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(57) Abstract :

Embodiments of the present disclosure relates to a system (102) and method (200) for electrostatic polymer spray deposition on a substrate. In an aspect, the present disclosure discloses a system (102) for electrostatic polymer spray deposition on a substrate that utilizes electrostatic principles to control the charging and discharging of polymer particles during the spraying process, resulting in improved deposition control and optimized coatings of the substrate. The system (102) comprises a plurality of charging electrodes (104) configured to create an electric field for charging polymer particles. Further, the system (102) comprises a plurality of discharging electrodes (106), positioned proximally to the substrate, and configured to facilitate deposition of the polymer particles on the substrate. Furthermore, the system (102) comprises a control unit (108) configured to regulate a charging electrode voltage of the plurality of charging electrodes (104) and a discharging electrode voltage of the plurality of discharging electrodes (106).

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