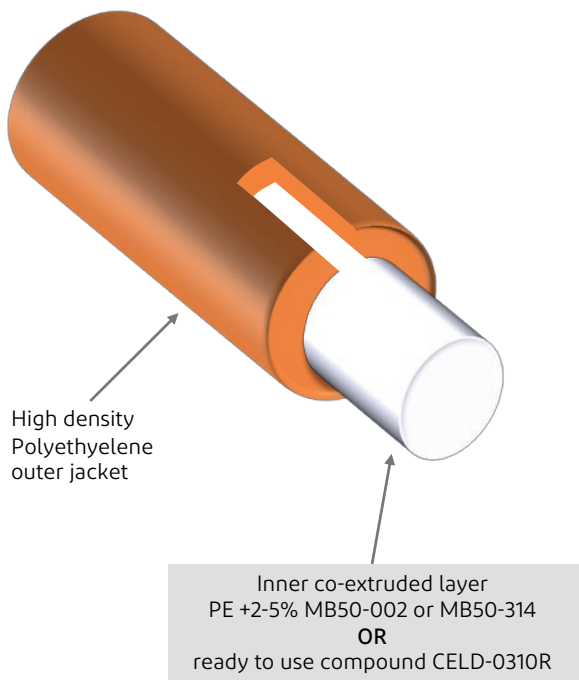


Solutions for Optical Fiber Ducts and Pipes

Thermoplastic Additives

Today, new generation telecommunication networks involve complete systems that include Optical Fibers (OF). One of the challenges that telecommunication operators are facing consists of increasing production reliability and reducing installation time and costs. Due to these constraints, air blown solutions became the state of art method for FTTH (Fiber To The Home) and more generally FTTx networks installation. MULTIBASE™'s Silicone based additives are widely used to enhance the production efficiency and installation of optical fiber ducts and pipes. This achievement is possible thanks to the permanent coefficient of friction reduction provided by DuPont Silicone masterbatches.



% additive	COF (Belcore test)
Without additive	0.2
4% MB50-002	0.08
5% MB50-002	0.05

MULTIBASE™ Silicone Masterbatches series can be used in micro-ducts or pipes

- Ducts or pipes (30, 40, 50 mm)
- Micro-ducts (2, 4, 8 mm)

Main benefits in the optical fiber ducts and pipes application

Installation benefits for optical fiber cables with air blown fiber systems

- Length of introduction is increased
- Speed of introduction is enhanced
- Installators need less force to push fibers into ducts or pipes

Advantage against coatings or lubricating agents

- Long term solution
- Consistency of lubrication over the length of the duct or pipe
- Avoids on-site handling such as wetting with chemical lubricants

Production benefits

- Higher productivity
- Scrap rate reduction

Performances

Installation benefits for optical fiber cables with air blown fiber systems

Despite the industry usage of chemicals to gain on introduction length or on speed of introduction, the usage of DuPont silicone masterbatches in the ducts inner-layer allows installators to avoid additional time and cost consuming on-site additional steps thanks to this turnkey lubricated solution.

Advantage against coatings or lubricating agents

When using MULTIBASE™ silicone masterbatches in the co-extruded inner-layer of their micro-ducts, ducts or pipes, manufacturers are able to provide their customers with "easy-installation" solutions, since MULTIBASE™ additives provide consistent lubrication over the whole length of the duct or pipe and does not migrate over time.

Production benefits

DuPont Silicone masterbatches can be used in a direct co-extrusion process. When added at 2-5%, these additives improve the surface coefficient of friction and by its chemical nature, play the role of an external process aid.

Recommended usage

MULTIBASE™ additives brings SILICONE technology in a ready-to-use dry, free flowing pellet form. These additives are used in co-extruded two-layer systems and are added in the inner layer of the optical fiber duct or pipe.

Recommended loading is typically between 2 and 5%, to be added in the first entry feeder.

When not possible to use additive technology, DuPont proposes MULTIFLEX CELD-0310R as ready to use solution. The compound can be co-extruded as a innerlayer providing long term low coefficient of friction.



Recommended grades in optical fibers ducts or pipes

Grade	Recommendations	Comment
MB50-002	Use rate between 2 and 5% in inner-layer of co-extruded system	Silicone masterbatch based upon LDPE carrier, compatible with Polyethylene systems to be used as an additive in the innerlayer
MB50-314	Use rate between 2 and 5% in inner-layer of co-extruded system	Silicone masterbatch based upon HDPE carrier, compatible with High density Polyethylene systems to be used as an additive in the innerlayer
CELD0310R	Compound designed to be co-extruded as inner-layer of the duct or pipe	MDPE Compound containing special long term low coefficient of friction technology to be extruded as innerlayer

Extend Properties, Enhance Processing, Reinforce Materials

Combining an industry-leading portfolio of silicone-based additives and masterbatches -plus deep experience in serving the industries that use them -we can help you capture greater efficiencies in production while delivering more performance, durability and quality to your end-users.

To learn more about our wide range of plastics, visit www.dupont.com/multibase and contact us if you have any questions.



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