



Community Centre Fights Fabric Duct Deflation with In-Duct Tension System

SkeleCore retrofit makes community centre the world's first site for 24/7 inflated fabric duct regardless of idle air handlers.

Peosta, Iowa—City officials loved everything about the white fabric ductwork in its 84,000-square-foot Peosta Community Centre except the occasional “popping” sound it made while rolling out and inflating during HVAC equipment start-up.

The noise didn't matter in active athletic areas, but the “pop” was distracting in the quiet zones such as the 800-square-foot conference room and the Kid's Zone during naps, according to Kevin Cartee, executive director, Peosta Community Centre, Peosta, Iowa. “Compared to other recreation buildings I've experienced, fabric duct distributed air is cleaner, quieter (during operation), better dispersed and more aesthetic and visually streamlined when inflated than metal ductwork,” said Cartee.

Those performance and aesthetic aspects prompted architect, Stott Barrientos & Associates, Ames, Iowa, to specify premium-grade Sedona™ and Tuftex™ fabric duct by DuctSox, Dubuque, Iowa, versus metal duct throughout the facility. Although Peosta has a small population of 1,300 people, the upscale \$9.5 million centre didn't cut corners on aesthetics, especially since local philanthropist A.J. Spiegel donated \$5 million to jump-start the project in 2005.

Although the deflation and popping was only a minor nuisance, Cartee searched for any possible deflation-busting innovations that might have been developed in the last six years. Coincidentally, DuctSox had just developed the patent-pending SkeleCore, an in-duct cylindrical tensioning device (CTD). When retrofitted to any fabric duct brand, the CTD presents fabric ductwork with an inflated appearance even during idle HVAC system periods. Since it appears perpetually inflated, popping roll-out sounds are eliminated.



Installed in Two Days

Without removing the 1,600-linear-feet of original fabric duct ranging from 8 to 34-inch-diameter or its supporting H-track suspension system, DuctSox engineers installed the world's first SkeleCore system at Peosta.

The project required two installers on 10-foot ladders for two days to completely retrofit the fabric ductwork in three weight rooms, one cardiovascular area, a meeting room, a banquet hall and the aforementioned Kid's Zone and conference room. The team pushed six foot sections of SkeleCore from an unzipped end-cap connection through duct runs of up to 25 feet before unzipping two lengths and starting the routine again.

The CTD system consists of a 3/4-inch-diameter, lightweight aluminum tube supporting a series of 360-degree, 3/16-inch-diameter powder-coated steel connecting rings, which are precisely sized to administer tension on the inner fabric duct walls. SkeleCore's backbone tubes are six feet long and designed to easily snap into the support rings and couplers with a spring-loaded, quick-connect/release mechanism.

Inflated Aesthetics and Wedding Receptions

The aesthetics of the system promises to enhance the centre's successful growing banquet business, which attracts weddings from a 30-mile radius. "We had to be careful of HVAC system startups during the wedding reception toasts and other sensitive periods, because the room's six duct runs rolling out simultaneously was a distraction," recalls Cartee. "Now people can't hear the fabric duct and either don't notice them or can't identify what they are."

Versus conventional fabric duct, SkeleCore adds approximately 30-minutes of installation time per 100-foot run, according to Nick Kaufmann, project engineer, DuctSox. It also adds seven-ounces/foot of weight, induces minimal friction loss, and carries a comparable cost.

While the Centre's ductwork is still under its 10-year warranty, it's expected to last at least another five to 10 years before replacement. Kaufmann recommends SkeleCore retrofits for any brand of duct system up to 15 years old. "It might be more cost effective to replace a 15-year or older system in favor of a new system with SkeleCore," he said.



DUCTSOX[®]
Fabric Air Dispersion Products

9866 Kapp Court • Peosta, IA 52068
Ph: 866-382-8769 • Fax: 563-588-5330

www.ductsox.com

case study