



Diatomaceous Earth Functional Additives

Our functional fillers have been proven effective for many years in paint, stucco and coatings applications. These unique products, made from trillions of microscopic diatoms, make Celatom® one of the worlds finest paint pigment extenders and flatting agents. Celatom effectively:

- Controls gloss and sheen
- Extends primary pigments
- Adds bulk and strength
- Increases permeability
- Enhances coating adhesion

Celatom diatomaceous earth affords paint chemists the flexibility to do more than ever though possible.

The Perfect Flatting Agent and Extender



Celatom functional additives are produced from the purest fresh water diatomaceous earth (DE). Its complex, net-like structure, consistent particle size and morphology make Celatom an ideal flatting agent and pigment extender.

While its structural properties are fascinating to scientists, more importantly Celatom DE is an easy, efficient and economical tool for improving the consistency of paints and coatings.

The intricate structure of the microscopic diatoms protrudes from the coating surface to diffract light and promote a uniform sheen. By mixing different grades and quantities, the paint's luster can be uniformly and reliably controlled to any degree, from semigloss to flat.

In addition, our consistent high quality assures perfect batch-to-batch matching of color and sheen as well as clog-free performance in professional spray equipment.

Save Money

Celatom® DE will extend expensive pigments and will reduce costs without sacrificing quality. By substituting Celatom DE for titanium dioxide pigments (for example) at up to 10% by volume, the more expensive TiO₂ can be extended without loss of hiding or tinting strength.

Breathe Easier

The diatoms in Celatom functional additives contain about 85% internal porosity, which increases the permeability of the paint film.

Increased permeability allows the paint vehicle to rapidly volatilize so the paint dries quickly and uniformly. This produces a more durable coating with reduced blistering and peeling. Besides providing sheen control, Celatom functional additives also increase coating durability and toughness. Other advantages include:

- Improved sanding properties
- Better touch-up properties
- Increased night reflectivity in traffic paints
- Mechanical “tooth” for improved adhesion of subsequent coats.

Technically Speaking

Celatom functional additives are chemically inert and will not react with pigments or binders used in typical solvent or water-based organic coatings.

The “Natural” Alternative

In addition to our white, flux-calcined grades, EP Minerals® offers a natural diatomite functional additive called Celatom CelaFlat+ (aka LCS-3). This product provides a low crystalline silica alternative for paint formulators since its natural brightness eliminates the need for calcination. The table below illustrates the effectiveness of CelaFlat+ in gloss and sheen reduction as compared to our flux-calcined products. Its high brightness makes it suitable for use as an extender, even in white paint. Natural functional additives also display better suspension properties in aqueous media due to their inherent 1-5% moisture content.

Product	Product Brightness	Paint* Brightness	Gloss 60°	Sheen 85°	Hegman
Natural Functional Additive					
CelaFlat+	83	87	2.2	1.2	2
Celawhite	85	88	2.2	1.3	2
Flux-Calcined Functional Additives					
CelaBrite	90	88	2.1	1.3	5
MW-25	90	88	2.0	1.2	4
MW-27	90	88	2.0	0.8	1.5

* Acrylic base paint with TiO₂ and Celatom® Functional Additives.

A Winning Combination

Celatom functional additives are particularly effective when used in conjunction with different types of extender pigments. For example, talc is much more efficient and provides better sheen when used with Celatom.

Another major benefit is that Celatom can be added in smaller amounts, while maintaining the same degree of flattening, thus reducing the need for other extenders.

Please contact your EP Minerals sales office or our customer service line for assistance with your paint, stucco or other coatings applications.

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