



OF-136

Optical Cladding Materials

OF-136 is a low refractive index coating material which is intended for the cladding of optical fibers. The material is designed to be compatible with Optical fiber Drawing Towers.

It is related to MY-1375 and MY-136 but with a better adhesion to glass.

OF-136 has the RI properties of MY-136 with mechanical properties close to MY-1375 and with an adhesion level which is 2-3 times better than both and about 6 times better than the competing products.

Properties

n^D liquid	1.359
n^D cured	1.369
RI cured at 900-1000 nm	1.363
Density, g/cm³	1.58
Viscosity, cps @ 25°C	2600
90° Peel, g/cm	64
Shore A	About 90
Tensile Strength, MPa	6.9
Elongation, %	39
Elastic modulus, MPa	100
Methanol release potential (g/Kg)	3.3
Transparency	clear

The product is supplied pre-filtered to below 1 micron particles.

Adhesion

Peel test was performed on samples coated on a virgin glass with a thickness of about 270 microns and after a delay of 1 days at ambient conditions followed by one hour @90°C and another 6 hours to re-equilibrate.

Storage

1. Avoid unnecessary exposure to ambient light and moisture.
2. The product should be stored at ambient conditions of 20-30°C. Do not refrigerate. Upon storage and especially if subjected to low temperature, some ingredients may crystallize out.
3. Long periods of storage combined with excessive heat may cause irreversible gelation..
4. Do not store under nitrogen. Oxygen is an essential inhibitor against premature gelation.
5. The adhesive is supplied in glass bottles. Keep container closed to avoid moisture penetration.

The product is specified to be useful for 6 months.

Application

OF-136 is a dual cure composition that is based on a fast UV curing followed by a slow moisture curing. The moisture in the surrounding atmosphere is sufficient to start the process. The final stage of the moisture curing is a condensation reaction which is enhanced by heat and coupled with a release of a small level of methanol. The UV curing is done under nitrogen. Typically, a dose of 1000-2000 mJ/cm² is necessary. When properly cured under nitrogen, it should have no oily surface or a tacky surface. Final adhesion will be achieved not earlier than 24 hours after curing and possibly only after rewinding and venting of the fibers. For best adhesion and best performance, it is recommended to allow the fiber to dwell for 30-60 minutes at 80-90°C. This post heat process has to be done a day or more after the coating operation and can be delayed until shortly before the actual use.