

ABSTRACT**METHOD AND APPARATUS FOR COATING WITH LIQUID OR
SUPERCRITICAL CARBON DIOXIDE**

A method of coating a substrate comprises immersing a surface portion of a substrate in a liquid or supercritical first phase. The first phase comprises carbon dioxide and a coating component such as a polymer. The substrate is then withdrawn from the first phase into a distinct second phase such as a gas atmosphere so that the coating component is deposited on said surface portion. The withdrawal step is followed by separating the carbon dioxide from the coating component (e.g., by evaporation, venting, heating, etc.) so that the coating component is retained as a coating layer formed on the surface portion. Apparatus for carrying out the method by free meniscus coating, or employing a metering element such as a knife, blade, or roll, are also disclosed.

Figure 1



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