CASE STUDY

INDUSTRY: COMMERCIAL

CUSTOMER: Kimball International - National Furniture Unit

LOCATION: Jasper, Indiana

BACKGROUND: Armstrong International's representative partner, Affiliated Steam and Hot Water, was contacted by Kimball International to provide a solution to replace an aging steam humidifier system for their national office furniture unit. Kimball International stores their wood materials on floor-to-ceiling racks at this specific unit for office furniture. Wood is a hygroscopic material and can absorb a high amount of moisture, and will continue to release or gain moisture until the equilibrium moisture content is met.

The existing system in the facility was different than most because the steam humidifiers used were not in the duct or air handler, but were used directly in the space. To determine the proper humidification load, several aspects of the application were considered from room dimensions to air changes to the temperature and relative humidity of the incoming air. Other factors that had to be determined were the moisture content of the wood entering the space, the desired moisture content, and the amount of wood stored in the area.

SCOPE OF WORK: The customer originally had a direct steam injection humidifier; however they did not utilize fans behind them and neglected to take into account I-beams or supports that interfered with the absorption distance. The customer also had issues with spitting due to a fluctuating steam pressure and not having proper controls.

Armstrong and Affiliated Steam and Hot Water determined that the Armstrong FSA humidifier was be best suited for the application in order to provide the necessary air flow to help the moisture absorb into the environment. For the fluctuating steam pressure, regulators were installed on each the humidifiers to provide constant pressure to the nozzles. Each unit was also supplied with an electric temperature switch to prevent cold startups (no spitting).

Much consideration was given to the placement of the FSA humidifiers since certain clearances to the units had to be maintained to ensure that the steam did not come in contact with structural items and cause dripping as it did in the past. Forklift traffic and access were also accounted for.

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BENEFITS: Attention to detail and proper sizing were important in this project to meet Kimball International's expectations. Since installation, the customer has recognized satisfactory results in protecting and maintaining the wood.