How to judge the quality of HPMC：

1. Pure HPMC looks fluffy,the bulk density is small with range of 0.3-0.4g/ml; Adulterated HPMC with better liquidity feels more heavy,there are obvious differences on the appearance of pure HPMC.

2. Whiteness： HPMC with good whiteness states that the raw materials is selected pure when producing, the reaction is more completely without impurities ;Of course, some manufacturers add brighteners (which will affect the quality of the products), but the whiteness of good quality cellulose must be good.

3. Size：The sizes of HPMC is including 80mesh,100mesh, and 120mesh(with less quantity),normally, the smaller the size is, the better the quality is.

4. Transmittance：The water solution of pure HPMC is clear with good transmittance. It shows that the insoluble materials are little, the content of active ingredient is high.

5. Proportion：The greater the specific gravity is, the better quality is.The specific gravity is great,because the content of hydroxypropoxy is high.If hydroxypropoxy content is high, the water retention is good.

6.Pure HPMC powder is fibrous under the microscope or the magnifying glass;we can see granular,solid or crystal under the microscope or magnifying glass if adulterated HPMC.

7.There's no taste of ammonia, starch, alcohol of pure HPMC; while, there are all kinds of tastes of adulterated HPMC, even if it is tasteless, but feel heavier.

How to judge hydroxypropylmethylcellulose from water retention ?

It can be distinguished the advantages and disadbvantages of HPMC according to the water retention of HPMC: The water retention of HPMC under high temperature is an important indicator of the quality of HPMC. Air temperature, temperature and wind pressure and other factors will affect the evaporation rate of water in the cement mortar and gypsum-based products. So in different seasons, there are some differences to add the same amount of HPMC product in water retention effect.In concrete construction, the water retention effect of the slurry can be adjusted by increasing or decreasing the amount of HPMC.Excellent hydroxypropyl methyl cellulose series of products can effectively solve the problem of water retention at high temperatures. In the high temperature season, especially in hot and dry areas and the sun surface of the thin layer of construction, It need high-quality HPMC to improve the water retention of the slurry. High-quality hydroxypropylmethylcellulose, its homogeneity is very good, its methoxy and hydroxypropoxy groups along the cellulose molecular chain evenly distributed, it can improve the hydroxyl and ether bond on the oxygen atoms The ability to form hydrogen bonds with water to make the free water into a combination of water, so as to effectively control the evaporation of water caused by high temperature weather, to achieve high water retention. High-quality methyl cellulose can be uniformly and effectively dispersed in cement mortar and gypsum-based products, and wrapped in all the solid particles, and the formation of a layer of wetting film, the water in the base for a long time to gradually release, and inorganic Gelling material hydration reaction, so as to ensure the bonding strength of materials and compressive strength. Therefore, in the high temperature summer construction, in order to achieve water retention effect, according to the formula enough to add high-quality hydroxypropyl methyl cellulose products, otherwise, there will be too fast drying caused by insufficient hydration, strength, cracking, Hollowing and shedding and other quality problems, but also increase the difficulty of construction workers. With the decrease of the temperature, the addition amount of hydroxypropylmethylcellulose can be gradually reduced, and the same water retaining effect can be achieved.。

Test methods：

1. Its solubility and dissolution rate.

2. Equivalent substitution test,to observe its and the original cellulose is no significant difference, in particular, to observe

its compatibility with the cement

3. If conditional, the viscosity can be measured by the instrument

4. Touch by hand to see whether there are agglomeration and other phenomena.

Test items：

1. Water solubility
2. Water content
3. Viscosity
4. Water retention
5. Ash content
6. Thickening effect and construction.

Questions and methods of using methods：

1. **What is the main use of hydroxypropylmethylcellulose HPMC?** Hydroxypropyl methyl cellulose is widely used in building materials, coatings, synthetic resins, ceramics, medicine, food, textile, agriculture, cosmetics, tobacco and other industries. Hydroxypropylmethylcellulose can be divided into use: construction grade, food grade and medical grade. Most of the current domestic construction level, in the construction level, putty powder is very large, about 90% is used to make putty powder, the rest is used for cement mortar and glue.

2. **Hydroxypropyl methylcellulose HPMC is divided into several, the use of what is the difference?** Hydroxypropylmethylcellulose HPMC can be divided into instant and hot type. The quick-acting product is rapidly dispersing in cold water and disappears inside the water, where the liquid has no viscosity because the HPMC is only dispersed in water and is not really dissolved. For about 2 minutes, the viscosity of the liquid slowly becomes larger and forms a transparent viscous colloid The Hot-melt products, in case of cold water Baotuan, but can be quickly dispersed in hot water, disappeared in hot water, until the temperature dropped to a certain temperature, the viscosity slowly appeared until the formation of transparent viscous colloid. Encountered cold water Baotuan reason is that the outside of the cellulose powder encountered cold water, immediately from the viscosity, thickening into a transparent colloid, which has not yet contact with the water, was surrounded by colloid inside, or powder , But will slowly melt out, hot-soluble products, in practical applications do not have to use hot water, because putty powder or mortar are solid powder, dry mixed cellulose is separated by other materials, encountered water , Immediately from the viscosity, not Baotuan, hot type can only be used in putty powder and mortar, in the liquid glue and paint, there will be Baotuan phenomenon, can not be used. Instant-type, a wide range of applications, in the putty powder and mortar, as well as liquid glue and paint, can be used, there is no taboo. But the water retention and stability of the two pairs of hot-soluble products, so, in the putty powder and mortar and other dry powder, we recommend hot-soluble products.

3. **Hydroxypropylmethylcellulose HPMC dissolving method Hot water dissolution method:** Since hydroxypropyl methyl cellulose HPMC is not dissolved in hot water, the initial hydroxypropylmethylcellulose HPMC can be uniformly in hot water (1) Place the required amount of hot water in the container and heat it to about 70 degrees. The two typical methods are described as follows: (1) Place the required amount of hot water in the container and heat it to about 70 degrees. The hydroxypropylmethylcellulose HPMC was gradually added with gentle stirring to start the HPMC floating on the surface of the water and then gradually forming a slurry and cooling the slurry with stirring. (2) add the required amount of 1/3 or 2/3 of water in the solvent and heat to 70 degrees in one step, disperse HPMC, prepare hot water slurry, and then add the remaining amount of cold water to hot water The mixture is mixed with a large amount of other powdery ingredients, mixed thoroughly with a stirrer, and then dissolved in water. Then, the HPMC can be dissolved without agglomeration,

since each of the other Subtle small corner, only a little bit of HPMC powder, the water will immediately dissolve.

4. **What are the main raw materials for hydroxypropylmethylcellulose HPMC?** The main raw materials of hydroxypropylmethylcellulose HPMC: refined cotton, methyl chloride, propylene oxide, and other raw materials, alkali, acid, toluene, isopropyl alcohol and so on.

5. **Hydroxypropyl methyl cellulose HPMC in the application of putty powder, the main role, whether the occurrence of chemical?** Hydroxypropyl methylcellulose HPMC in the putty powder from the thickening, water and construction of the three roles. Thickening: the cellulose can be thickened to play the suspension to maintain uniform and uniform effect of the same, anti-sagging. Water: make putty powder dry more slowly, auxiliary calcium in the role of water under the reaction. Construction: cellulose has a lubricating effect, you can put putty powder has a good construction, HPMC does not participate in any chemical reaction, only a secondary role. Putty powder add water, on the wall, is a chemical reaction, because there are new material generation, put on the wall of the putty powder from the wall down to ground into powder, and then, to die, because the formation of new substances.

6. **What is the temperature of the gel of hydroxypropylmethylcellulose HPMC?** Hydroxypropyl methylcellulose HPMC gel temperature and its methoxy content, the lower the methoxy content, the higher the gel temperature.

7. **What is the difference between the instant and slow dissolving of hydroxypropylmethylcellulose HPMC in the production process?** Hydroxypropyl methylcellulose HPMC is rapidly treated by glyoxal surface treatment, placed in cold water quickly dispersed, but not really dissolved, viscosity up, the aqueous solution becomes clear, is dissolved, slow solution has not been Glyoxal surface treatment, glyoxal heavy volume, the dispersion of fast, but the viscosity of the slow, heavy volume is small, the contrary.

8. **What is the smell of hydroxypropylmethylcellulose HPMC?** Solvent production HPMC is made of toluene, isopropyl alcohol as a solvent, and sometimes washing is not very good, there will be some residual taste.

9. **How do you choose the right hydroxypropylmethylcellulose for different uses?** Putty powder application: viscosity of 100,000, you can, it is important to maintain water is better. Mortar application: the general polystyrene particles moisturizing mortar, the need for higher viscosity, recommended 15-20 million, the other mortar with a viscosity of 100,000 may be, the viscosity is too large, the construction will be worse. Glue application: the need for fast-type products, high viscosity.