RESNET – Attached & Stacked Units
San Diego, 20 Feb, 2007

Challenges

- *Special requirements of attached and stacked*
  - *Less exposed surfaces – more efficient housing form*
  - *Smaller Floor Area*
  - *Entry level pricing*
  - *Air tightness*
  - *Smaller, space constrained mechanical systems*
  - *Fewer opportunities for electrical savings credits*

Air Tightness

- Research w/ leading builder
- Calibration of current status (2005)
- Air leakage tested 3-4 times worse than single detached – up to 12-15 ACH50
- Worse w/steel stud construction
- Problem: Common surfaces

Air Tightness

- ESNH 0.2 cfm50 /ft2 for singles not appropriate
- Did upgrades to common surfaces and transitions to ext surfaces
- Drop ceilings, tubs and showers, stairs, bulkheads, abutting party walls and floors, as well as ext. walls
- Set target 40% higher than singles was achievable – 2.8 cfm50/ft2
- Justified by more efficient form

Other Characteristics

- Exhaust Only Mechanical Ventilation
- Power vented DHW dual purpose - space heating and hot water
- Make-up air gas code issues
  - Tested dryer vent barometric damper and other options

Space Constrained Heating

- Design Heating Load < 35,000 Btuh
- Packaged heating / cooling equipment certified as "space constrained" under DOE 10 CFR Part 30 with an AFUE => 80% and a SEER of =>10.6.
- Combination water heaters with a minimum thermal efficiency of 76%.

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Authorized Contractor
Electrical Safety Authority
Authorized Contractor Program
GALMAR ELECTRICAL CONTRACTING INC.
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- completing 494 units
- Had 2 units that did not pass air test on first try