Appendix C1　Corrosion in freshwater

1.　Preface

Water with low levels of dissolved salts, such as tap water, industrial water, river water, groundwater, lake water, and rainwater, is referred to as freshwater.

The main water quality parameters related to freshwater corrosion are pH, dissolved oxygen concentration, calcium hardness, M alkalinity, total dissolved solids concentration, Cl-, SO4- concentration, temperature, and so on. When flow rate is added, freshwater corrosion exhibits complex behavior. The factors affecting corrosion vary depending on the material.

This page explains corrosion for carbon steel by freshwater.

2. Corrrosion rate of carbon steel in freshwater

Table 1 Relation between corrosion rate of carbonsteel in freshwater and temeperature, pH and flow rate

Temperature ℃	pH	Flow rate　m/sec	Corrosion rate　mm/year
25	4-10	0	0.25
		1	0.4

Reference）Handbook for corrosion and protection, Ed by Society for Corrosion Engineer, Published by Maruzen,　Feb. 2000