



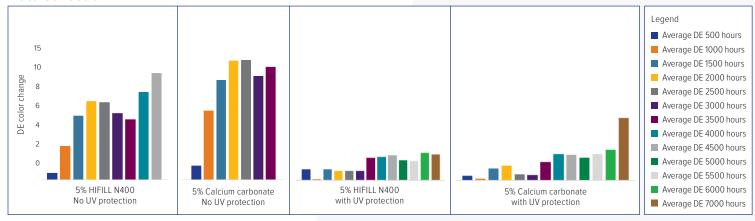
HIFILL® N (Nepheline syenite) helps extend the durability of colored plastics due to its superior light stability relative to calcium carbonate

Nepheline syenite photochemical stability is known to the paint and coatings industries for decades. In this study we looked at the photochemical stability of Nepheline syenite and Calcium carbonate in a PP resin, without and with a HALS type UV stabilizer. Test samples were made with a 5% loading of each mineral. The samples were exposed to UV radiation (ASTM D4329 - Method A) and the DE color change we measured in 500 hour intervals.

The extended durability of colored plastic products translates into higher value products and enables formulation cost savings through the optimization of light stabilizer usage levels, Nepheline syenite can potentially allow lower additives dosages given its low oil absorption.

HIFILL N has FDA approval for upto 50 wt% loadings in all polymer systems.

Data collection



Test results

- Nepheline syenite showed superior weatherability relative to Calcium carbonate in both stabilized and non-stabilized systems
- After 7000 hours in the QUV, Nepheline Syenite, with a UV stabilizer, had a delta E color change of only 1.69. Compared to a delta E color change of 4.6 for Calcium Carbonate, with the same UV stabilizer loading
- The data shows using Nepheline Syenite allows the user to lower the UV stabilizer package without sacrificing the UV resistance

Process and formulation benefits

- Non-hygroscopic therefore faster throughput and no need to be surface treated
- Wets out easily in the polymer matrix
- No antagonistic effect on additives thus enabling optimized dosages of light stabilizers, processing aids
- Superior scratch and mar resistance

Regulatory compliance

- FDA approved for use in indirect contact food applications
- Non-reportable level of free crystalline silica

For more information about HIFILL N mineral fillers, please call: 800.243.9004 or email: Sales@coviacorp.com.

