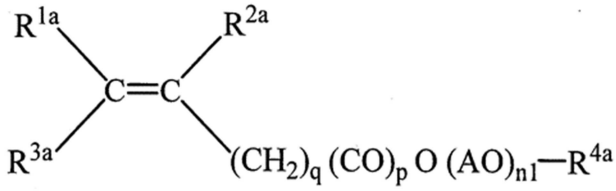
CLAIMS

1. An admixture agent composition for hydraulic compositions comprising: (A) a polycarboxylic acid-based dispersant [hereinafter, referred to as a component (A)]; (B) a tertiary amine compound having one hydrocarbon group with 9 or more and 12 or less carbons and two methyl groups [hereinafter, referred to as a component (B)]; and (C) sulfonic acid or a salt thereof [hereinafter, referred to as a component (C)],

wherein the component (A) is a copolymer including a monomer (1a) represented by the following general formula (1a) and a monomer (2a) represented by the following general formula (2a) as constitutive monomers:



(1a)

wherein,

R^{1a} and R^{2a} may be the same or different and represent hydrogen atoms or methyl groups;

R^{3a} represents a hydrogen atom or $-COO(AO)_{n1}X^1$;

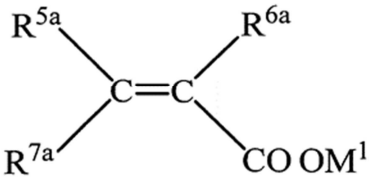
R^{4a} represents a hydrogen atom or an alkyl group with 1 or more and 4 or less carbons;

AO represents a group selected from an ethyleneoxy group and a propyleneoxy group;

n1 represents an average number of added moles of AO and a number of 1 or more and 300 or less;

q represents a number of 0 or more and 2 or less; and

p represents 1,



(2a)

wherein,

R^{5a}, R^{6a} and R^{7a} may be the same or different and are hydrogen atoms, methyl groups or $(CH_2)_rCOOM^2$, wherein $(CH_2)_rCOOM^2$ may form anhydrite with $COOM^1$ or another $(CH_2)_rCOOM^2$, and in that case, M^1 and M^2 do not exist in those groups;

M^1 and M^2 may be the same or different and are hydrogen atoms, alkali metals, alkaline earth metals (1/2 atoms), ammonium groups, alkylammonium groups, substituted alkylammonium groups, alkyl groups, hydroalkyl groups or alkenyl groups; and

r represents a number of 0 or more and 2 or less.

2. The admixture agent composition for hydraulic compositions according to claim 1, wherein, in the copolymer, a total amount of the monomer (1a) and the monomer (2a) in the constitutive monomers is 90 mass% or more and 100 mass% or less.

3. The admixture agent composition for hydraulic compositions according to claim 1 or 2, wherein, in the copolymer, a proportion of the monomer (2a) to the total of the monomer (1a) and the monomer (2a) is 40 mole% or more and 90 mole% or less.

4. The admixture agent composition for hydraulic compositions according to any one of claims 1 to 3, comprising the component (A) in an amount of 5 mass% or more and 60 mass% or less.

5. The admixture agent composition for hydraulic compositions according to any one of claims 1 to 4, comprising the component (B) in an amount of 0.01 mass% or more and 5 mass% or less.

6. The admixture agent composition for hydraulic compositions according to any one of claims 1 to 5, wherein the component (C) is an alkylbenzenesulfonic acid having an alkyl group with 1 or more and 3 or less carbons or a salt thereof.

7. The admixture agent composition for hydraulic compositions according to any one of claims 1 to 6, wherein the component (C) is one or more compounds

selected from toluenesulfonic acid, xylenesulfonic acid, cumenesulfonic acid and salts of these.

8. The admixture agent composition for hydraulic compositions according to any one of claims 1 to 7, wherein the component (C) is p-toluenesulfonic acid or a salt thereof.

9. The admixture agent composition for hydraulic compositions according to any one of claims 1 to 8, comprising the component (C) in an amount of 0.01 mass% or more and 0.40 mass% or less.

10. The admixture agent composition for hydraulic compositions according to any one of claims 1 to 9, wherein (A)/(B), a mass ratio of the component (A) to the component (B) is 10 or more and 4,000 or less.

11. The admixture agent composition for hydraulic compositions according to any one of claims 1 to 10, wherein (A)/(C), a mass ratio of the component (A) to the component (C) is 15 or more and 6,000 or less.

12. The admixture agent composition for hydraulic compositions according to any one of claims 1 to 11, wherein (B)/(C), a mass ratio of the component (B) to the component (C) is 0.02 or more and 500 or less.

13. The admixture agent composition for hydraulic compositions according to any one of claims 1 to 12, further comprising (D) a polyoxyalkylene alkyl ether represented by the general formula (d1):

$R^{1d}-(AO)_m-H$ (d1)

wherein

R^{1d} represents an alkyl group with 4 or more and 20 or less carbons;

AO represents a group selected from an ethyleneoxy group and a propyleneoxy group; and

m represents an average number of added moles of AO and a number of 1 or more and 300 or less.

14. The admixture agent composition for hydraulic compositions according to any one of claims 1 to 13, wherein pH at 20°C is 1 or more and 10 or less.

15. A hydraulic composition comprising the admixture agent composition for hydraulic compositions according to any one of claims 1 to 14, a hydraulic powder, an aggregate and water.

16. A method for producing a hydraulic composition, comprising mixing the admixture agent composition for hydraulic compositions according to any one of claims 1 to 14, a hydraulic powder, an aggregate and water.

17. A method for producing a hardened product of a hydraulic composition, comprising: producing a hydraulic composition by mixing the admixture agent composition for hydraulic compositions according to any one of claims 1 to 14, a hydraulic powder, an aggregate and water; and hardening the hydraulic composition.