

# Lovibond® Colour Measurement

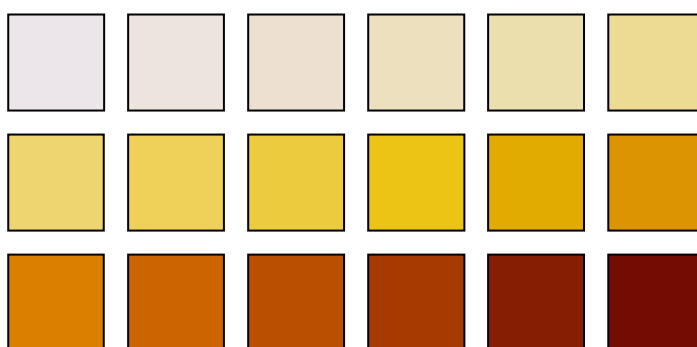
Tintometer® Group



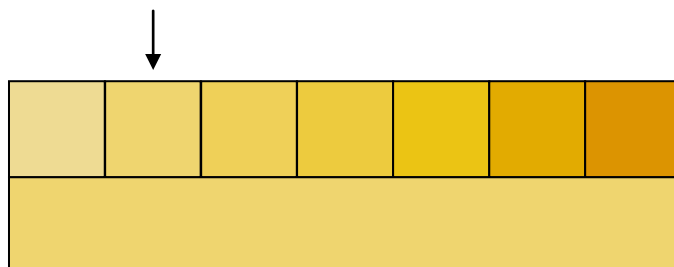
## Understanding Off-Hue

When using a visual system to compare samples with glass standards it is possible to see when the sample becomes too different in colour to make accurate colour comparisons. With automatic instruments often the nearest scale point is displayed, with no consideration of the colour difference between the sample and the colour scale. If the colours are not good matches this approach increases the variability between visual and automatic methods.

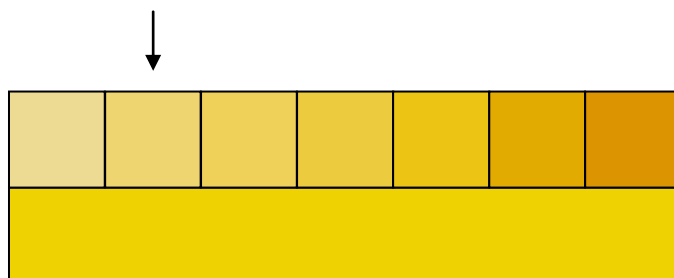
Most color scales such as Gardner, ASTM D1500 and Pt-Co are progressions of colour, most often from a pale yellow through to deep amber. The diagram below shows a representation of the Gardner scale.



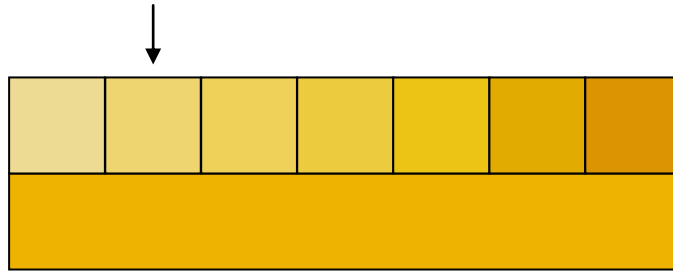
If the measured sample has a hue similar to that of the colour standards, then in the visual system the user will find it easy to make a match. This can be seen with the diagram below, where the different colour standards are shown on top and the measured sample below. It is quite apparent that the standard with the arrow above is the best match.



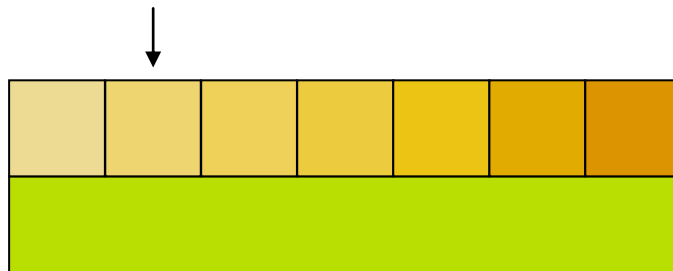
If the hue of the sample is dissimilar to the color standards, making a match visually becomes far more subjective. In the diagram below the nearest color to the sample is shown by the arrow and it is this value that would be predicted by automatic instruments. Visually because of the hue difference the value selected might well be the next standard along to the right. The PFXi instruments would report this sample with an Off Hue factor of 5.



In the following example the nearest colour is still the arrowed standard, but Off Hue factor has been increased to 11. In this example one would expect a visual comparison to give the result as the 6<sup>th</sup> standard along.



It might be expected that the example below would never be achieved. However it must be considered as those coming into colour measurement with automatic instruments and having never used the visual instruments, might not have a comprehension of the colours of that colour scale. Automatic instrument may well provide the answer as the arrowed standard, which has an Off Hue factor of 17. The result from a visual system would certainly be highly subjective and no two users would be likely to provide the same result.



In the PFXi instruments not only is the Off Hue factor displayed but also a description of the colour difference such as redder and lighter.

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