



## Supporting Data

Flexible printed circuit (FPC) patterns are created by: 1) screen printing CNT ink on top of the MM film; 2) hot air drying at ~ 100°C; 3) chemically etching the exposed Cu mesh areas. Typical etchants include Ferric Chloride (industry standard for Cu etching) or Ferric Nitrate.

This affordable circuit patterning process is suitable for mass production and is referred to as “Print / Etch / Done”. It has fewer steps & less waste streams than photolithographic etching. It is much faster than laser ablation.

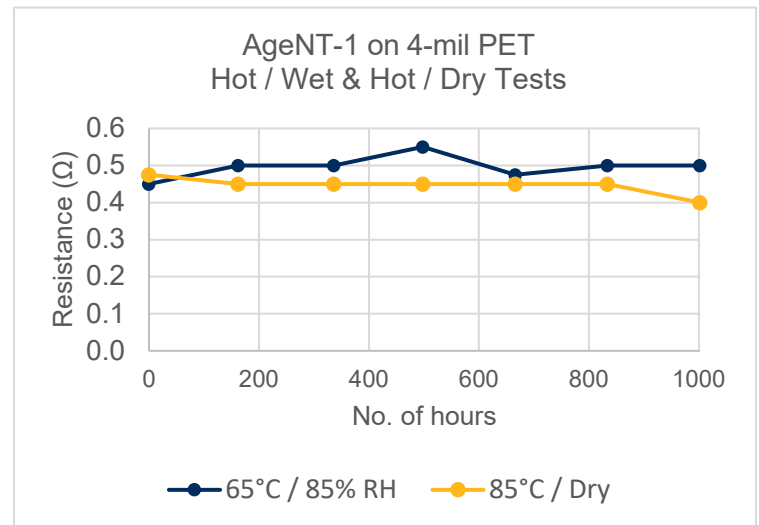
The CNT ink is a multi-functional material that acts as a printed etch mask (for low-cost patterning) and also encapsulates the MM (to create a more robust & uniform CNT Hybrid TCF).

### Optoelectronic Properties

|                                       | TCF + Substrate | TCF only |
|---------------------------------------|-----------------|----------|
| Sheet Resistance ( $\Omega/\square$ ) | 1               | 1        |
| VLТ (%)                               | 87.2%           | 94.2%    |
| Haze (%)                              | 3.7%            | 2.1%     |
| L*                                    | 94.08           | -        |
| a*                                    | -0.04           | -        |
| b*                                    | 0.75            | -        |

Optical properties measured by R-chek 4-point resistance meter, BYK Haze-gard transparency meter or X-Rite spectrophotometer

### Environmental



Resistance, adhesion and optical properties exhibit very stable behavior with environmental aging.

#### Disclaimer

The information provided in this Technical Data Sheet (TDS) including the recommendations for use and application of the product are based on CHASM's accumulated experience as of the date of publication. Product performance will vary based on application and operational environment, so CHASM Advanced Materials Inc. is not liable for the suitability of our product for the intended applications and results.

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### Let us help you!

The material scientists and engineers at CHASM's Application Development Center are available to help you integrate AgeNT into your application. Email [sales@chasmtek](mailto:sales@chasmtek) to request additional information.

