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Fixed Outer Dimension' and 'Steel Pipe'*

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.

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The body can be viewed from the next page.

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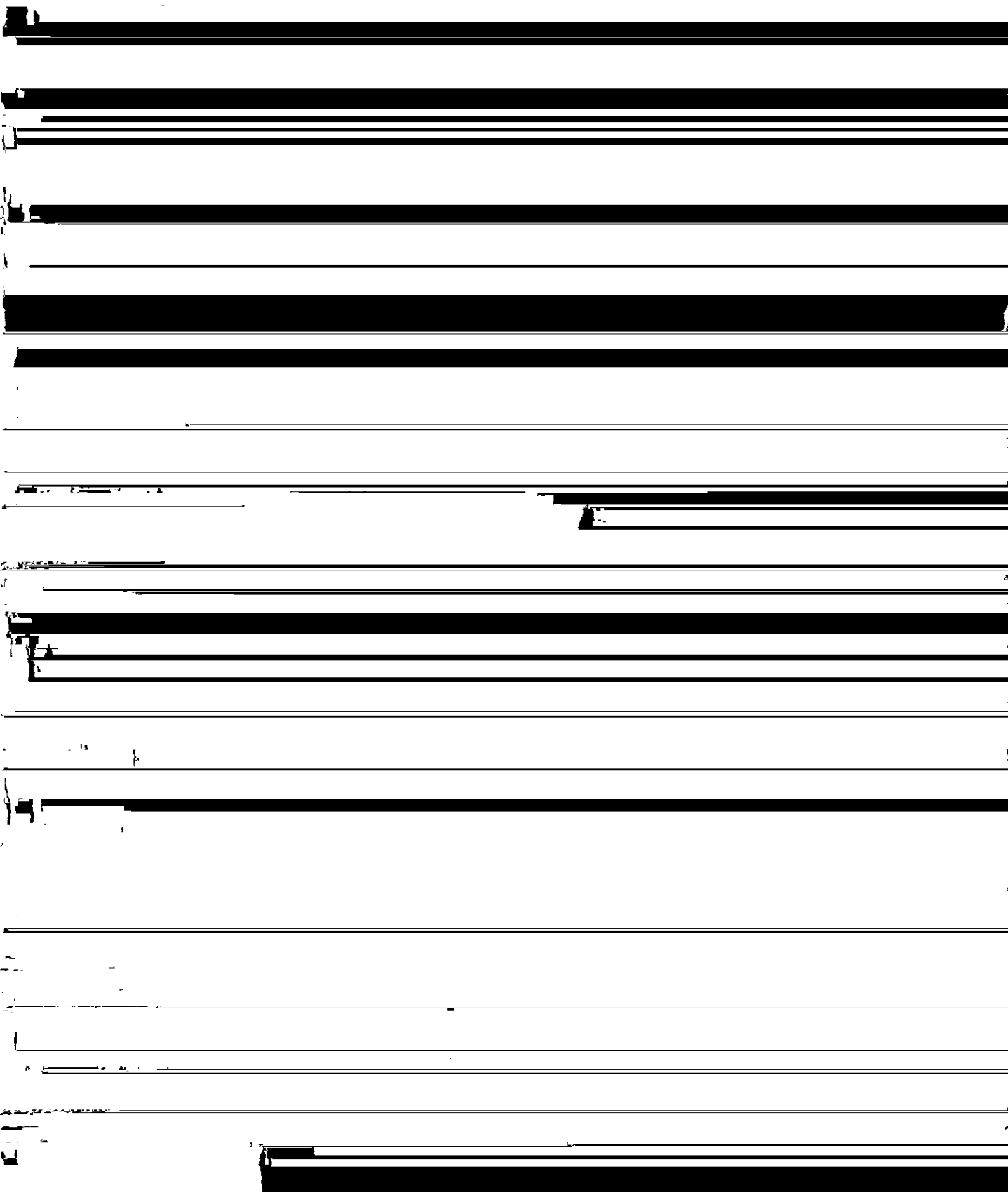
This summary is intended to provide a general overview of the

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aluminium alloy anode since it was constructed, the
mean corrosion rate was as low as 0.008 mm/a.

mean residual plate thickness of 4.3 to 6.0 mm against a



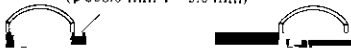
decreased and longer life of the aluminium alloy anode could be expected. It is considered that the protective

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

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

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

Steel pipe pile
(ϕ 508.0 mm t = 9.0 mm)



| | | | |
|--|-----|---------------|-------------------|
| | P | Specimen type | P_{max} (tf) |
|--|-----|---------------|-------------------|

| Parameter | Control | CACD |
|--|---------|------|
| Plant height (cm) | 15.2 | 14.8 |
| Stem diameter (cm) | 1.2 | 1.1 |
| Root length (cm) | 18.5 | 17.8 |
| Root diameter (cm) | 0.8 | 0.7 |
| Shoot weight (g) | 120 | 115 |
| Root weight (g) | 80 | 75 |
| Chlorophyll content (SPAD) | 32 | 31 |
| Stomatal conductance (mmol m ⁻² s ⁻¹) | 0.15 | 0.14 |
| Transpiration rate (mmol m ⁻² s ⁻¹) | 0.08 | 0.07 |
| Water use efficiency (g g ⁻¹) | 1.5 | 1.4 |
| Relative water content (%) | 85 | 84 |
| Protein content (%) | 12 | 11 |
| Carbohydrate content (%) | 18 | 17 |
| Cell wall thickness (µm) | 15 | 14 |
| Chlorophyll fluorescence (Fv/Fm) | 0.85 | 0.84 |
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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 ensure safety against corrosion of main