Starch Cooking

Application
A converting mill producing a range of specialty coated printing and copier papers, required a steam injection heater for cooking cationic starch slurry, up to 35% solids. The heater serves a dual function. First, water is pre-heated to 140°F and blended with starch powder. Then the starch slurry is pumped back through the heater at a rate of 40 GPM and cooked at 200°F. Depending on the recipe, post dilution is used to obtain final consistency.

Process Conditions
- Slurry and Water Flow Rate: 40 GPM
- Inlet Temperature: 50°F
- Final Cook Temperature: 200°F
- Steam Pressure: 65 PSIG
- Water Pressure: 50 PSIG
- Required Steam Flow: 2,580 lb/hr

Solution
A Pick Model 6X25-3BX Heater was selected for this application. Its generous flow-through design imposes negligible pressure drop on the slurry. It provides thorough cooking at a precisely controlled temperature. The low velocity design minimizes mechanical shear of the starch granules, an important factor for most cationic starches.

Features and Benefits:
- Low Pressure Drop
- Precise Temperature Control
- Low Mechanical Shear
- Compact Design
- Non-Plugging

Learn more at www.pickheaters.com
Pick Heaters, Inc. — 730 S. Indiana Ave. — West Bend, WI 53095 USA
Phone: (262) 338-1191 — Email: info1@pickheaters.com
Starch Cooking System Diagram