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## Electrophoretic Deposition of $\text{La}_{0.6}\text{Sr}_{0.4}\text{Co}_{0.2}\text{Fe}_{0.8}\text{O}_{3-\text{TM}}$ Cathode Film on Stainless Steel Substrates

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**Abstract.** The electrophoretic deposition (EPD) of positively charged  $\text{La}_{0.6}\text{Sr}_{0.4}\text{Co}_{0.2}\text{Fe}_{0.8}\text{O}_{3-\text{TM}}$  (LSCF6428) particles onto stainless steel 304 (SUS304) cathodes was performed by using 0.3-0.6  $\mu\text{m}$  LSCF6428 particles dispersed in deionised water. Stable LSCF6428 aqueous suspension with 1 wt% of particles at pH 3 has been used for the deposition of the films. The sedimentation behaviour of the LSCF6428 suspension in aqueous media was also studied. The deposition at applied voltages between 3 and 7 V was found able to produce LSCF6428 films. The characteristics of the electrophoretic deposition of those positively charged LSCF6428 particles onto SUS304 cathode were investigated. The results show that the morphology and weight of the deposited films are affected by the applied voltage and deposition time of the EPD process.