

Fig. 1 Evolution in physicochemical property of trapped media within the crevice, (a) shows the change ratio of all ions in solution at location 25 cm with time, (b) is the change ratio of all ions in solution at different locations after 30 days’ immersion, (c) and (d) are the detailed variations of Cl- and pH with time at different locations, respectively.



Fig. 2 Evolution of the OCPs of X70 steels at different locations within the crevice with time







Fig. 3 EIS curves of X70 steels at different locations within the crevice, (a) 5cm, (b) 10cm, (c) 15cm, (b) 20cm, (e) 25cm





Fig. 4 Evolutions of (a, b) *R*f and (c, d) *R*ct fitted through the embedded equivalent circuit at (a, c) locations 5 cm, 10 cm, 15 cm, and (b, d) locations 20 cm, 25 cm



Fig. 5 Stress-strain curves (a) and SCC susceptibility (b) of X70 steels obtained by SSRT in air and in the simulated trapped solutions



Fig. 6 Potentiodynamic polarization curves of X70 steels in the simulated trapped solutions at the locations of (a) opening, (b) 5 cm, (c) 15 cm, and (d) 25 cm