

Project Profile



Sitka Fire Hall, Sitka, Alaska

Creating High Performance Buildings with only One Product, One Trade, OneStep!

OneStep-Midwest LLC
www.onestepbuildingsystem.com

Sitka fire chief Dave Miller wanted his new public safety facility to have the look and feel of a traditional 19th century brick fire hall. However, this traditional look was typically very expensive, as all of the building materials have to be barged to Sitka from the mainland. Not only did the **OneStep Building System** provide chief Miller and the city of Sitka with the look they desired, the project also came in \$700,000 below budget.

While the OneStep Building System created the appearance of an old style multi-wythe brick wall, it is truly a modern high performance building system. The new Sitka Fire Hall is energy efficient (R-22+), has an integral five-layer water repellant barrier within the system, and has the strength of cast-in-place concrete. The OneStep Building System is virtually maintenance free, highly disaster-resistant, and is noncombustible with a four-hour fire rating.

The red half-high concrete brick used on the Sitka project created an attractive, maintenance-free exterior finish and the OneStep Building System provided this finish on both sides of the wall assembly, an attribute that would normally be very expensive with traditional masonry.

Kelli Copper, project manager for the city of Sitka stated, "I was really impressed with the system; the thermal break and the internal insulation seem to solve many problems with traditional masonry."

Richard Riggs, public works director for Sitka stated, "We looked at many different options for this project. Our climate is very wet and standard masonry tends to have problems with moisture."

We think the OneStep Building System was definitely a benefit to the project and the owner.

The product went up faster than traditional masonry. In the end, the Sitka job was two weeks ahead of schedule because the OneStep Building System walls went up faster."

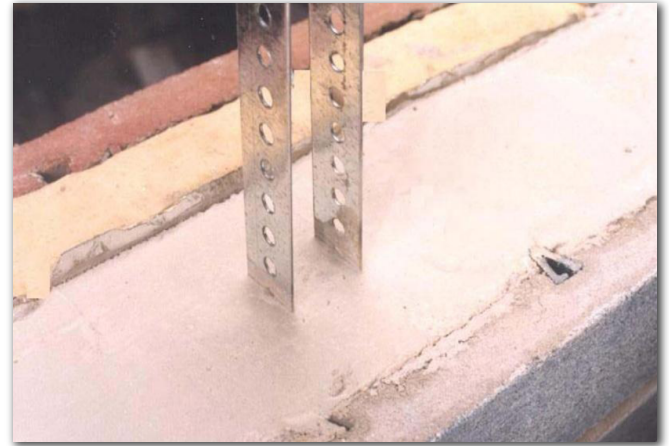


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Project Facts:

Owner:	City & Borough of Sitka, AK 100 Lincoln St, Sitka, AK 99835
Engineer:	Richard A Riggs, P.E. 907-747-1804
Architect:	Kluge & Associates 130 Trading Bay Rd, Ste 330 Kenai, AK 99611
Unit Model:	12 x 4 x 16 Half-high colored masonry face shell with integral color and water repellent
Insulation Value:	R-22 achieved by 2" of extruded polystyrene and 1¼" air space over 7¼" of solid thermal mass
Water Resistance:	Two 1⅞" concrete masonry face shells with integral water repellant and 1¼" thick air space/weep cavity backed by 2" of non-absorptive polystyrene insulation and 5⅜" of solid concrete fill, which also performs as a vapor barrier within the wall
Sound Rating:	All walls have an STC rating of 61+
Fire Rating:	All walls have a four hour fire rating
Life Cycle:	Project built to an 80 year life cycle
Structural:	7¼" thick structural member consisting of 1⅞" concrete masonry face shell (min 1900 psi) and 5⅜" solid concrete fill (min 3000 psi, reinforced with one #5 vert. rebar at 8" or 16" O.C. and two #5 horizontal rebar at 48" O.C.
Disaster Resistance:	Project designed for a 120 MPH, three second gust exposure B wind load. 60 PSF snow load (two month exposure) seismic zone four

Hurricane strap detail showing the roof trusses mechanically tied to the wall assembly, allowing the building to resist high wind loads.



The **OneStep Building System** provided the City of Sitka with an exceptionally strong, disaster resistant and energy efficient new fire hall. With the blended brick look finishes on both the exterior and interior surfaces of the outer walls, the building is a beautiful addition to the community. In addition to all these benefits, the OneStep Building System allowed the fire hall to be completed ahead of schedule and under budget, all of this was achieved using only One Product, One Trade, OneStep!

