

True black is the new black.

**Differentiate your products with
a durable, true black finish.**

Black. It's classic, yet modern. Sophisticated, yet practical. And it's in demand. Consumers want products that reflect the best that the color black has to offer – in consumer electronics, household products, kitchen and bath fixtures, and automotive interiors and accents – and they're willing to pay a premium for it.

To help manufacturers meet demand, Vapor Tech has developed a true black coating – a deep, dark color that will not fade or discolor leaving a fringed, greying look over time. Our Low-Temperature Arc Vapor Deposition™ (LTAVD) process is a patented technique that creates deep, dark, and vibrant colors, which yield the darkest, most durable, metallic black finishes measured in the market today. These coating structures can also be applied to coatings made with our patented RAAMS™ deposition techniques (available exclusively in the Cadence FLEX deposition system) to harden and increase the glossiness of deep, dark thin films for high-wear or abrasive applications.

Solving the production challenge

Producing a true, neutral black using PVD techniques has historically been extremely difficult. The challenge lies in that there are no naturally occurring black ceramic or metallic materials. Manufacturers typically mix soft, non-ceramic black particles such as graphite into harder materials. The size and distribution of these particles help the film coating absorb light, but the process requires complex controls. Furthermore, with some techniques, the impurities added to the coating material result in a softer, less durable coating than is expected from a quality, durable, decorative finish. Historically, to get highly durable black coatings from PVD, customers had to live with a slight – often undesirable – yellow tint.

Vapor Tech invested more than 10 years in research and testing before successfully developing a true neutral black LTAVD coating stack and deposition process. Through our proprietary and patented optical absorption process, a coating surface is created that acts as a light trap which increases the amount of light absorbed by the surface. The coating process can be “tuned” to achieve different shades of “black” to enable a precise match to a customer's requirement. The simple controls embedded in Vapor Tech's VT-3000, VT-1500, and Cadence FLEX deposition systems allow manufacturers to tune the coating to achieve different shades and tints of black, and precisely match colors to production requirements.



The image shows a true black coating and the conformity of the coating. The image indicates how the same color looks slightly different on alternate surface textures.

Add value to products

Using the L*a*b* color lightness and hue standard, Vapor Tech's "true" black achieves the most accurate quantitative rating measured in a durable, hard coating. Black is THE iconic branded color for a broad range of manufacturers of high-end consumer electronics, motorcycles, and other products. After all, the color black enables products to look classy, and a durable black coating keeps products looking great beyond the "out-of-the-box" experience.

Color is just one of the benefits enabled by our LTAVD and RAAMS deposition technologies. Manufacturers and industrial designers can achieve a stable, repeatable, and customizable colorfast coating that will not crack, fade, or peel. The LTAVD process supports product designs and production requirements by coating a wide variety of materials, including electroplated plastics; RAAMS coatings are densified and smoother than thin films created with cathodic arc deposited techniques. Plus, the thin coatings applied by the LTAVD and RAAMS techniques preserve critical part dimensions, tolerances, and underlying details, maintaining the integrity of surface features, textures, and part functionality.

"By creating the most beautiful, lustrous, and uniform true black PVD coating, Vapor Tech helps companies gain a 'look and feel' advantage in their products' appearance, quality, and durability."

- David Humenik, President, Vapor Tech



About Vapor Tech

For more than 25 years, companies in a variety of industries have relied on Vapor Tech's industry-leading coating technologies to ensure their products feature premium surface finishes and functional coatings. Vapor Tech is a subsidiary of Masco Corporation.

(303) 652-8500 | VaporTech.com | vtsales@VaporTech.com

© 2016 Vapor Technologies, Inc. All rights reserved.