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Guidelines for the Design, Operation, Performance Evaluation, and Troubleshooting of a Paper Machine Hood and Air Systems

Scope

This Technical Information Paper outlines minimum guidelines for the operation, performance evaluation and troubleshooting of dryer section hoods and air systems. Effective application of this and several other associated TIPs could result in reducing cost per ton and improved profitability and/or runnability.

Purpose

Understanding and optimizing a paper machine hood and air systems will:

1. Create a uniform drying environment.
2. Contain and remove heat and evaporated water.
3. Reduce energy consumption.

Safety precautions

Below are the minimum safety requirements when working around paper machines . OSHA safety rules will always take precedent.

1. Appropriate personal protective equipment and procedures should always be used when working around and troubleshooting dryer section hoods and air systems.
2. There are mechanical and thermal hazards that require utmost care and respect in order to avoid injuries.
3. Rotating equipment, nip points, slippery floors due to oil leaks, compromised hood panels, etc., are some of the mechanical hazards present in the drying section.
4. High temperature and humidity in the hood ambient air, steam leaks, steam heated drying cylinders, infra-red dryers, etc., are the thermal hazard sources.
5. Dryer explosion, due to both cylinder internal and external problems, have been documented in different mills worldwide.
6. Newer high dew point hoods (HDP) are designed with “walkable roofs.” Extreme caution must be exercised when walking on the hood roof. Crane lock-out and fall protection are minimal requirements.
7. Single sheet construction hoods of metal or cement board, or tongue and groove panel (TG) hoods are NOT designed to support any weight.