

Technical Tuesdays

REF:TT/ Feb 2010/ WK2

HOW REPRODUCIBILITY IN DYEING IS AFFECTED BY VARIOUS FACTORS?

SR. NO.	PROBLEM FACED	CAUSES	SUGGESTED REMEDIAL MEASURES
1	Deviation of shade	Dye sensitivity to hydrolysis, reduction, and electrolyte.	Select dyes carefully, control pH exactly. (Buffer system). Pay attention to stability of dye to electrolytes.
		Dye sensitivity to metal ions in the dye bath.	Use suitable sequestering agent.
		Dyes of different chemical constitution affect each other (rare).	Pay particular attention to selection of dyes and chemicals.
		Dye buildup affected by chemicals (retarding effect).	Carry out lab tests.
		Different dyeing programs.	Pay attention to consistent dyeing conditions.
		Different liquor ratios.	Pay attention to consistent dyeing conditions.
		Dye shows differences in standard conformity.	Check supplies.
		Unsuitable dye combination.	Pay attention to behavior of individual elements.
		Sedimentation of liquid dyes.	Stir before removal from container.
Bath exhaustion affected by reserve of adjacent fiber.	Adapt dye selection and process		

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Sr.No	Problem Faced	Causes for the problem	Suggested remedial measures
2	Dyeing too pale	Different buildup of dye on different materials.	Carry out preliminary tests with material
3	Precipitates in the dye bath	Chemicals affect each other's action.	Pay attention to chemical selection.
		Dyeing produced at too low temperature.	Check and adjust dyeing conditions.
		Dyeing time too short.	Check and adjust dyeing conditions.
		Unstable chemicals.	Pay attention to chemical selection.
4	Change of shade	Unfinished diffusion due to insufficient dyeing time at too low temperature.	Check and adjust dyeing conditions.
		Inadequate sublimation fastness of dye.	Pay attention to dye selection.

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