



CASE STUDY



OVERVIEW	
Project Size	46,400 square feet
Budget	\$7.5 million
Completion Date	June 2013
Architect	Cortner Architectural
General Contractor	Lydig Construction Inc., of Spokane, Washington
Garage Door Installer	Continental Door Company
CLOPAY PRODUCTS	
Model 3722	20 Gauge steel sectional overhead garage doors with 2" Intellicore® insulation technology, 18.4 R-value and heavy-duty hardware with 100K cycle springs and highlift track W1 WindCode® reinforcement
Model 903	Full view aluminum doors with all clear anodized aluminum panels

SPOKANE INTERNATIONAL AIRPORT SNOW REMOVAL EQUIPMENT BUILDING Spokane, Washington

COMMERCIAL COLLABORATION

Clopay partnered with Master Authorized Dealer Continental Door Company to design and install 28 commercial doors on Spokane International Airport's (SIA) new \$7.5 million snow removal building.

The combination of Model 3722 overhead sectional steel doors and Model 903 full view aluminum doors contributed to the building's LEED Gold certification, in addition to providing striking aesthetic benefits.

The 46,400 square foot facility houses the airfield's upgraded snow removal fleet. Airport officials estimate their crews remove 6.6 million cubic feet of snow (greater than 150 acres) in an average year.

Plans called for nine drive-thru bays to store the trucks, a dedicated truck wash bay and eight doors for the maintenance repair shop. The doors had to be at least 30' wide to provide adequate clearance for the 75' long multi-function vehicles, each equipped with a 24' wide snowplow.

The ruggedness of the 2" thick premium Model 3722 20 gauge steel doors, located on both sides of the building's exterior, ensure low-maintenance reliability in a demanding high traffic, heavy equipment environment operating around the clock in harsh winter weather conditions.



Freezing temperatures and moisture can quickly become a safety hazard for workers and trucks, so enhancing the building's climate control systems with an energy-efficient door was an important consideration. The 2" thick Model 3722 features Intellicore insulation technology with an 18.4 R-value and thermal break to prevent the transfer of cold air from the outdoors into the building. A flexible bottom weather seal with an aluminum retainer reduces conductivity of heat and cold to minimize air and water penetration when the doors are closed.

Interior and exterior hot-dipped galvanized steel panels are primed and coated with a baked-on polyester paint finish, lessening the environmental toll on the door's rust-resistant surface.

Continental recommended Clopay Model 903 full vision aluminum doors for the truck wash bay due to the combination of moisture and caustic salt residue.

FUNCTIONAL VS. FASHIONABLE

Notable design features for the snow removal facility include a curved ribbon metal roof that runs across the entire length of the building, and translucent panels above each door opening to maximize natural light coming inside. While visually stunning, both elements posed challenges for typical commercial overhead door installation and operation.

The undulating roof meant that the highlift of each garage door varied anywhere from 24" to 12' in relation to the roof height. Clopay's in-house commercial engineering team worked closely with Continental Door to create 28 unique 30' x 18' door configurations that left no room for error on fit or function.

Keeping runways clear and flights on time means the entire snow removal fleet is operating at full capacity without any maintenance glitches. Downtime due to a broken door isn't an option. The team specified heavy-duty 100K springs, which require dual shafts with eight duplex springs on the interior of each door and two additional cable hook-ups on the exteriors.

THE CRANE, THE CRANE

SIA's equipment upgrade also included installing a 5 ton bridge crane in the building's maintenance area to attach and remove snow plows from the trucks. The massive size of the crane left a narrow 10" opening to install the overhead door and highlift it up and over the rail beam.

Clopay and Continental re-engineered the door to gain valuable inches needed for a successful install without compromising durability and safety. They reconfigured the door hardware on a straight incline in lieu of a break-away track, changed the hinge scheme to custom staggered layout and used a combination of 4' and 6' struts to meet the wind load requirements.

ACHIEVING A GOLD STANDARD RATING

With a high percentage of recycled material, innovative product designs and superior insulating qualities, Clopay doors met the design team's goal for sustainable, eco-friendly materials and contributed to earning valuable LEED credits under the Indoor Environmental Quality and Materials and Resources categories.

"Clopay not only provided garage doors to fit the building's high impact design and performance goals, they engineered nearly 30 one-of-a-kind solutions for some of the biggest, heaviest doors I have ever installed on a job. And they delivered on time and on budget," said Continental president Norm Morse. "As a result of this collaboration, my company has been awarded the contract to install eight Clopay Model 903 commercial doors on Spokane International Airport's new fire station now under construction."



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