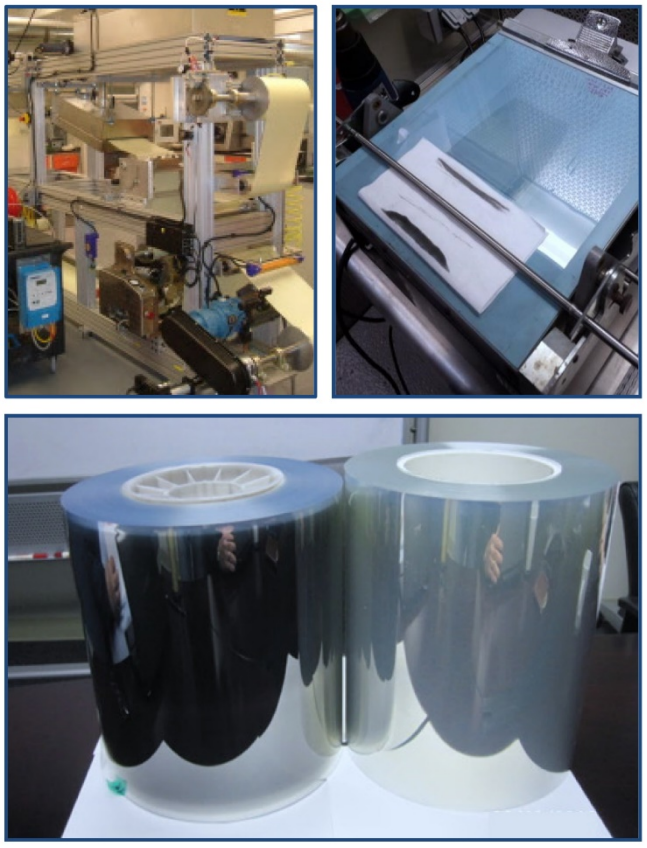
AC200

Aqueous Transparent Conductive Ink for R2R Coating

AC200 is an aqueous carbon nanotube (CNT) ink engineered for roll-to-roll (R2R) slot-die coating and benchtop Meyer-rod coating on a wide range of plastic films. For optimum transparent conductor performance, rinsing with deionized water to remove surfactant and top-coating with a polymer like Nafion® is recommended following AC200 deposition.

Property	AC200
Ink Appearance	Black Liquid
Ink Form	Aqueous Dispersion
CNT Type	CoMoCat SW-CNT
Surfactant	Triton X-100
CNT Concentration	1 g/l
Surfactant Loading	1 wt%
Density	1.0 g/l
Viscosity (mPa s) @ sheer rate 10 s^{-1}	3.0
pH	10.7



Film Attributes:

- Neutral Color
- Low Haze
- Flexible
- Durable
- Stretchable

Let us help you!

The material scientists and engineers in CHASM's Application Development Center are available to help you integrate AC200 into your application.

AC200

TCF Performance

Following deposition of AC200, rinsing with deionized water to remove surfactant and application of anti-reflective Nafion® topcoat are recommended.

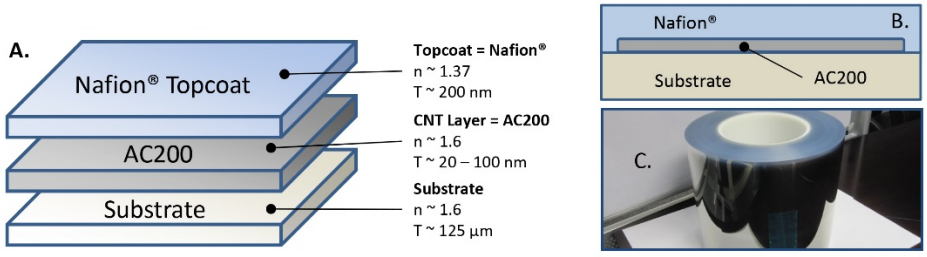
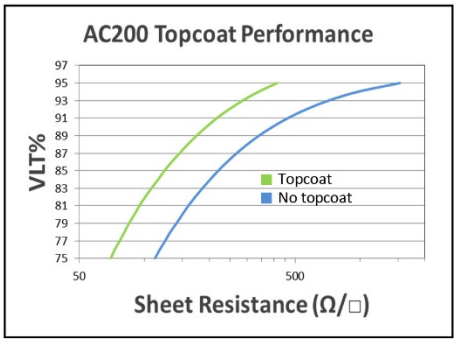


Figure 1. (A) Schematic of top-coated AC200 film, showing relative thickness (T) and refractive index (n) of individual layers. (B) Cross-sectional representation of top-coated AC200 film. (C) Roll of PET film coated with AC200 and Nafion over layer.

Nafion topcoat reduces sheet resistance and improves visual light transmittance (VLT%). (See corresponding AC200 Application Note for more information on topcoat deposition.)

	Before Topcoat			After Topcoat		
AC200 Wet Film Thickness (µm)	VLT%	Sheet Resistance (Ω/□)	Topcoat Wet Film Thickness (µm)	VLT%	TT% (ST505 PET)	Sheet Resistance (Ω/□)
6	94	900	12	98	91	730
12	88	300	12	92	86	250
20	86	230	12	90	84	200
24	78	130	12	83	78	112
34	72	95	12	77	72	76



Topcoated films exhibit neutral color and low haze at VLT levels between 70-95%, and beyond.

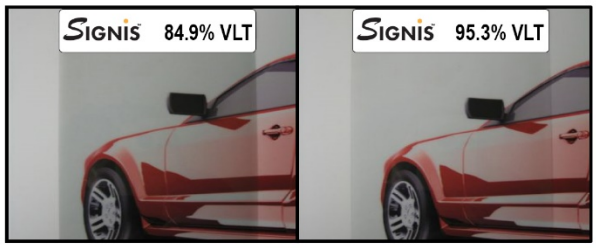


Figure 2. AC200 coated on PET substrate at 85% VLT (left) and 95% VLT (right).

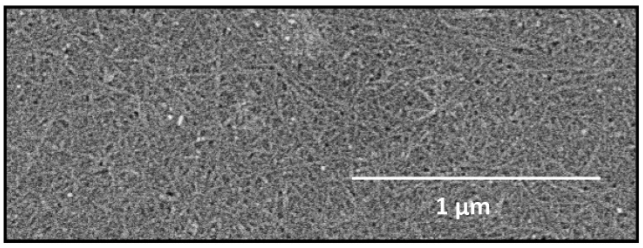


Figure 3. SEM scan of AC200 CNT network on PET substrate at areal density of ~10mg/m^2.

Applications Engineers are available to provide additional data and technical support to help you integrate Signis CNTs into your application. Email sales@chasmtek to request additional information.