

caddon printing & imaging

Matching colors for textiles with complete precision

When the colors in textiles have to match exactly, maximum precision is required. Until recently, a supplier often had to send physical test samples, so-called laboratory colorations, over and over to the manufacturer before they found just the right color tone. No imaging device was able to digitally render precise, color-true patterns and structures of textiles. But now new technology from caddon printing & imaging GmbH, Leinfelden-Echterdingen/Germany, enables exactly that.

Colors of patterned fabrics

When manufacturers need to determine the colors of textiles, they discover that conventional measuring systems quickly reach their limits. This is because they can neither recognize tiny patterns nor take into account that the structure of the textile influences the quality of the selected colors. A spectrophotometer, for example, cannot register fibers because it can only measure the diameter of the spectra of a small surface. The scanner can:scan provides the solution. Regardless of whether a fabric is streaked, contains fibers or tiny patterns, or is otherwise structured, caddon's scanner measures the colors and their structure pixel-for-pixel without touching them, rendering them identical to the original on the computer screen. With the viewing area can:view, the manufacturer can compare the original with the digital sample – right on the monitor under different lighting conditions and regardless of the location of the monitor and the surroundings.



Fig. 1
The measuring system can:scan renders colortrue digital patterns of structured textiles

Multispectral images

The measuring system can:scan photographs each object through 16 filters, each of which only lets through the defined wavelengths reflected by the object's light. From these images, the can:scan software calculates the exact spectral values, again pixel-for-pixel. The system is thus able to measure particularly minute and complex patterned surfaces, such as fabrics, thereby combining the advantages of both modern digital cameras and conventional color measuring devices. Pictures created from digital cameras have good spatial resolution, but they are not color-true. Conventional color measuring systems, on the other hand, deliver reliable samples of single-color, unstructured surfaces, but they do not take any spatial or local effects into account. A recent addition to caddon's technology is a camera with a resolution of up to 11 megapixels, enabling the measurement of extremely fine and streaked materials. caddon and the DMI (German Institute for Fashion) are collaborating on creating a common client-server model for digital color communications. From designers and buyers to quality managers and manufacturers, every stakeholder in the textile supply chain should benefit from these new possibilities in color measurement.

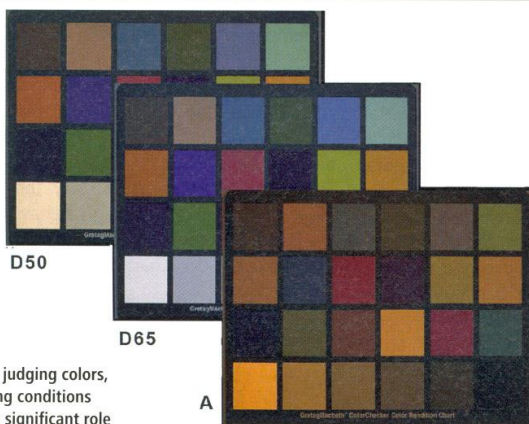


Fig. 2
When judging colors, lighting conditions play a significant role

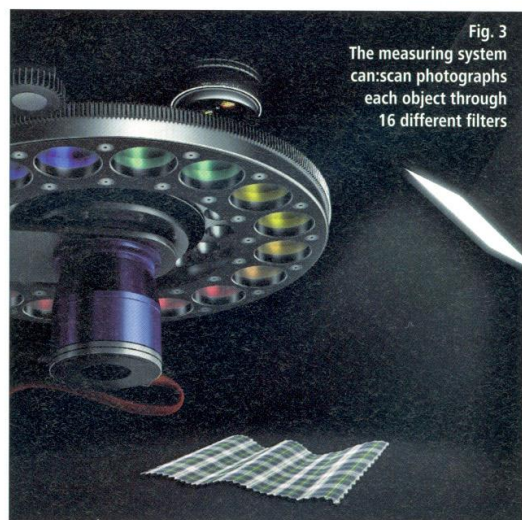


Fig. 3
The measuring system can:scan photographs each object through 16 different filters