DECOLINE II

Sustainable and Eco-friendly Colored Coatings
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Marketing Attributes

- Four basic metallic colors are available: bronze-gold, blue, violet, green-gold
- 1, 2, 3 or 4 of these colors are possible on a single component surface
- Complex geometries will generally have at least two-color tones
- Components up to 68 or 90 mm OD and 130 mm tall can be coated
- Worldwide production including North America starting early Q2 2022
- Capability of up to 90 mm OD by 130 mm height available in Europe mid Q2 2022
- Coatings are safe enough to be used for medical implants. Titanium whether in pure form, oxidized, or as a nitride is categorized by the FDA as GRAS.
- Ideal substrates are clear PET & glass and bright metals such as aluminum and SS
- Harder substrates do NOT require undercoatings for glass with a ceramic coating
- Softer substrates such as ABS and PC can be UV lacquer treated to enhanced durability
- Extremely eco-friendly
  - For most substrates, no solvents, chemicals or organic coatings are needed
  - Energy required for coating process is lower than anodizing, lacquering or plating
  - Nano-thin coating has far less coating material compared to an ink-printed bar code
- Recyclable for many packaging applications
  - APR (recycling) certification for translucent coated PET
  - After remelting of recycled glass, the unmeasurable amounts of titanium have no effect on mechanical or optical properties of re-cast glass
Technical Details

» Translucent coating thickness is under 25 nanometers (less than 10 atomic layers)
» Base colored ceramic coating can be built up to achieve opacity over non-clear substrates
  › A reflective undercoat can also be used to improve durability on softer plastics [ABS, PC]
» Clear substrates allow for the most vibrant coating colors (lack of color absorption)
» The coating is a very hard ceramic (inorganic). Normal wear and tear will not damage the coating

› Hard substrates such as glass and metal are ideal and only require a plasma pre-treatment
› Polyolefins [PP, PE, HDPE] will often require an undercoat such as a UV-cure lacquer
› Although not required, clear or tinted overcoats can be used if desired for certain applications
› Most print and ink technologies are compatible. Can also be laser removed or etched [see photo]
› Rapid processing time of up to 90 parts per minute with the SINGULUS TECHNOLOGIES POLYCOATER 68 or 90
SINGULUS TECHNOLOGIES develops and assembles innovative machines and systems for efficient thin-film coating and surface treatment processes, which are used worldwide in the Photovoltaics, Semiconductor, Medical Technology, Packaging, Glass & Automotive as well as Battery & Hydrogen markets.

The company’s core competencies include various processes of coating technology, surface treatment as well as wet-chemical and thermal production processes. SINGULUS TECHNOLOGIES sees sustainability as an opportunity to position itself with innovative products. In the focus are environmental awareness, efficient use of resources as well as avoidance of unnecessary CO₂ pollution.

SINGULUS TECHNOLOGIES attaches great importance to responsible and sustainable corporate governance.