

Department of Defense Confirms Certified Energy Savings from ASSA ABLOY Openings

ASSA ABLOY

The global leader in door opening solutions

High performance openings from ASSA ABLOY are delivering certified energy savings to Department of Defense (DoD) facilities, giving the government agency a trusted sustainable building component to comply with energy efficiency requirements for Federal facilities.

The DoD and third-party agency GreenCircle Certified LLC examined several standard exterior openings at Joint Base San Antonio (JBSA) and Ft Bragg, NC and compared the performance of these doorways against energy efficient Trio-E openings from ASSA ABLOY. In all cases, the Trio-E openings greatly outperformed the existing doorways, **producing annual certified energy savings that average \$100.00 per year per single opening!**



These tests were commissioned by the DoD in response to Executive Order 13693 that requires government agencies to increase the environmental performance and reduce the energy use and costs incurred by Federal buildings. The goal of the directive is to save taxpayer dollars through avoided energy costs and increased efficiency, while also making Federal facilities more resilient.

Before sustainable products such as the Trio-E opening are utilized by the Military Departments and DoD, their performance must be proven to meet DoD requirements. To be considered for installation into a DoD facility, the building component in question—in this case, the Trio-E Openings—are subjected to pilot demonstrations in DoD

operational environments. The demonstration allows DoD end-users to determine, through firsthand experience, if the products meet their requirements for use.

The DoD has provided additional information regarding the Sustainable Door Openings Demonstration online at their Sustainable Products Center site: <http://www.denix.osd.mil/spc/demonstrations/ongoing/sustainable-door/>.

The Trio-E openings used for the demonstration were installed by ASSA ABLOY installers in coordination with facilities personnel. Performance data was collected throughout the demonstration by GreenCircle and compared against non-energy efficient equivalents. Key energy efficiency performance data were measured in heat transmission (determined by U-Factor) and air drafts and seepage (determined by air infiltration rate).

What do the U-Factor and Air Infiltration value numbers mean?

Real world energy performance of an exterior opening must consider both the thermal performance and air infiltration of the opening assembly.

U-Factor is the overall coefficient of heat transmittance measured in BTU's per hour per square-foot of area per degree



Ft Bragg Barracks Stairwell Door

Fahrenheit temperature difference between the air on the two sides of the door (BTU's/hr-ft²-°F) The lower the U-factor, the better the insulation. Trio-E Openings have the lowest U-Factor for a steel stiffened door in the market today.

The U-Factor was achieved in an operable condition (ASTM1363) and tested per NFRC 102-2014 using a Thermal Break Frame and Pemko Thermal Barrier Threshold.

Air infiltration is a measurement of the air leakage around the perimeter of a door opening. Air infiltration is measured in Cubic Feet per Minute (CFM). Trio-E openings reduce air infiltration to

a rate of 0.1 CFM per square foot (per NFRC 400-2014).

The Trio-E openings produced significant energy savings throughout the facility. The following chart details Trio-E Door results.

Trio-E Openings have been installed at additional DoD facilities and are now undergoing similar testing. To learn more about Trio-E openings and ASSA ABLOY sustainability efforts, please visit: <http://www.assaabloydss.com/sustainability>.

Door Location	ASSA ABLOY Energy Efficient Doors	Existing Door Condition	Energy Savings (kWh/year)	Energy Savings (MBTU/year)	Energy Savings	Est Financial Savings: EIA AVG Retail Rate at the State Level (USD per Year)	Est Financial Savings: Gov Rate of Electricity (USD per Year)
Ft Bragg, NC \$0.06/kWh							
Bldg C8129 Brigade Motor Pool 82d Airborne Div	Trio-E flush in a kerfed frame	18 ga honeycomb core in a standard frame threshold; no door seal	1,612.12	5,500.78	70.00%	\$151.06	\$96.73
Bldg C8030 Brigade Motor Pool 82 Airborne Div	Trio-E flush in a kerfed frame	18 ga honeycomb core in a standard frame threshold; no door seal	1,612.12	5,500.78	70.00%	\$151.06	\$96.73
Bldg 5624 Stairwell Door	Trio-E flush; C5624 Stairwell Door frame not changed since it was masonry filled (modeled as a standard frame)	18 ga honeycomb core in a masonry filled frame (modeled as a standard frame) threshold; no door seal	1,570.66	5,359.31	68.00%	\$147.17	\$94.24
Joint Base San Antonio (JBSA) \$0.076/kWh							
CES HQ Building Employee Side Entrance Door #104	3'0" x 7'0" Trio-E 777E Curries/Ceco Door Energy Efficient Steel Stiffened Door with (8" x 30" glass), 5 ¾ Mercury Thermal Break Frame – Curries, Ceco Door and Pemko Thermal Barrier Saddle	18 ga Polystyrene Core Hollow Metal Door + Standard Hollow Metal Masonry Frame valued in full glass (lower rated glass)	1,589.23	5,422.68	66.00%	\$138.26	\$121.17
CES HQ Building Employee Side Entrance Door #205	3'0" x 7'0" Trio-E 777E Curries/Ceco Door Energy Efficient Steel Stiffened Door with (24" x 30" glass), 5 ¾ Mercury Thermal Break Frame – Curries, Ceco Door and Pemko Thermal Barrier Saddle	18 ga Polystyrene Core Hollow Metal Door + Standard Hollow Metal Masonry Frame OR KERF Frame valued in full glass with good gasketing	1,567.09	5,347.13	65.00%	\$136.34	\$119.48

Door Security Solutions®

110 Sargent Drive
New Haven, CT 06511
877-303-7629

www.assaabloydss.com/sustainability

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