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Corrosion of Steel Structured Wharves and Revetments and Their Maintenance

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Synopsis :
This paper reports the inspection results of corrosion of port and harbor structures at Chiba Works and maintenance techniques for them. Differences in the corrosion rate of steel material between with and without corrosion protection was investigated. Electrode potential monitoring and visual inspection of aluminum alloy anode were proved to be effective in quality control of cathodic protection. The life of anode is expected to be extended by coating the structure at the tidal zone. For localized holes at steel pipe piles and steel sheet piles, some repairing methods have been developed and carried out. Finally the newly developed KPP (Kawasaki polyethylene or urethane resin coated pipe) pile is introduced as heavy-duty protective treatment.

The body can be viewed from the next page.

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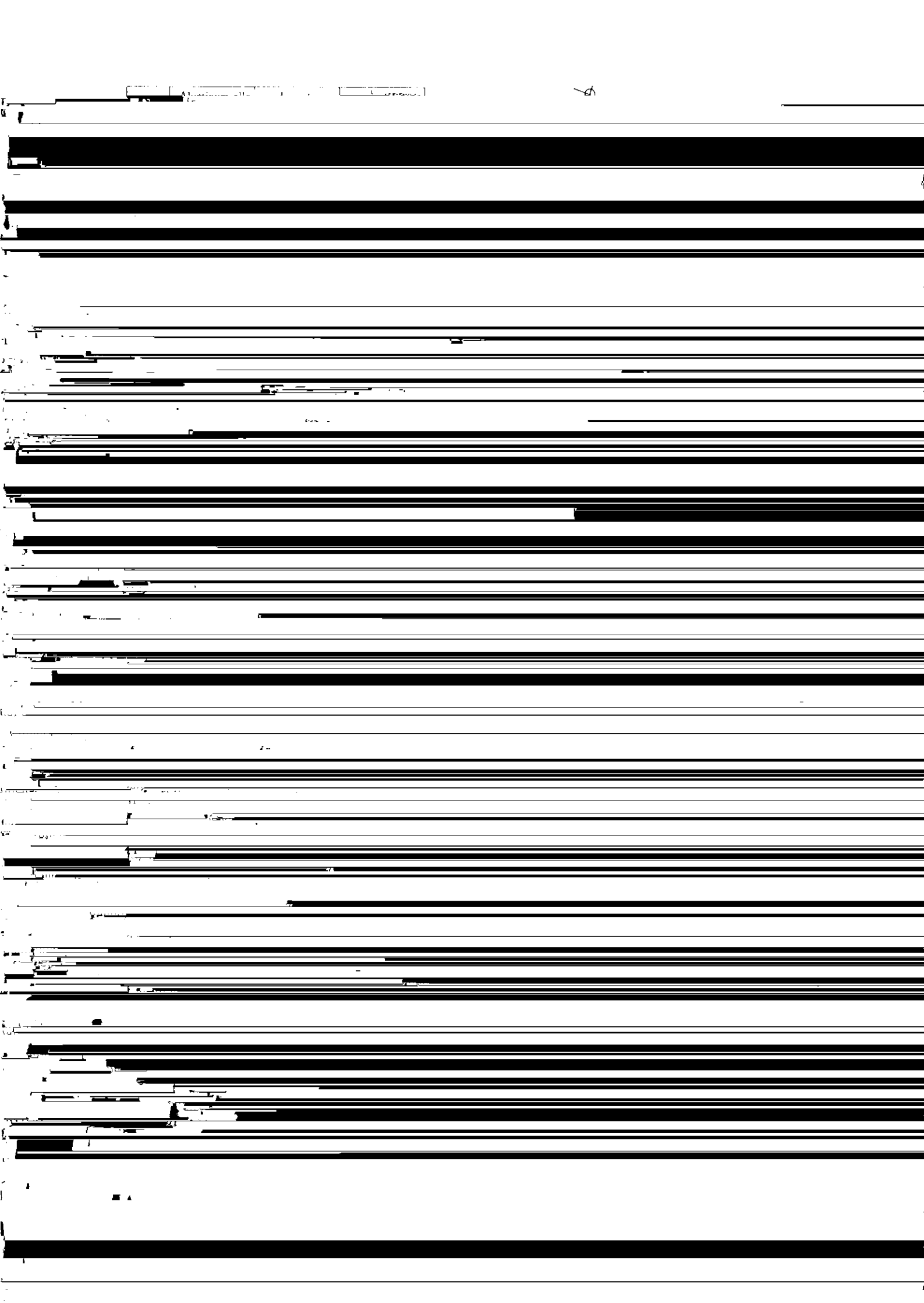


Table 1 Method of corrosion protection for wharves

aluminium alloy anode since it was constructed, the

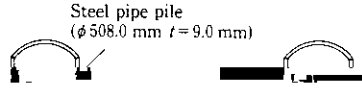
mean residual plate thickness of 4.3 to 6.0 mm against a

decreased and longer life of the aluminium alloy anode could be expected. It is considered that the protective

reinforcing steel plates and external pipes, as to the cor-

current would increases depending upon the degree of deterioration of the coating. Conversely it was possible

ment, East-West connection bridge (point b) and P-berth, while the other involved removing the


Steel pipe pile
(ϕ508.0 mm t=9.0 mm)


P
Specimen type
P_{max} (tf)

pipe piles, interlocked steel pipe piles and steel sheet piles at the Main Plant, the corrosion rate being about 0.3 mm/year or more.

Through periodical corrosion investigations and corrosion-protection effect surveys, it is important to constantly grasp safety against corrosion of