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Measuring on Flexible Film.

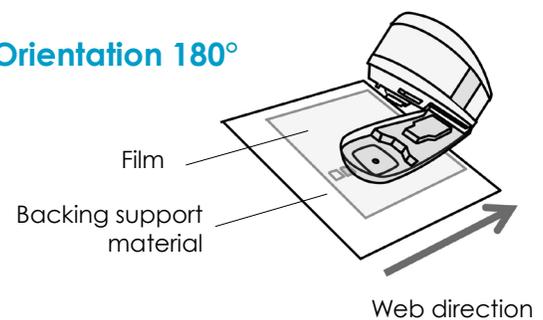
When performing color measurements with a spectrophotometer on flexible film, inconsistent results can occur with some material and data may not be repeatable if the instrument is positioned on different angles. This is due to interference between the film material and the measurement system in the spectrophotometer. If the orientation angle is changed when performing a measurement on a flexible film, the result may vary, based on the positioning of the instrument on the film area being measured.

After performing various measurement tests on various flexible film materials, X-Rite found deviations of up to 2.5 dE* on the most sensitive flexible films, based on orientation changes. With the X-Rite eXact, these orientation differences appear for the measurement modes M0, M2 and M3, but not for M1. With other measurement devices in the market the problem may appear with all measurement modes.

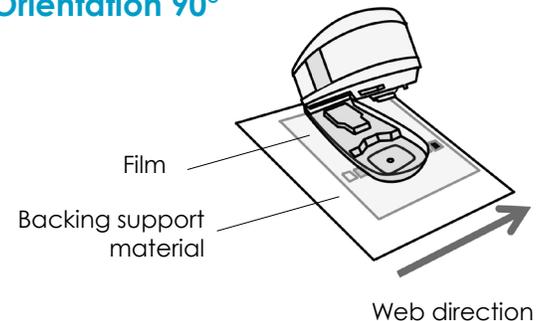
Can I test whether this issue applies to my film?

When measuring color on flexible film with your spectrophotometer, make sure that the film is affixed to an appropriate backing material. Align the target of your measurement device to the area you want to measure, take a measurement and save it as a reference. Repeat the measurement on the same location and orientation several times to evaluate short-term repeatability. Now rotate the instrument by 20° to 30° and take one or two additional measurements on the same location. Assess the color difference as compared to the first set of reference measurements; if there is a significant difference (typically 0.3 dE or more), the film exhibits this interference issue. The process can be repeated at various angles; for example 45° and 90°

Orientation 180°



Orientation 90°

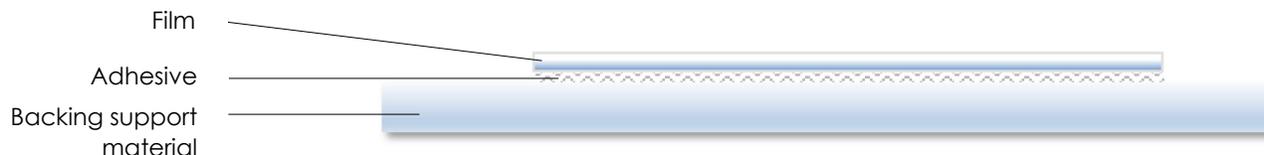


X-Rite eXact measuring color patches on flexible film at different angles.



What should I take into account when measuring film media with my spectrophotometer?

When measuring color on flexible film with your spectrophotometer, make sure that the film is affixed to an appropriate backing material (via adhesive, heat lamination, static or a liquid layer) as shown below, to ensure you achieve consistent measurement data..



What is X-Rite's solution for the film measurement?

X-Rite offers the eXact Xp which minimizes the orientation dependency for flexible film material.

I have already invested in an eXact. Is there a conversion path?

X-Rite has a conversion path to the eXact Xp for customers that currently own an eXact instrument. This conversion requires the return of your eXact to one of X-Rite's service centers. Please contact your X-Rite sales or service representative for details.

Can I use my existing eXact model (non Xp) for film measurement?

To maximize repeatability in film measurement applications with your existing eXact, X-Rite recommends positioning the instrument so that it is precisely aligned to the machine web direction of film material, or if you work in M1 mode, your existing eXact (non Xp) can be used.



For further questions, please work with your X-Rite Sales Representative to understand how we can help you ensure you have the right measurement solutions in place for your business.

