HYDROSKY product instruction manual

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HYDROSKY SKY-CSP

Application: Cracked injection of concrete, injection material for stopping water.

1. Common name: fine powder silica blended blast furnace slag cement
2. Standard: Internal standard
3. Features The fine powder silica blended blast furnace slag cement is characterized by powder made from silica sand, most of which is composed of silicon (SiO 2).Silicon is a substance which is hardly etched by acids and chemicals among all kinds of substances, and its physical strength is also high. Therefore, by taking advantage of this feature, it can be used for acid resistance, alkali resistance, heat resistance, fire resistance, weather resistance, water resistance, abrasion resistance etc. It is very good and can increase the physical strength.By utilizing sub-materials etc., it can be expected to be effective as a stabilizing material at ground improvement. Also, due to its low oil absorption and high whiteness, not only injection work but also good surface finish, the expressiveness is expanded by combining with each product of HydroSky.

4. General properties

Main component: Alite3,CaO,SiO2,Be light2, CaO,SiO2,Aluminate3,CaO,Al2O3, ferrite4,CaO, Al 2O3,Fe2O3,calcium sulfate, Sio2, Al2O3, Fe2 O2,CaO,methyl cellulose
Appearance: powder
Packing: 20 kg
Specific gravity: 2.01 to 2.65 (20 ° C)
Viscosity: 60 to 75 mPa·s (water ratio 60 to 80%)
PH: 10.0 to 12.0 (strongly alkaline)
Average particle size: 2.8 μm to 6.4 μm
Bending strength: 5 N/mm to 8 N/mm
Tensile strength: 1.7 N/mm to 3.2 N/mm
Adhesive strength: 1.8 N/mm to 2.2 N/mm
Solvent: water, SKY-G1

5. Construction precautions

1. Be careful of storage as it is powder. Avoid storage for long periods (over 3 months).
2. Please use up quickly after opening. Please discard the remaining material.
3. When kneading the injection paste, please knead it with SKY-G1 of 60 to 80% depending on the leakage of the building body and deterioration situation.
4. In the case of cracks and crack repair, please knead with SKY-G1 of 40to 60%, depending on the leakage of the building and deterioration situation.
5. Select injection plug according to water leak condition and crack condition.
6. Mix the paste with a chemical pump or a hand pump.
7. After injection the paste starts to solidify in a few minutes.
8. If return or solidification can be confirmed, remove the injection plug.
9. Please wash the equipment and equipment used with water. Reusing is possible by quickly washing equipment.
10. In the unlikely event, wash with a large amount of water and consult a doctor if you get into your eyes.

6. Construction procedure (reference)

Crack study, diagnosis
⇩
Crack surface cleaning
⇩
Crack surface drilling place marking
Injection process ⇩ Imprint processing
Drilling with vibration drill
Hammer drill ⇩ Crack part notch
Primary fluid filling at the puncture site
SKY-SP coating ⇩ SKY-SP coating
Mounting and fixing of injection plug
RTP-A injection plug (Ø 8.5 - Ø 10.0) ⇩
Slug paste kneading
SKY-CSP:SKY-G1 10:5～7 ⇩ SKY-CSP:SKY-G1 10:4～6
Slag paste injection
NF hand pump / Chemical pump ⇩ Putty rubbing in Trowel holder
Slag paste return confirmation
⇩
Removing the injection plug
Wash the equipment and instruments
⇩
Perforation, crack spot rubbing
⇩
Fixation of repaired part by impregnation of silicate type (liquid glass)
SKY-SP coating

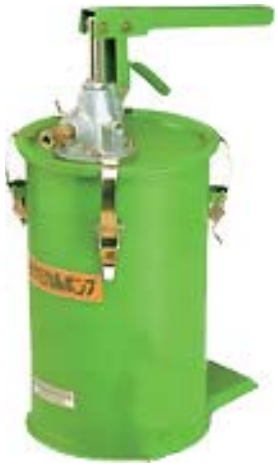
* Paste kneads the amount that can be injected in about 10 minutes.

※Pay attention to the position of the plug negative pressure tank!

Lateral direction OK

Downward OK

Up direction OK



Lateral direction OK

Downward NG

Up direction NG

Measurement of true strength of cement paste is extremely difficult test

W / C less than 30% is not a big problem, but as W / C becomes larger, separation phenomenon occurs inside the specimen,the cement particles settle down, and contrary to this, water Is increased.For this reason, although there is a difference depending on whether or not the admixture is used, in the lower part of the specimen, it becomes a cement-rich dense paste hardened body due to sedimentation and consolidation of cement particles, and on the upper part of the specimen, due to sedimentation of cement particles and rise of water , The actual W/C increases as it goes upward, and in the case of a composition such as W/C exceeding 60% to the surface of the specimen, it is 10% or more of the height of the specimen

We often form fragile layers like bleeding water and latency.In addition, the paste layer beneath this bleeding and the resistance layer also increases W/C significantly more than the initial value due to rising of moisture and sedimentation of cement, so the paste strength inside the specimen is not uniform, The strength decreases the strongest at the bottom and goes upward. W/C increases more abruptly at the surface portion, and a fragile layer having extremely low strength is formed. For this reason, in the compressive strength test, the results will vary greatly depending on the extent to which this brittle layer and the large portion of W/C are treated and tested.In addition, since the separation greatly differs depending on the launch height, naturally the separation degree becomes conspicuous in the latter case when it is carried out with φ 50 mm × 100 mm specimen and φ 100 mm × 200 mm specimen, It seems that there is a high possibility that the degree of strength reduction will increase. In addition, the sedimentation of cement particles is less likely to occur due to the restraint of the side of the specimen on the side of the specimen, and the center part of the specimen with the smallest constraint is most likely to occur, so the intensity distribution will also be different in the horizontal direction. For this reason, it is considered that the specimen does not break down to kinematic form or drum shape like destruction at uniform stress distribution, and it tends to cause vertical crack shape like eccentric loading or partial loading.On the other hand, separation occurs even in the case of concrete with the same W/C, but as separation of water and cement sedimentation will be blocked by the fine aggregate and coarse aggregate close to the paste, paste Since there is no difference in W/C or organizational composition due to the upper and lower specimens extremely, the large strength reduction is less likely to occur as much as in the case of Fig.

SKY-G1, SKY-CSP 60% (W / C) paste Specimen collection

SKY-G1, SKY-CSP 60% (W/C) paste Specimen 1 day passed. Usually cement paste bleaches and precipitates, but bleaching water does not rise and it solidifies.

As a material contributing to longer building life, SKY-CSP (fine powder Blended furnace slag cement containing silica). Use for repairing water leakage and insufficient strength due to weakening of concrete Show. In injecting cement paste, W/C 30%, The cement particles settle down and form a fragile layer such as bleeding water and latency. In the HYDROFit method, SKY-CSP and SKY-G1 are kneaded with 60 to 80%.