Chemix Specialty Chemical

Additives for Construction

Mortar&Coating

Cellulose Ether

Redispersible Powder

Calcium Formate

Starch Ether

Fiber

Defoamer

Wetting agent& Dispersant

www.chemixsc.com

Chemix Specialty Chemical Co.,ltd(C.S.C.) is one of main suppliers on additives for construction mortar, coating and specialty chemicals in China. At the beginning of establishing in 2010, it was a representative for Chinese well-known special chemicals manufacturers. As the company's development and growth, C.S.C set up its contracted product lines producing Cellulose Ether, Starch Ether, Redispersible powder, fiber in 2013 and produced water-borne coating agents by itself in 2016.

As a customer orientated company,C.S.C is committed to supplying cost-effective products and high efficient service with technical support. All of products are subjected to our stringent program of in-house testing to ensure they meet clients' requirements. To delivery on time, we always store general grades in our warehouse.To cater to customers' formulation,we also distribute some chemicals out of our products list or even do some free source.

C.S.C always strives to be a trustworthy and reliable partner.

Our mission is to facilitate win-win cooperation through qualified products,honest working and thinking together.
Any help or requirment, contact us free.

C.S.C. IS ALWAYS HERE FOR YOU.

Chemix Specialty Chemical

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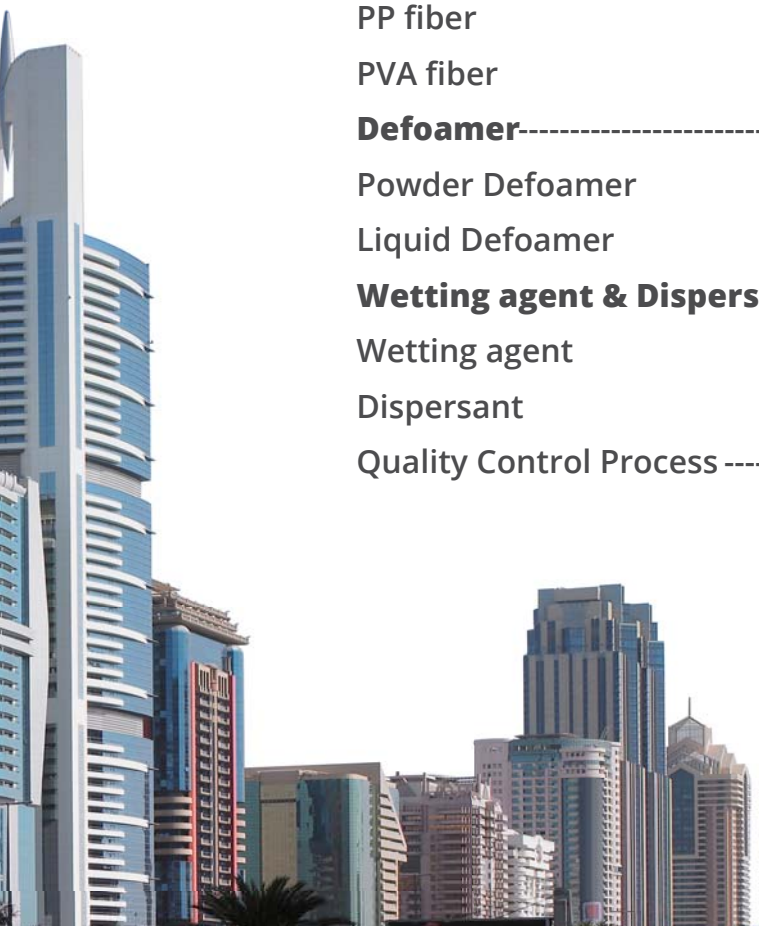


CheSilo™ Hydroxy Propyl Methyl Cellulose

CheSilo Hydroxy Propyl Methyl Cellulose(abbr.CheSilo MPC) is a non-ionic, odorless, water soluble cellulose ether made from natural high polymer cellulose by series of chemical processing. It is widely used as thickener, water-retainer, protective colloid, stabilizer and suspending aids in construction mortar, water-based paint and PVC(Poly Vinyl Chloride) industry etc..

CheSilo MPC consists of pure grades and modified grades with special properties.

Nomenclature of CheSilo MPC

MPC	G		15W		S	
	Degree of substitution or modification		Viscosity level, based on NDJ-1 @20℃ in 2% aqueous solution		Surface treatment	
	" null"	1.12-1.57	15W	150 000	S	Surface treatment, Delayed solubility products.
	G	1.79-2.03	75M	75 000		
	F	1.67-1.94	6M	6 000		
	T	Modification	400	400		
	P		7088	Modified grade viscosity		

Viscosity Level by different viscosimeters @20℃in 2% aqueous solution based on dry materials,mPa.s

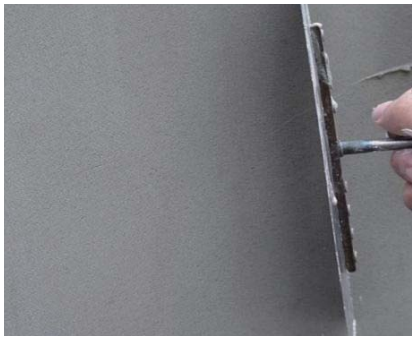
NDJ-1	Brookfield RVT	Hoppler	Roto	Ubelode
400	400	400		
4 000	4 000	6 000	6 000	5 000
8 000	8 000	8 000	8 500	
20 000	17 000	15 000	15 000	15 000
40 000	28 000	22 000	22 000	
75 000	37 000	75 000	40 000	75 000
100 000	41 000	100 000	60 000	
150 000	57 000	150 000		
200 000	75 000	200 000		

Typical Properties

1.Water retention: CheSilo MPC provides excellent water retention.

2.Thickening & Binding: CheSilo MPC offers thickening in solution and improves cohesiveness in formulations.





3.Surface activity：An aqueous solution of CheSilo MPC has a high surface activity and functions as a protective colloid agent,emulsion stabilizer and dispersant.

4.Suspension Aids：CheSilo MPC enhances stability of suspension throughout solution.

5.Non-ionic charge: CheSilo MPC is compatible with other additives in aqueous solution and provides a stable combination of water solubility.

6. pH stability：CheSilo MPC is stable in the range of pH 3.0-11.0 however the solubility is affected by acid or alkali

Typical Application and Recommendation Table.

Grade	Masonry mortar	Cement plaster/ Skim coat	Cement tile adhesive	Interior wall putty	Gypsum plaster	Tile grouts/ Joint filler	EIFS	Self-leveling compound	Water-borne paint	Extrusion molding	PVC
MPC F50											**
MPC 400								* *			
MPC 4M						* *		* *			
MPC 20M							* *				
MPC 40M						* *					
MPC 75M	*	* *	* *		* *	*	*			*	
MPC G75M	* *		* *	* *							
MPC 10W	* *	* *	* *		*		* *				
MPC G10W	* *		* *	* *							
MPC 15W	* *	*	* *		*		* *				
MPC G15W	* *		* *	* *							
MPC 20W		*	*		* *		* *			*	
MPC 15WS		* *	* *				*		**		
MPC G7515	* *		* *								
MPC T7088		* *		* *							
MPC T1751		* *	*	* *							
MPC P212					* *						

**Priority recommend * Recommend

Package and Storage

25KG/paper bag with PE-liner, 600KGs/pallet,12000KGs w/pallets or 15000KGs w/o pallets in 20'container.Keep it in a cool and dry place,away from heat and moisture.



CheSilo™ Methyl Hydroxy Ethyl Cellulose

CheSilo Methyl Hydroxy Ethyl Cellulose（abbr. CheSilo MEC） is a non-ionic, odorless water-soluble cellulose ether. It is widely used as water retainer, thickener, bonding and adhesion agents, protective colloid, stabilizer, and suspending aids in industrial and construction applications etc..
CheSilo MEC has better performance on high temperature situation than CheSilo MPC so it is more popular with exterior wall finish plaster and gypsum.

The Grade and Viscosity specification of CheSilo™ MEC, mPa.s

CheSilo Grade[1]	Viscosity Range[2]	CheSilo Grade	Viscosity Range
MEC 300(S)[3]	200-500	MEC 15M(S)	13000-18000
MEC 2000(S)	2000-3000	MEC 20M(S)	17000-25000
MEC 4000(S)	3500-5500	MEC 30M(S)	26000-34000
MEC 6000(S)	5600-7000	MEC 40M(S)	34000-46000
MEC 8000(S)	7500-8500	MEC 55M(S)	46000-63000
MEC 10M(S)	8500-12000	MEC 70M(S)	60000 Min.

Note:
1.CheSilo MEC consists of pure grades and modified grades providing special properties for detailed application.
2.The viscosity is based on Brookfield RV,20rpm at 20℃ in 2% aqueous solution.
3. MEC 300(S) means two grades--MEC 300 or MEC 300S(same viscosity with delayed solubility)

Other Technical Specification

Appearance	White to off-white powder
Moisture content	Max.5.0%
Ash	Max.5.0%
PH	6.0 – 8.0
Particle size	Max. 5% on 100 U.S mesh (0.149 mm sieve), Min. 70% through 140 U.S mesh (0.105 mm sieve)

Typical Application of CheSilo™ MEC:

Cement-based Tile adhesive/Plasters
Tile grouts
Self-leveling underlayments
Mortars for EIFS(Exterior Insulation and Finishing System)&Skim coat
Gypsum-based building materials
Water-borne paint

Package & Storage

25KG per paper bag with PE-liner,600KG per pallet,12000KGs w/pallets or 15000KGs w/o pallets in 20’container.Keep it in a cool and dry place, away from heat and moisture.



CheSilo ™ Hydroxy Ethyl Cellulose

CheSilo Hydroxyethyl cellulose (abbr.CheSilo HEC) is a non-ionic, water-soluble polymer derived from cellulose through a series of chemical and physical processes.
CheSilo HEC is a white to light yellowish, odorless and tasteless powder, readily soluble in hot or cold water to form a viscous gel solution. It can thicken,suspend, bind,emulsify,form films, stabilize,disperse, retain water, and provide protective colloid action in water paint,personal care products, oil-drilling or cementing etc..

Grades and Specifications

The grade of CheSilo HEC mainly differs in the solution viscosity.
Viscosity specification of CheSilo HEC, at 25°C, mPa.s(tested by Brookfield LVT)

Grade[1]	Viscosity measured at the concentration of	
	1%	2%
H4000(L)	3400 - 5000	-
H3000(L)	2600 - 3300	-
H2000(L)	1500 - 2500	-
H1000(L)	800 -1500	-
MH 5000(L)	-	4500 - 6500
MH 2000(L)	-	1500 – 2500
MH 300(L)	-	150 – 400

Note:
1.CheSilo HEC has high substitution of grades and lower ones, for example, H4000 is high substitution grade with better anti-enzyme,biostable than H4000L.

Other specifications of CheSilo Hydroxy Ethyl Cellulose

Moisture content (as packed), %: 5 max.
pH of a solution: 6.0-8.5

Applications

CheSilo HEC is used as retarder, water-retainer in **construction mortar** such as gypsum,cement plaster, tile adhesive to improve the workability by increasing the open and trowel-ling time. Comparing to other cellulose ethers, it has better compressive and flexural strengths and dimensional stability.

CheSilo HEC is used into **latex paint** such as exterior or interior wall paint to offer ease of solution, low-foaming, thickening efficiency and improved color development and stabilization.

Package & Storage

25KG/paper bag with PE-liner, 750KGs/pallet,15000KGs w/pallets or 17000KGs w/o pallets in 20'container. Keep it in a cool and dry place,away from heat and moisture.



CheSilo ™ Ethyl Cellulose

CheSilo Ethyl Cellulose(abbr. CheSilo EC) is a tasteless, odorless cellulose ether, soluble in a wide range of solvents, such as alcohol, ether, ketone, ester etc. and flexible at low temperature.
CheSilo EC has good stability to light, heat, oxygen and wetness, and is stable to chemicals and is compatible with many cellulose ether, resin and nearly all plasticizer .
CheSilo EC has low combustibility, small hydroscopicity and good electric behavior.

Grade and Specification

1,Ethoxyl Grade

Type	Ethoxyl Content, %	Degree of Substitution
K	45.0-47.2	2.22-2.41
N	48.0-49.5	2.46-2.58
T	≥49.6	2.58-2.73

2,Viscosity specification of CheSilo EC, mPa.s

The below viscosity is tested in 5% solution at 25℃ in an Ubbelohde viscosimeter. For medium products, solvent is 60% toluene and 40% ethanol; for the others, solvent is 80% toluene and 20% ethanol.

Viscosity Level	Viscosity range,mPa.s
4	3.0-5.5
7	5.6-8.0
10	8.0-11.0
14	12.0-16.0
20	18.0-24.0
50	40.0-52.0
100	80.0-105.0
200	150.0-250.0
300	250.0-350.0

3,Grade designation example

CheSilo EC N 50

Trade mark ↓ Ethoxyl grade ↓
Product name Viscosity level

Application in ink

CheSilo EC is always used as binder in flexographic and gravure inks to improve toughness and flexibility of the ink film, resulting in better folding resistance. It also improves printability on difficult substrates and contribute to the formation of tough, pinhole-free films even at low coating thickness. It shows good compatibility with most of the resins and pigments used in these inks and shows excellent solubility in common solvents such as toluene, ethyl acetate, and ethanol.

Recommended Grade:

Application	Grade
Rotogravure and flexo packaging inks	N/T 4, N/T7,E/T 10,N/T 20
Screen printing paste ink	N/T 45,N/T 100,N/T 200,N/T 300
Low-solids coatings	N/T 100,N/T 200,N/T300

Package and Storage

The products are packed in fibre drum with PE inner bag, with the net weight of 25KG,20KG or 10 KG.
The product should be stored under dry and clean conditions in its original packing and away from heat.



CheSilo ™ Carboxy Methyl Cellulose

CheSilo Sodium Carboxymethyl Cellulose(abbr.CheSilo CMC) is an anionic linear macromole whitish powder,soluble in hot or cold water to form viscous gel solution.It is used as binder, thickener,stabilizer, protective colloid, suspending agent, rheology and flow control agent in many fields. It forms films that are resistant to oils, greases and organic solvents.

CheSilo CMC in Building: Gypsum mortar

Its stability is greatly affected by the pH value. Generally it can be used in the gypsum-based mortar but can not be used in the cement-based mortar. In high alkaline, it will lose viscosity.
Its water-retention is much lower than that of methyl cellulose. It has a retarding effect on the gypsum-based mortar and helps to reduce its strength.

Specification \ Type	P3M	P5M
Degree of substitution(DS)	≥0.70	≥0.7
Viscosity (In 1% Water Solution),mPa.s	2500-3500	5000-6000
PH	6.0-8.5	6.0-8.5
Moisture,%	≤10	≤10
Purity,%	≥90	≥90

CheSilo CMC in Paint

CheSilo CMC can be used in latex paints, interior wall paint and paper coatings with favorable dispersion function and well-distribution. Without layering, it has good stability performance and thickening effects to regulate the viscosity of paint. It can match most surface-active agents and preservatives used in water-soluble paint.

Specification \ Type	MH8	EP5000
Degree of substitution(DS)	≥0.80	≥0.70
Viscosity (In 2% Water Solution),mPa.s	800-1200	≥9000
PH	6.0-8.5	6.0-8.5
Moisture,%	≤10	≤10
Purity,%	≥90	≥98

Package and Storage

25kg/ paper bag with PE-liner, 750KGs/pallet, 15MT w/pallet or 17MT w/o pallet in 20'container;
Keep it in a cool and dry place away from heat or moisture.

CheV ™ Redispersible Powder

CheV Redispersible powder(abbr.CheV RDP) is organic polymer powder made by spray-drying aqueous emulsions.It is always used into cement or gypsum based dry mix products to improve the adhesion, strength, flexibility, freeze/thaw resistance.

Typical grade and specification

Grade	Solid Content	Bulk Density	Ash Content	Tg[1]	MFFT[2]
RDP10	98-100%	400-600kg/m3	11.0-15.0%	10℃	0℃
RDP20	98-100%	400-600kg/m3	11.0-15.0%	5℃	0℃
RDP30	98-100%	400-600kg/m3	11.0-15.0%	0℃	0℃
RDP50	98-100%	400-600kg/m3	11.0-15.0%	−6℃	0℃
RDP34H	98-100%	300-500kg/m3	10.0-14.0%	4℃	0℃
RDP34S	98-100%	500-600kg/m3	10.0-14.0%	2℃	0℃

Note:
1,Tg means Temperature of Glass-transition,always affects the finished products' flexibility
2, MFFT means Minimum Film-Forming Temperature,always affects the workable temperature

Application Recommendation

Application	RDP10	RDP20	RDP30	RDP50	RDP34H	RDP34S
Tile adhesive	* *	* * *	* * *	* * *	* * *	* * *
Thermal Insulation System	*	* * *	* * *	* * *	* * *	* *
Self-levelling compound	* * *		**		* *	* *
Plaster&Skim coat		* *	* *	* *	* * *	* * *
Repair mortar	* * *		* *	* *	*	*
Joint compound	* *	* *	* *		* * *	* * *
Hydrophobic compounds					* * *	* * *

* * *priority recommendation * *recommendation

Package and Storage

25KG/Paper bag with PE-liner,700KGs/Pallet,14000KGs w/pallet or 16000KGs w/o pallets in 20'container;

Keep it sealed in a cool and dry place away from moisture under the ambient temperature not exceeding 30℃ for half of year. Opened sacks should be used promptly. After half of year, if it is not lumped, it can be continued to use.



CheV ™ Hydroxypropyl Starch Ether

CheV Hydroxypropyl starch ether(abbr. CheV HPS) is a kind of chemical modified starch mainly used as thickener and texturing agent for cement or gypsum based mortar products.

CheV HPS is a cost-saving material and is easy to obtain the required thickening. In wet mortars, it offers non-sag, anti-slip properties, good work-ability and low stickiness.

Specification

Item	Standard		
	301	331	351
Viscosity, 5%,20℃,cps	1000-2000	2000-4000	Min.4000
Appearance	White or off-white powder		
Solubility	Soluble in water		
Particle size	90% through 100mesh		
Bulk density	400-500		
pH,1%, 25℃	8.0-11.5		
Moisture	Max.10		

Recommended Application and Properties

- CheV HPS improves the consistency and thixotropy of the finished products such as interior or exterior wall putty or skim coat.
- CheV HPS can improve the mortar adhesion, increase the efficiency of conventional water retention agents such as HPMC, improve the anti-slipping and anti-sagging properties for tile adhesive.
- CheV HPS has excellent compatibility with the other additives in these applications.

Package and Storage

25KG/Paper bag with PE-Liner,750KGs/Pallet,15Tons w/pallet or 17Tons w/o pallet in 20'FCL. Keep it in a dry and clean place away from moisture in original unopened bags for 12 months.

CheV™ Calcium Formate (construction grade)

CheV Calcium Formate is a white crystalline powder, bitter and non-toxic, with slight moisture absorption. It can be dissolved partially soluble in water.

Specification

Item	Item Standard
Bulk density,g/ml	900-1100
Purity,%	Min.98
Moisture,%	Max.0.5
Particle size,mesh	Min.60
Arsenic,mg/kg	Max.0.15
Cadmium,mg/kg	Max.0.0001
Lead,mg/kg	Max.0.0001
Mercury,mg/kg	Max.0.003

Application in construction.

- In cement products such as dry mortar, tile adhesives and concrete, CheV calcium formate increases hardness and decreases setting time by accelerating the formation of tricalcium alluminate silicate. It is desirable for work at low temperature and for inhibition of corrosion of metal substrates.
- In gypsum board, CheV calcium formate is used as fire retardant.

Package and Storage

25kg/paper bag with PE-liner,1250KGs/Pallet,25Tons w/pallets in 20'FCL.
Keep it in a cool dry and ventilated place away from moisture. The shelf life is 1 year from production date if stored according to material safety data sheet handling instructions in the original unopened container.

CheV ™ Polypropylene Fiber

CheV Polypropylene Fiber(abbr.CheV PP Fiber) is a kind of high intensity bunchy mono-filament fiber mainly made of polypropylene by special technique, which could effectively prevent concrete or mortar from micro-crack, improve the performance on anti-crack, anti-infiltration, anti-concussion and anti- shock for concrete or mortar.

Specification

Identical Diameter	25-40μm
Standard Cut Length	3mm,6mm,12mm, 15mm,18mm
Tensile Strength	≥500MPa
Elastic Modulus	≥3500MPa
Specific Gravity	0.91-0.93g/cm^3
Initial Moisture Content	2.0-3.0%

Application

Adding PP Fiber into concrete or mortar,could effectively improve the resistance to plastic shrinkage cracking, inhibit the micro-crack due to dimensional change,reduce sedimentation,increase the cohesion of the finished products. It is widely used in roads, bridges, underground waterproof projects and roofing, walls, pools,basements of civil construction industrial.

Package and Storage

20KG per woven bag or carton (including 20 small plastic bags), 9.6 tons per 20feet container. Keep it in a dry and cool place away from heat and moisture.

CheV ™ Poly Vinyl Alcohol Fiber

CheV Poly Vinyl Alcohol Fiber(Abbr. PVA Fiber) is mainly used in sheet and section material, and could prevent micro-crack of concrete caused by the plastic shrinkage. This kind of environmental product is gradually taking place of asbestos and becomes a new kind of material. Its bonding performance is nearly 3 times than other fibers.

Specification

	PVAF1	PVAF2
Filament size,dtex	1.7-2.3	1.7-2.3
Cut length,mm	5, 6	5, 6
Breaking Tenacity,CN/dtex	Min.11.5	Min.12.8
Elongation,%	Max.7.5	Max.7
Elastic Modulus,CN/dtex	260-300	Min.290
Hot Water Solubility,90℃, 1hour,%	Max.2	Max.2
Specific Gravity,g/cm3	1.29	1.29

Application

- Replace of asbestos or asbestos cement products.
- Light wallboard, insulation board and other building material.
- Make component of concrete, tubing and board, quay, tunnel, mine, side slope ect..
- The roof, basement of industrial and residential building.

Package and Storage

180kg per poly-bag(1000mm×550mm×600 mm),12.96T/20'FCL

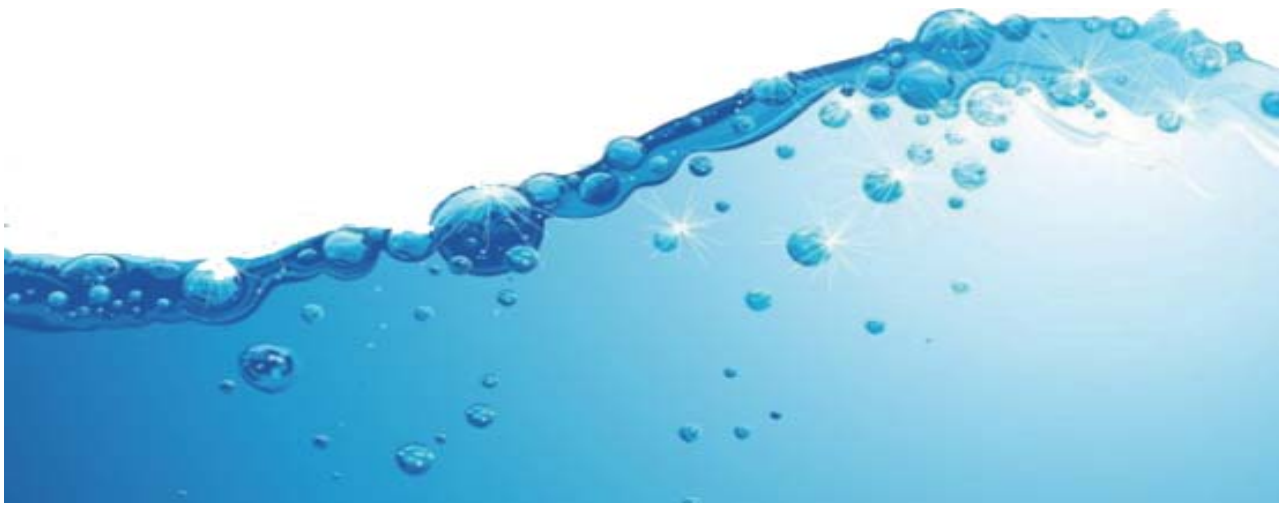
Defoamer

A defoamer or an anti-foaming agent is a chemical additive which reduces and hinders the formation of foam in industrial process liquids. The terms anti-foam agent and defoamer are often used inter-changeably.

C.S.C provides **Liquid Defoamer** and **Powder Defoamer** for water-based system.

Specification and Properties

Grade	Appearance	Basic ingredients	Feature	Application
DF900	cloudy amber liquid	Metallic soap, Mineral oil	General grade, easily emulsified in water	Various Emulsion Water-based paint Water-based adhesive
DF6000	milky liquid	mineral oil	Good dispersibility in water, reducing delamination	Various Emulsion Mid-high PVC matt paint Water-based adhesive
DFC300	cloudy milky liquid	polysiloxane	Non-VOC, disperse in water, exceptional excellent anti-foaming, reducing coating-cratering	water-based ink Emulsion adhesive Varnishes or lacquers Water-based wooden coating
DFA23L	cloudy amber liquid	Molecular compound	Effective against the microfoam, with wetting property, reducing coating-cratering	Mid-low PVC coating Semi-gloss paint Flat paint
DF250	cloudy amber liquid	Hydrophobic silica	Non separating Non settling	Mid PVC matt paint Interior or exterior wall paint, Pigment paste
DFB99	cloudy amber liquid	Silicone	Non separating Non settling	High-build coating, High viscosity elastic textured coatings
DFP520	White powder	Poly-siloxane	Hydrophobic, dispersible in water, especially for dry mix to prevent excessive shrinkage, minimize poros-ity and speed up the wetting.	Tile adhesive Tile grout Repair mortar Cement based self-leveling
DFP56	White powder	Poly-siloxane	long restraining bubble time, fast elimination, good stability and excellent compatibility in dry-mix, concrete system	Tile adhesive Tile grout Repair mortar Cement based self-leveling



Wetting Agent & Dispersant

C.S.C provides a wide range of wetting and dispersing agents for titanium dioxide, filler pigments, inorganic colored pigments and organic colored pigments. In most cases, a combination of a wetting agent and a dispersant is recommended to provide a stable dispersion.

The first step in dispersing pigment properly is wetting the pigment surface by displacing the air around the pigment particles with liquid.

Main grade and specification for Wetting agent.

Grade	Main ingredient	HLB[1]	APEO[2]	Feature	Application
PE100N	Alcohol Ethoxylate	13	No	non-ionic, general wetting agent, no freeze or thaw in winter	Cleaners&detergents, Paints&coatings, Textile processing
1306	Phosphate ester		No	anionic wetting agent and emulsifier	Latex paint, Pigment paste, Emulsion polymerization
X4005	Alkyl epoxy ethyl ether	17-18	No	non-ionic stability, high HLB emulsifier and dispersant	Emulsion polymerization, Paints&coatings Water-based adhesive
PAG20	EO/PO block co-polymer		NO	no-VOC non-ionic with anti-foaming and leveling property	Latex paint, Interior/exterior wall paint, Water-based paint or ink, Emulsion

[1]HLB range:<10 w/o emulsifier,>10 o/w emulsifier, 10-15 good wetting, 12-15 detergents
[2]APEO=Alkylphenol ethoxylate

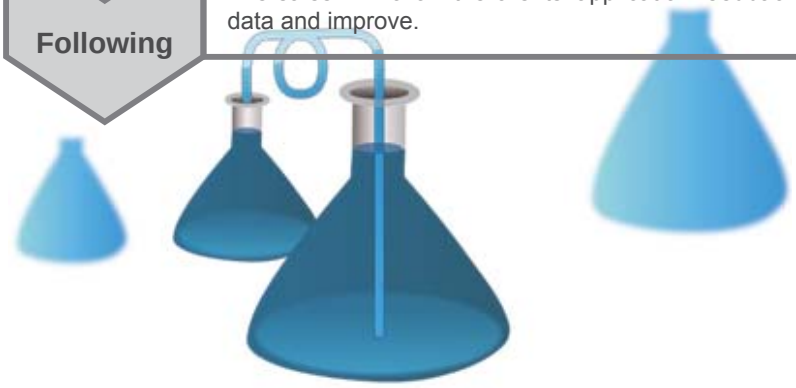
The second step is saturating the pigment surface with dispersant while particles are ground to smaller particle sizes.

Main grade and specification for Dispersant

Grade	Main ingredient	Application & description
N3800	Sodium polyacrylate polymer	General dispersing agent,stabilizer for pigment and filler for interior and exterior wall paint. Dosage: 0.3-1.0%
XA4509	Ammonium polyacrylate polymer	General dispersing agent,stabilizer for pigment; Alkali metal free, well suitable for ceramic . Dosage: 0.3-1.0%
D98	Alkoxy polymer	No APEO, suitable for organic pigment, water-based color paste.
2775	Phenolic resin	Dispersing agent, stabilizer for organic pigment in manufacturing water-based organic color paste, ink.
T100	Alkoxy polymer	No APEO,Dispersing agent, stabilizer for organic pigment in manufacturing water-based organic color paste, ink.

Quality Control & Assurance Process

Raw material	The raw materials must comply with the raw material standard. After inspection, the not approved one will be returned to the supplier
Finished Product	The finished products must comply with the product standard. After physical & chemical analysis test and application test, record the data and report. The not approved one will be sent to the department in charge of not approved products.
Sample	The sample will be taken from the warehouse according to clients' requirements.After retest, the approved will be sent out.
Sample Feedback	If the client feedback the sample is not approved, the new sample will be provided free A.S.A.P after adjustment.
Producing	The products will be produced as per the clients' approved sample.
Goods	The final goods must comply with the product standard according to the clients' approved sample.If not approved, it will be sent to the department in charge of not approved products. If approved, make Certificate of Analysis.
Package	The goods will be packed according to clients' requirement. Neutral package or the official package is available. Photo the package and email to the clients before delivery.
Following	The sales will follow the clients' application feedback all the time and record the data and improve.



Chemix Specialty Chemical

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