

## UV curing enables a chrome look for aluminum wheels Environmentally friendly and meets performance requirements

Helios Coatings, Inc. located in Canton, OH specializes in environmentally friendly, metallized and premium paint coatings for the automotive OEM and wheel manufacturers. As consumer demand for chrome plated wheels was increasing, wheel manufacturers faced environmental regulations limiting their use of hexavalent chromium for chrome plating wheels. Helios saw the opportunity to create an environmentally friendly process to create chrome look wheels.

Helios developed a patented process, Metallight™, which results in a metallized coating similar in appearance, but more durable than plated chrome. UV curing enabled process temperatures less than 325°F, ideal for critical cast alloys and electro-coated substrates and meets the toughest automotive OEM specifications, for corrosion, thermal shock, and UV exposure.

The process, developed with critical support from Heraeus Noblelight, begins with a non-chromate pretreatment of several wash/rinse cycles. The decorative coating system that follows combines layers of powder coatings, to smooth and protect the wheel, with UV liquid coatings. The UV cured layer combined with vacuum metallization provides the "plated" look. The UV coating cures at low temperatures so the temper of the alloy wheel is never compromised. Using automated HVLP guns to apply the UV coating helps keep the already low solvent emissions even lower.



Photo: Helios Coatings, Inc.

### Benefits

- Environmentally friendly, no hexavalent chromium or special permitting
- More durable quality finish than chrome
- Faster process development due to Heraeus support including loaner UV curing systems for testing at customer locations

### Technical Data

- 5, 10-inch microwave-powered UV curing systems with variable power feature
- Parts travel 600 linear feet, entire process footprint is 30,000 ft<sup>2</sup>

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