

TECHNICAL TUESDAYS

TOPIC: Anti-back staining agent

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Back staining in denims:

Back staining implies, staining of the weft thread and the pocket lining by detached indigo or its reduced leuco form.

Back staining mainly occurs during desizing or stone washing or enzyme stone washing.



Fig: Denim Garment Processed with & without Anti back staining agents

Reason for back staining in indigo denims?

With accordance to the chemistry behind back staining, it is caused due the formation of glucose during stone or enzyme washing of the denim garment. This glucose acts as a reducing agent and it assists the indigo dye to exit on the white part of the denim, thus reducing the contrast of the denim garment.

Why and how do we use anti-back staining agents during denim garments processing?

Back staining causes the denim fabric to lose contrast and eventually can lead to devalue the fabric in the world market. In order to avoid back staining, the application of an anti-back staining agent during denim processing will ensure quality during denim garment processing.

Anti-back staining agents are applied with the wash bath. These agents are added in the bath along with other chemicals associated with the respective wash desired. These agents are responsible of prohibiting the action wherein the removed dyes re-deposit themselves on the garment.



General chemical composition of anti-back staining agents:

Anti-back staining agents mostly comprise of three substances - dispersing agents, chelating agents, and emulsifying agents.

All these must be of a particular concentration in order to inhibit the adherence of indigo dyes on the white portions of denim garments.

Most of these anti back staining agents are highly efficient in soft water, but in the presence of hard water they might be less effective and can result in dye re-deposit. This is so because hard water contains salts, called the electrolytes (exhausting agents) which help indigo dyes to soil faster.

Presently anti-back staining agents contain sequestering agents that enhances their capabilities to be used in hard water. Acid liberating agents are also used along with anti-back staining agents to reduce the alkaline conditions and enhance the enzyme activity.

Wishing you a great week ahead!

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