PRINTING – PART V

REF: TT/ JUNE 2021/ WK 2

B) Pigment Printing

Pigment printing is a type of printing where pigment is used instead of dyes. Dyes and pigments both are compounds which can impart color to a material. However, the main difference between dye and pigment is that dye molecules are very small in size whereas pigments are much larger. Therefore, dyes easily dissolve in water and while pigments do not dissolve in water.
In pigment printing, a fabric is being printed with a paste made of an insoluble pigment mixed with a binder and a thickener. The insoluble pigments have no affinity for the fiber and are fixed on to the fabric surface by a binder film which adheres to the fibers. It is not possible to apply it directly on the fabric. Binder must be used to apply the pigment on the fabric. Pigments prints have a stiffer hand feel than reactive prints due to the binder. Generally, darker shades tend to be stiffer than lighter ones. Reactive printing is considered to be more brilliant and softer hand feel than pigment printing. Pigment printing process is simple, economical and easy application.

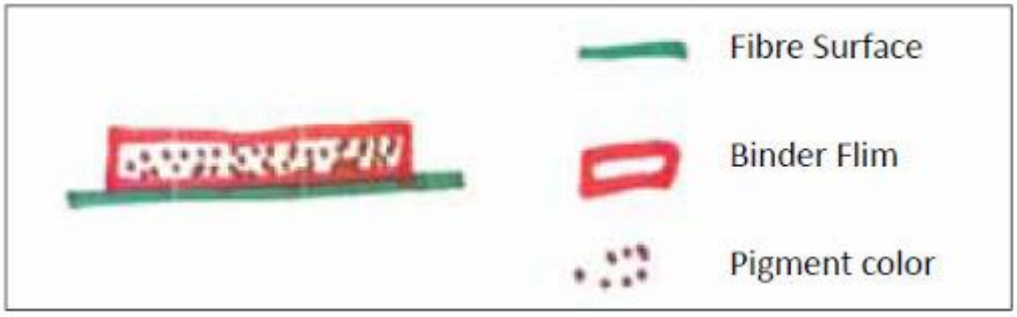

Fig 1.1 Pigment Printing Mechanism
Ref: handprintingguiderajasthan.in

Advantages and Disadvantages of Pigment Printing

Advantages

- Wide range of color can be produced.
- Easily applicable.
- Cost-effective
- High fastness to light and good general fastness properties.
- Higher tinctorial strength

Disadvantages

- Poor dry and wet rubbing fastness
- The handle of the printed goods is harsh because of the large amounts of binding agents.
- Sensitive to crushing during roller printing.
- Use of solvent like kerosene, spirit etc can produce problems like flammability, odor, pollution etc.

Difference between Dyes and Pigments

DYES	PIGMENTS
Organic substance	Mainly inorganic substance
Very small particle size	Large particle size
Soluble in water	Insoluble in water
Has affinity to the fiber	Doesn't have affinity to the fiber
Imparts color by absorption of light	Imparts color mainly by scattering of light
No binder required	Binder required
Low to moderate light fastness	High light fastness
Low to moderate Rubbing fastness	Poor rubbing fastness

References:

1. https://fiberseal.com/
2. https://www.indiantextilemagazine.in/
3. https://www.cottoninc.com/
4. https://textileapex.blogspot.com/

.....To be continued.....

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Last week`s Answers: 1) SURFACE 2) SATURATED 3) STEAM 4) INCREASE

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