

Spectral™

Optical Coating Material

**Background information provided to Old Dominion
University to justify generation of the CIT Proposal**

Face International Corp.

One of The Face® Companies

Patented and patents pending

Purpose

- Prior to generating the CIT proposal, Old Dominion University generated a series of questions to determine the potential economic impact of Spectral™ Optical Coating. Those questions covered the following areas:
 - What problem is being solved?
 - What is our specific solution?
 - Why now?
 - What is the market size and who are the competitors?
 - What is the specific product and the business model for getting it to market?

What Problem is Being Solved?

- Generic photovoltaic (PV) panels are dark in appearance.
- This significantly limits the acceptable locations where PV panels can be installed.
- Various techniques have been developed to address this problem, all of which have drawbacks including:
 - significant reductions in energy efficiency;
 - limitations in the degree to which the PV panels are actually concealed;
 - limitations in the color and appearance of the final installation;
 - and the requirement to use only specific types of PVs.

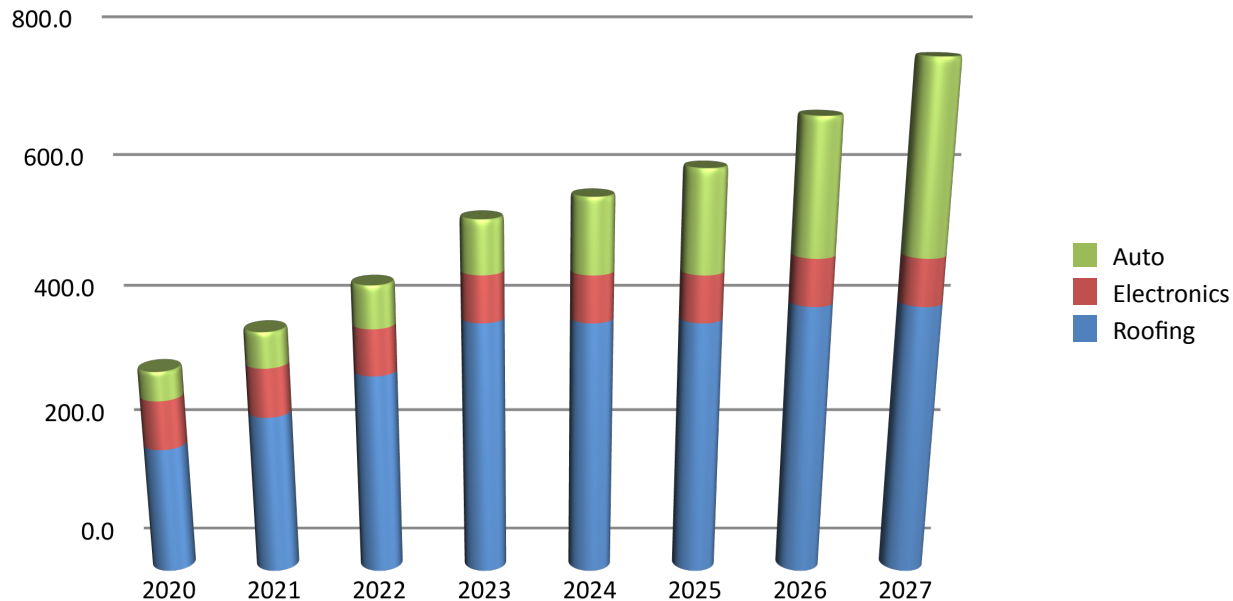
What is Our Specific Solution?

- Spectral™ Optical Coating is the first apparently opaque but substantially light transmissive coating ever developed and can be made in essentially any color.
- It can be applied over any PV panels with only a small decrease in overall efficiency.
- The application of Evergreen® Spectral™ coating can be a simple matter of spraying the coating on a PV panel.
- In addition to concealing PV elements in or on the PV panels, the coating provides a protective top layer enhancing the durability of the installation.
- In some cases it can also increase the efficiency of the light transfer.

Why Now?

- Face has been recently allowed patents on Spectral™.
- This Optical Coating technology was developed to address the market for ‘hidden’ PV panels in a variety of uses:
 - roofing materials,
 - electric vehicles, and
 - various portable electronic devices.
- Each of these (and other) markets has reached a ‘tipping point’ where the aesthetic of current PV panels is inhibiting growth:
 - not everyone wants a black roof, or a black electric vehicle, or a black cell phone.
- With Spectral™ consumers will no longer have to choose between PV energy harvesting and attractive aesthetics.

What is the Market Size?



Assuming we achieve a cost of \$140/gallon for Spectral™ Optical Coating (similar to the cost of automotive finishes) the obtainable market size is projected to increase from about \$300 million in 2020 to over \$700 million in 2027.

Who are the Competitors

- No similar optical coating technology exists.
- The “competition” consists of today’s predominately black PV panels.

What is the Product?

- Spectral™ Optical Coating will produce a product similar in appearance to paint.
- However, while paints are opaque and non-transmissive of light, Spectral™ Optical Coating will be opaque in appearance only, it will be substantially transmissive (80% +) of light to the PV panel over which it is applied.
- Spectral™ Optical Coating will also act as a hard, protective finish over the PV panel.

What is the Business Model?

- Spectral Optical Coating will be marketed through two primary channels:
- 1) Face[®] will partner and/or license one or more existing paint manufacturers to produce Spectral[™] Optical Coating.
- 2) Face will partner with makers of the products incorporating the optical coating, including:
 - Electric vehicles
 - Roofing tiles
 - Siding and other building materials
 - Portable / battery-powered electronic devices.