

What is it?

Optical Brightening Agents (OBAs):

Whether you are a photographer printing your images to hang in a gallery, or a professional printer producing signage, packaging, collateral or other commercial pieces, optical brighteners in the paper can produce color casts. With X-Rite color management solutions, you can easily correct this phenomenon so your colors are produced and seen as you intended. Optical brightening agents are frequently used by paper manufacturers to make the yellowish cast that appears in paper appear whiter and brighter to the human eye.

Stand Alone Measurement Challenges:

Measurement without physical filter (No-Filter)

From a technical standpoint, papers containing OBAs produce a bluish cast when measured spectrally, but this does not correspond to what you actually see.

Measurement with UVcut filter

When measuring with a UVcut filter, the OBAs present in the paper are not triggered, resulting in measurement values that show a yellow cast, but again this will not match what you actually see.

The optimal match between the measured values and one's visual impression lies somewhere between the two measurements.

Visual Challenges:

The effect of the optical brightening agents on the paper depends on the lighting which it will be viewed under. Different lighting conditions will produce varied results for the same paper.

X-Rite's OBC Solution:

When calculating ICC profiles, some applications offer a simulated correction for optical brightening agents in the paper. These usually attempt to compensate for the "blue" measurement by adding yellow or by cutting out reflections of more than 100%.



X-Rite's OBC Solution:

When printing on paper containing OBAs, the best possible match between a visual impression and the measurement results, depending on the ambient lighting conditions, can be obtained by using the X-Rite Optical Brightener Compensation function found in i1Profiler software. X-Rite's OBC provides a scientific correction to your measurements, rather than a visual simulation that is not reproducible in your proof.

Product Requirements:

- **i1Pro 2** - The first handheld profiling spectrophotometer that utilizes dual illumination functionality that accommodates 3 standard measurement conditions (ISO 13655 M0: Tungsten; ISO 13655 M1: D50; ISO 13655 M2: UV Cut) plus Optical Brightener Compensation (OBC) without changing filters or needing a second instrument.
- **i1iSis or i1iSis XL** - An automated spectral chart reader that is able to measure test charts using UVcut (visible spectrum only, not including UV radiation) and UVonly (UV radiation only in the same measurement cycle).
- i1Profiler profiling software from X-Rite.

X-Rite OBC is seamlessly integrated in i1Profiler software.



Color. Perfected.

What to do?

- Connect your **i1 spectrophotometer (i1Pro 2 or i1iSis)**, launch your **i1Profiler** software and select the **Advanced** user mode.
- Choose your desired workflow - CMYK or RGB Printer **OBC Profiling**
- **Layout** and **print** a test chart either directly out of i1Profiler or from any other application like Adobe® Photoshop® or from your RIP software.
- **Measure the test chart** with your i1 device using **dual OBC mode**. This process will determine what proportion of the reflection comes from the print color and what proportion comes from the optical brightener for each field.
- **Generate** the **OBC Grey Evaluation Chart** and print it either directly out of i1Profiler or from any other application like Adobe® Photoshop® or from your RIP software. This chart contains four columns with different levels of grey.
- **Compare** the printed **Grey Evaluation Chart** with the **OBC Standards** (grey balance targets) provided with your i1 device. Select and note the fields that provide the **visually best matches** from the relevant column (light grey to dark grey).
- **Enter** the corresponding **UV correction values** (A-S) of the matching grey field in the OBC software screen.
- Define your further desired profile settings as usual and then **generate** your **ICC profile**. Your ICC profile will contain the correct data to compensate for any OBAs in your print substrate.

Result:

Profiles corrected with OBC result in much better visual agreement with the print than with ICC profiles based on NoFilter or Uvcut Filter measurements alone.

X-Rite Color Management Solutions Supporting OBC:

Part #	Description
E02PHO	i1Photo Pro 2
E02PUB	i1Publish Pro 2
EOIS	i1iSis* (includes OBC gray balance targets)
EOISXL	i1iSis XL* (includes OBC gray balance targets)
EOPROF	i1Publish

* Customers must have i1Profiler software from X-Rite in order to be able to use the OBC function with i1iSis.



Color Perfectionists Unite!