

Fluoro Silane Treatment - FS

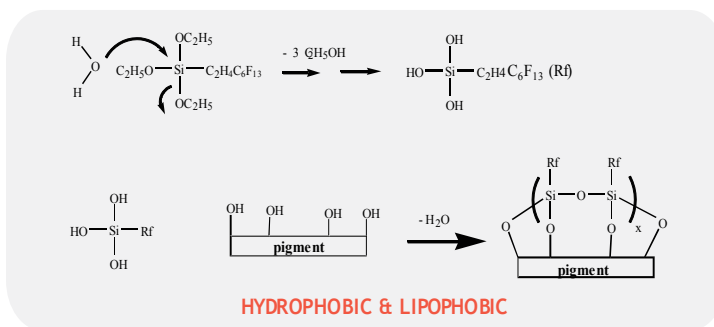


FS Surface Treatment

Kobo Products is pleased to offer an innovative, environmentally agreeable Fluoro Silane (FS) treatment. The FS treated pigments not only boast hydrophobic properties but are also lipophobic due to the low surface tension typically associated with fluorinated materials. These attributes can be visually shown through the “beading effect” of water and oil droplets on the surface of pressed powders and can also be measured by contact angles greater than 135 degrees. Furthermore, the Fluoro Silane is chemically bonded to the pigment surface thus providing a stable environment and restricting the treatment from being readily removed.

The Fluoro Silane treatment (.08-2%) facilitates excellent spreading and adhesion to the skin while simultaneously preventing the agglomeration of pigments into fine lines and wrinkles. The adherent properties of the FS treated pigments contribute to the long wear of these treated pigments even in the presence of sebum and water. By repelling sebum from pigments on the skin, oil residual is reduced

and the darkening shift of color is less noticeable in comparison to other treatments. Applications of FS treated materials can be found in current Kobo formulas for long wear liquid foundation, dry water foundation and pressed powder foundation. These FS treated pigments also have the potential to be used for improved water resistance and long wear in mascaras.

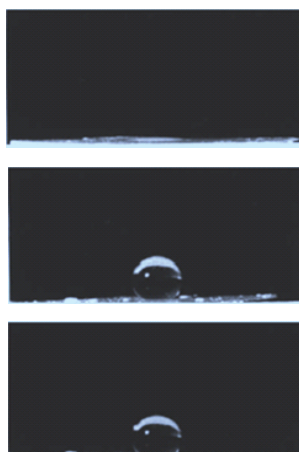


*(Oil Droplet on FS Treated Pressed Powder)
FS treatment is extremely lipophobic and hydrophobic, allowing it to repel water and sebum on the skin.*



Demonstration of water beading on pressed powder featuring FS Treatment.

Contact Angle (Water)

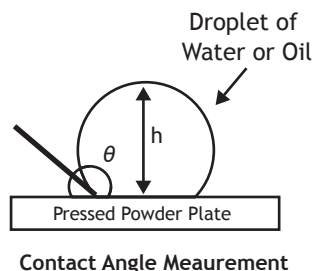
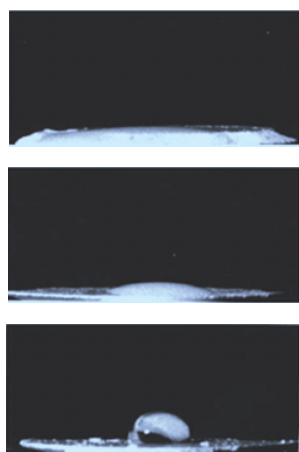


Non Treated
TiO₂

Silicone Treated
TiO₂

FS Treated
TiO₂

Contact Angle (Oil)



Surface Tension

$$y = \frac{\rho gh^2}{2(1-\cos\theta)}$$

The surface tension of water and oil respectively on an untreated, silicone treated and FS treated substrate of titanium dioxide. The third pair of images in this sequence clearly shows that FS treatment is superior to the untreated and silicone treated surfaces in its resistance to water and oil as displayed by the fairly large contact angle of both beaded liquids.

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Technical Literature ref FS-001 - October 1, 2018

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Trade Name	INCI Name	Product Type
BTD-FS	Titanium Dioxide (And) Perfluorooctyl Triethoxysilane	Pigmentary TiO ₂
RBTD-M-FS	Titanium Dioxide (And) Perfluorooctyl Triethoxysilane	Pigmentary TiO ₂
BWBO-FS	Iron Oxides (CI 77499) (And) Perfluorooctyl Triethoxysilane	Black Iron Oxide
BWRO-FS	Iron Oxides (CI 77491) (And) Perfluorooctyl Triethoxysilane	Red Iron Oxide
BWYO-FS	Iron Oxides (CI 77492) (And) Perfluorooctyl Triethoxysilane	Yellow Iron Oxide
New BEUB-FS	Ultramarines (And) Perfluorooctyl Triethoxysilane	Ultramarine Blue
New BMV-FS	Manganese Violet (And) Perfluorooctyl Triethoxysilane	Manganese Violet
GMS-FS	Mica (And) Perfluorooctyl Triethoxysilane	Sericite
MICA S-FS	Mica (And) Perfluorooctyl Triethoxysilane	Mica
MSS-500N-FS	Silica (And) Perfluorooctyl Triethoxysilane	Silica Microsphere
MST-547-FS	Polymethylsilsesquioxane (And) Perfluorooctyl Triethoxysilane	PMSQ Microsphere
SP-10-FS	Nylon-12 (And) Perfluorooctyl Triethoxysilane	Nylon Microsphere
TALC N-FS	Talc (And) Perfluorooctyl Triethoxysilane	Talc
BLUE 1AL S-FS08	Blue 1 Lake (And) Perfluorooctyl Triethoxysilane	FD&C Blue No.1 Aluminum Lake
RED 6BA S-FS08	Red 6 Lake (And) Perfluorooctyl Triethoxysilane	D&C Red No. 6 Barium Lake
RED 7CA E-FS08	Red 7 Lake (And) Perfluorooctyl Triethoxysilane	D&C Red No. 7 Calcium Lake
New RED 33AL-FS105	Red 33 Lake (And) Perfluorooctyl Triethoxysilane	D&C Red No.33 Aluminum Lake
YELLOW 5AL-FS08	Yellow 5 Lake (And) Perfluorooctyl Triethoxysilane	FD&C Yellow No.5 Aluminum Lake



KLF-247-BR Foundation Perfecting Primer

Part 1

- Deionized Water - Water 25.40%
- Glicerina Bi-Destilada U.S.P. - Synth: Glycerin 5.00%
- Sodium Chloride - CAAL: Sodium Chloride 0.60%

Part 2

- Exilva FM 02-V - Borregaard/Kobo Products: Water (And) Cellulose 3.00%

Part 3

- CXG-1104 - Avantor/Kobo Products: Dimethicone (And) Dimethicone/Vinyl Dimethicone Crosspolymer 12.00%
- KF-995 - Shin-Etsu: Cyclopentasiloxane 11.50%
- Permethyl® 99A - Cosmotec: Isododecane 11.50%
- **RBTD-M-FS** - Kobo Products: Titanium Dioxide (And) Perfluorooctyl Triethoxysilane 6.46%
- CPF-3300@10cSt - Avantor/Kobo Products: Phenyl Trimethicone 5.00%
- KF-6017 - Shin-Etsu: PEG-10 Dimethicone 3.00%
- Bentone® Gel VS-5PC V HV - Cosmotec: Cyclopentasiloxane (And) Distearidimonium Hectorite (And) Propylene Carbonate 2.00%
- KF-6050 - Shin-Etsu: Cyclopentasiloxane (And) PEG/PPG-18/18 Dimethicone 2.00%
- **KOBOGUARD® 5400 IDD** - Kobo Products: Hydrogenated Polycyclopentadiene (And) Isododecane 2.00%
- **BWYO-FS** - Kobo Products: Iron Oxides (CI 77492) (And) Perfluorooctyl Triethoxysilane 1.13%
- Cosmoguard® SL-CP - Cosmotec: Phenoxyethanol (and) Ethylhexylglycerin 1.00%
- KF-96A-350cs - Shin-Etsu: Dimethicone 1.00%
- **BWRO-FS** - Kobo Products: Iron Oxides (CI 77491) (And) Perfluorooctyl Triethoxysilane 0.29%
- **BWBO-FS** - Kobo Products: Iron Oxides (CI 77499) (And) Perfluorooctyl Triethoxysilane 0.12%

Part 4

- **GWC-150E** - GuideWin/Kobo Products: Polybutyl Acrylate (And) Silica 7.00%

Manufacturing Procedure

1. Combine Part 1 under prop mix.
2. Add Part 2 to Part 1 and prop mix until homogeneous.
3. Combine Part 3 and prop mix until complete dispersion of the pigments.
4. Slowly add Parts 1 and 2 to Part 3 under prop mix.
5. Slowly add Part 4 and mix until homogeneous.

Description

This Foundation Perfecting Primer offers lightweight coverage and benefits of a primer such as soft focus and enhanced makeup wear. Other foundations may be applied over this primer to achieve medium to full coverage. The formula contains **Perfluorooctyl Triethoxysilane (FS) treated pigments** that show both water and oil repellency. This helps to achieve affinities to both skin and makeup. Exilva FM 02-V, a natural cellulose-based performance enhancer, contributes to formula stability and shear thinning rheology. Avantor's elastomer gel, CXG-1104, and silicone fluid, CPF-3300@10cSt, improve the feel upon application. **KOBOGUARD® 5400** is an oil-soluble polymer that enhances the adhesion and substantivity of the formulation to the skin. **GWC-150E** is a polymer microsphere that imparts soft focus and creamy feel.

**Kobo is a licensee of Avon US Patent: 6,315,990
Nail Enamel Applications are excluded.**

These products cannot be sampled or sold for Nail applications.

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FS Treatment

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