

2023 TAPPI PEERS

Lime Mud Precoat Filter Panel Discussion

Panelist

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About McFarlen Engineering Ltd.

Specializing in Recausticizing Equipment and Consulting

- Filtration design and troubleshooting
- Gravity Systems
- Retro-Fits
- New Equipment

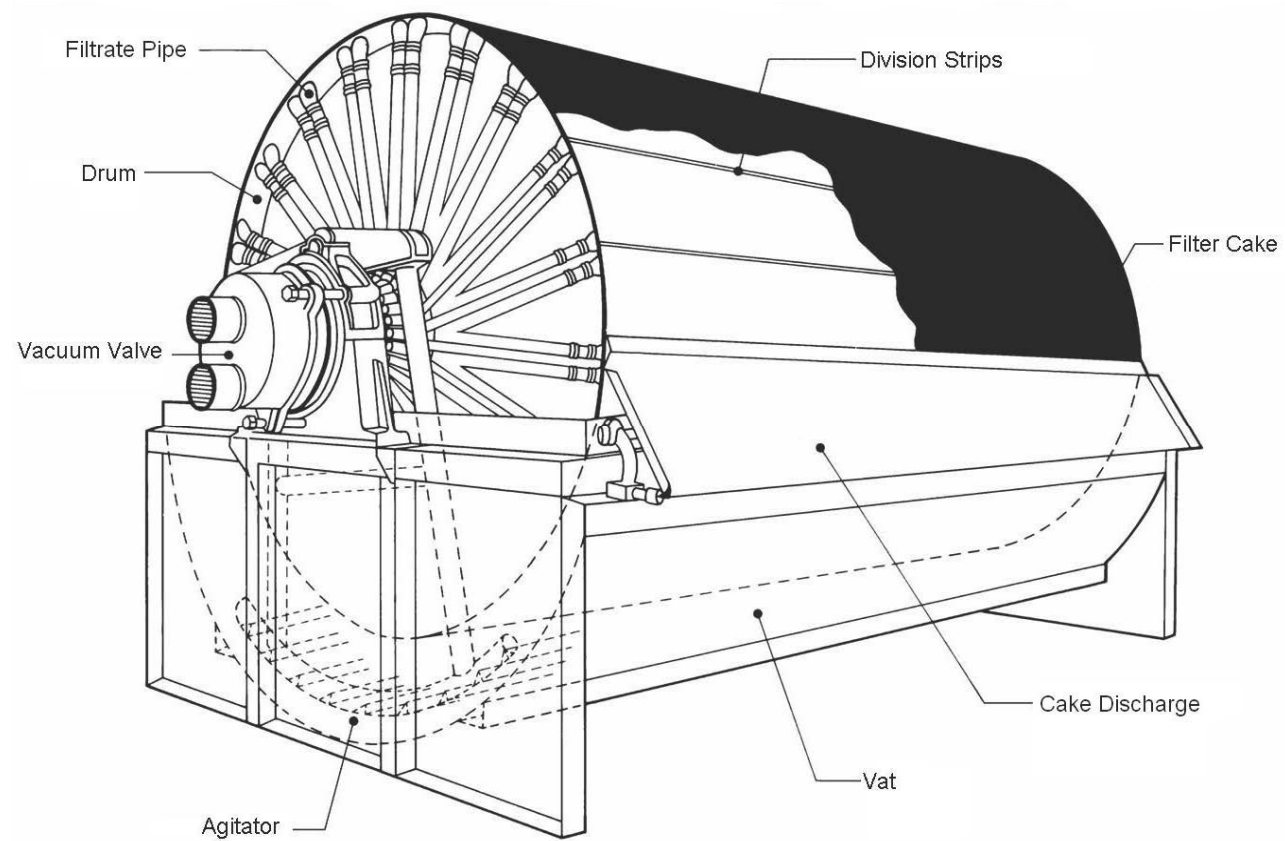


Topics for Discussion

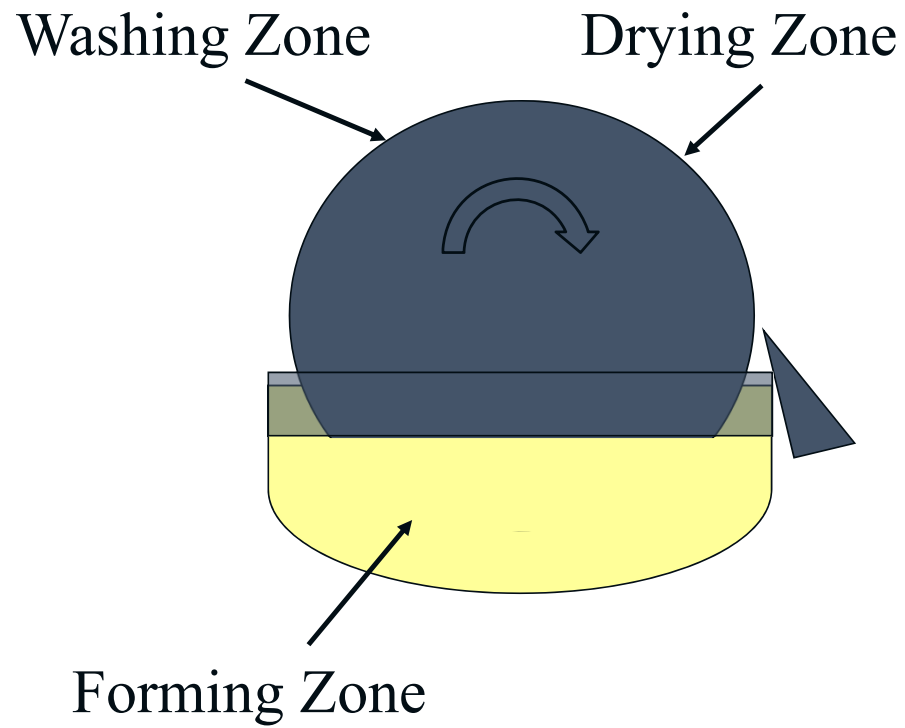
- Optimized shower flow for efficient cake washing and drying
- Common modes of cloth failure
 - Support Grid Damage
 - Drum Damage
 - Cloth installation



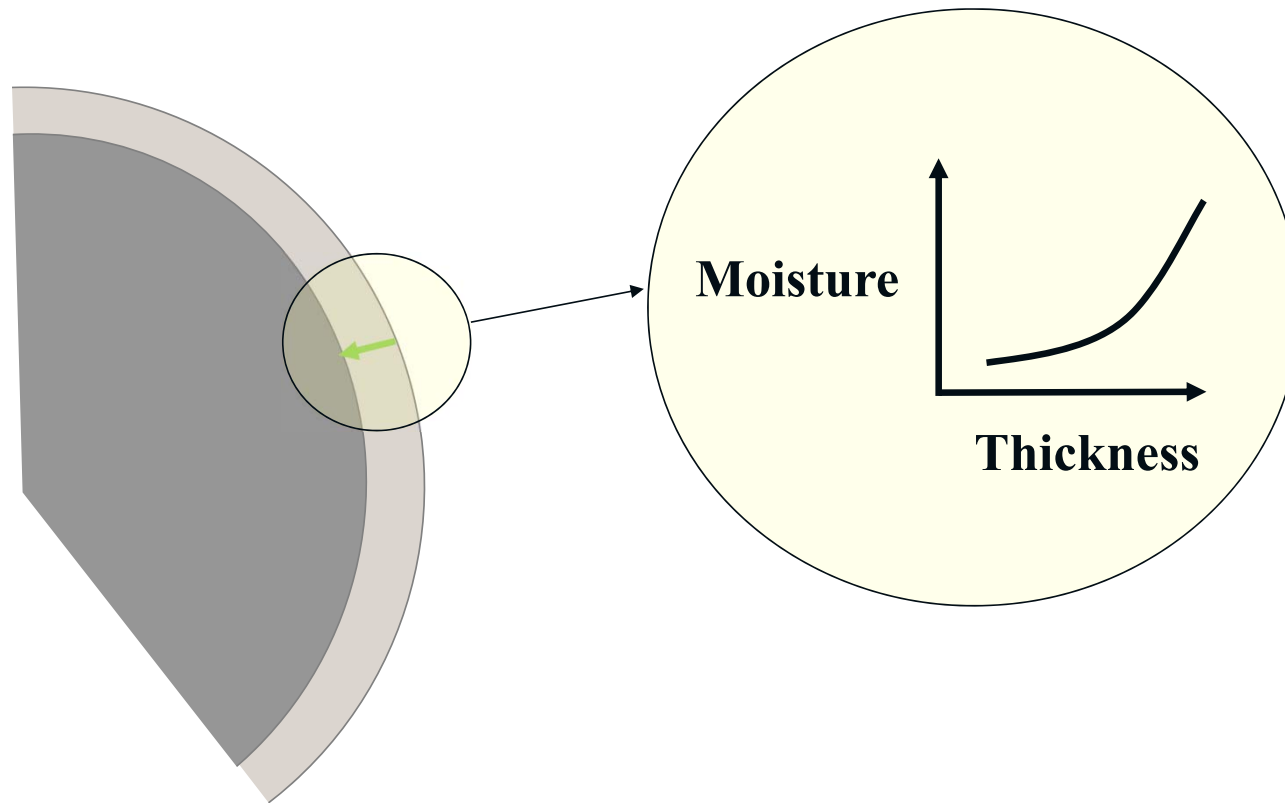
Drum Precoat Filter



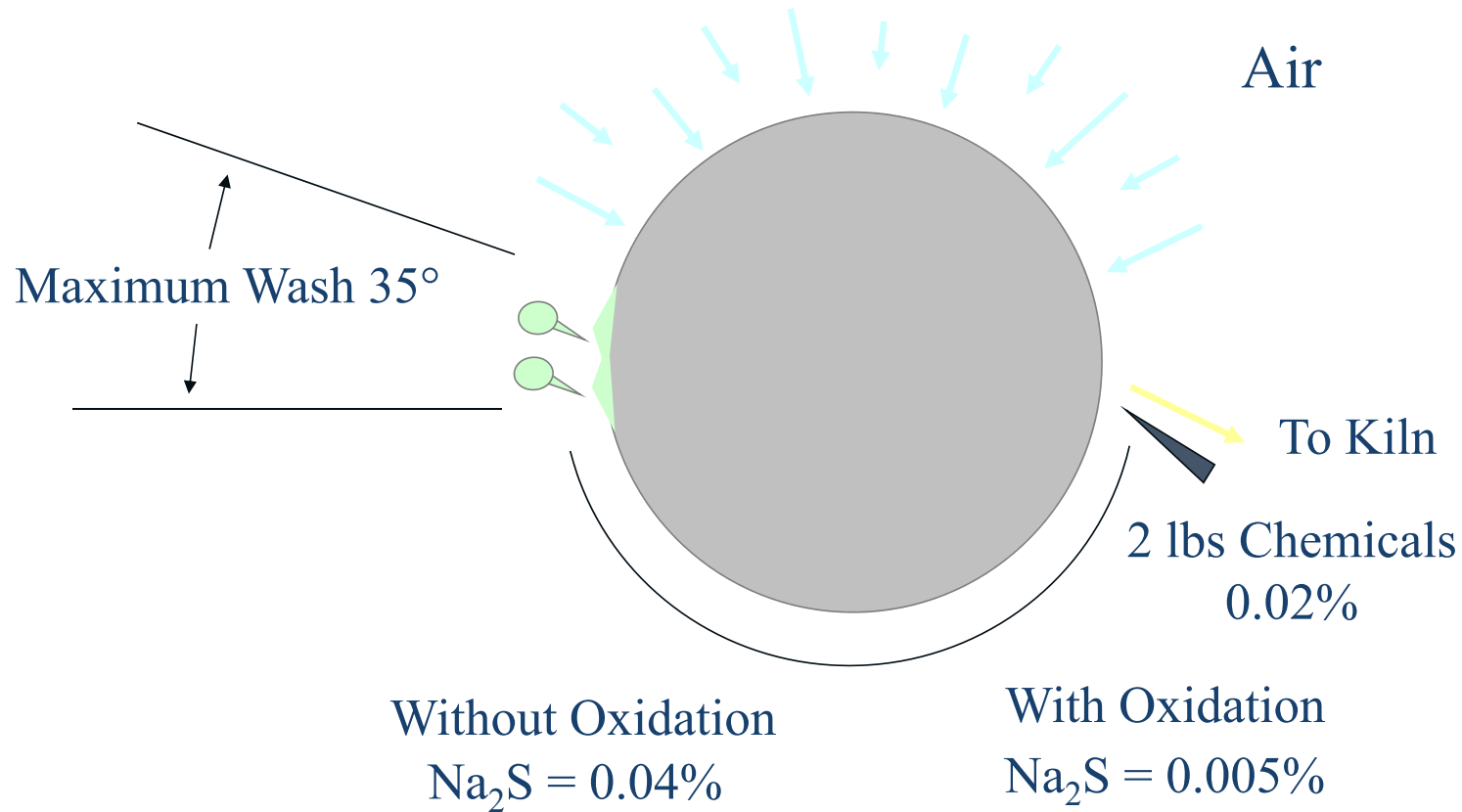
Drum Precoat Filter



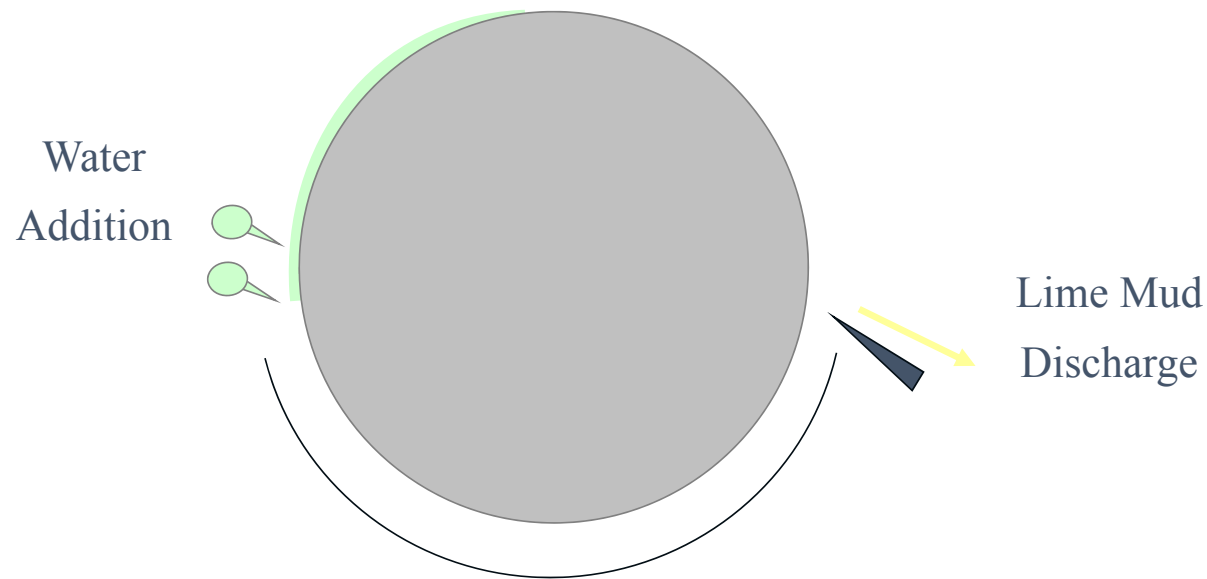
Cake Thickness vs. Moisture



Optimized Shower Flow



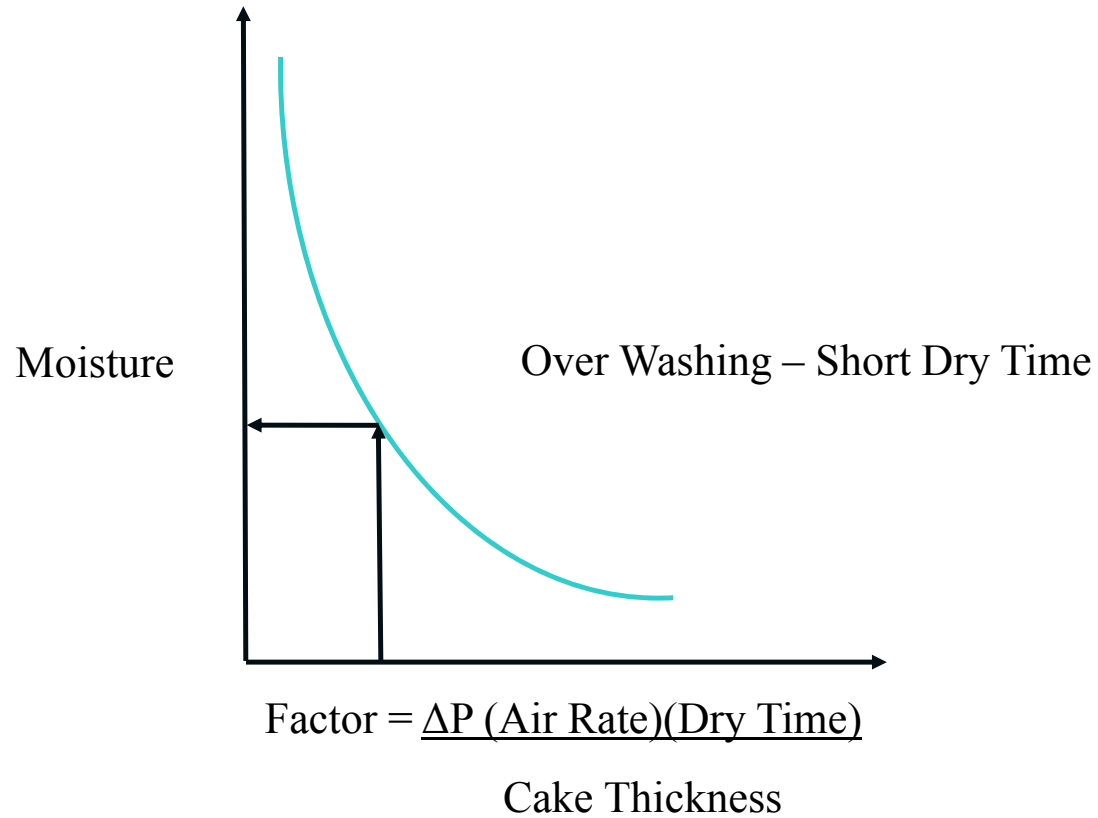
Optimized Shower Flow



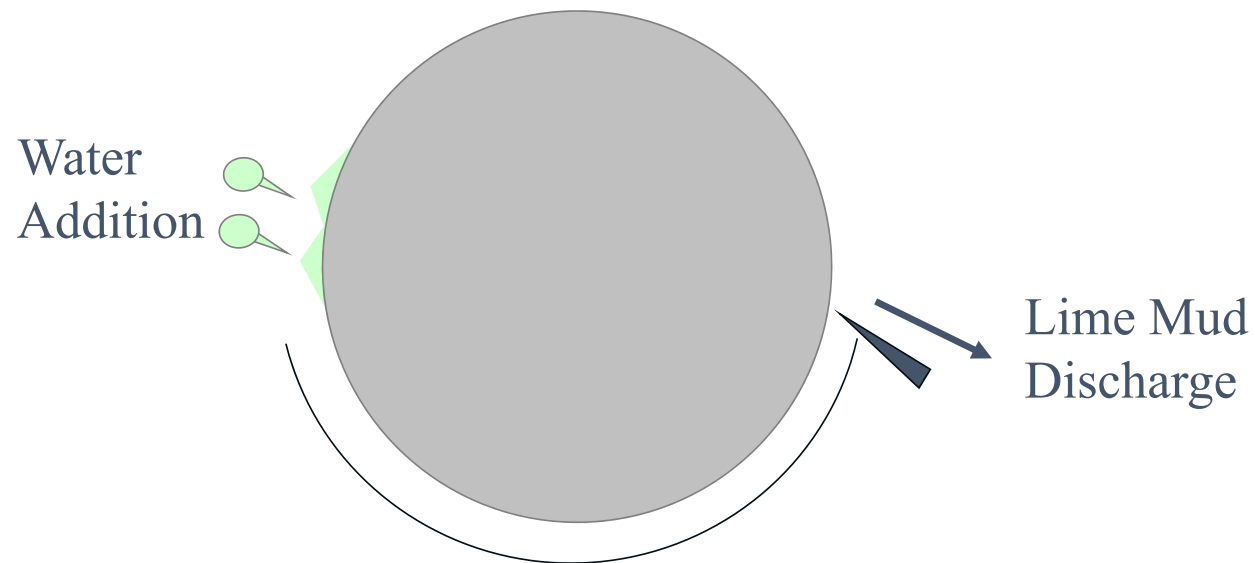
Excess washing = Excess moisture
1+ Displacements



Optimized Shower Flow



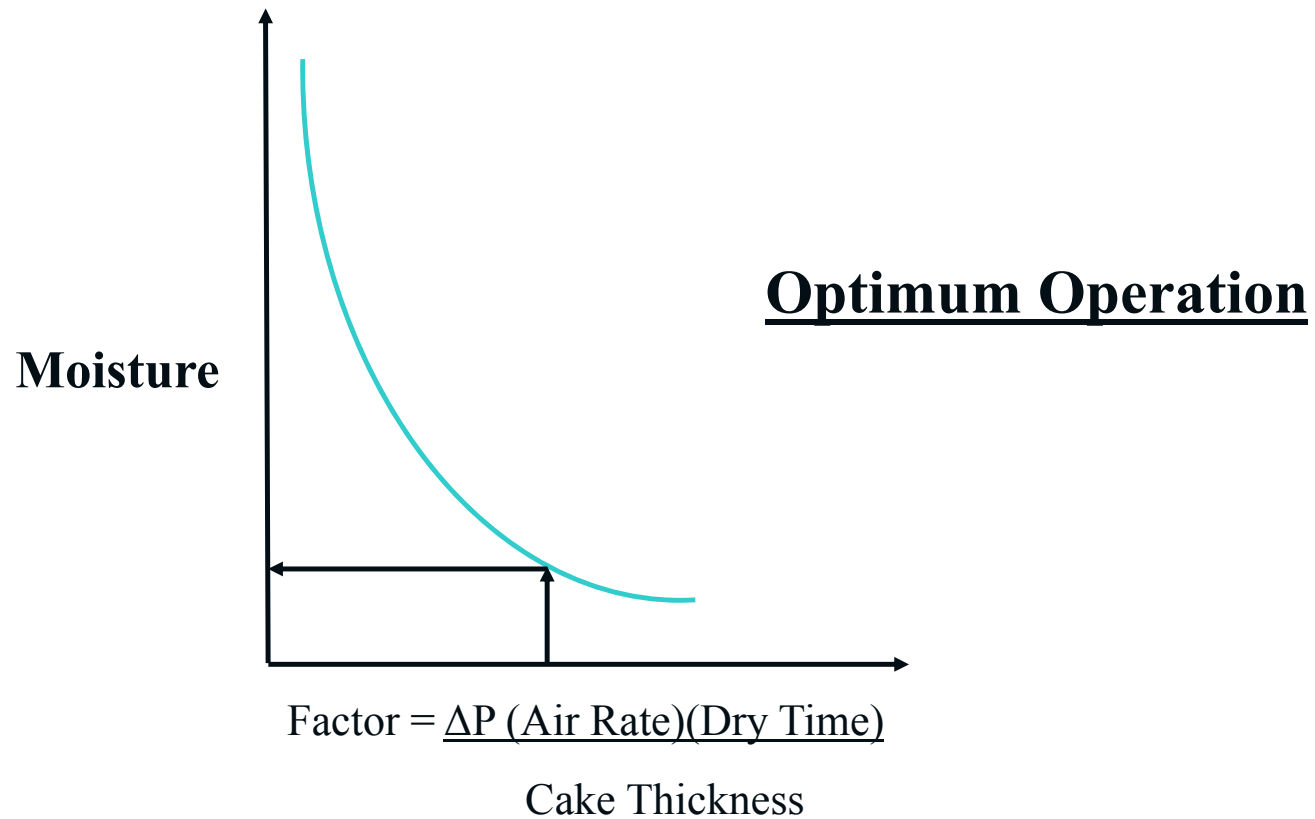
Optimized Shower Flow



Optimum Operation
1/2 Displacement



Optimized Shower Flow



Optimized Shower Flow Summary

- Allow for air penetration into the cake
- Shower water application $\frac{1}{2}$ displacement
- Tune mechanical set up of doctor blades and shower nozzles

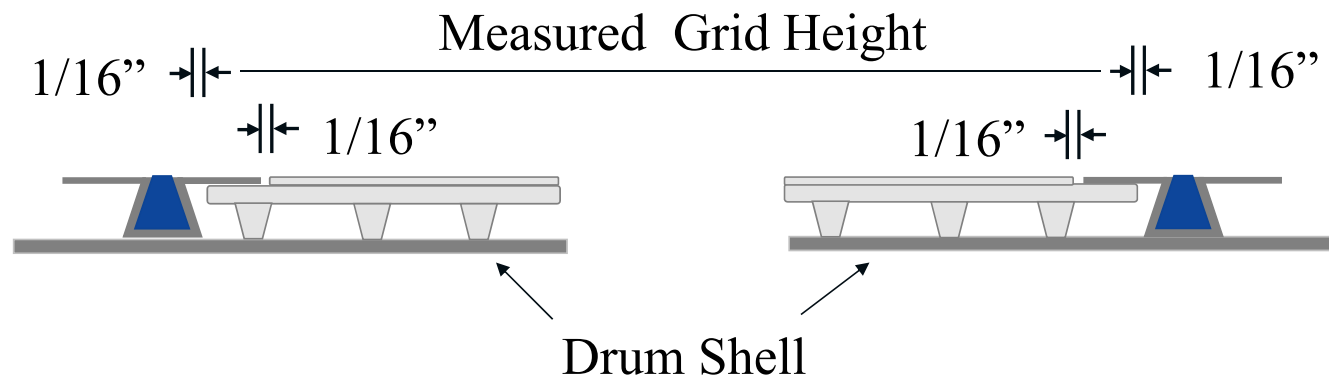


Common Modes of Cloth Failure

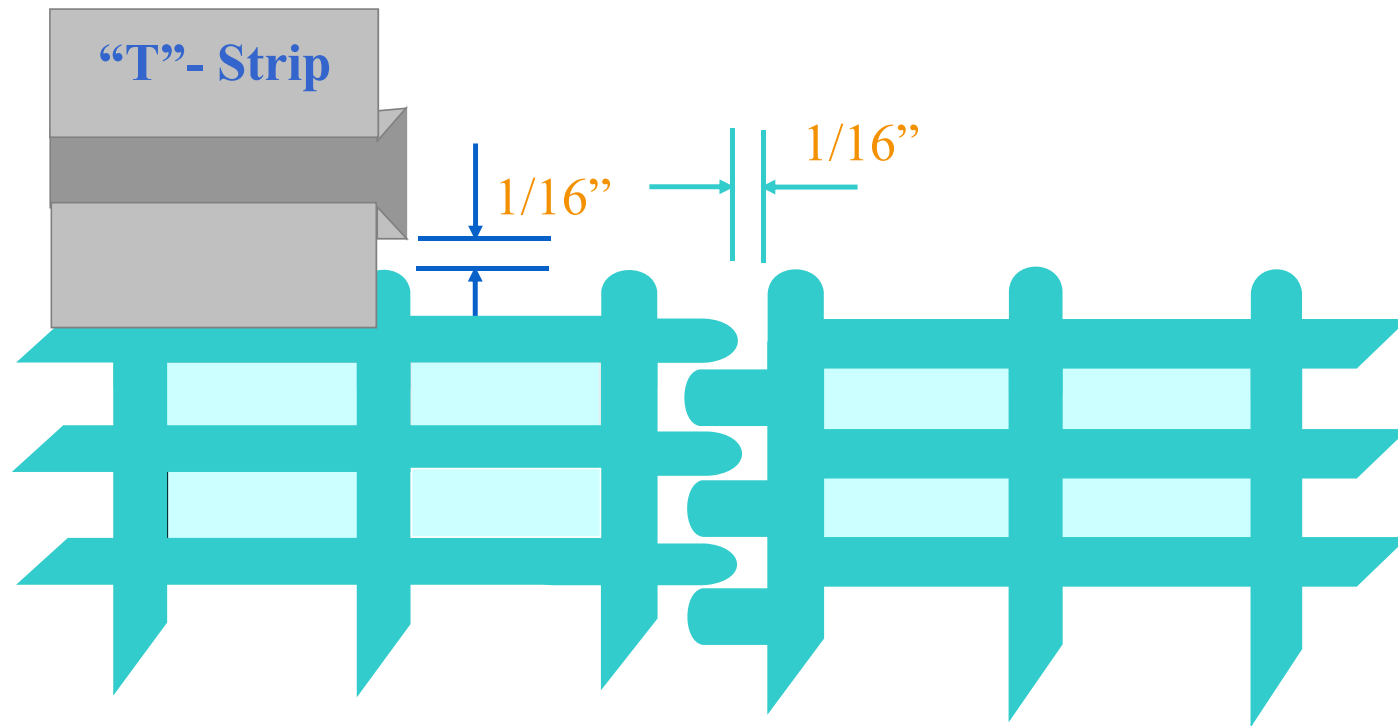
- Grid installation
- Cloth installation
- Division strip and drum damage



Proper Grid Installation

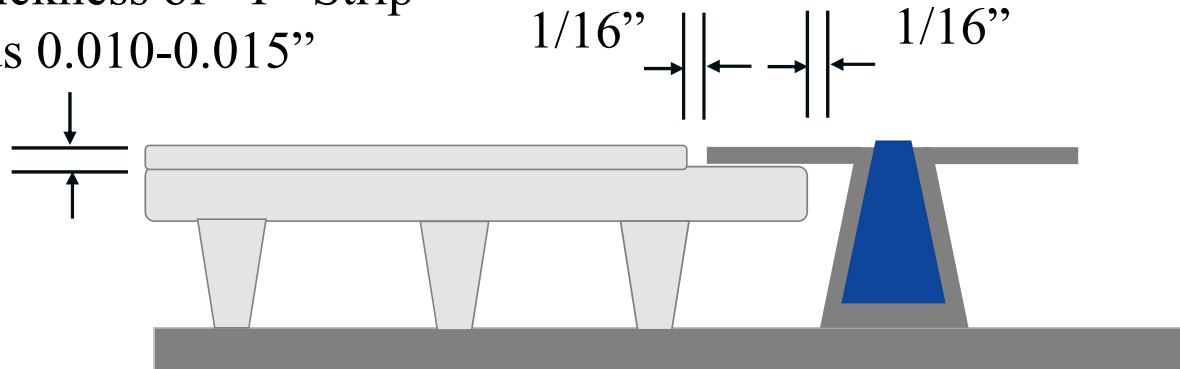


Proper Grid Installation



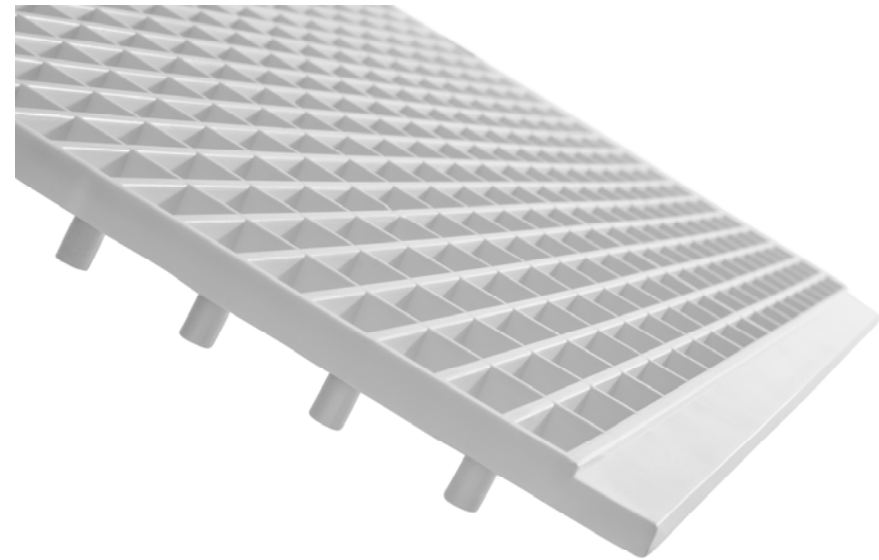
Proper Grid Installation

Thickness of "T" Strip
plus 0.010-0.015"



Optimal Grid Specifications

- Large open area
- Improved ratio between webbing and support legs to reduce friction
- Molded step or fly cut to provide smooth drum surface



Cloth Installation - Common Failures

- Compromising cloth during installation
- Allowing wrinkles to form during installation
- Cloth treatment at drum ends to prevent stress to cloth



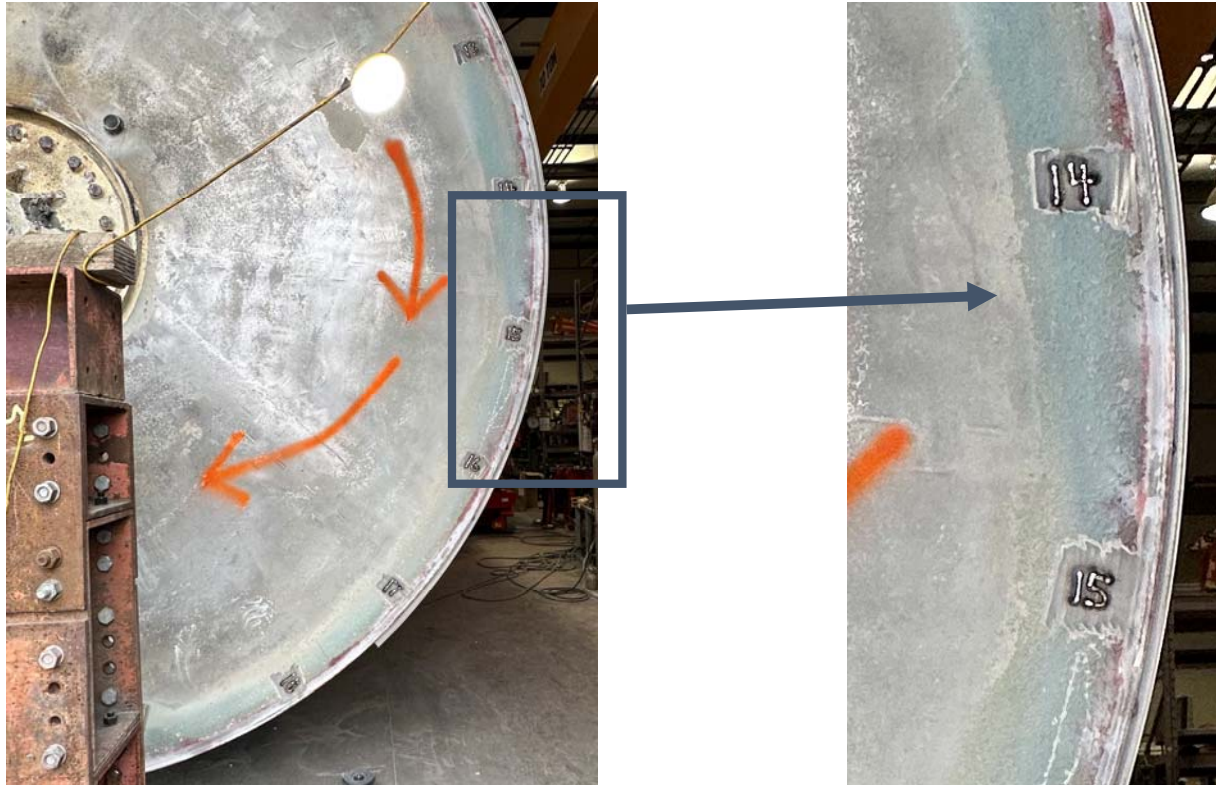
Division Strip Channel Holes



Typical Drum Damage



Lime Mud Drum



Thank You TAPPI

Questions?

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