

CELATOM BRIGHTS™



Introducing Celatom Brights™

**A broad range of
functional products
for the paint and
coatings industry**

Ep Minerals®
A U.S. SILICA COMPANY

Incredible Minerals for Everyday Use



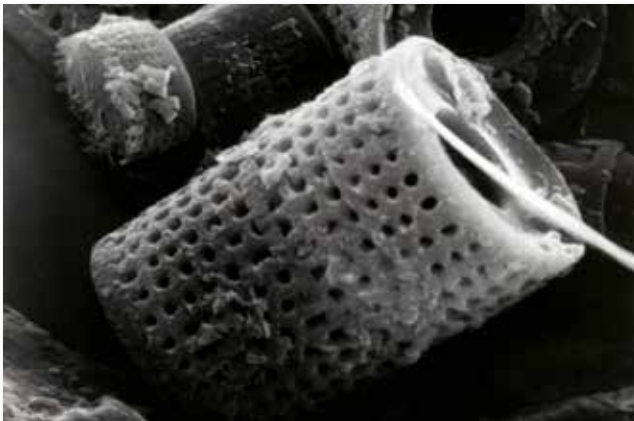
**Diatomaceous Earth (DE), Perlite,
Natural and Synthetic Fibers:
High-Efficiency Materials for Matting,
Texture and Rheology**



Most-efficient, bright white DE available

Our DE ore deposits are unique, producing the bright white DE that you're looking for in your paint applications as well as the highest-quality products for matting efficiency and performance. DE is a biogenic material that consists of fossilized remains of microscopic organisms called diatoms. The complex structure of the diatoms is what makes them so unique as a functional additive. DE is not just a "filler" but a multi-functional mineral additive that can improve the overall performance of paint or coatings. In addition to the gloss and sheen control, DE also:

- Provides titanium dioxide (TiO₂) extension
- Controls solvent release and open time
- Controls polish or burnish
- Helps control viscosity and shelf stability
- Resists cracking
- Provides consistent touch-up performance



Microscopic view of EP Minerals' unique diatom.

Flux-Calcined DE Grades					
Grade Name		CelaBrite	MW-25	MW-27	MW-31
Particle Size Distribution	D10 (µm)	6	6.5	6	6
	D50 (µm)	10.9	12.6	14.9	15.4
	D90 (µm)	17	22	33	38
+325 Mesh %		0	0.1	0.9	4
Hegman		4	3.5	1	1
GCOA (%)		120	120	135	145
Free Moisture (%)		<0.5	<0.5	<0.5	<0.5
BET Surface Area (m ² /g)		2-4	2-4	2-4	2-4
pH		8-9	8-9	8-9	8-9
Brightness (Y)		93	93	93	93
Wet Bulk Density (lb/ft ³)		25	25	24	24
Color	L*	97.4	97.4	97.4	97.4
	a*	-0.2	-0.2	-0.2	-0.2
	b*	1.5	1.5	1.5	1.5

Our natural diatomaceous earth (DE) products

In addition to our white flux-calcined DE grades, EP Minerals offers two natural diatomite alternatives, CelaFlat+™ and CelaWhite®. These natural products contain below reportable OSHA levels of crystalline silica. CelaFlat+ has higher matting efficiency and performance than the standard competitive grades and CelaWhite is our bright white natural DE product, perfectly suited for high-brightness interior paints. These products provide a safer alternative for paint formulators with brightness close to their flux-calcined counterparts. Natural grades are particularly well-suited for water based paints due to their inherent 1-5% moisture content.

Advantages of our natural grades:

- Lower density than competing products so you need less product
- Superior opacity and flatting
- Superior 60° and 85° gloss control
- Less porosity, more stain resistant
- High brightness
- Uniform diatom distribution



Diatomaceous earth rocks at Lovelock, NV mine.

Natural DE Grades			
Grade Name		CelaFlat+	CelaWhite
Particle Size Distribution	D10 (µm)	5	5
	D50 (µm)	12.4	12.4
	D90 (µm)	23	23
+325 Mesh %		<0.5	<0.5
Hegman		2	2
GCOA (%)		177	182
Free Moisture (%)		<5	<5
BET Surface Area (m ² /g)		25-35	25-35
pH		7	7
Brightness (Y)		83	85
Wet Bulk Density (lb/ft ³)		24	23
Color	L*	93	94
	a*	-0.01	-0.05
	b*	6.5	6

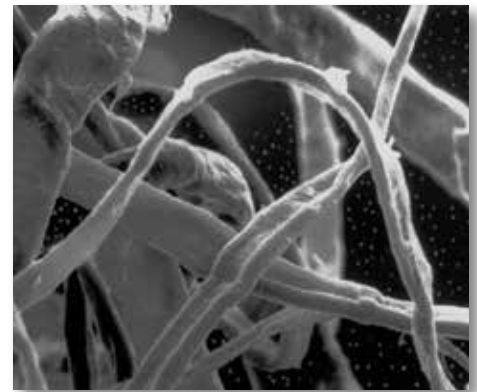
Our natural and synthetic fibers, Pre-co-Floc®

Pre-co-Floc, a 100% pure cellulose powdered product

Pre-co-Floc additives are produced from cellulose. They are powdery to fibrous cellulose materials available in a variety of fiber lengths, purities and thicknesses. Pre-co-Floc is used in paint and construction chemical products, mineral or emulsion bound, such as plasters, stuccos, tile adhesives, construction adhesives, joint fillers, skim coats and emulsion paints (matte and semi-gloss).

Pre-co-Floc advantages:

- Strong thickening effect/fiber reinforcement
- Improves processing characteristics
- Better slump resistance
- Crack inhibitor
- Reduces shrinkage
- Maintains water equilibrium and reduces uniform stress-free drying/setting



Microscopic view of cellulose fibers.

Pre-co-Floc									
Grade	PB-20	NB-10	PB-33	PB-40	PB-40M	PB-100M	PB-200M	BE 600/30	PN-300M
Bulk Density (lb/ft ³)	5 Max	4.7 Max	4.4 - 5.6	5 Max	6.9 - 9.0	9.4 - 11.2	11.5 - 13.1	11.9 - 15.6	12.5 - 16.2
Wet Cake Density (lb/ft ³)	7.3	7.3	7.1	7.3	10.9	11.5	13.1	13.6	14.1
Specific Gravity	1.58	1.58	1.58	1.58	1.58	1.58	1.58	1.58	1.58
pH	5.0 - 7.5	5.0 - 7.5	5.0 - 7.5	5.0 - 7.5	5.0 - 7.5	5.0 - 7.5	5.0 - 7.5	5.0 - 7.5	5.0 - 7.5
Minimum Brightness	80	80	80	80	80	80	80	80	80
Maximum Moisture %	8	8	8	8	8	8	8	8	8
Average Fiber Length (µm)	350	350	300	320	200	120	60	40	30
Average Fiber Diameter (µm)	40	40	40	40	40	20	20	20	20
Maximum Retained %									
32 (µm) Screen	97	95	95	95	65	50	20	18	15

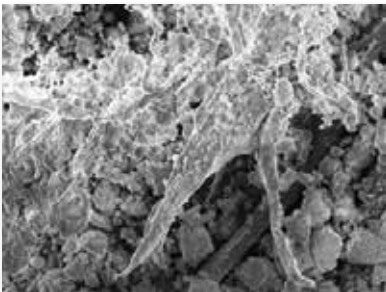
Our natural and synthetic fibers, SYLOTHIX®

SYLOTHIX, the thixotropic polyethylene (PE) fibers product

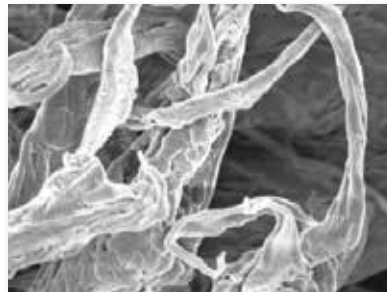
SYLOTHIX is an asbestos-free highly-efficient thixotropic agent which consists of high-density polyethylene fibers. It is used effectively as an additive in systems based on bitumen, epoxy, polyester, PVC and polyurethane with applications in adhesives, putties, sealants, coating and flooring compounds.

SYLOTHIX advantages:

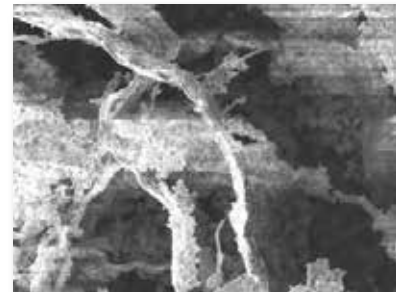
- Fumed silica replacement
- Stabilizer for viscous systems
- Improves slump resistance
- Easy to work (low dust, safe for workers and small bag sizes)
- Exceptional thickening (thixotropic) effect



Microscopic view of SYLOTHIX 400T.



Microscopic view of SYLOTHIX 100.



Microscopic view of SYLOTHIX 100T.

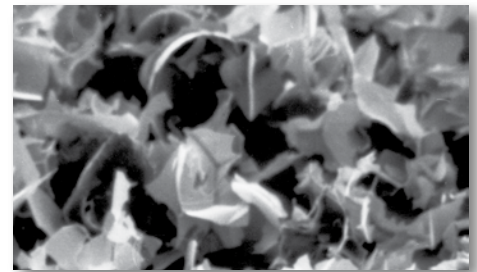
SYLOTHIX				
Type	SYLOTHIX 400	SYLOTHIX 400T	SYLOTHIX 100	SYLOTHIX 100T
Fiber Length	400 µm	400 µm	100 µm	100 µm
Proportion of Amorphous Silicic Acid (Particle Size 3 µ)	-	Approximately 60%	-	Approximately 50%
Moisture	Max 2%	Max 3%	Max 3%	Max 2%
Dispersability	+	++	+++	+++
Thixotropic Efficiency	Best	Better	Good	Better

Our perlite products

Perlite is hydrated, naturally-occurring volcanic glass. Its unique structure consists of numerous concentric layers, similar to the layers in an onion. When heated above 1600, the water bound in the rocks vaporizes, causing perlite to expand up to 20 times its original size. The resulting product has an extremely low bulk density. Perlite can be used in paints as a crystalline silica free texturing additive as well as a lightweight additive for construction materials.

Perlite advantages:

- Very low “dry & wet” bulk densities
- Essentially ‘zero’ crystalline silica (<0.05%)
- Texturing additive
- Lightweight



Microscopic view of perlite.

Celatom® Perlite (CP)								
CP Grade	600	1200	1400	2000	4000	5000	6000	
Sieve Analysis % +150 Mesh (>105 µm)	1.2	15	20	25	30	35	40	
Median Particle Diameter (µm)	24	32	37	48	55	60	66	
Brightness (Y)	Approx. 80	Approx. 80	Approx. 80	Approx. 80	Approx. 80	Approx. 80	Approx. 80	
Density (lb/ft ³)	Wet Bulk	14	12	12	11	11	9	9
	Dry Bulk	6	5.5	5.5	5.5	5	5	4.5
Density (g/l)	Wet Bulk	219	190	190	175	175	145	145
	Dry Bulk	95	90	90	90	80	80	70

To learn more about the Celatom Brights products, please contact your sales representative or visit www.epminerals.com today.



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