

Amelia Cameron, Amelia Cameron Photography



Museum houses private and rare collection of airplanes

The Lyon Air Museum, part of the Martin Aviation complex at John Wayne International Airport in **Santa Ana, Calif.**, houses a private and rare collection of World War II warbirds, including a Boeing B-17G Flying Fortress, B-25 Mitchell bomber, C-47 Dakota troop carrier and A-26 attack bomber. The restored aircraft are the private squadron of retired Major General William Lyon USAF, who earned his fortune by building more than 100,000 homes in Southern California. The 86-year-old businessman and former commander of the U.S. Air Force Reserves still occasionally mans the controls of his historic aircraft.

Butler Builder T. Violé Construction Co. Inc., Tarzana, Calif., retrofitted and unified 25,000 square feet (2,323 m²) of existing hangar/shop/office space built in the 1970s and 1980s with a 29,800-square-foot (2,768-m²) custom-engineered metal building from Butler Manufacturing, Kansas City, Mo. The 240-foot (73-m) clear span structure has a 28-foot- (9-m-) high hangar door comprised of 10 full-floating glazed leaves that create a 220-foot- (67-m-) wide opening. A structurally supported observation walkway along one side overlooks the aircraft collection. Additionally, 3,400 square feet (316 m²) of

a conventionally framed two-story office is incorporated into the overall footprint.

The project consisted of reroofing the hangars from the 1970s and 1980s that were used by Martin Aviation with Butler's MR-24 standing-seam metal roof system. The complex is visually unified with 24-gauge horizontal metal wall panels with a Metallic Silver finish from Metal Sales Manufacturing Corp., Louisville, Ky. A 26-gauge vertical rib metal panel from Metal Sales skins the hangar door, which was supplied by Elkhorn, Wis.-based Wilson Doors. Pittsburgh-based PPG Industries supplied PPG Solarbrnze insulated glazing that allows daylight to play with the gleaming white interior, including the white epoxy floor finish that collectively optimizes the output from the high-efficiency fluorescent fixtures.

The horizontal metal wall paneling and parapet conceal an 18-inch (457-mm) seismic gap between the unified structures, which will preserve their independent movement during an earthquake.

"The entire building was fire rated with spray-applied fire proofing, which was sheathed with 26-gauge metal liner panel," said Dan Bianco, AIA,

LEED AP, principal architect with J.R. Miller & Associates Inc., Brea, Calif. "It's an added measure that provides for a clean finish within the hangar and prevents any fireproofing from potentially falling onto the aircraft."

"The project was truly a hybrid that integrated a conventional framing system for the office and observation walkway into a pre-engineered metal building. The exterior walls with their metallic finish also mimic the finish of the vintage aircraft stored within the building."

The museum is expected to open later this year.

Butler Manufacturing,
www.butlermfg.com, Circle #77

Metal Sales Manufacturing Corp.,
www.metalsales.us.com, Circle #78

PPG Industries,
www.ppg.com, Circle #79

Wilson Doors,
www.wilsondoors.com, Circle #80