Experimental 1.Smaller particles, penetrate surface irregularities more effectively.The combined influence of rGO and the Ag/Mo-doped TiO2 catalyst creates a robust coating.Collaboration between these components likely leads to the observed adhesion improvement.These catalyst particles, along with ceria and rGO, create a robust coating.(Kumar, S. (2021, 151, ) Table (1) Composite Coating Composition Percentages Characterization Field Emission Scanning Electron Microscope Using an Inspect (F 50 FEI company) FESEM microscope to examine the morphology and grain size of the catalyst along with energy dispersive spectroscopy (EDS) Coating Tests 3.6.1 Roughness Measurement The surface degree of roughness of steel specimens was measured after sand blasting using the SRT-6200S Digital Surface Roughness Tester, Meter Gauge, and MERTI MI .They were brought in the form of powder and previously synthesized Ag-Mo/TiO2.Thirty steel plate substrates of specification, ASTM A 516Gr.70 , were cut by (5X5X0.3) cm and shot blasted according to SSPC SP 10 for enhancing the steel surface roughness and establishing favorable circumstances for coating adhesion.After consolidating PVA with Ag/Mo-doped TiO2powder and 0.2-1% ceria (CeO), the coating layer increased to (83-95) microns.1 Mo 0.6 0.1 4.7 0.