CLAIMS:

1. A method of preventing metal corrosion in a cooling water system, which is a method of preventing corrosion of a metal member in a cooling water system in which a non-phosphorus, zinc treatment is performed, the method comprising causing the following components (A), (B), and (C) to be present in the water system:

(A) a copolymer of acrylic acid and a sulfone group-containing monomer (hereinafter described as the "copolymer (A)"), wherein the sulfone group-containing monomer of the copolymer (A) is 2-acrylamide-2-methylpropanesulfonic acid and/or 3-allyloxy-2-hydroxypropanesulfonic acid,

(B) a copolymer of maleic acid and isobutylene (hereinafter described as the "copolymer (B)"), and

(C) a zinc compound.

~~2. The method of preventing metal corrosion in a cooling water system according to Claim 1, wherein the sulfone group-containing monomer of the copolymer (A) is 2-acrylamide-2-methylpropanesulfonic acid and/or 3-allyloxy-2-hydroxypropanesulfonic acid.~~

~~3~~2. The method of preventing metal corrosion in a cooling water system according to Claim 1 ~~or 2~~, wherein the molecular weight of the copolymer (A) is 500 to 50,000, and the molar ratio of acrylic acid to the sulfone group-containing monomer is 7:3 to 9:1.

43. The method of preventing metal corrosion in a cooling water system according to any one of Claims 1 to 32, wherein the molecular weight of the copolymer (B) is 10,000 to 50,000, and the molar ratio of maleic acid to isobutylene is 5:5 to 8:2.

54. The method of preventing metal corrosion in a cooling water system according to any one of Claims 1 to 43, wherein the zinc compound is zinc chloride and/or zinc sulfate.

65. The method of preventing metal corrosion in a cooling water system according to any one of Claims 1 to 54, wherein the copolymer (A) and the copolymer (B) are added in the amount of 5 to 50 mg-solid content/L in total relative to the blow water amount of the water system.

76. The method of preventing metal corrosion in a cooling water system according to any one of Claims 1 to 65, wherein the zinc compound is added in the amount of 0.5 mg/L or more relative to the blow water amount of the water system.

87. The method of preventing metal corrosion in a cooling water system according to any one of Claims 1 to 76, wherein the calcium hardness of the water system is 100 to 1,000 mg-$CaCo_3$/L, and the concentration of corrosive

ions (total of the concentration of chloride ions and the concentration of sulphate ions) is 2,000 mg/L or less.