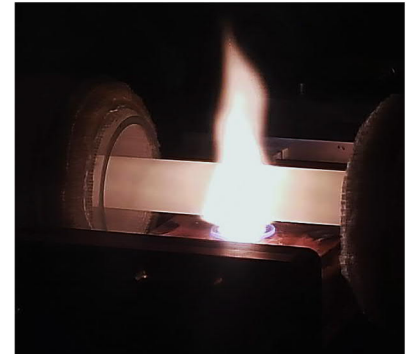


Plasma Deposition Services

Introduction

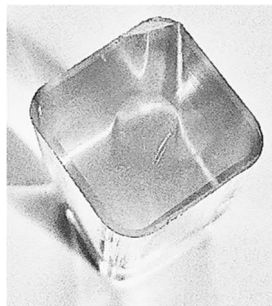
Plasma outside deposition process is a key technology for fabrication of special optical fibers, requiring deposition of high fluorine-doped silica layers. Such optical fibers are used in biomedical, aerospace, industrial and defense applications. Plasma enhanced products are not widely available on the global markets due to the lack of commercial equipment suppliers and required technology knowledge.



PLASIL OPD plasma technology

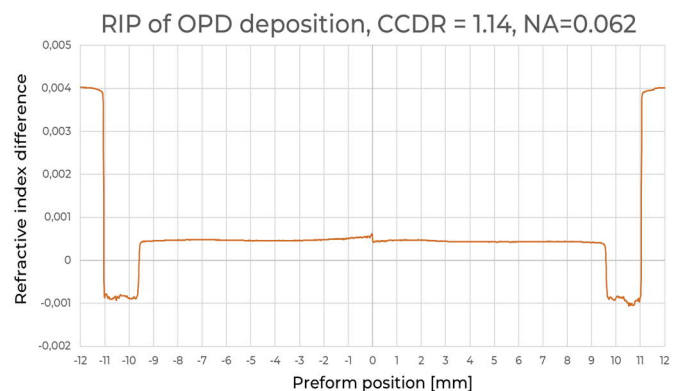
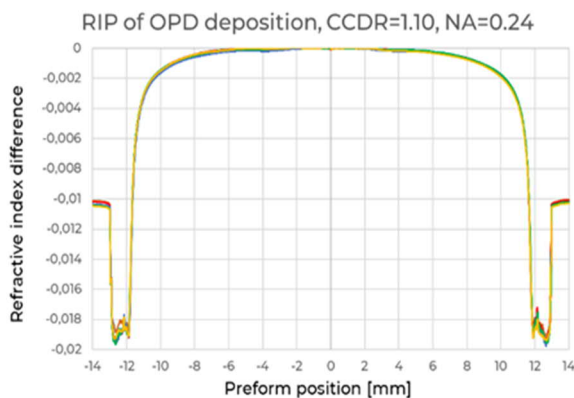
Plasil has successfully developed own outside plasma deposition technology and designed OPD plasma deposition system, suitable for small scale fabrication. This system is installed in Plasil's development lab, in Logatec, Slovenia; and is used for continuous equipment and process development. Specifications of Plasil's OPD deposition capabilities are presented in below:

Parameter	Value
Quartz sample length	max. 450 mm
Quartz sample start outer diameter	10 – 40 mm
Quartz sample end outer diameter	10% outer diameter change, max. 44 mm
NA of deposited F-doped layer	0 – 0.25 (in respect to pure silica)
Quartz sample geometry	Rod or tube; round, square or octagonal outer shape



PLASIL plasma deposition services

Installed OPD system permits Plasil to offer custom outside silica layer deposition services to interested customers from academic, research or industrial fields in small production batches. Customers interested in applying undoped or F-doped silica layers to the outside surface of their optical fiber preforms or other silica pieces can contact Plasil sales for orders and specifications. OPD system allows surface cleaning by oxygen plasma flame, or provided silica products can be surface polished by H₂/O₂ burner flame prior to deposition. Two examples of different refractive index profiles made with Plasil's OPD machine are presented below.



For more information about Plasil's deposition service please write to info@plasil.si