

TECHNICAL BULLETIN – DDR04

SUBJECT: DOUBLE DRUM DRYERS – DRYER ROOM VENTILATION

General

Drum drying generates heat and humidity in the dryer room. The ambient air conditions in the dryer room should be kept as uniform as possible during the drying process. Changes in humidity, temperature, and air turbulence can cause changes in the drying process.

Discussion

The dryer room should be ventilated with an air change, at least every six minutes. Ten to twelve air changes per hour removes excess heat and humidity. The air removed with exhaust fans from the dryer hoods and additional exhaust fans should create a slight negative air pressure in the dryer room to keep hot, humid air from migrating to other plant areas.

The air replacing the exhaust air should come from a clean source and be filtered to remove any contaminants, which would be detrimental to a particular process. The replacement air should be introduced to the dryer room through low velocity air vents located above the drum dryers, to prevent air turbulence at the dryer during operation. The replacement air should be heated during cold weather, to maintain even ambient temperatures in the dryer room during production.

Humidity in the dryer room can cause undesirable condensation on ceilings and walls. The walls and ceilings should have an insulating valve, high enough to insulate the interior room surfaces from cooler outside temperatures and prevent the water vapors from condensing.

Each dryer room should be evaluated and designed to specifications which take into account the physical operating conditions of the drum dryer, the product being produced, the interior room environmental conditions, and the exterior plant environmental conditions. The drum dryer must operate in a uniform controlled environment in order to produce a uniform controlled product. Variations in humidity, temperature, and air currents in the dryer room can affect the overall productivity of the drying process, the stability of the gap between the dryer drums, the percent of moisture in the final product, and other factors related to the drying process.

A qualified ventilation engineer should establish the dryer room ventilation conditions and specifications for a particular production installation. Drum Drying Resources can provide data and review the recommendations for conformance to proper conditions for drum drying.

Drum Drying Resources supplies new, rebuilt, and retrofitted Double Drum Dryers to the drying industry. Each dryer is configured to specific designs, specifications, and systems to produce your product at maximum quality, sanitation, and productivity levels.

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