Applications

# MICROPOROUS

## Microporous Precipitated Silica for Battery Separator and Synthetic Paper Applications

The microporous structure of precipitated silica makes it uncommonly well-suited to two highly specialized applications for which PPG is known as an industry pioneer.

### Battery Separators

Precipitated silica is a key component of battery separators used in lead-acid batteries for automotive, industrial, and recreational applications. The battery separator is a silica-filled polyolefin material, typically polyethylene, that prevents contact between the anode and cathode electrodes in the electrolytic bath while at the same time allowing charge transfer. Precipitated silica enables microporous battery separators with good electrolyte wettability and low electrical resistance, which are critical to battery performance.

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### Synthetic Papers

Precipitated silica is used in the production of TESLIN® substrate, a proprietary synthetic paper by PPG, that excels for applications demanding a tough, high-performance material. The microporous structure of precipitated silica is combined with the strength of a polyolefin polymer to create a ruggedly durable synthetic substrate that locks inks, toners, adhesives, coatings, and laminating films into its structure, creating virtually indestructible bonds and related performance benefits that other synthetic papers cannot replicate.

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