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(54) **PLASMA CHEMICAL VAPOR DEPOSITION APPARATUS**

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(57) **ABSTRACT**

The invention relates to a plasma chemical vapor deposition (PCVD) apparatus for deposition of one or more layers of silica onto an interior wall of an elongated hollow glass substrate tube. The apparatus comprises a microwave generator, a plasma generator receiving microwaves from said generator in use, a cylindrical cavity extending through said generator, and a cylindrical liner positioned in the cavity. The substrate tube passes through the liner in use. The cylindrical liner has at least one section having a reduced inner diameter over a part of the length of the liner, the at least one section providing a contact zone for the substrate tube. The microwave generator is configured to generate microwaves having a wavelength Lw in the range of 40 to 400 millimeters, wherein a length of said at least one section having the reduced inner diameter is at most 0.1×Lw.