



**Trades Estimate Guide
August, 2014**

Attachment A

Campus Standards Versus Commercial Standards

Cost vs. Lifespan Comparison for Items Frequently Proposed, but *Not Selected*, in Value Engineering

Component Group	Component Costs			Estimated Lifespan in Years		Deltas		Comments
	Good Commercial	UCI Campus Standard	Cost Difference	Good Commercial	UCI Campus Standard	Cost	Life	
HVAC								
Air-Handlers	\$2.50/CFM	\$4/CFM	\$1.50/CFM	20	40	60%	100%	Extended service operation impacts service life, especially in 24X7 science buildings. Commercial grade air-handlers in campus installations have not lasted more than 20 years.
Reheat Coils	Aluminum	Copper	\$0.36/CFM	15	40	130%	167%	Marine air due to proximity to the ocean causes corrosion on aluminum coil components, and campus installations have shown a maximum of 15 year life spans. Early campus installations of copper coils have lasted 40 years.
Exhaust Duct	Galvanized \$7/lb	Stainless \$10/lb	\$3/lb	25	50	43%	100%	Stainless is used to resist the corrosion from chemicals and to allow for the maximum flexibility in use. Galvanized shows earlier deterioration, shortening service life.
Roofing								
Roof Warranty	10 year	20 year	\$0.75/SF (for a \$7/SF installation)	15	25	11%	66%	Extended warranty reduces UCI's maintenance costs over the life span of the roof and assures a higher quality installation.
Flashings	Galvanized \$6.70/SF (installed)	Stainless \$9.80/SF (installed)	\$3.10/SF	20	60	46%	200%	The Sheet Metal and Air Conditioning Contractors National Association (SMACNA) specifies stainless, copper, or zinc flashings for roofing systems with lifespans >15 years. Note that, in addition to lifespan considerations, water leakage due to flashing failure will damage underlying roofing materials and cause additional damage to finishes/interior space.
Door Hardware*								
Door Handles/Locksets	Grade 2 \$250 (installed)	Grade 1 \$350 (installed)	\$150	5	20	60%	>200%	Most locksets are in areas that have high student use. Grade 1 hardware holds up better in high use areas and can be rebuilt economically. Tests of Grade 2 hardware in campus housing resulted in failures at <1 year.
Panic Hardware	\$1,000 (installed)	\$1,500 (installed)	\$500	5	20	50%	>200%	Lower cost units installed on campus have required frequent maintenance and early replacement.
Plumbing								
Lavatory Faucets	\$125 (installed)	\$290 (installed)	\$165	7	30	132%	>200%	Faucets must hold up to high use. Institutional quality units can be economically rebuilt and require less maintenance over their lifespans compared to commercial grade.

*Based on this evaluation, standards were reduced for door jambs, as follows:

Old standard: Welded jambs

New Standard:

- A. Permanent doors, e.g., stairwells and restrooms: welded jambs
- B. Other doors that might be relocated within 25 years: knock-down jambs