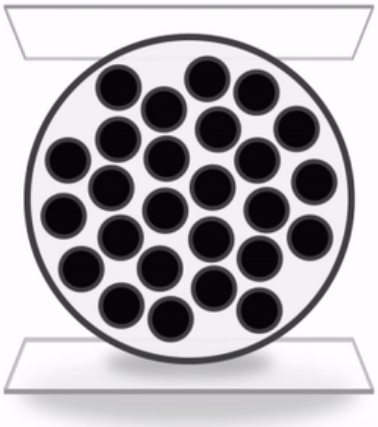
Electronic Ink

E Ink is the inventor of several types of electrophoretic ink, often called electronic ink. When laminated to a plastic film, and then adhered to electronics, it creates an Electronic Paper Display (EPD). Although futuristic-sounding, electronic ink is actually a straightforward fusion of chemistry, physics and electronics. It's so much like paper, it utilizes the same pigments used in the printing industry today.

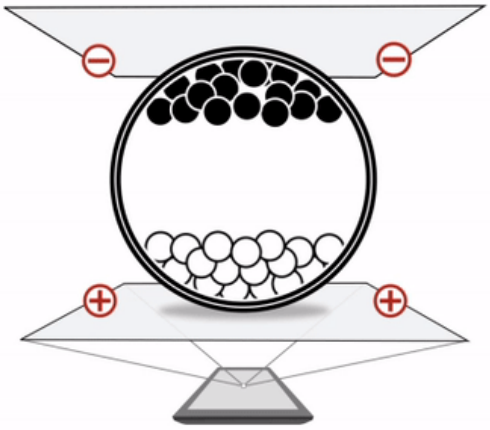
One Pigment Ink System

E Ink JustTint™ is a variable transmissive film, which, when adhered to glass or plastic, allows for control of the light through the surface. JustTint utilizes a one-pigment system, but drives the ink in new ways versus other ink systems. In JustTint, the black pigments move to the side when a charge is applied to allow a transparent area of the capsule.



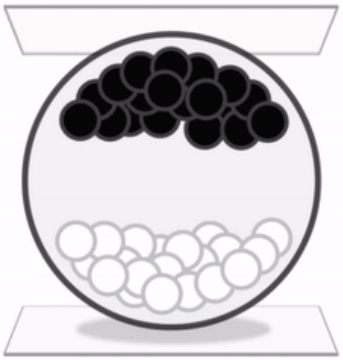
Two Pigment Ink System

E Ink’s two pigment electronic ink system is made up of millions of tiny microcapsules, each about the diameter of a human hair. Each microcapsule contains negatively charged white particles and positively charged black particles suspended in a clear fluid. When a positive or negative electric field is applied, corresponding particles move to the top of the microcapsule where they become visible to the viewer. This makes the surface appear white or black at that spot.



For the E Ink Prism™ film, we utilize our standard black plus one of seven different colored pigments. Prism was specifically engineered for the Architecture market to give architects and designers new ways of transforming spaces. You can learn more about Prism here.

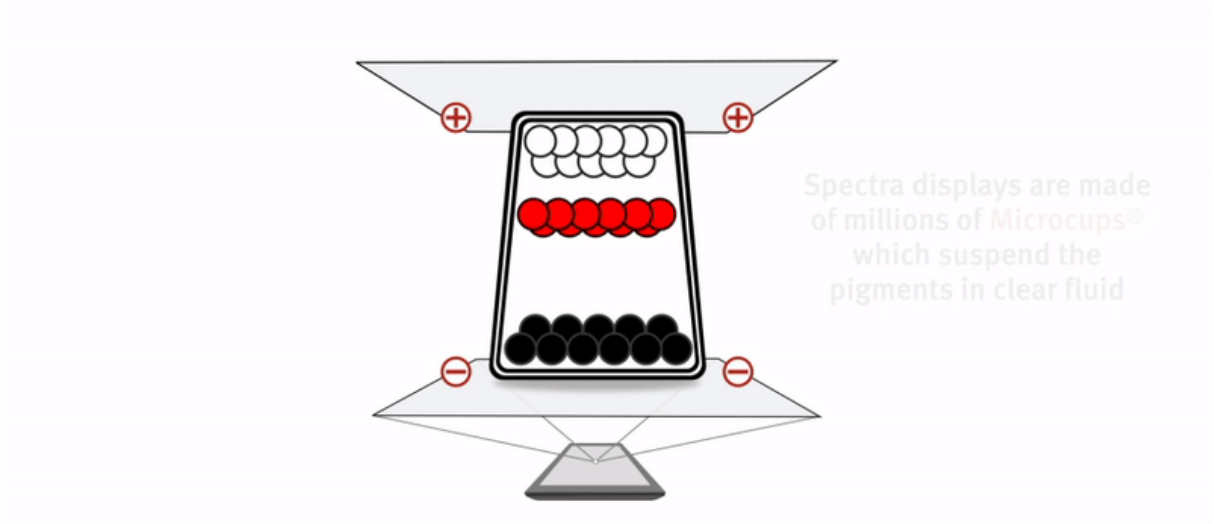
E Ink JustWrite™, – this new film delivers a natural writing experience without the use of a TFT backplane or complex electronics. JustWrite utilizes a two-pigment electronic ink system, but drives the ink utilizing a different method from our standard inks. In JustWrite, a magnetic pen is the “driver” to move the ink; to reset the display back, a small electrical charge is applied. JustWrite retains the same image stability of all of our ink platforms and power is only utilized to reset the image.



Three Pigment Ink System – E Ink Spectra™ 3000

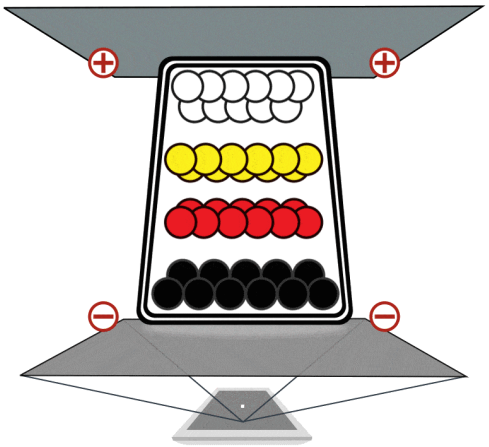
E Ink’s Spectra 3000 utilizes a 3-pigment ink system in a microcup structure. This ink was engineered specifically for Electronic Shelf Labels (ESL) and is offered in black, white and red, and black, white and yellow. This ink system works similarly to the dual pigment

system, in that a charge is applied to the pigments, and to a top and bottom electrode to facilitate movement. However, instead of the use of microcapsules, this system utilizes Microcups®, which are filled with the liquid and sealed.



Four Pigment Ink System – E Ink Spectra™ 3100

E Ink Spectra 3100 is E Ink's next generation Spectra product. Spectra 3100 is a four pigment ink system which incorporates retailer's requests for additional color functionality, by utilizing black, white, red and yellow particles to offer vibrant color rich content. Spectra 3100 has an improved update time, and an expanded temperature range for red and yellow states, to satisfy retailers' needs to operate ESL tags in various environments within their stores. In addition, Spectra 3100 will be offered in panels with an updated all-in-one driver IC that supports premium ESLs with higher resolution across various sizes.



Advanced Color ePaper (ACeP™) – Four Pigment System

In 2016 E Ink showcased a multi-pigment ink system, Advanced Color ePaper (E Ink ACeP™). ACeP™ achieves a full color gamut, including all eight primary colors, using only colored pigments. The ink can be incorporated into either microcapsule or microcup structures. Color is achieved by having all the colored pigments in every pixel, removing the need for a color filter array. ACeP™ maintains the ultra-low-power and paper-like readability under all lighting conditions of regular E Ink ePaper.

Learn how these different ink systems are utilized in our films.