

TECHNICAL TUESDAYS

TOPIC: Basic Dyes

REF: TT/ Oct 2016/ WK 2

Basic Dyes:

Basic dyes are salts of organic bases. Basic dyes are also called cationic dyes because in solution the basic dye molecule ionizes, causing its colored component to become an action of positively charged radicals.

Basic dyes are used for dyeing wool, silk, acrylic and mod-acrylic fibres.

Properties of Basic Dyes

1. Its outstanding characteristics include brilliance and intensity of color.
2. Bright colors are achieved with basic dyes, that don't normally occur with other dye classes.
3. Many basic dyes are sparingly soluble in water.
4. Addition of glacial acetic acid helps dissolve basic dyes rapidly, in water.
5. Basic dyes are readily soluble in alcohol or mentholated spirit.
6. Basic dyes have poor fastness to light and wash fastness varies from poor to moderate.
7. An important property of basic dyes is that they combine with tannic acid to form an insoluble compound, in the absence of mineral acids.
8. Water fastness of basic dyes on protein fibres can be improved by back tanning. This is done by post-treating the dyed material with tannic acid in order to form the insoluble complex, thereby reducing the tendency to migrate.
9. Basic dyestuff combines with direct, sulphuric or acid dyestuffs. Thus they cannot be used in the same bath, together. Basic dyestuffs are used during the post-treatment of cotton or other materials that are dyed with direct colors. Here direct dyestuff acts as mordant.
10. When treated with a reducing agent, most basic dyes get converted into their colorless leuco compounds; they return to their original color through oxidizing agents or even on exposure to air.
11. Basic dyes can be removed from the material by boiling it with dilute acetic acid or hydrochloric acid.



12. Basic dyes are used for woolen goods when particularly bright shades are required, which cannot be obtained with acid dyes.

13. Basic dyes do not have an affinity towards cellulosic fibres such as cotton. The use of basic dyes on cotton involves the elaborate process of mandating it with tannic acid. Sometimes, bright shades are demanded on cotton which can only be obtained with them.

14. Special cationic dyes are available for dyeing acrylic fibres.

15. Basic dyes are also used for making ink, typewriter ribbons and for dyeing leather.

Wishing you a great week ahead!

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