component (A) is a sodium salt of a formaldehyde naphthalenesulfonate condensate and the component (B) is a polyoxyethylene alkyl ether, the molar ratio of the total amount of the component (B) to the naphthalene ring-containing monomer unit in the component (A) can be determined by: separating the component (A) from the component (B) by a common method such as a reprecipitation method or a liquid separation method; and measuring a mass ratio for calculation.

Further, the structures of the components (A) and (B) in the dispersant composition for a hydraulic composition may be analyzed by: separating the component (A) from the component (B) by a common method such as a reprecipitation method or a liquid separation method; and analyzing by use of a common analytical apparatus such as a nuclear magnetic resonance spectroscope or a liquid chromatograph.

[0038]

For the dispersant composition for a hydraulic composition of the present invention, it is essentially preferred that a ratio between the naphthalene ring-containing monomer unit in the component (A) and the component (B) be determined by a molar ratio therebetween, but it may be determined by defining, for example, a mass ratio as described below.

From the viewpoint of the fluidity improvement, the dispersant composition for a hydraulic composition of the

composition (mass%)

*2 Carbon number of R: carbon number of a group corresponding to R in the general formula (B1)

*3 Added amount: added amount (part by mass) of a dispersant composition for a hydraulic composition, or component (A) or (B) relative to 100 parts by mass of cement

*4 Total added amount: total added amount (part by mass) of components (A) and (B) relative to 100 parts by mass of cement

*5 Molar ratio: ratio (%) of component (B) to a naphthalene ring-containing monomer unit in component (A)

[0165]

A dispersant composition for a hydraulic composition was prepared by mixing components (A) and (B) with water, and was added in the same amount to hydraulic compositions. It was found that, when the added amount was the same, Examples 3-1 to 3-10 using components (A) and (B) exhibited higher mortar flow values compared to Comparative Example 3-1 using only component (A) and Comparative Example 3-2 using only component (B). Further, Comparative Examples 3-3 and 3-4 using a compound wherein a group corresponding to R in component (B) has 8 carbon atoms exhibited poor mortar flows than Examples 3-1 to 3-10.

[0166]

<Example 4 and Comparative Example 4>

Mortars were prepared in the same manner as in Example 2

and the fluidity was evaluated. However, added amounts of the components (A) and (B) relative to 100 parts by mass of cement were as indicated in Table 4. Results are shown in Table 4.

[0167]

component (B-1) or component (B-2) relative to 100 parts by mass of cement

*2 Carbon number of R: carbon number of a group corresponding to R in the general formula (B1)

*3 Molar ratio: ratio (%) of component (B-1) or (B-2) to a naphthalene ring-containing monomer unit in component (A)

*4 Total added amount: total added amount (part by mass) of components (A) and (B) relative to 100 parts by mass of cement

[0173]

From Examples 5-1 to 5-5 wherein component (A) and two components (B) were used, molar ratios of two components (B) were changed and the total added amounts were constant, it was found that higher mortar flow values were observed when, in components (B), the proportion of a compound having R in component (B) with 18 carbon atoms was larger than that of a compound having R in component (B) with 12 carbon atoms. Likewise, from Examples 5-6 to 5-10, it was found that higher mortar flow values were observed when, in components (B), the proportion of a compound having an average number of AO moles added in component (B) of 47 is larger than that of a compound having an average number of AO moles added in component (B) of 13.

[0174]

<Example 6 and Comparative Example 6>

Mortars were prepared in the same manner as in Example 1,

and the fluidity was evaluated. However, water/cement ratios (W/C) for the mortar blending conditions and added amounts of components (A) and (B) relative to 100 parts by mass of cement were as indicated in Table 6a, 6b, 6c or 6d. In addition, Foamlex 797 (manufactured by Nicca Chemical Co., Ltd.) was used as component (C) for some examples.

Further, the strength of a hardened product of mortar was measured by a fully automatic compression testing machine for concrete "CONCRETO 2000" (manufactured by Shimadzu Corporation).

Results are shown in Table 6a, 6b, 6c or 6d.

[0175]