

# 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

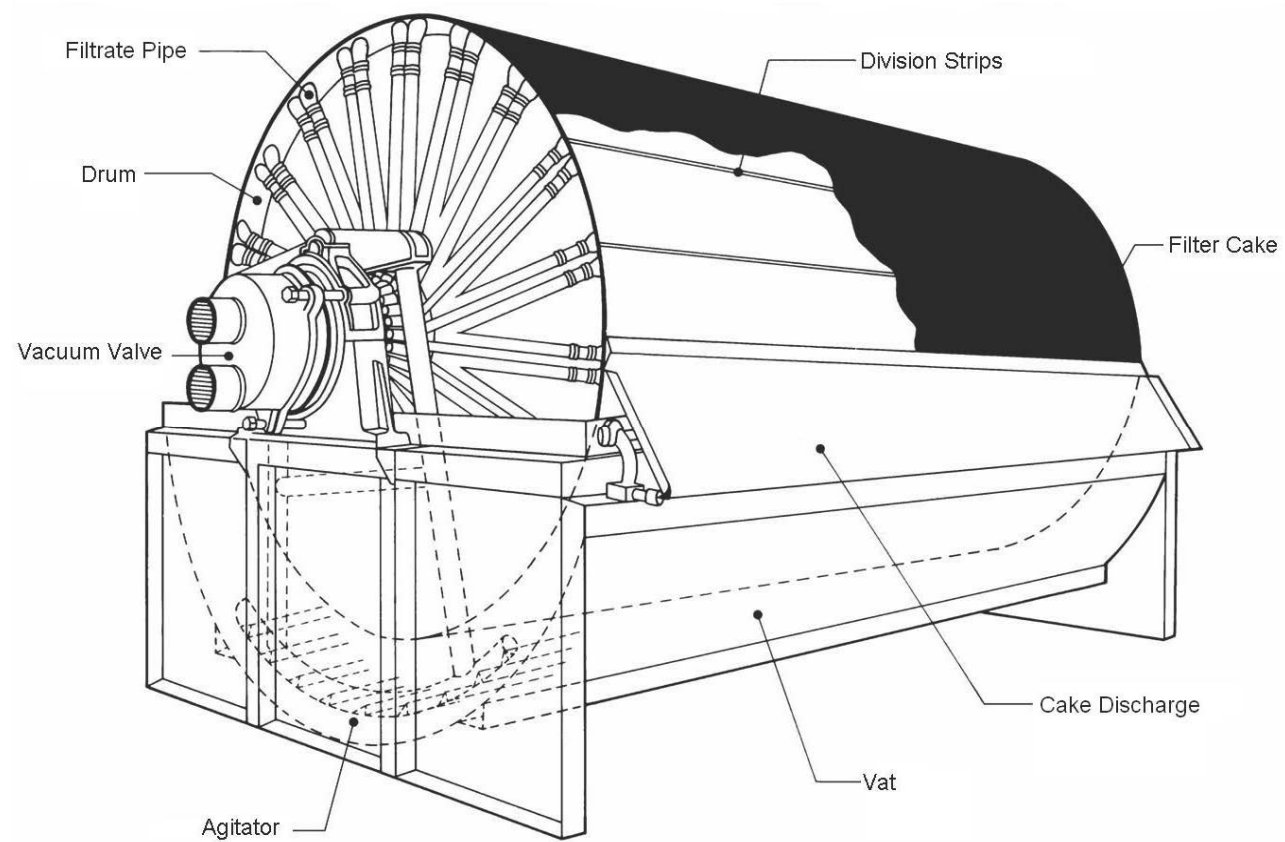


# Topics for Discussion

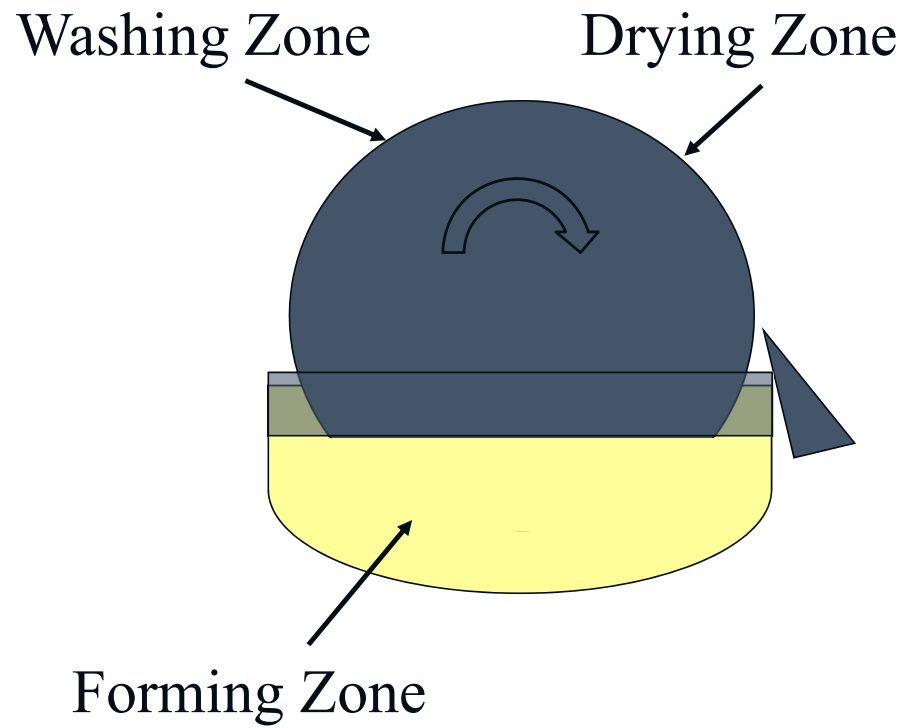
- Optimized shower flow for efficient cake washing and drying
- Common modes of cloth failure
  - Support Grid Damage
  - Drum Damage
  - Cloth installation



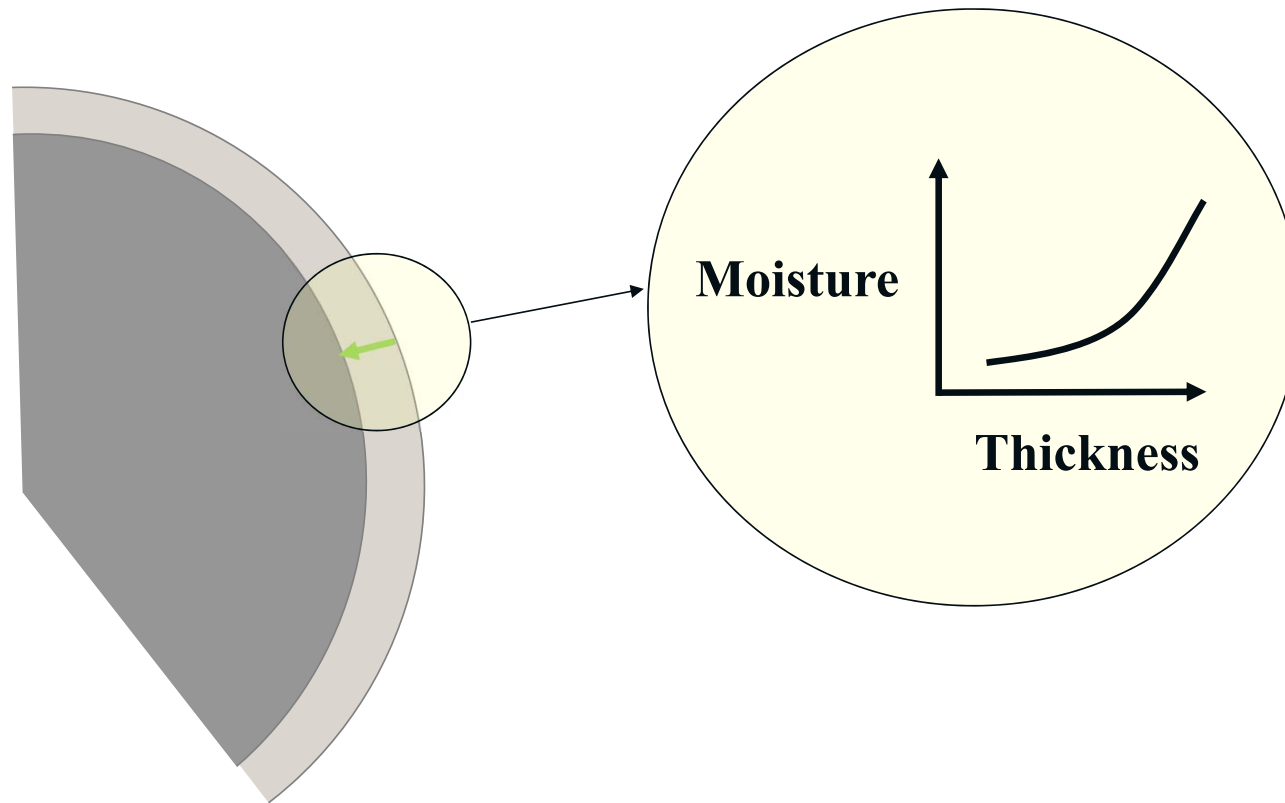
# Drum Precoat Filter



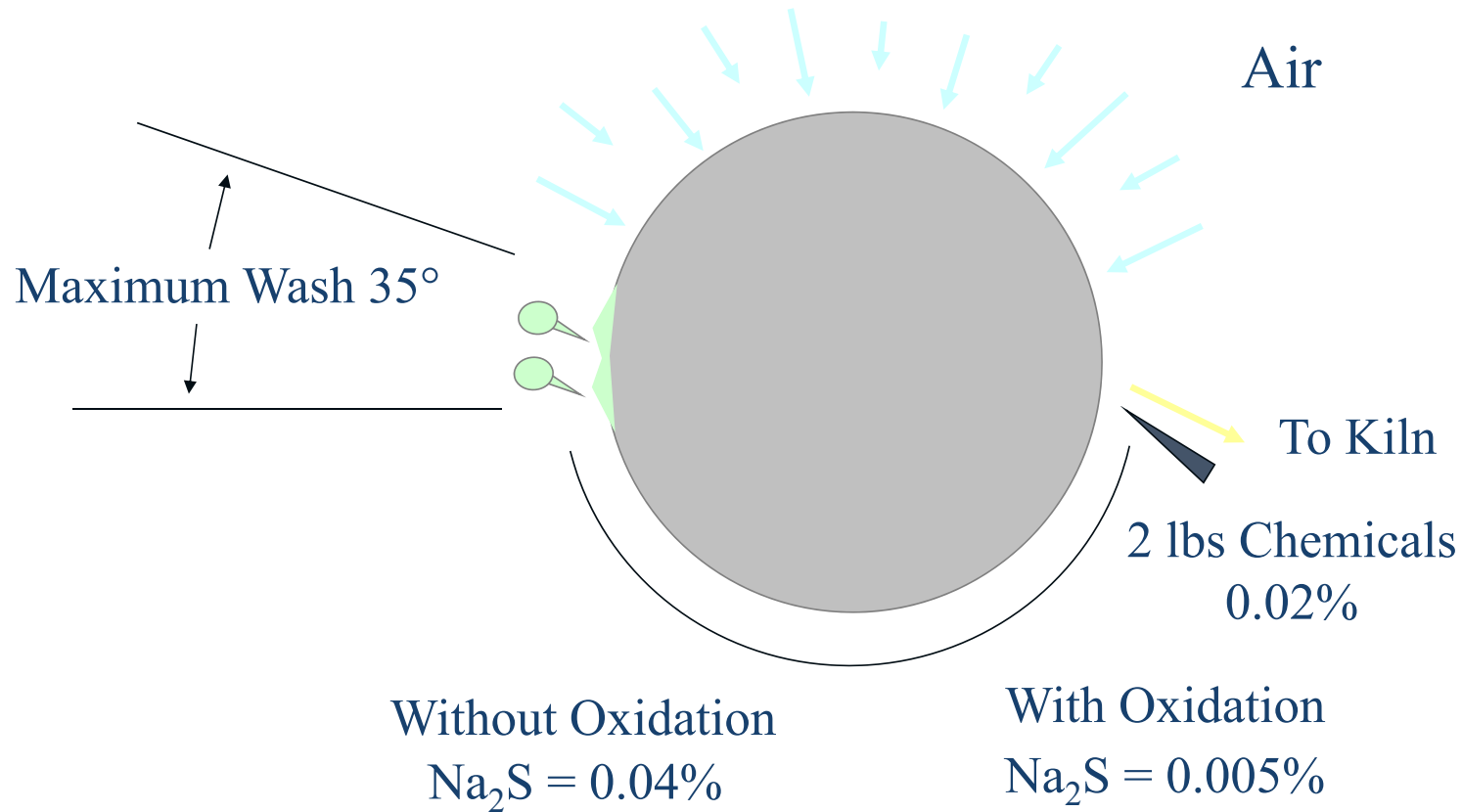
# Drum Precoat Filter



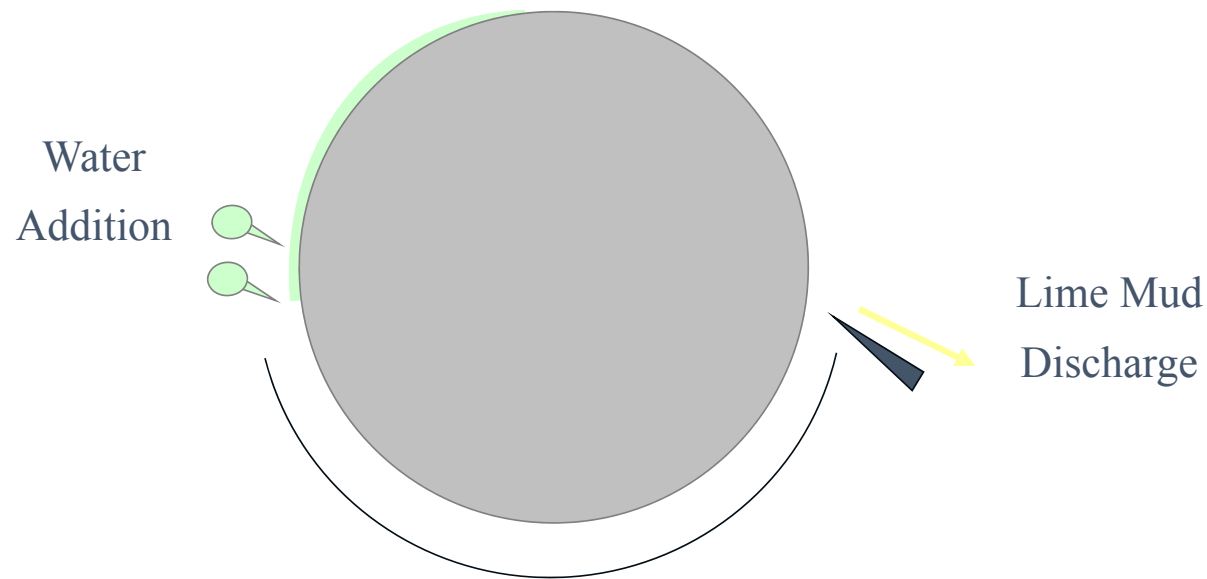
# Cake Thickness vs. Moisture



# Optimized Shower Flow



# Optimized Shower Flow

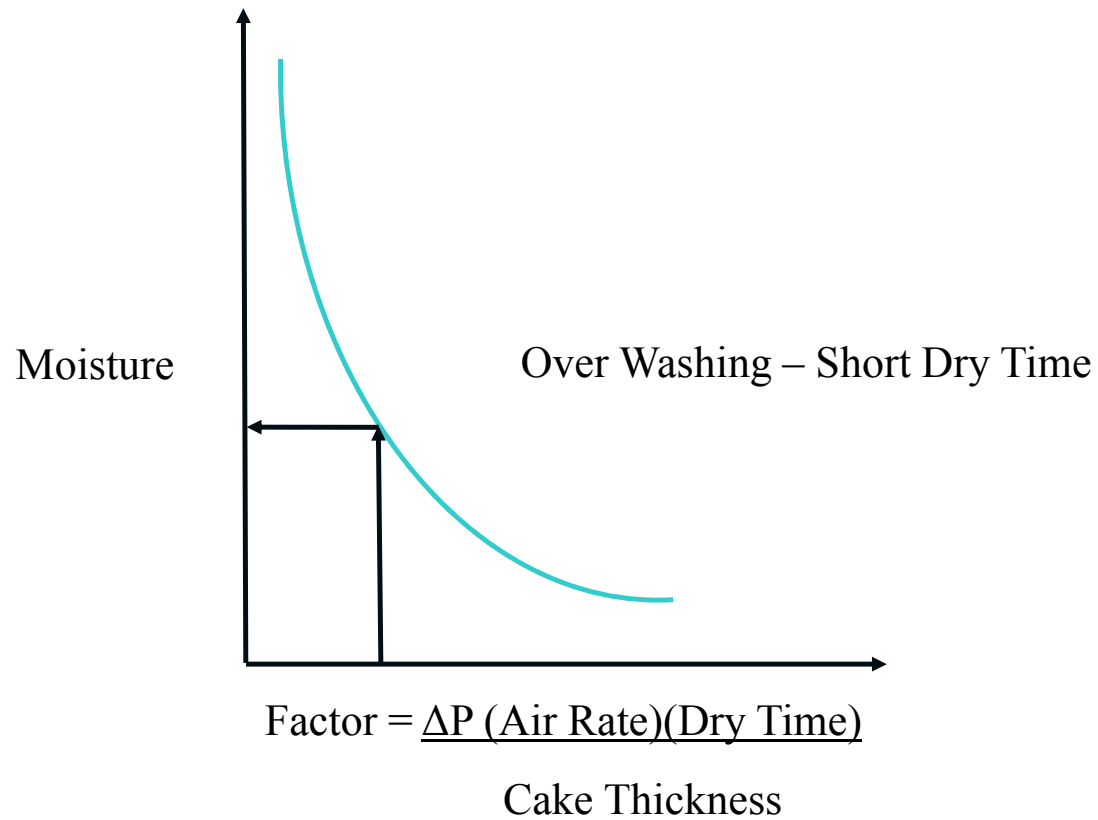


**Excess washing = Excess moisture**  
1+ Displacements

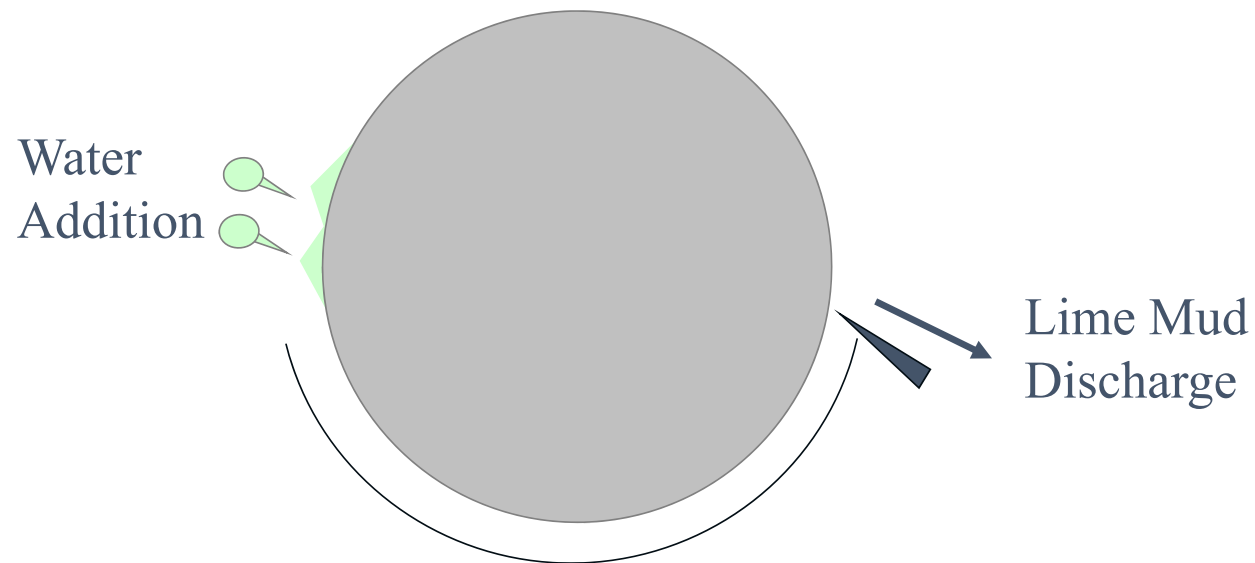




# Optimized Shower Flow



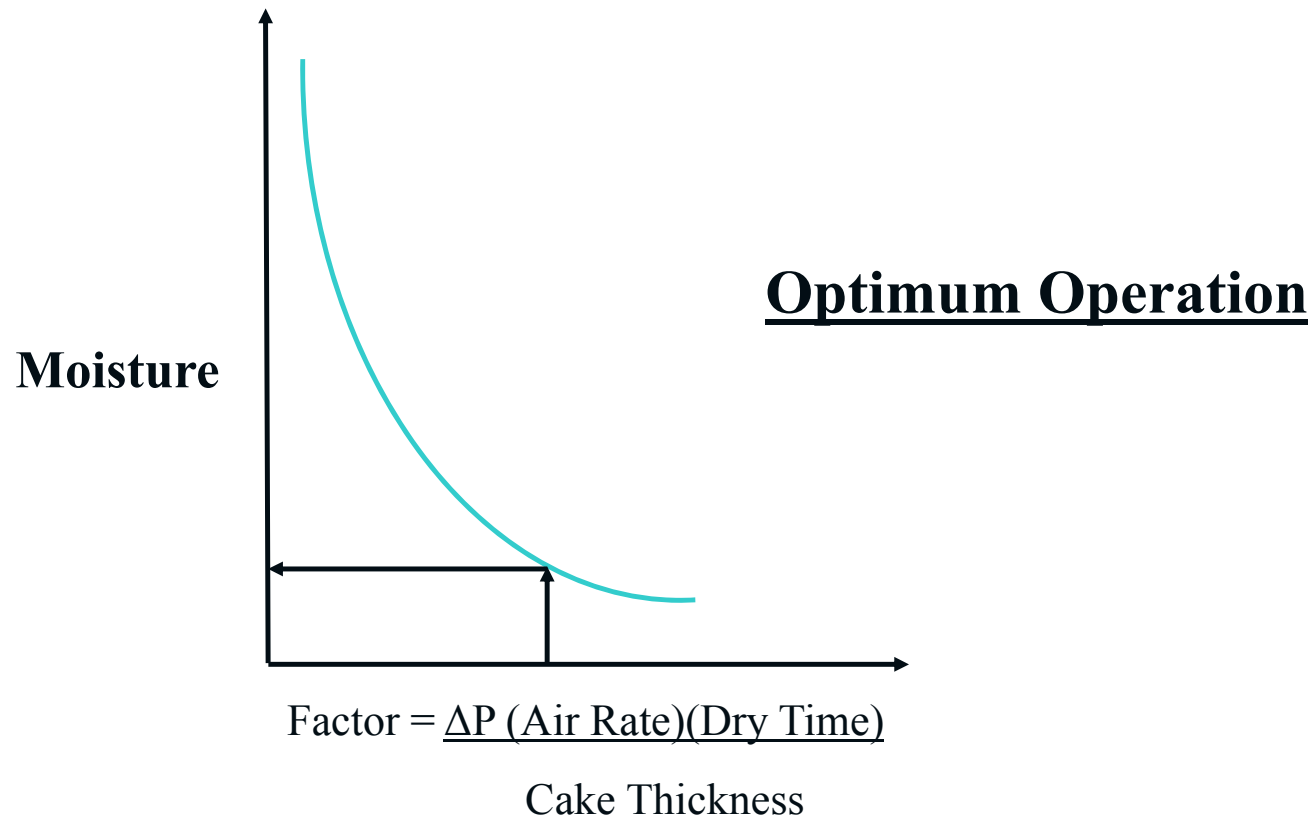
# Optimized Shower Flow



**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

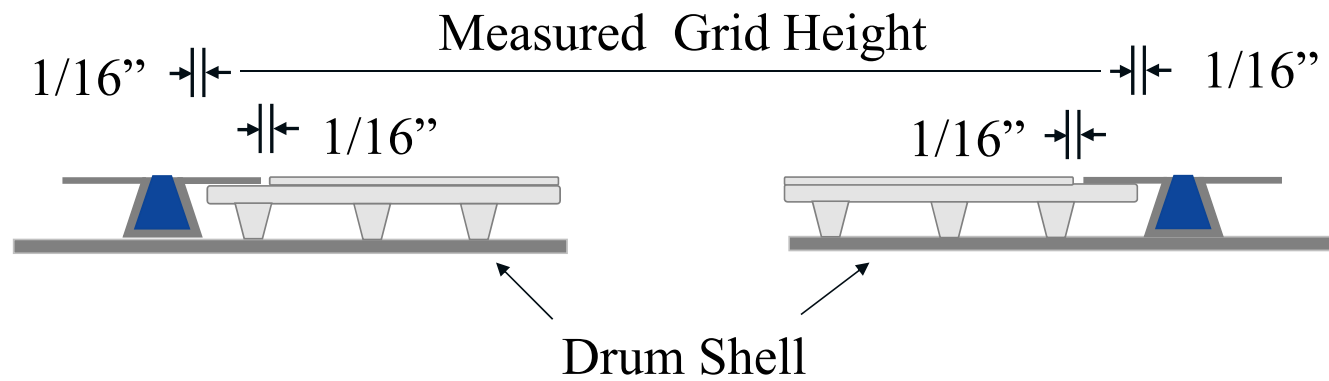


# Common Modes of Cloth Failure

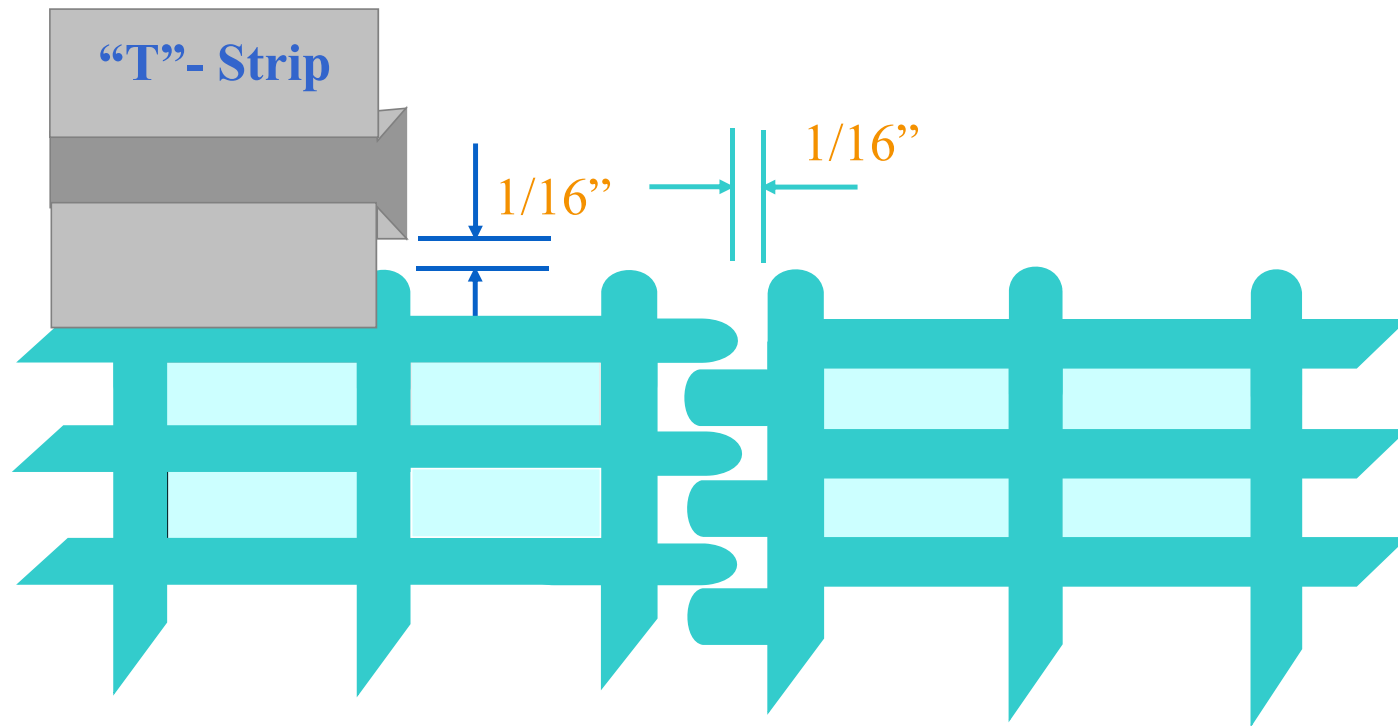
- Grid installation
- Cloth installation
- Division strip and drum damage



# Proper Grid Installation

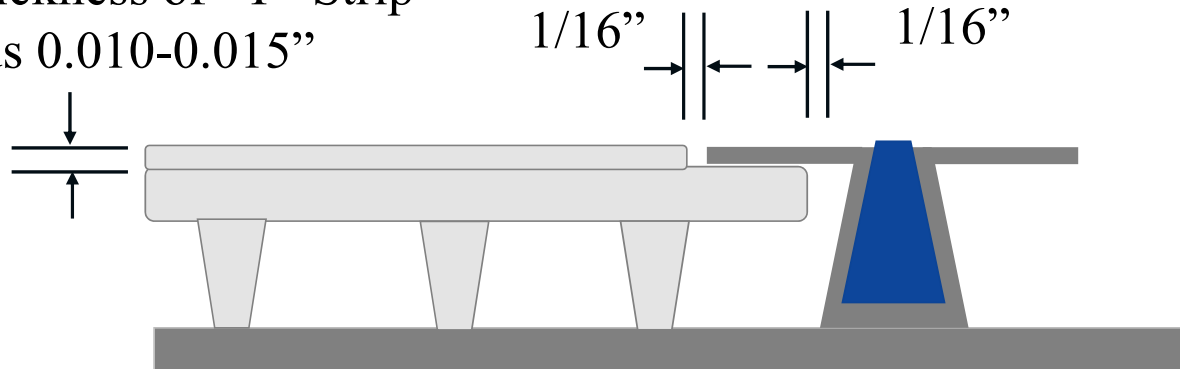


# Proper Grid Installation



# Proper Grid Installation

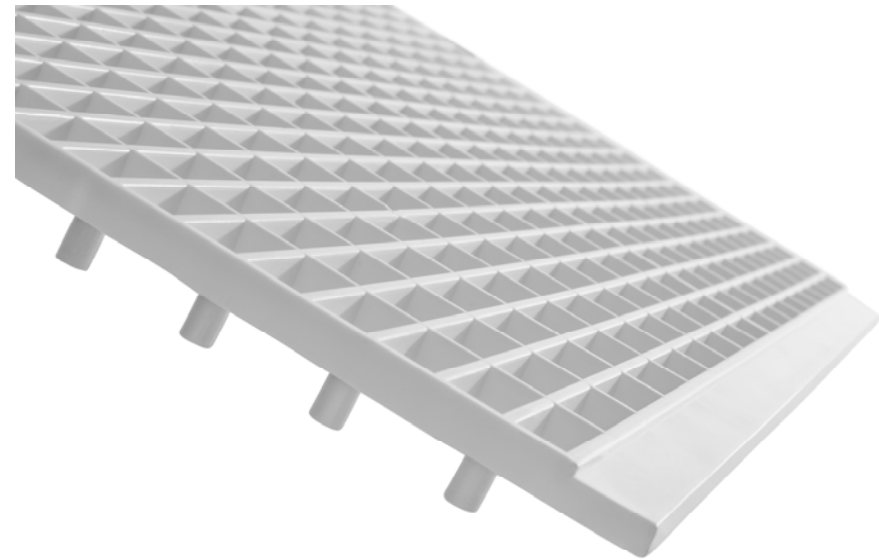
Thickness of "T" Strip  
plus 0.010-0.015"





# 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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