Residential Component Based Calculation

September 22, 2014
Agenda

• Define base case / end points
• Staff determining standardize add-ons
• Next steps
Research

DEFINING BASE CASES
Defining Base Cases

- Scope
- Previous research
- Current research
Scope

• Calculate options to figure out the end-points
  – Use participant glazing options
  – Standardize glazing options
Previous Research

• Dependencies – gap, frame, and spacer
• Large data point sampling used in calculating trend line
Current Research

- Start with all options
- Remove component and provide R2
All Options – 300

R² = 0.9567

y = 1.4651x - 0.1819

R² = 0.9567
No Grids – 150

R² = 0.9567
No grids, 0.639” gap only – 88

R² = 0.9754
No grids, 0.639” gap only, ZF only – 22

R2 = 0.9997
No grids, 0.639” gap only, ZF only, Air only – 12

R² = 0.9998

y = 1.4382x - 0.1626

R² = 0.9998
No grids, 0.639” gap only, ZF only, Air only, No clear, – 9

R² = 9975
No grids, 0.639” gap only, ZF only, Air only, No clear, No reinforcement – 5

R2 = 0.9984
No grids, 0.639” gap only, ZF only, Air only, No clear, No reinforcement, Surface 3 only – 3

R2 = 1.0000
No grids, 0.639” gap only, ZF only, No clear, No reinforcement, Surface 3 only - 6

R2 = 1.0000

y = 1.4354x - 0.1613
R² = 1
No grids, 0.639” gap only, ZF only, No clear, Surface 3 only - 12

R2 = 0.9999

y = 1.436x - 0.1612
R² = 0.9999
HS - VY/VY

No grids, 0.639" gap only, ZF / TP only, No clear, Surface 3 only - 24

R2 = 0.9928
Conclusion

• Frame*, spacer & gap
  – Reinforcement
• Low-E location

• More research is needed
STANDARDIZE ADD-ON
Standardize Add-on

• Grids
  – Still use 3mm rule
  – More grouping - only 1 divider (1”)
  – Model true divided
  – Staff to research and provide recommendation

• Others?
NEXT STEPS
Next Steps

• Continue with U-factor research
• Calculate differences between fictional end points and using actual ratings
• Grid research
• SHGC / VT calculations
Thank You

Questions