Once the mixture A has been brought to the site from the plant, it is mixed with a mixture B comprising a setting accelerator. Usually both components are mixed in the lines just before injection. The addition of component B ensures rapid solidification of the mortar once injected. Typically, the mortar becomes pasty after a few seconds. Nevertheless, the gel time must be carefully adjusted to allow fast stabilization of the voussoirs while avoiding setting in the pipes and their subsequent blocking.

These bicomponent grouts give overall satisfaction but may be improved in several respects.

In particular, these mortars may lack robustness, and not meet all the desired performance criteria when the constituent materials vary.

Thus, low homogeneity of the suspension may be observed in the case of some bentonites used as stabilizers of the mixture A (or grout). When the suspension is not homogeneous, the solid particles may settle, causing a film of water to appear on the surface, a phenomenon known as bleeding.

However, mixture A must be sufficiently fluid and stable to be able to be inserted into the annular space, generally by pumping. It is furthermore expected that the stability and the rheological properties will be maintained for the duration of its transport and its storage on the site, for up to 72 hours. In addition, the grout must be compatible with the tail sealant to ensure the tightness of the voussoirs.

Embodiments of the invention seek to provide a hydraulic composition, preferably a mortar composition, which may be used as a mixture A in two-component grouts, making it possible to satisfy the requirements specified for the tunnel construction by the tunnel boring machine and which also solves the problems mentioned above.

Embodiments of the invention seek to propose solutions that are more stable over time.

Embodiments of the invention seek to propose solutions that make it possible to overcome the variability of the clay generally used as a rheology agent.

According to a first aspect, there is provided a hydraulic composition, preferably a mortar composition, comprising:

- water;
- hydraulic binder;
- at least one setting retarder;
- at least one polysaccharide chosen from welan gums, diutan gums, or their mixture;

the water/hydraulic binder weight ratio being greater than 1.5.

According to a second aspect of the present invention, there is provided a use of a hydraulic composition as defined in the first aspect as a mixture A in bicomponent grouts.

According to a third aspect of the present invention, there is provided a process for preparing a grout comprising the steps of:

(a) preparing a hydraulic composition as defined in the first aspect; and

(b) adding to the composition obtained in (a) a mixture B comprising a setting accelerator.

According to a fourth aspect of the present invention, there is provided a two-component grout comprising the hydraulic composition as defined in the first aspect.

In the context of the present invention, "greater than x" or "less than x" is understood to mean that terminal x is not included.

In the context of the present invention, "greater than or equal to x" or "less than or equal to x" is understood to mean that limit x is included.

In the context of the present invention, "between x and y" is understood to mean that the limits x and y are included.

In the context of the present invention, polysaccharide is used as a rheology control agent. Preferably, in the context of the present invention, the polysaccharide is chosen from welan gums, diutan gums, celluloses, or their mixture. Preferably, the polysaccharide is chosen from welan gums and diutan gums, more particularly welan gums.

Preferably, the polysaccharide is chosen from polysaccharides having a d90 particle size of less than 300 µm.

Preferably, the polysaccharide is chosen from welan gums, diutan gums, celluloses or their mixture having a d90 particle size of less than 300 µm. Preferably, the polysaccharide is chosen from welan gums and diutan gums, more particularly welan gums having a d90 particle size of less than 300 µm.

d90 corresponds to the diameter of more than 90% by volume of the particles. Thus, more than 90% by volume of the particles have a diameter of less than 300 µm.

Particle size distributions of the particles are measured by any method known to those skilled in the art. They may be measured, in particular, by using a MALVERN INSTRUMENT MASTERSIZER 2000 granulometer. In principle, the angular variation of light intensity is scattered as the laser beam passes through the sample of dispersed particles.

Large particles scatter light at small angles to the laser beam from a red light source (Helium/Neon) with a wavelength of 632.8 nm and small particles scatter light at higher angles (source of blue light with a wavelength of the order of 466 nm). These data are analyzed to calculate the size of the particles that created the diffraction pattern through Mie's theory. The size of the particles is then represented by the diameter of the equivalent sphere, having the same volume as the particle. By convention, the optical properties required for the calculations are defined as follows:

- Refaction index of the sample: 1.68