

## SidleyCel™ Hydroxypropyl methyl cellulose Application Guide for Building Material Industry

### Brief introduction

Hydroxypropyl Methyl Cellulose is a non-ionic cellulose ether made through a series of chemical processes, with the natural polymer cellulose as the raw material. HPMC can be used in building materials, coating industry, synthetic resin, ceramic industry, medicine, food, textile, agriculture, daily chemicals and other industries.

### Physical and Chemical Index

Specification	60 Type	65 Type	70 Type	75 Type
Gelling temperature (°C)	58-64	62-68	68-75	70-90
Methoxy(WT%)	28.0-30.0	27.0-30.0	16.5-20.0	19.0-24.0
Hydroxypropoxy(WT%)	7.5-12.0	4.0-7.5	23.0-32.0	4.0-12.0
Loss on drying (WT%)	≤5.0			
Residue on ignition (WT%)	≤3.0			
PH	5.0-8.5			

Viscosity	Viscosity(2% Brookfield)	Viscosity(2%NDJ-1)
SidleyCel™ 75HP400	400	400
SidleyCel™ 75HP4000S	4000	4000
SidleyCel™ 75HP10000	10000	10000
SidleyCel™ 75HP40000	20000	40000
SidleyCel™ 75HP60000S	30000	60000
SidleyCel™ 75HP75000	35000	75000
SidleyCel™ 75HP100000	45000	100000
SidleyCel™ 75HP100000S	45000	100000
SidleyCel™ 75HP150000S	55000	150000
SidleyCel™ 75HP200000	65000	200000

## **I. Applications in Building Material Industry**

### **1. Bonding Strength**

Selecting the appropriate SidleyCel™ hydroxypropyl methyl cellulose can improve to the greatest extent the bonding strength of adhesive mortar.

### **2. Working Performance**

When using the distribution method, the mortar with the addition of SidleyCel™ hydroxypropyl methyl cellulose has appropriate consistency, no sagging, in use making the mortar easy for carding, continuous and uninterrupted.

### **3. Water Retention**

It's possible to easily wet wall insulation materials and easy to paste, so that other additional materials can achieve the best results.

### **4. Water Absorption**

Selecting the appropriate SidleyCel™ hydroxypropyl methyl cellulose can minimize the amount of air entrainment and reduce absorbency of mortar.

Recommended Grade: 75HP75000(S), 75HP100000(S), 75HP200000(S)

## **II. Interior and Exterior Interface Agents and Pointing Agents**

### **1. Easy-to-Mix, No Agglomeration**

During stirring with water, SidleyCel™ hydroxypropyl methyl cellulose can significantly reduce the friction in dry powder, make the mixing easier, and save the mixing time.

### **2. Excellent Water Retention**

SidleyCel™ hydroxypropyl methyl cellulose can significantly reduce the moisture absorbed by the wall. Good water retention, on one hand can ensure a longer compound time for cement, and on the other hand can ensure that workers are able to do several times of scraping to the putty on the wall.

### **3. Good Construction Performance Stability**

In high-temperature conditions, SidleyCel™ hydroxypropyl methyl cellulose can still maintain good water retention, so is suitable for construction in summer or in hot areas.

### **4. Increase in Water Demand**

SidleyCel™ hydroxypropyl methyl cellulose can significantly increase the water demand of putty materials. This, on one hand, can increase the operating time after the putty being on the wall, on the other hand can increase the coating area of putty and make the formulation more economical.

Recommended Grade: 75HP60000(S), 75HP75000(S)

## **III. Tile Adhesive**

### **1. Water Retention**

SidleyCel™ hydroxypropyl methyl cellulose can reduce the moisture absorbed by the base and

tile in the mortar, and retain as much moisture in the adhesive as possible, so that the mortar can still maintain adhesion after coating for a long period of time. The significantly prolonged opening hours can make the coating area by the worker each time larger and improve construction efficiency.

#### 2. Improving Adhesive Strength and Anti-Slip Property

SidleyCel™ hydroxypropyl methyl cellulose grades can ensure that tiles will not slide down during construction, especially for heavy tiles, marble other stone materials.

#### 3. Improving Working Performance

Lubrication performance of SidleyCel™ hydroxypropyl methyl cellulose can significantly improve working performance of mortar, make the mortar easier for carding and coating, and improve work efficiency.

#### 4. Improving Wettability of Mortar

SidleyCel™ hydroxypropyl methyl cellulose gives the mortar consistency, increases the wetting ability between the mortar and the tiles as well as substrate, and improve the adhesion of wet mortar, especially for the formulation of high water-cement ratio.

Recommended Grade: 75HP40000(S), 75HP75000(S), 75HP100000(S)

### **IV. Crack Filler**

#### 1. Application Property

SidleyCel™ hydroxypropyl methyl cellulose provides with appropriate viscosity, good plasticity, and is easy for construction.

#### 2. Water Retention

SidleyCel™ hydroxypropyl methyl cellulose can make the slurry sufficiently hydrated, extend the construction period, and avoid cracking.

#### 3. Sag Resistance

SidleyCel™ hydroxypropyl methyl cellulose can make the slurry firmly adhered onto the surface, without sagging.

Recommended Grade: 75HP40000(s),75HP75000(S),75HP100000(S)

### **V. Self-Leveling Mortar**

#### 1. Preventing from Bleeding

SidleyCel™ hydroxypropyl methyl cellulose can play a very good suspension role, and prevent the slurry settling or bleeding.

#### 2. Maintaining Liquidity and Improving Water Retention

Low-Viscosity SidleyCel™ hydroxypropyl methyl cellulose will not affect the flow of the slurry, to facilitate the construction. Meanwhile, it has a certain water retention property, makes the self-leveled surface with good effects and avoids cracks.

Recommended Grade: 75HP400~600

## **VI. Gypsum-Based Plaster**

### **1. Water Retention**

SidleyCel™ hydroxypropyl methyl cellulose can retain the moisture in the mortar, and thus make gypsum get fully solidified. The higher the viscosity of the solution is, the stronger the water retention will be. Conversely, the water retention ability will be reduced.

### **2. Sag Resistance**

It enables the constructor to paint a thicker coating without causing corrugated building.

### **3. Mortar Yield**

For the dry mortar with a fixed weight, the presence of SidleyCel™ hydroxypropyl methyl cellulose can produce a greater volume of warm mortar.

Recommended Grade: 75HP75000(S), 75HP100000(S)

## **VII. Ceramic Extrusion**

1. SidleyCel™ hydroxypropyl methyl cellulose can provide with good lubricity and plasticity, and can sufficiently provide ceramic products with the operability of molding tire.

2. A very low ash content can have a very dense internal structure after calcination of the product, and meanwhile, the product surface is delicate and smooth.

Recommended Grade: 75HP4000~6000, 75HP100000(S), 65HP1500,60HP10000

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