|  |  |  |  |  |
| --- | --- | --- | --- | --- |
| Material | Refractive index | Deposition method | Etch gas | Conclusion |
| **Silica (SiO2)** | **Varies, ~1.46** | **Sputter, CVD, obtain as-is** | **CF4,CHF3** | **Best option, easy etching** |
| Borosilicate | 1.51 | Use as-is | CF4,CHF3 | Additives, poor etch |
| Spin-on glass | 1.38 | Dip-coat | CF4,CHF3 | Expensive |
| Polyethylene terepthalate | 1.58 | Spin or use as-is | Oxygen | Weak, UV |

***Table SI.*** *Material selection and processing considerations for substrate.*

|  |  |  |  |
| --- | --- | --- | --- |
| Material | Dewetting temp (°C) | Dewets in air? | Density change upon oxidation (%) |
| **Silver** | **>200** | **Yes** | **10.49 🡪 7.14 (-32%)** |
| Tin | >200 | Oxidizes | 7.30 🡪 6.95 (-5%) |
| Copper | >650 | Oxidizes | 8.96 🡪 6.31 (-30%) |
| Gold | >300 | Yes | No oxide forms |

***Table SII****. Materials selection considerations for choosing the metal thin film to be spin-coated onto silica, dewetted, and oxidized. Silver had the desirable properties of dewetting in air at a reasonably low temperature and expanding upon oxidation.*