

MATECEL

建鑫纤维素

Total Solution Provider

Help customers develop with cost-effective products and professional services!

石家庄市恒固建鑫纤维素有限公司
Shijiazhuang Henggu Jianxin Cellulose Co.,Ltd.



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MATECEL

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THE ENTERPRISE CULTURE



Enterprise Name:

Shijiazhuang Henggu Jianxin cellulose Co.,Ltd



Enterprise Positioning :

The most professional cellulose ether solution supplier.



Enterprise Mission:

Help customers develop with cost-effective products and professional services!



Enterprise Tenet:

Focus on the overall solution of cellulose ether and strive to achieve win-win cooperation among customers, employees and enterprises.



Enterprise Vision:

To make the world better with MATECEL



Enterprise Core Values:

Innovation, Professional, Efficiency, Responsibility, Synergy.

- Innovation:
Product innovation, Model innovation, Service innovation, Thinking innovation.
Professional: Professional product, Professional service, Professional communication, Professional image.
- Efficiency:
Be positive and optimistic. The action should be fast and have satisfying results.
- Responsibility:
Have a love of what you do, give people stable expectations and even exceed expectations, do it, do it well, continue to improve.
- Synergy:
People who advance together are comrade-in-arms and brothers, working hard to complete a common mission, concentrating, fighting side by side and achieving each other.

Total Solution Provider

www.hpmc.com

Company Introduction

For more than 15 years, the company has been providing high quality products to construction industry. Our focus on quality has made us a commendable partner with hundreds of distributors and users around the world. Today we rank among the most important producer of cellulose ether and other construction additives in China.



Jianxin Company is committed to become the world's leading brand of cellulose ether. We are currently recruiting cooperative distributors and agents from global market.

Nomenclature & Classification

MATECEL® is classified into pure and modified grades. Our product are also divided into HPMC (Hydroxypropyl Methyl Cellulose) and HEMC (Hydroxyethyl Methyl Cellulose).



PMK-150ZS (HPMC, Degree of substitution K, Viscosity 150000mPa·s, Delayed Solubility)

The viscosity range varies from under 400mPa·s to over 200,000mPa·s.

GM grade

GM grades are finely modified to improve the rheological properties of cellulose ethers in accordance with various application requirements such as additional thickening, better workability, less stickiness, longer open time, etc.

Classification

Chemical type	PM EM GM	Hydroxypropyl methyl cellulose Hydroxyethyl methylcellulose Modified cellulose derivatives
Degree of Substitution	E K L	High degree of substitution Medium degree of substitution Ultra high degree of substitution
viscosity	10W 10X 40Y 150Z	10x1 mPa·s 10x10 mPa·s 40x100 mPa·s 150x1,000 mPa·s
	Viscosity range: 400~200,000 mPa·s 2% water solution, 20°C, pH7, and 20rpm at NDJ viscometer -1 type	
Solubility	- S	No-delayed solubility (Non-surface treated) Delayed solubility (Surface treated)
Particle Size	- E F	90% Through 250µm (ASTM Mesh No.60) 90% Through 177µm (ASTM Mesh No.80) 90% Through 145µm (ASTM Mesh No.100)

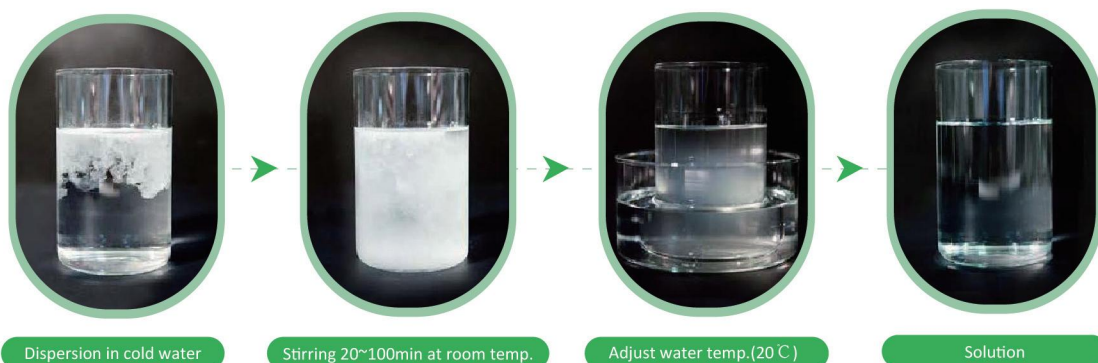
How to prepare MATECEL® Solutions

Usually, non-surface treated MATECEL® can only be dispersed in hot water to prevent lumping, but surface treated MATECEL® can be dispersed in cold water.

In the meantime, have a look at the brief illustrations below to see the key differences.

Surface treated MATECEL®

Surface treated powder is specially developed to prevent lumping in wet blending applications such as paints and emulsion based applications. To make the solution with surface treated powder, powder is directly placed into cold water. With time, a fully developed-solution with the appropriate viscosity is prepared through continuous stirring of the solution.



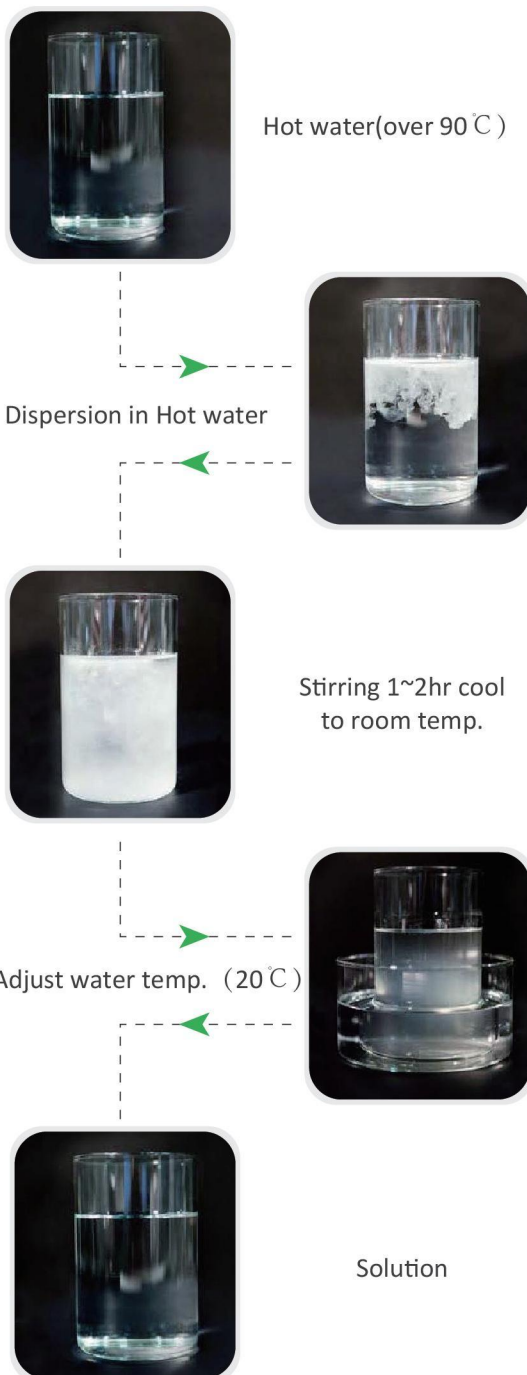
Non-surface treated MATECEL®

If non-surface treated powder is put into cold water directly, it easily forms lumps due to its too quick solubility with cold water. To prevent lumping, put the powder into the hot water(over 90°C) first, then stir in order to disperse the powder, and then cool down the solution while stirring continuously.

When non-surface treated powder is used in a dry-mixing application, lumping is not a concern since each particle of MATECEL® is distributed throughout the final product evenly.

Adjustable Solubility Properties

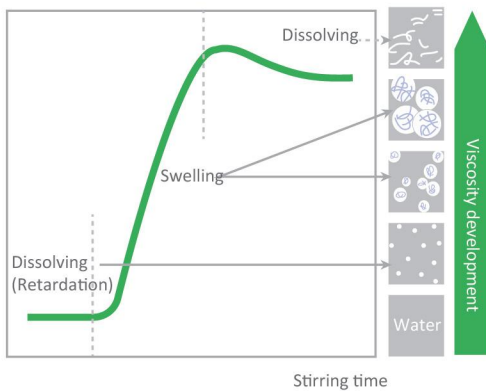
Our HPMC products have adjustable solubility properties which vary from its degree of etherification.



Solubility

Dissolution of MATECEL®

When it comes to water solubility levels and speed, the general dissolution mechanisms of MATECEL® is shown in the right side graph.



The effect of pH on MATECEL® dissolving times

The viscosity development time depends upon the pH of the solution for surface treated grades. The higher the pH of the solutions is, the shorter retardation time will be.

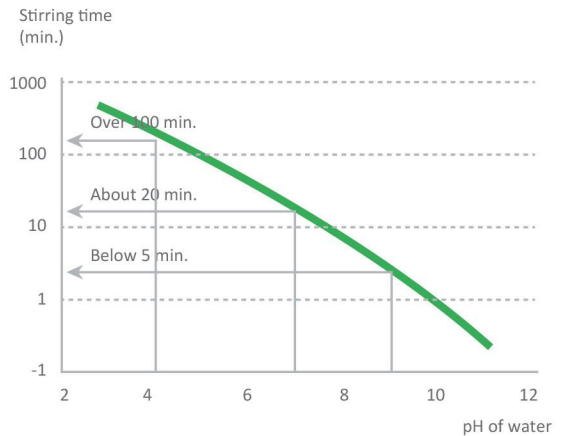
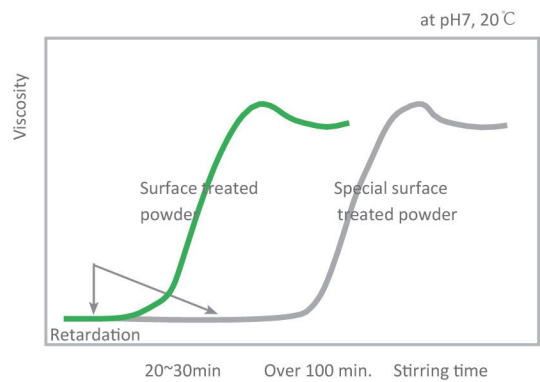
For paint applications, long-regarded grades are more suitable because of the high pH conditions (CaCO₃, ammonia, etc.) of the applications.

Non-surface treated MATECEL®

The viscosity measuring of non-surface treated MATECEL® is impossible in cold water due to lump formations.

The retardation time of surface treated MATECEL® Approximates to about 20 minutes at pH7.

However, the higher the pH of the solution is, the shorter the retardation time will be.



Viscosity

Viscosity comparison through various measurements

-Viscosity is a resistance force (based on the flow rate, gravity force, rotation resistance of the product, etc.)

-In general Hoppler(=Falling B)and Ubelode all types measure Newtonian solutions.

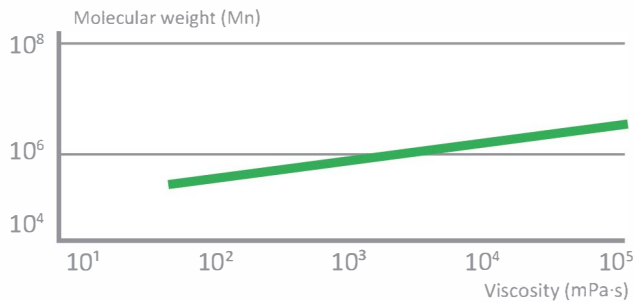
NDJ-1 of MATECEL®	Brookfield	Roto	Hoppler	Ubelode
4,000	4,000	6,000~6,500	6,000~6,500	4,500~5,500
9000	8,000	10,000~	6,000~6,500	8,000~12,000
20,000	15,000	18,000~	15,000~	18,000~
60,000	30,000	33,000~	50,000~	70,000~
82,000	40,000	44,000~	80,000~	80,000~
110,000	50,000	60,000~	over 120,000	-
150,000	70,000	-	-	-

Note, measured values could vary with the types of NDJ viscometer

Relationship between viscosity and molecular weight

The viscosity of a solution is proportional to MATECEL® molecular weight or chain length.

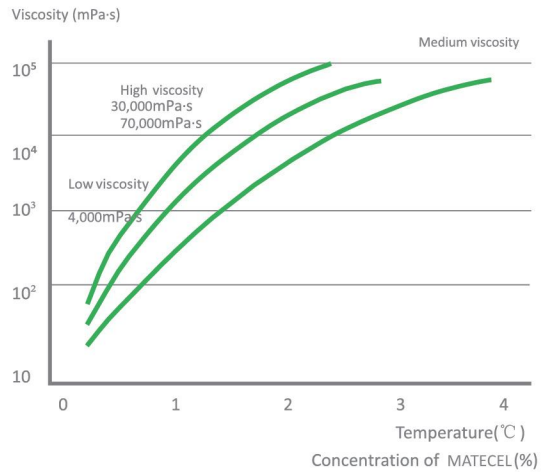
Average molecular weight of MATECEL® varies from 400 to 200,000.



Relationship between viscosity and concentration

In general, viscosity is proportional to the concentration of solution.

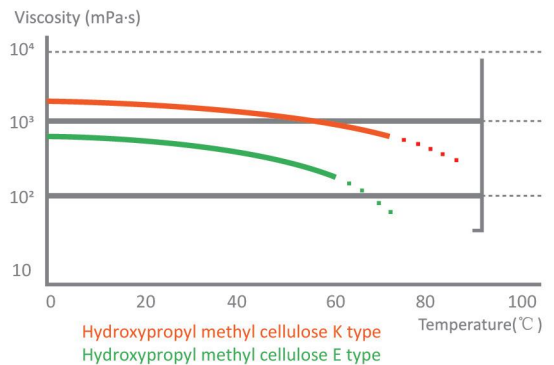
Limited to about 2.5% for high viscosity grade.
(over 50,000 mPa·s, 2% solution)



Relationship between viscosity and temperature

The viscosity of MATECEL® solution depends on its temperature. As the temperature increases, viscosity gradually decreases.

When it reaches a certain temperature, viscosity decreases sharply producing the trend shown in dotted line; this temperature is called Gel-point.



Main Benefits

Thickening effect

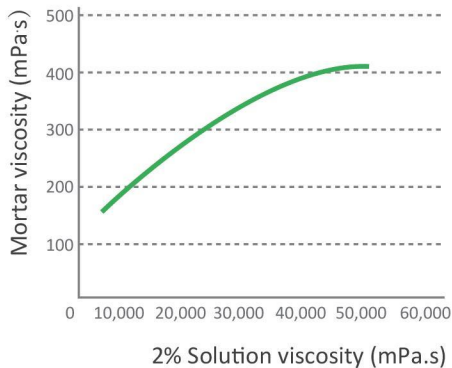
MATECEL® is used very often as a thickener in building applications as it prevents segregation and improves the cohesion of the formulation components.

The viscosity of MATECEL® depends on the degree of polymerization, contraction, temperature, shear rate, concentration of dissolved salts and modification.

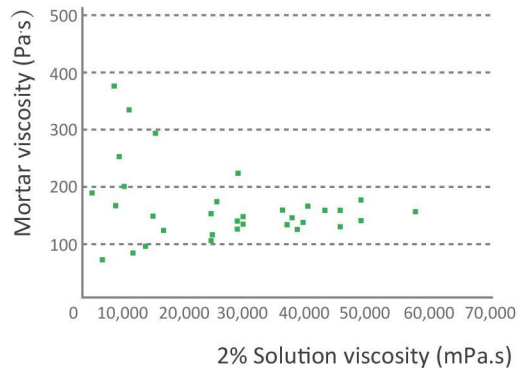
In dry mix, mortar, thickening power of pure grades is related to their solution viscosity. On the other hand, mortar viscosity of modified grades is not necessarily proportional to the solution viscosity.



Pure grades



Modified grades



Applications

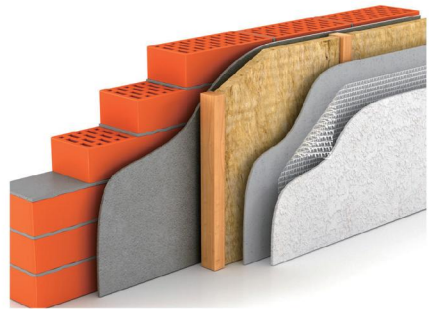
- **Tile adhesives**

To provide excellent thickening efficiency, long open time and adhesion power.



- **EIFS/ETICS**

To provide excellent workability and long working time.



- **Mortar & Concrete**

To provide excellent workability and water retention.



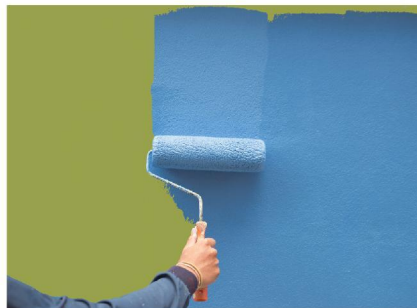
- **Ceramic & Cement extrusion**

To provide water retention and lubricity during processing.



● Paints & Coatings

To be used as thickeners and pigment suspension aids. To improve the viscosity stability and dissolution of water based emulsion paints.



● Personal care & Detergents

To be used as thickening, dispersing and emulsifying agents for the manufacturing of lotions, shampoos, etc.



● Skim coat & Putty

To provide high output in application and long open time.



● Self-leveling

To provide excellent liquidity, prevent water bleeding.



Tile Adhesives

MATECEL® promises the high performance and excellent working efficiencies for attachment of tiles to various substrates. Being slip resistance and having better open time is the key to better adhesive requirements.

These improvements can only be gained from MATECEL®.

Effects of raw materials

Raw material	Cement CEM I 45.5R	Quartz sand	Hydrated lime	Redispersible powder	MATECEL®
Content	30~50	40~70	0~5	0~5	0.20~0.60
Adhesion strength	●		●	●	●
Viscosity	●		●		●
Flexibility				●	●
Workability		●	●	●	●
Slip resistance					●
Water retention					●
Setting time	●			●	●
Open time					●
Correction time					●

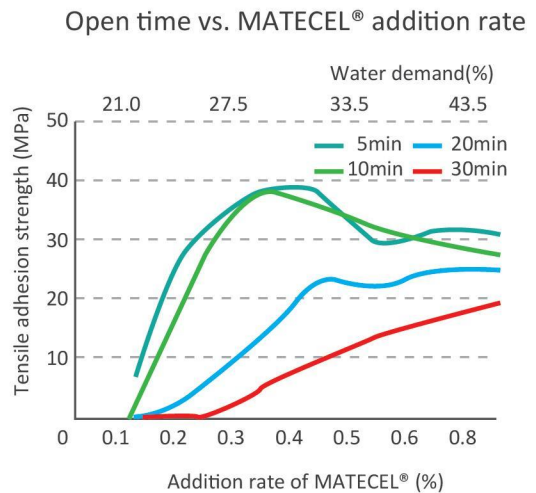
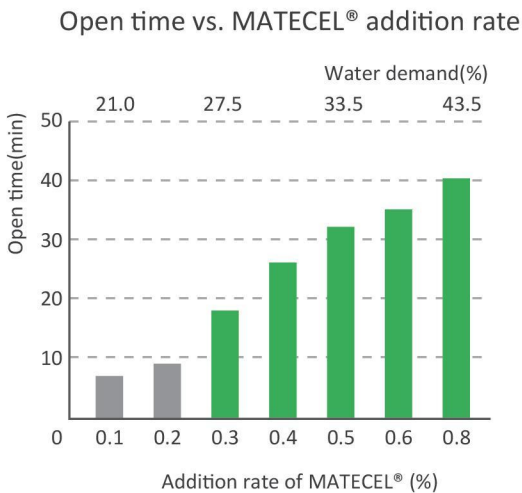
Grade	Type	Properties
GMK200Z	Premium	Superior overall performance & Excellent open time
GMK150Z	Premium	Superior overall performance & Perfect slip resistance
GMK100Z	Premium	Superior overall performance & Perfect slip resistance
PMK2061	High performance & Standard	Excellent slip resistance & Excellent open time
GLDK26-10	Standard & Normal	Good slip resistance, Good open time & Heat resistance
PMK2080	Standard & Normal	Excellent slip resistance & Good open time
PMK3010	Standard & Normal	Good slip resistance & Suitable open time
PMK3012	Standard & Normal	Excellent open time & Heat resistance
PMDK11-21-8	Standard & Normal	Good slip resistance & Long open time
GMDK26-8-4	Normal & Economical	Good open time & Excellent heat resistance
PMDK3-1	Economical & Standard	Good slip resistance & Long open time
PMD40	Normal	Good slip resistance & Excellent open time
GMK2042	Premium	Superior overall performance & Perfect slip resistance
PMK2042	Standard	High viscosity & Superior construction

Slip resistance

Slip resistance is crucial in order to improve working efficiency in applying tile cement mortars on walls. MATECEL® provides adhesives with better slip property so that tiles can be applied in a better way. With suitable MATECEL® grades and concentration levels, heavy tiles over 50 kg can be applied to walls without slipping.

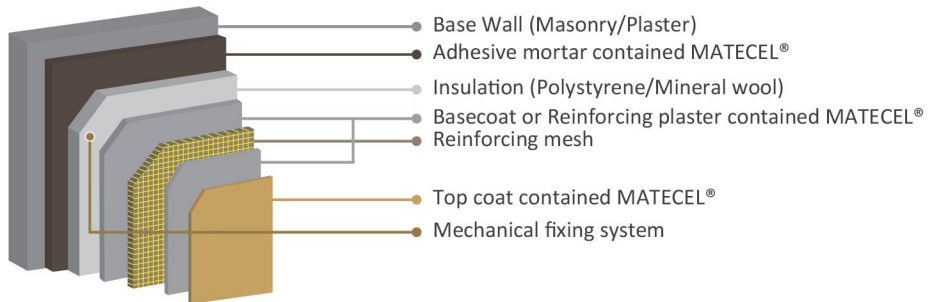
Open time & Tensile adhesion strength

MATECEL® cellulose prolongs the open time during construction, thus giving plenty of time for correction. Suitable addition rate of MATECEL® ensure longer open time, higher tensile adhesion strength and better workability.



EIFS¹/ETICS²

EIFS with MATECEL[®] promises even higher performances and excellent working efficiencies on job sites. MATECEL[®] leads to high sag resistance and embedding time, which are the required key properties of EIFS.



Raw material	Cement CEM I 42.5R	Quartz sand	Hydrated lime	Redispersible powder	Hydrophobic agent	Starch ether	MATECEL [®]
Content(wt%)	20~30	60~70	0~5	1.5~4	0.1~0.3	0.01~0.02	0.15~0.4
Adhesion strength	●		●	●			●
Open time						●	●
Water retention							●
Consistency	●		●			●	●
crack	●		●				●
Easy trowelling		●	●	●		●	●
Sag resistance						●	●
stickiness						●	●
Setting time	●			●			●
Waterproof					●		

1)EIFS(Exterior Insulation and Finishing System)

2)ETICS(External Thermal Insulation composite Systems)

Better sag resistance

It is well known that mortar sag is a common problem in the field. Better sag resistance means that mortar can be applied more efficiently to walls without sagging.

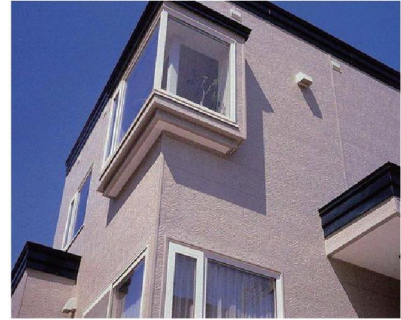
Longer time and embedding time

Open time and embedding time refers to the possible working minutes to bond insulation board or mesh on to fresh mortar is applied on the substrate. This relates to the skin formation and water evaporation of EIFS mortar.

MATECEL® extends the open time and embedding time of mortars with its high water retention power and controlled skin formation properties of mortar surfaces.

Easier workability

Improve worker's working efficiency, easy spreading, no sticking to the trowel.



Grade	Type	Properties
GMK200Z	Premium	Superior overall performance & Perfect slip resistance
GMK2042	Premium	Excellent workability & Good sag resistance
GME100Z	Premium	Excellent workability & Strong thickening power
PMK200Z	Premium	Excellent slip resistance & Good open time
GMK2061	Premium & Standard	High water retention & Good workability
GMK2080	Standard & Normal	Long open time & Excellent sag resistance
PMDK11-23-6	Standard & Normal	Less stickiness & Good workability
PMDK30-6	Normal	Good workability & Good sag resistance
GLDK26-10	Normal	High water retention & Good workability
PMDK2-2	Standard & Normal	High water retention & High viscosity

Cement-based Render

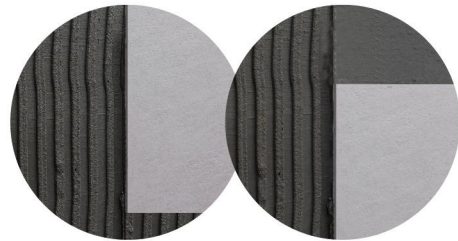
Cement based render with MATECEL® ensures superior quality and high when applied to job sites. Have a look at the information on the below to see how you can customize your products to gain a competitive advantage.

Effects of raw materials

Raw material	Cement CEM I 42.5R	Limestone	Hydrated lime	Air entraining agent	Hydrophobic agent	MATECEL®
Content (wt%)	20~30	60~70	2~5	0.015~0.03	0.1~0.2	0.08~0.15
Tensile strength	●		●			●
Crack resistance	●	●	●			●
Workability		●	●	●		●
Sag resistance			●			●
Water retention						●
Setting time	●			●		●
Working life						●
Waterproof					●	

Fast solubility

The amount of cellulose ether is usually about 0.1% in cement based render. However, it is a key ingredient to secure sagging and cracking resistance. Fast solubility of cellulose ether offers a better sag resistance and workability for thicker layers. In addition, higher water retention power reduces crack formations because it prevents water loss into substrates or air. Again, this means that your finishing works will gain a better workability.



Sag resistance



Crack resistance

Grade	Type	Properties
GMK100Z	Premium	Excellent workability & Less retardation of cement
PMK2061	Premium & Standard	Excellent workability & Good sag resistance
PMK2080	Standard & Normal	Excellent sagging resistance Easy workability
PMK3012	Standard & Normal	Excellent workability & Suitable open time
PMDK3-1	Normal	Excellent workability & Suitable open time

Gypsum-based Plasters

Gypsum based plaster displays different properties based on the type of formulations and resource origins.

That's why special grades of MATECEL® have been developed to meet the specific requirements of our customers. With our well-equipped, specialized gypsum application laboratories and our experienced team of application experts, we can always assist you in finding the right solutions in order to meet your requirements.

Effects of raw materials

Raw material	Gypsum (Hemi hydrate)	Hydrated lime	Limestone flour	Limestone sand or Silica sand	Perlite	Retarder	Air entrainment agent	Starch ether	MATECEL®
Content(wt%)									
GMP-1	40~60	1~5	5~30	30~50	0~3	0.02~0.2	0.01~0.03	0.01~0.1	0.15~0.3
GMP-2	74~98	1.5~5	0~5	5~10	0.3~3	0.02~0.2	0.01~0.03	0.01~0.1	0.15~0.3
GHP	74~95	0.5~5	-	5~25	0~3	0.02~0.2	0.01~0.03	0.01~0.05	0.1~0.2
GHP	70~100	0~2	0~30	-	-	0.02~0.2	0.01~0.02	0~0.1	0.3~0.7
Strength	●	●							
Workability		●			●		●	●	●
Sag resistance								●	●
Water retention	●								●
Consistency	●	●	●	●				●	●
Easy trowelling		●					●	●	●
Stickiness								●	●
Setting time	●					●			●
Working life						●			●

Water retention

Water retention is the most significant property of MATECEL®, which controls workable time. Generally, water retention depends on the viscosity, fineness and dosage of MATECEL®.

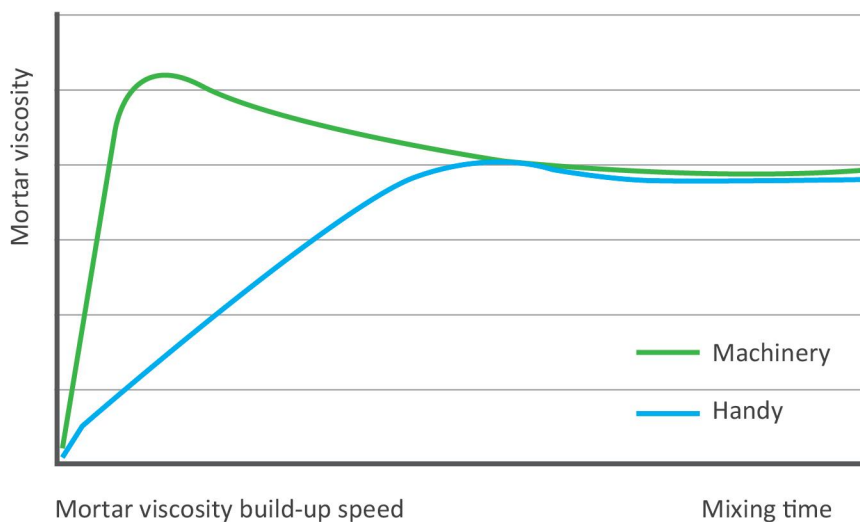
Controlling thickening speed

Special type of MATECEL® control the mortar viscosity build-up speed.

In general, the fast thickening effect of MATECEL® are necessary to obtain better sag resistance and proper rheological functions in machine plasters. On the other hand, slow thickening enables easy mixing and stable mortar viscosity as well as less lump formation in manual & finishing plasters.

Workability & Sag resistance

MATECEL® is a vital key to adjust suitable consistency in fresh mortars. Suitable consistency enables fresh plaster to attach well on walls as well as to make surfaces smooth and be applied easily without the feeling of stickiness. It can be improve better workability and a better finished product for your customers.



Grade	Type	Properties
GME2042	Premium	Excellent lump reduction & Highwater retention
PME2042	Premium	Excellent lump reduction,High water retention & Easy mixing
GME2061	Premium & Standard	Excellent water retention,Good lump reduction & Smoother final surface
PMK2061	Premium & Standard	Excellent workability & Less lumping
GMK2080	Standard & Normal	Excellent workability & High water retention
PMK3010	Standard & Normal	High water retention & Good workability
GLDK26-10	Normal	High water demand,Excellent sag resistance & Excellent workability,Less lumping
PMK3012	Standard & Normal	Excellent workability & High water retention
PMDK11-21-8	Standard & Normal	High water retention & Good sag resistance
GMDK26-8-4	Normal	Excellent workability
PMDK2-2	Standard & Normal	Excellent workability & High water retention

Skim coat

Skim coat with MATECEL® offer smooth wall surface. It ensures easy workability, long pot life, excellent water retention and more.



Effect of raw materials

Raw material	White Cement	Limestone sand	Hydrated lime	Redispersible powder	Hydrophobic agent	MATECEL®
Strength	●		●	●		●
Work ability		●	●			
Water retention						●
Pot life						●
Stickiness						●
Waterproof					●	

Grade	Type	Properties
PME100Z	Premium	Excellent workability & pot life
PME2042	Premium	Excellent workability & pot life
PME2080	Standard & Normal	Excellent workability & pot life
GME2061	Premium & Standard	Excellent workability & High water retention

Detergents

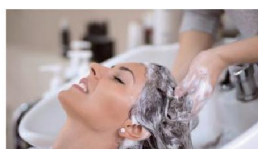
After surface treatment, MATECEL® cellulose ether has good dispersibility in cold water, which can avoid product agglomeration and uneven dissolution. After refining in the production process, it can minimize solvent residues and burning residues.

MATECEL® products are moderate without irritation. Wide pH stability can ensure its stability in the range of pH3-11.

MATECEL® cellulose ether has good consistency and water retention properties, in a way to largely improve system fluidity.

MATECEL® can better increase and stabilize the foam, improving the experience and feel when apply on skin, bring about better visual effect of the product.

MATECEL® has good anti-mold ability, color acceptance, and good compatibility with various detergents and cosmetic additives.



Application fields

1. Shampoo and body wash
2. Foam bath concentrate
3. Detergent /washing-up liquid
4. Cosmetics lotion
5. Alcohol hand sanitizer

Recommended Model

Model	Dispersibility	Thickening	Suspension	Workability	Transmissivity
PME200W(S)	●●	●●●	●●●	●●●	●●
PME2042W(S)	●●●	●●●	●●●	●●●	●●●
PME2061W(S)	●●●	●●	●●●	●●	●●●
PME2080W(S)	●●●	●●	●●	●●	●●●
PMEF150Z(S)	●●●	●●	●●	●	●●●
PME3010W(S)	●●●	●	●	●	●●●
PME3012W(S)	●●●	●	●	●	●●●
PME2042(S)	●●●	●●●	●●●	●●	●●●
PME2080(S)	●●	●●	●●	●●	●●

MATECEL® delayed solubility grades have important characteristics which make them appropriate as thickeners in cleaner formulations:

- Easy incorporation in the formulation
- Good compatibility with nonionic surfactants
- Good storage stability
- Solutions of good clarity
- Give the product good suspension

Extrusion

We are glad to say that our MATECEL® can enables differentiated & optimized products for cement extrusion and ceramic extrusion. We have set ourselves apart from our competitors and we can guarantee that you will be satisfied with every aspect of our service to delivery.

Lubrication

MATECEL® improves workability and extrudability of cement extrusion based products and ceramic extrusion through its lubricant properties.

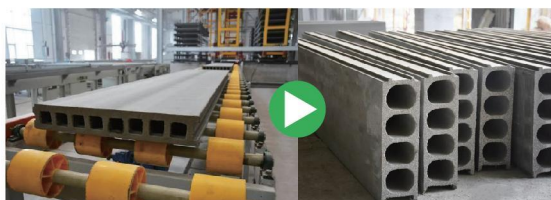
Water retention

MATECEL® extends pot-life of extrusion composites because it prevents the dry out and the leakage of water from the composites and extrusion die.

Shape stability

MATECEL® leads to excellent crack resistance and shape stability during extrusion process through its binding.

Cement extrusion



Ceramic extrusion



Grade	Viscosity(mPa·s,2%solution)	Application	Properties
PMEF-40Y	3,500~5,600	Extrusion	Excellent pressure,Very good green-body hardness & Good surface state
PMEF-60Y	5,500~9,500	Extrusion	Extrusion Excellent extrusion pressure, Excellent lubricous property
PMEF10Z	10,000~13,000	Extrusion	Extrusion Excellent surface state, Excellent green-body hardness & Excellent lubricous property
PMEF20Z	20,500~32,500	Extrusion	Extrusion Excellent surface state, Excellent green-body hardness & Excellent extrusion pressure
PMEF30Z	30,000~42,000	Extrusion	Extrusion Excellent pressure, Very good green-body hardness & Good surface state
PMEF50Z	40,000~58,000	Extrusion	Extrusion Excellent extrusion speed, Very good green-body hardness & Good temperature stability
PMEF80Z	70,000~100,000	Extrusion	Extrusion Excellent extrusion speed, Very good green-body hardness & Good surface state

Recommended Grade

● Highly recommended ● Recommended

Application	Construction															Extrusion		Detergents								
	Cement Based										Gypsum Based			Latex Based		Ceramic Extrusion	Cement Extrusion									
	Tile Cement Motar			Plaster Render			Tile Grout	Self-leveling	Underwater Concrete	Masonry Mortar	ET/C/EFS	Plaster			Gypsum Filler / Joint Filler				Gypsum Adhesive	Paint	Joint Compound	Ready-to-use Tile Adhesive	Latex based Plaster / Putty			
	Normal Tile Cement	Standard Tile Cement	High Performance Tile	Cement Plaster	Skim Coat	Monocapa/Monocouch						Gypsum Machine Plaster	Gypsum Hand Plaster	Gypsum Finishing Plaster												
GMK100Z		●	●								●															
GME70Z		●	●								●															
PMK100Z		●	●								●															
GME2042												●	●	●												
PMK200Z												●	●	●												
GME2061															●											
PMDK3-1	●	●								●	●															
PMEF40Y	●			●																			●	●		
PMEF-60Y	●																						●	●		
PMEF100Z(S)																	●	●	●	●						●
PME2042(S)																	●	●	●	●						●
PME2061(S)																	●	●	●	●						●
MH401									●																	
MH406									●																	
GMK200Z		●		●							●															
GMK2061				●																						
PMK2042		●	●				●			●	●															
PMK2061				●	●	●					●															
GLK2061		●	●							●	●															
GMK2061		●	●							●	●															
GMK2080		●																								
PMK3012	●			●						●																
GMK3010		●	●							●	●															
GLDK26-6-4	●	●																								
PMDK35-5	●	●								●	●															

● Highly recommended ● Recommended

Application	Construction																	Extrusion		Detergents		
	Cement Based								Gypsum Based				Latex Based					Ceramic Extrusion	Cement Extrusion			
	Tile Cement Motar		Plaster Render			Tile Grout	Self-leveling	Underwater Concrete	Masonry Mortar	ETC/EIFS	Plaster			Gypsum Filler / Joint Filler	Gypsum Adhesive	Paint	Joint Compound				Ready-to-use Tile Adhesive	Latex based Plaster / Putty
	Normal Tile Cement	Standard Tile Cement	High Performance Tile	Cement Plaster	Skin Coat						Monocapa/Monocouch	Gypsum Hand Plaster	Gypsum Machine					Gypsum Finishing				
GLDK26-10	●							●														
GMDK26-8-4	●	●																				
PMDK15-17-8		●							●													
PMDK11-21-8	●	●		●																		
PMDK11-23-6	●	●		●																		
PMDK2-2	●	●																				
PME1061		●														●	●	●				
GME3010		●														●	●	●				
PME2080		●				●																
PMK1580		●						●		●												
PME2061	●	●								●												
PMK2080		●						●														
PMDK3-1												●										
PME200Z(S)																						●
PMK3010								●	●													
PMDK30-6									●													
PMDK16-16									●													
GMK2042				●					●													
PME2042									●				●									
PME70Z													●	●	●			●				
PME2080W(S)																						●
PME3010W(S)																						●
PME3012W(S)																		●				●
PME200W(S)																						●
PME2042W(S)																						●
PMEF150Z(S)						●																●
PMEF1561(S)						●																●
PMEF2042(S)																	●					●

Packaging

MATECEL® is packed in the following two types of packages.

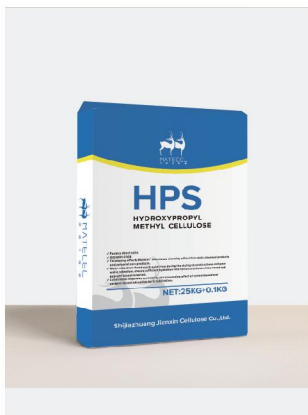
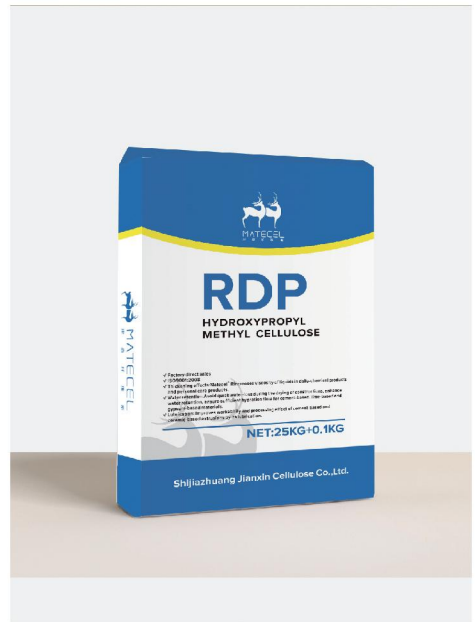
A. 12.5 Kg: Net multi-layer paper bag with polyethylene inner liner.

- 12MT is loaded in one container of 20 ft.

B. 25 Kg: Net jumbo bag with polyethylene inner liner.

- 600 Kg is placed in one pallet, and 12 MT is loaded in one container of 20 ft, and 24 MT is loaded in one container of 40 ft.

P A C K A G I N G



Storage & Safety Information

Storage

MATECEL® HPMC should be stored under dry and clean conditions in its original packaging due to its hygroscopic properties.

Relative humidity	Water absorption
50 %	6-8 %
60 %	9-10 %
70 %	12-14 %
80 %	16-18 %

Safety information

Although MATECEL®HPMC is classified as a non-hazardous material, the following should be aware to avoid unexpected accidents when handling.

Storage: Dust of MATECEL® is capable of exploding. To avoid explosion due to dust, store away from heats, sparks and fires, and do not expose it directly to high temperature.

Handling: Solutions of MATECEL® are very slippery. To avoid any accidents, sweep the spilled powder and keep dry.

Health: Use appropriate procedures to avoid direct contact such as the skin or the eyes and prevent any inhalation of the product.

Additional information: For further information on safety, refer to the Material Safety Data Sheet(MSDS) and contact MATECEL CELLULOSE directly or our representatives.



MATECEL® HPS

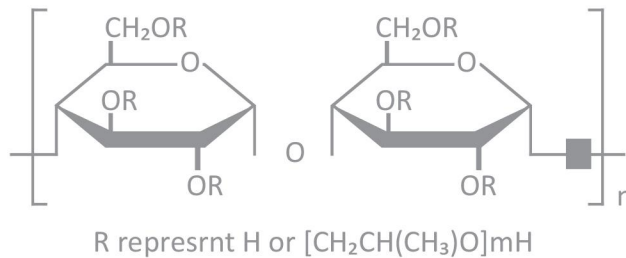


MATECEL® HPS(Hydroxy Propyl Starch Ether) can impart unique properties to cement and gypsum based products.

In combination with HPMC, MATECEL® HPS can play a better thickening effect, with better crack resistance and improve workability. And by adding starch ether, the cost of the mortar formulation can be significantly reduced.

- Appearance: white powder, good fluidity.
- It has good water solubility, Aqueous solution is transparent and colorless with good stability.
- It is stable with acid and alkali. Gelatinization temperature is lower than original starch.
- Stability is better than the original starch in hot and cold conditions.
- Viscosity is not changed with salt and sugar.
- Freeze-thaw stability and transparency is better than the original starch.

Chemical Structure of MATECEL® HPS



Roles of MATECEL® HPS in Construction

- 01 Rapid thickening ability is available.
- 02 Medium viscosity and high water retention.
- 03 Economic-use little addition to get high effect.
- 04 It can be used together with MC and HPMC/HEMC to reduce the amount of cellulose ether.
- 05 It can improve the sagging resistance ability to prevent the sliding and flowing when coated or pasted.
- 06 Its lubrication can make operation smooth.

Application of Construction	Advantages of MATECEL HPS
<ol style="list-style-type: none"> 1.Plastering 2.Tile adhesive 3.Fillers 4.Plaster boards 5.Concrete application 6.Shotcrete 7.Self-compacting concrete 8.Concrete goods 9.Emulsion paints and synthetic 	<ol style="list-style-type: none"> 1.Good workability 2.Anti-slip 3.Anti-bleeding 4.Rheology enhancer 5.Thickening 6.Gluing 7.Stabilizing

MATECEL® HPS Packaging and Storage

»»»» Packaging

Polyethylene inner liner bag with net weight 25kg/bag

»»»» Storage

Although MATECEL® HPS is classified as a non-hazardous material, the product should be stored under dry and clean conditions in its original packing and away from heat. The product is hygroscopic. The packaging is selected in a way to avoid ingress of moisture, but the water content of the packed product will/may increase if not stored dry.

When stored in closed containers, or in its original packaging in a dry place at room temperature, MATECEL® HPS can be kept for a long time. In the case of high viscosity grades, a slow loss of viscosity can be measured after long-term storage (over 1 year) MATECEL® HPS absorbs water from moist air. Once opened, package must be resealed and kept tightly



MATECEL® RDP

Redispersible latex powder (RDP) is a water-soluble white or off-white flowable powder. It has high bonding ability and outstanding waterproof performance. Matecel RDP can increase the elasticity of the mortar and have a longer open time, improving the adhesion, flexural strength, plasticity and wear resistance of the mortar. Performance and workability in the flexible anti-cracking mortar it has more muscular flexibility. Has a wide range of applications.

MATECEL® RDP Physicochemical indexes

Item	Specification
Appearance	White powder
Solids Content (wt%)	≥ 98
Ash Content (wt%)	≤ 12
Bulk Density (g/l)	300-500
Particle Size	96% pass100mesh
Minimum Film Forming Temperature(C)	1 C-5 C

MATECEL® RDP Product Introduction:

MATECEL® RDP can be used for internal and external wall putty powder, tile adhesive, tile jointing agent, dry powder interface agent, exterior wall insulation mortar, self-leveling mortar, repair mortar, decorative mortar, waterproof mortar, etc. In the mortar.

- 1.Improve the adhesion and cohesion of mortar;
- 2.Reinforce the flexural strength, impact resistance, wear-resistance and durability of the material;
- 3.Improve the construction performance of materials, etc.

MATECEL® RDP Recommended Grade

MATECEL®RDP Model	E4W	S2W	FX	TY	MY	NZ
GTT (°C)	18	16	8	2	-2	-7
MFFT (°C)	4	2	0	0	0	0
Attribute	Rigidity	Rigidity	Middle	Flexibility	Flexibility	High Flexibility
Applications						
Binding mortar	●●●	●●●	●●●	●●	●●	●●
Pastering/cracking mortar			●●	●●●	●●●	●●●
Ordinary putty	●●●	●●●	●●●	●●●	●●●	
Flexible putty			●●	●●●	●●●	●●●
Tile adhesive	●●●	●●●	●●	●●	●●	●●●
Gap filler		●●●	●●	●●	●●	●●●
Cement-based self-leveling mortar	●●	●●●	●●			
Waterproof mortar			●●	●●	●●	●●●
Repair mortar		●●●	●●	●●	●●	

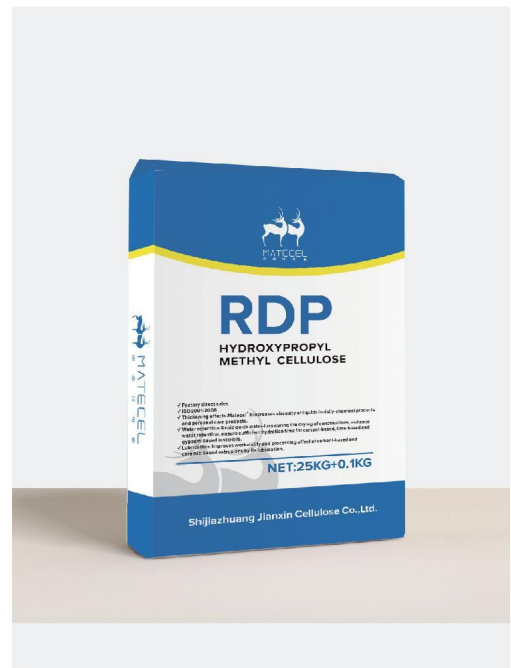
MATECEL® RDP Product Introduction:

Packaging

Polyethylene inner liner bag with net weight 25kg/bag

Storage

MATECEL® RDP should be stored in a ventilated, cool and dry environment, to prevent the sun and rain. Avoid long-time high pressure storage. After opening the bag, please seal the bag to avoid contact with air.



MATECEL® PP FIBER

General Properties

Polypropylene short fiber is also known as anti-crack fiber, PP fiber, building materials fiber, building fiber. Polypropylene staple fiber is a kind of high strength bundle monofilament fiber made of polypropylene as raw material. Add mortar concrete effective control concrete (mortar) of solid plastic shrinkage, dry shrinkage, temperature change and other factors caused by the micro crack, prevent and inhibit the formation and development of the crack, greatly improve the concrete resistance crack anti-permeability, anti-impact and anti-seismic ability.

MATECEL®PP-Fiber Technical Parameters

Materials	Polypropylene
Fiber Type	Bunchy monofilament
Tensile Strength	>358Mpa
Elastic Modulus	>3.5Gpa
Fibre Diameter	18-48μm
Water Absorption	none
Specification	3mm/6mm/9mm

MATECEL®PP-Fiber Main function

- Prevent concrete cracks
- Improve the permeability resistance of concrete
- Improve the freeze-thaw resistance of concrete
- Improve the impact resistance, bending resistance, fatigue resistance, seismic performance of concrete
- Improve the durability of concrete, aging resistance
- Improve the fire resistance of concrete

MATECEL®PP-Fiber Applications

- Cement mortar

Inside (outside) wall painting, aerated concrete plastering, interior decoration putty and insulation mortar, anti-crack mortar, etc

- Anti - explosion, fire - resistant engineering

Civil defense and military engineering, oil platform, chimney, refractory materials, etc.

- Shotcrete

Tunnel, culvert lining, thin-walled structure, slope reinforcement, etc.

- Rigid self - waterproof concrete structure

Basement floor, side wall, roof, cast-in-place roof slab, reservoir, etc., high demand engineering, water conservancy engineering, subway, airport runway, port dock, overpass viaduct deck, bridge pier, super long structure, etc.

MATECEL®PP-Fiber Packaging and Storage

Packaging

Polyethylene inner liner bag with net weight 20kg/bag, Each bag is divided into 20 small 1kg packages.

Storage

MATECEL® PP-Fiber should be stored in a ventilated, cool and dry environment, to prevent the sun and rain.



MATECEL® CMC

Sodium Carboxymethyl Cellulose CMC

Sodium carboxymethyl cellulose (CMC) is a water-soluble cellulose derivative, sometimes called "sodium salt". It is the most commonly used derivative of water-soluble cellulose derivatives and has high commercial value. It has been widely used in food, toothpaste, papermaking, ceramics, printing and dyeing, oil drilling and other industries.

1. Decrease the fluidity of the liquid.
2. Increase the suspension of solids in aqueous solutions.
3. Good film-forming properties.
4. Good adhesive.



MATECEL® CMC Product Introduction

MATECEL® CMC used in the paper industry:

1. Preparation of coated paper coatings can be used as wet end additives, surface sizing agents, etc.
2. Control and adjust the rheology of coatings and the dispersion of pigments.
3. It has good film-forming properties and improves the gloss of the coating.
4. Increase the retention rate of brighteners in layers and enhance the whiteness of the paper.

MATECEL® CMC used in ceramics:

1. The product has excellent dispersibility and protective colloid properties so that the glaze slurry is in a stable dispersion state without delamination.
2. Adjust the viscosity of the glaze slurry to make the glaze slurry have good rheology and facilitate glaze application.
3. The product has a uniform degree of substitution, few gel particles, no insoluble matter, and good net permeability.

MATECEL® CMC used in detergent:

1. Improve to the ideal consistency and enhance product performance.
2. Fast dissolving speed, no clumping.
3. The solution has high transparency and high light transmittance.

MATECEL[®] CMC used in oil exploration:

As the water-soluble colloid in the drilling mud system:

1. The excellent wall is formed into a thin, firm, low-permeability filter cake, which significantly reduces water loss
2. Reduce the initial shear force so that the mud is easy to release the gas wrapped in it
3. Stabilize the suspension system and prolong the existence period of drilling mud
4. Good temperature resistance, good salt resistance, resistance to various soluble salts

MATECEL[®] CMC Packaging and Storage

►►►► Packaging

Polyethylene inner liner bag with net weight 25kg/bag

►►►► Storage

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