RUBBER SLURRY HEATING

SUMMARY

GOAL:

- Eliminate hammer and plugging
- Eliminate back-flow into steam supply line
- Eliminate acid bathing

ACCOMPLISHMENTS:

- Installed Industrial Hydroheater
- Eliminated hammering
- Eliminated
- Improved product quality
- Reduced maintenance

This major tire and rubber company needed to heat 26% PVC slurry without hammering and plugging. The slurry required heat added prior to dewatering in a centrifuge. Indirect methods of heating were not considered because of the high potential for the slurry to foul the barrier heat transfer surface. For this reason, a competitive direct-contact steam heater was being used; however, the heater hammered violently, compromising pipe fittings and supports. Periodically, the PVC slurry would back-flow into the steam supply line and harden, requiring disassembly for acid bathing.

CONDITIONS

Fluid:	26% PVC Slurry
Flow Rate:	45 GPM [10 m^3/hr]
Inlet Temperature:	Variable; 35-120˚F [2-49˚C]
Discharge Temperature:	167˚F [75˚C]
Steam Supply Pressure:	60 PSIG [4 barg]

SOLUTION

The Hydroheater was evaluated for this application because of its ability to handle viscous slurries with high solids. Internal modulation of steam in the Hydroheater would eliminate the hammering problems and the potential for the PVC slurry to back-flow into the steam lines.

Hydroheaters were installed and have been operating since 1987. The hammering problems associated with the competitive heater have been eliminated. Internal modulation of steam in the Hydroheater prevents the slurry from back-flowing into the steam supply lines. The need for routine cleaning has been eliminated due to its self-cleaning design.

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