



Masterbatches e Additivi per Materie Plastiche ed Elastomeri

**FERRO-PLAST S.r.l.**

Via Grandi, 25 - 20090 Vimodrone (Mi)

Tel. +39.02.27409415 Fax +39.02.27409420 E-mail [ferroplast@ferroplast.com](mailto:ferroplast@ferroplast.com) - [www.ferroplast.com](http://www.ferroplast.com)

# SiliconLube HD-404

*Informazioni Tecniche*

## SILICONE MASTERBATCH ON HDPE

### Introduction

**SILICONLUBE HD-404** is pelletized formulation with 50% ultra-high molecular weight Polydimethyl siloxane dispersed in HDPE resin. It is widely used as an additive in resin compatible system for improve processing properties and surface quality. With **SILICONLUBE HD-404**, properties like low coefficient of friction (cof), demolding, dispersion are highly improved. Meanwhile, surface become smoother, thereby improving anti-friction properties, scratch and abrasion resistance. When it used in inner layer of telecom ducts, it reduce the COF and thus facilitate the blow of optic fiber cables to longer distance.

### Applications:

- Permanently Lubricated (PLB) HDPE Telecom Ducts. (Inner Layer of Telecom Ducts)
- Packaging boxes, bottles ( to improve the surface smoothness )

### Typical performance:

Appearance	White pellet
Silicone content	50 % premium grade
Resin base	HDPE
Dosage	0,5 – 5,0%

### Features

- Improves the processing performance, less extruder torque, reduced equipment wear, better mold filling.
- Reduces the coefficient of friction giving lubricity, improve surface smoothness, gloss, enhance the surface silk texture.
- Improves abrasion and scratch resistance and reduces product defect rate
- Enhanced fuel resistance, reduced smoke density.
- Good stability, non-migratory and surface without precipitation.

### Processing Conditions

It can be processed on any standard HDPE pipes extruders keeping normal processing temperature bet. 175°C-220°C  
Recommend dosage: addition level at 0,5% to 2,0%, can improve the product's processing, fluidity and mold release. At a high level: 1,0% to 5,0% can improve the surface properties (smoothness, scratch resistance and abrasion resistance).

### Package & Storage

Package: 25Kg, paper bag

Storage: Non-dangerous goods, 24 months at dry condition, room temperature.

**Usage Method (Case Study)**

Following are the characteristic after adding Silicone Masterbatch.

1. Its inner wall Silicone core layer slides with permanent lubricant.
2. Its inner wall Silicone core layer is extruded into the inside of pipe wall by synchronization, distributed uniformly in the whole inner wall, the Silicone core layer has the same physical and mechanical performance as the HDPE: no peel, no separation.
3. Its inner Silicone core friction performance is not changed, the cable can be drawn out in the pipe again and again.
4. Its inner wall Silicone core layer is not dissolved in the water. If the ordure comes into pipe, you can wash pipe by water so as to avoid the damage of the rodent.

HDPE Silicone Core Pipe is the most advanced telecommunication optical fiber (cable) sheathing tube (sleeve). It is made from the commonly extruding compound of special HDPE material and Silicone masterbatch. This special telecom duct pipe is a co-extruded pipe with a very low coefficient of friction.

The outer layer is 100% HDPE with coloured masterbatch. The inner layer constitutes 99% HDPE and 1% Silicone masterbatch.

Properties	HDPE	HDPE + Silicone MB (1-1.5%)
<b>Coeff. Of Friction</b>		
(a) Static	0.21 – 0.22	0.13 – 0.11
(b) Dynamic	0.12 – 0.13	0.06 – 0.05

**Application of HDPE Pipe along with Silicone Masterbatch.**

It is suitable for pipeline system of outdoor telecommunication optical fiber, optical cable and electrical cable and power supplying pipe system at the local network range, including part relay pipe, feed liner pipe, wiring pipe and special network pipe, long distance telecommunication pipe, building and construction inner protection to guarantee the electrical wire and cable distributed pipe.

