Buried installations without need for any additional protection.
- Patented grip ring.
- Life Time : >30 years in direct buried conditions.

Duct Allowed Dimensions

DN	d min	d max	Ovality
7	6.9	7.1	<5%
8	7.9	8.1	<5%
10	9.9	10.2	<5%
12	11.9	12.2	<5%
14	13.9	14.2	<5%
16	15.9	16.2	<5%
20	19.9	20.3	<5%

TECHNICAL SPECIFICATIONS

Temperatures

Minimum working temperature: - 15°C

Maximum working temperature: + 45°C

Pressure

The connectors withstand successfully air pressure test according to the below testing protocol:

- The tested connector is connected between 2 standard ducts and put under a pressure of 15 bar for 30 min and afterwards sealed and disconnected from the compressor.
- The test is considered as successful if after a duration of 1 hour the pressure dropped less than 1,5 bar.
- After this test, the connector is removed without connector damage.

Detailed below for all temperatures in the working range:

- Continuous working pressure: 16bar
- Peak working pressure: 20bar

Burst pressure

- The connectors withstand Burst Pressure Test (Safety) of at least 25 bar.
- Tested at -10degC and 40degC according to EN50411-2-8:2009 Annex. C

Leak-tightness under external pressure

All connectors withstand 1.35 bar external water pressure.

Insertion Force

The force necessary to insert a tube in the connector is < 5kg (50N)

(Tested according to EN50411-2-8:2009 Annex. E)



Microduct Retention

The connectors resist pull out forces as required by EN 50411-2-8:2009 between the connector and the microduct as follows:

(All done in 100mm/min speed).

Test	Conditions	7mm	8mm	10mm	12mm	14mm	16mm	20mm
*Continuous pull-out:	(1h, 23°C)	>300N	>350N	>450N	>650N	>900N	>950N	>1000N
Violent pull-out: (jerk)	(< 0.3 sec, 23°C)	>800N	>850N	>950N	>1200N	>1500N	>1800N	>2000N

* Note (1): Results on micro-ducts manufactured from PE100 material. The quality of the duct material will affect the pull -out test results due to "necking".

** Note (2) : if pipe and connectors has been under pressure, the grip-ring needs to be changed by recycling before re-using for other pipe.

Impact

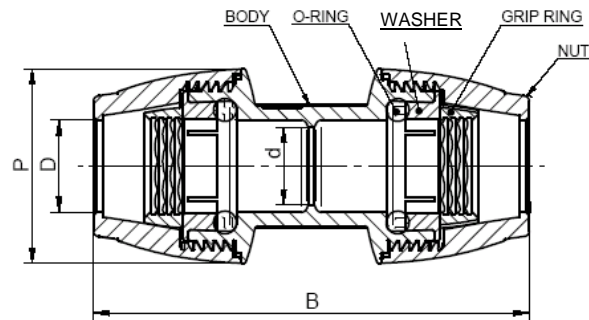
The connectors withstand impact force as required by EN 50411-2-8:2009, according to the following procedure:

- Connect 2 ducts using a straight connector and end-stop at one end.
- Bring the set to required temperature (done in (-15degC) and (+45degC) for 4 hours.
- Drop a weight of 1.0kg with radius 12.5mm on the center of the fitting from relevant height (1 Joule)
- Perform pressure test (0.4 Bar for 15 Minutes) – Passed.

NOTE: An advanced version of Hi-Impact Plas-Fit DB connectors is available. The Hi-Impact connectors resist impact force of 15 Jauls at temprature range of (-10 DegC) to (+45DegC).

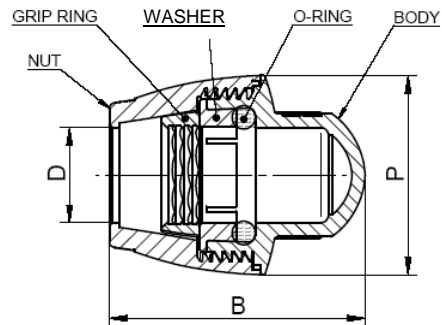
DIMENSIONS

Straight Connector



Part no.	DN	D	d	P	B
40007M3007	7	7.4	6.0	19.0	48.0
40008M3008	8	8.3	7.0	20.4	53.0
40010M3010	10	10.4	8.5	24.0	58.0
40012M3012	12	12.4	10.0	26.0	61.8
40014M3014	14	14.3	12.0	30.0	67.0
40016M3016	16	16.4	14.0	33.5	72.0
40020M3020	20	20.4	18.0	37.5	87.0

End Stop



Part no.	DN	D	P	B
40007S3000	7	7.4	19.0	27.7
40008S3000	8	8.3	20.4	29.9
40010S3000	10	10.4	35.0	35.0
40012S3000	12	12.4	26.0	37.4
40014S3000	14	14.3	30.0	38.0
40016S3000	16	16.4	33.5	42.2
40020S3000	20	20.4	37.5	51.0