

# Color Measurement of Desiccated Coconut

## Overview



Coconut is common in many Asian dishes, and in certain places like Indonesia and India, it is an indispensable ingredient as it is widely used in local cuisines, soups and desserts.

One common form of coconut usage in food is the desiccated form. Desiccated coconut is coconut meat which has been shredded or flaked and then dried (3% moisture content maximum) to remove as much moisture as possible.

There are a number of different types of desiccated coconut used around the world, and availability of the types varies, depending on the region. A common type of desiccated coconut is unsweetened and powdery; it is produced by drying shredded coconuts and then grinding the shreds. Coarser and sweetened desiccated coconuts are available as well.

## Usage

Besides being used as ingredients in dishes, here are some other ways desiccated coconut can be used for:

- Fillings and toppings for biscuits, snack bars and cookies.
- Baking
- Desserts
- Dressings
- Garnishes

## The Making

Desiccated coconuts are normally graded into fine or medium grade, according to size. The initial step in

producing desiccated coconut involves removal of the coconut shell and the thick brown coconut skin. After which, the coconut meat is washed to remove foreign materials. Blanching the meat to reduce the number of microorganism to a level safe for human consumption will then follow.

Once the coconut meat is clean, it will be cut or grinded. Hot air is used to dry the grated coconut meat to reduce its moisture content from 19% to less than 3%. The desiccated coconut will then be left to cool down. Lastly, the desiccated coconut is separated into fine or medium grade by sieving.

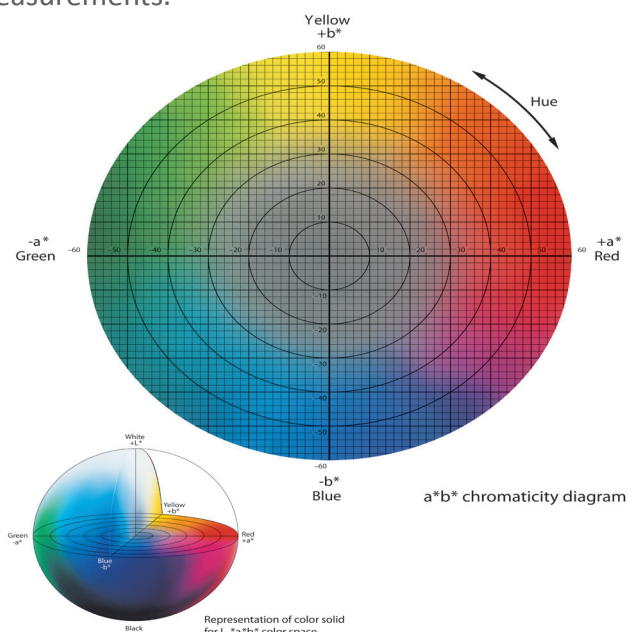
## Color Appearance

Good quality desiccated coconut should be white in color, reasonably free from yellow specks, black spots and other discolorations. It should also have even size and a sweet coconut aroma to it.

## Quality Control

Quality of the desiccated coconut can be controlled objectively by using color measuring instruments.

The desiccated coconut samples can be placed in petri-dishes or cells, preferably with a large base, for easy filling by the user. A retaining ring may be considered to ensure the same positioning of the cell during measurements.



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Some of the accessories that can be used in conjunction with the color measuring instruments to allow measurements of the desiccated coconut are shown below.



Petri dish



A Ø60 x H60 mm cell



Cell on CM-5

The petri dish or tube cell can be placed on a spectrophotometer like the [CM-5](#) for fast and easy measurements of the desiccated coconut. Alternatively, the Chroma Meter [CR-410](#) may also be used for such measurements with the necessary accessories.

When using the CM-5, its mode should be set to petri-dish, with the setting of illuminant D65 and 10° standard observer for better accuracy. It is recommended to take 3 average measurements for such applications. The measurements of the production batches can then be compared with the measurements of the reference batch or color standard.

Below is a general guide on desiccated coconut color acceptance. This is only a guide and the final acceptance still depends on individual producers and the market preferences.

Color Data $\Delta E_{a^*b^*}$	Accept / Reject	Action
0.0 to 2.5	Accept	Ready for packaging
2.51 & above	Reject	Reprocessing required

The above test procedures are just some recommendations for food technologists or R&D scientist to look into and study the options available to help them speed up their testing process.

For more information on the [Spectrophotometer CM-5](#) and the [SpectraMagic NX Pro Software](#), kindly visit the following web sites for more information.

Alternatively, you can email to us at [ssg@konicaminolta.sg](mailto:ssg@konicaminolta.sg) or call us at 65 6895 8685 to find out more from our color & light specialist.