



surface treatment of cardre fillers

today's cosmetic chemists are formulating products to meet some challenging marketing claims. examples of these are long-wearing, waterproofing, age-defying, soft-focus, defining/volumizing, transfer-resistant, and the list goes on. fortunately, these claims are not that difficult to substantiate, the consumer

need only to wear a product once to determine its effectiveness.

as a result of having such scrutinizing consumers, raw materials have had to meet high levels of performance themselves to be beneficial in a formula. all of the cardre fillers are available with the following surface treatments. the benefits range from improved aesthetic characteristics to enhanced functional properties.

Treatment	Applications	Benefits
MM Magnesium Myristate	pressed powders, liquid make-ups, and mascaras	hydrophobicity, excellent adhesion and pressibility, cost effective
AS Alkyl Silane	liquid make-ups, pressed powders, mascaras, hot pours	extremely hydrophobic, chemically bound treatment, wet well by oils and silicones, ideal for wet/dry application
LL Lauroyl Lysine	pressed and loose powders, pigmented emulsions	silky, elegant feel, natural treatment, pH similar to that of skin
SI Silicone	liquid make-ups, wet/dry applications, pressed powders, anhydrous formulations	very hydrophobic, chemically bound treatment, wet well by oils and silicones, ideal for wet/dry application
FHC Polyperfluoromethyl isopropyl ether	pressed powders, slurry systems, liquid make-ups, lipsticks	velvety feel, oil/water resistance for exceptional wear
NFW Natural Flower Wax lavender, sage, or chamomile	pressed and loose powders, liquid make-ups	soft feel, moisturizing wax barrier, excellent pressing characteristics; natural treatment

cardre functional fillers

about fillers

the term fillers encompasses a broad category of raw materials ranging from platy minerals to spherical polymers and other microspherical particles used in cosmetic formulations.

the functionality of these substrates and spherical particles varies depending on the intended application.

in powder formulations fillers provide slip and coverage as well as anti-caking properties. fillers contribute to the payoff, evenness of color, and stick strength of lipsticks. the viscosity of a mascara formulation is balanced by the filler. film gloss and hardness in nail enamel is a result of the appropriate filler choice. in emulsions the final finish and evenness of color is achieved from the filler incorporated.

surface treatment facts

The use of surface treated fillers in any application will have a direct impact on the final formulation.

in pressed powders ...

- surface treating the major filler component immediately improves the formula compressibility.
- incorporation of a hydrophobically modified filler allows for a wet/dry application.
- overall wear improves, as skin adhesion increases.
- the use of fillers treated with any surface treatment significantly enriches the feel of a powder formula.

in emulsions/anhydrous formulations ...

- surface treating the filler lowers the overall oil absorption of the substrate which affects the finished product characteristics and performance.
- a higher filler load can be attained as a result of the reduction in oil absorption.

overall benefits ...

- in decorative cosmetics, evenness of color is achieved through the use of surface treated fillers in the formula.

product samples available upon request
cardre inc.
pigment technologies

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cardre surface treated talc

talc is hydrated magnesium silicate. it is the most widely used filler pigment in cosmetics and is the most cost effective. the platy nature of talc allows for good pressing properties as well as excellent slip. cardre offers talc surface

modified with any of the cardre treatments. cardre also offers toll surface treatment on any talc of your choice. please contact us for more details.

cardre micas

mica is natural hydrous potassium aluminum silicate. traditionally, mica is mined in sheets, and then must undergo a delamination process to reduce particle size. the micas that cardre offers are found naturally in sand. many years ago, the area that is now the southeastern United States, was covered in seas. with the disappearance of the seas, a deposit remained of kaolin clay in conjunction with sand. 7% of this sand is composed of mica. this mica has been found to be very pure, as the heavy metals and iron contaminants have been leached out over time. the result is a mica that is very white, highly delaminated, and of uniform particle size. cardre offers two grades of this domestically sourced mica -- micas 8 and 22. the controlled particle size results in products having a remarkably smooth texture. surface treatment of these unique micas further enhances their quality.

cardre mica 180 is another domestically sourced mica that is naturally water-ground, resulting in a very soft product. the average particle size is 1-80 µm. this mica is color controlled as an effect of iron contaminants having been leached out of the mineral in the natural state -- a consistently white mica is the end product.

- cardre 72041 mica 8** - 8 µm average particle size, matte mica
- cardre 72141 mica 22** - 22 µm average particle size, moderate luster
- cardre 79923 mica 180** - 1-80 µm particle size range, inexpensive, soft, consistently white mica



cardre sericite

sericite is a micaceous mineral having physical properties intermediate between mica and talc. skin feel is unsurpassable, similar to that of the highest quality platy talcs -- with added lubricity over micas, giving a silky, velvety sensation. when wet, sericite does not gray to the extent that mica will. sericite offers a matte finish with better pressing characteristics than mica. sericite is also available with any of the cardre surface treatments, making an outstanding product even better. **cardre 70114 sericite**



substrates

sphericals

cardre surface treated ceramic microspheres

cardre surface treated ceramic microspheres affordably impart softness, light diffusing properties and lubricity to cosmetic formulations. surface modified spheres have low oil absorption which allows for high solids loading in formulas with minimum shrinkage. the ball bearing effect improves spreadability and wear. ceramic microspheres surface treated by cardre offer a cost effective alternative to polymeric particles. cosmetic chemists realize the utility of this versatile filler in everything from hot pours to powders.

- surface treated CM 111** – spherical magnesium silicate
- surface treated CM 210** – sodium potassium aluminum silicate: spherical

cardre hollow core silicate

this spherical bead offers unique properties in any formula. they are hollow, therefore, extremely light weight, and appear nearly 'invisible' as a spherical filler. very low scattering properties and negligible absorptive properties contribute to the novelty of this product. target crush strength data indicates a 90% survival at 10,000 psi, ensuring the spherical integrity during the manufacturing process. cardre hollow core silicate is an excellent choice in formulations containing a high pigment load, as they will not 'dull' out the color intensity as other substrates will. this product is not available surface treated. **cardre 73178** -- hollow core silicate

cardre pmma

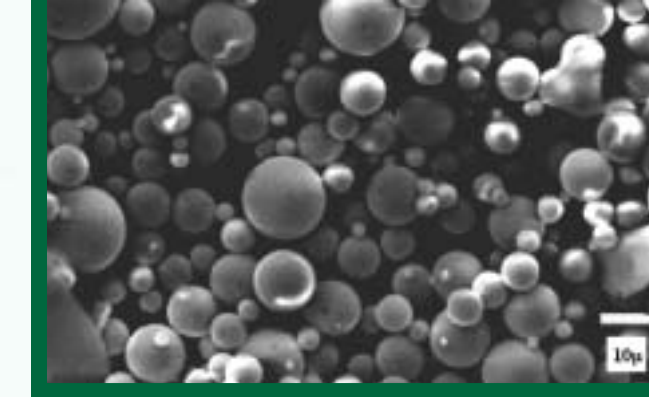
spherical polymers such as pmma and nylon are the fillers of choice when formulating products with exceptional feel, light diffusing properties, improved payoff, and ease of spreadability on skin -- which results in uniform coverage. the average particle size of cardre pmma is 5-10 µm. **cardre 73233 pmma II**

cardre surface treated nylon 6 and nylon 12

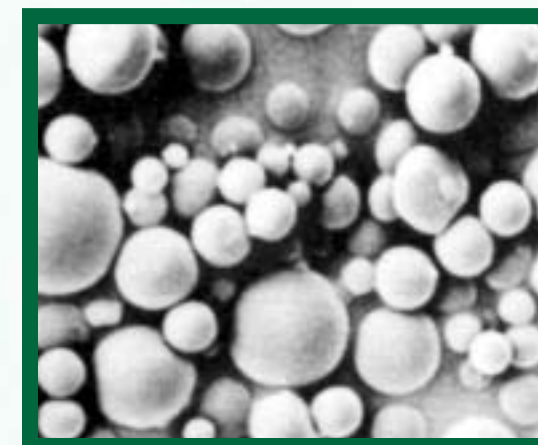
cardre offers both nylon 6 and nylon 12 surface treated -- rendering these spherical polymers hydrophobic, as well as affording a very creamy, luxurious feel. surface treated nylon provides the best feel in powder formulations out of all the spherical beads available to the cosmetic formulator. **nylon 6** – nearly spherical particle, more hydrophilic and more cost effective than nylon 12. **nylon 12** – spherical particle, excellent feel

cardre silicas

cardre offers the most comprehensive range of silicas available in the United States. extremely controlled particle size ranges provide for extraordinary feel. a variety of oil absorption levels are available. please contact cardre for additional information and samples.



sodium potassium aluminum silicate



polymethyl methacrylate

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