Honeywell DUO™ 193FS
Anti-Reflective Coating
OVERVIEW

DUO193FS is designed for use in semiconductor manufacturing to improve and extend ArF photolithography and the plasma etch process. Containing a patented organo-siloxane \( (R_xCH_3ySiO_z) \) polymer (\( R = \) organic chromophore), DUO193FS coatings meet the lithographic and etch requirements necessary for the patterning of thin film features within state-of-the-art IC devices. Properties include: bottom anti-reflective coating (BARC) for ArF lithography, planarization of line or via topography and a faster wet etch rate than previous inorganic BARCs.

DUO193FS offers excellent plasma etch characteristics. The organo-siloxane polymer comprising DUO193FS provides a high degree of plasma etch selectivity to photoresist. Additionally, the organo-siloxane polymer allows for matched plasma etch selectivity to Low-k SiOCH and FSG dielectric films facilitating Dual Damascene patterning. Such plasma etch selectivity is required for exact transfer of the as patterned photoresist dimensions into the underlying thin films.

As requested by customers, DUO193FS is tuned to have a high strip rate in Low-k selective fluoride and amine based wet stripping chemistries. These strippers are designed to remove the inorganic BARC without damage to the underlying ILD.

**Optical Properties**

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\begin{align*}
\text{n}_{193\text{nm}} &= 1.8 \\
\text{k}_{193\text{nm}} &= 0.35
\end{align*}
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**Material Stability**

- Shelf Life @ 0°C: >12 months
- Shelf Life @ 50°C: >9 months

**Bottle Sizes Available**

(Glass, HDPE, NowPak)

250ml, 500ml, 1L, 2.5L