

# 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

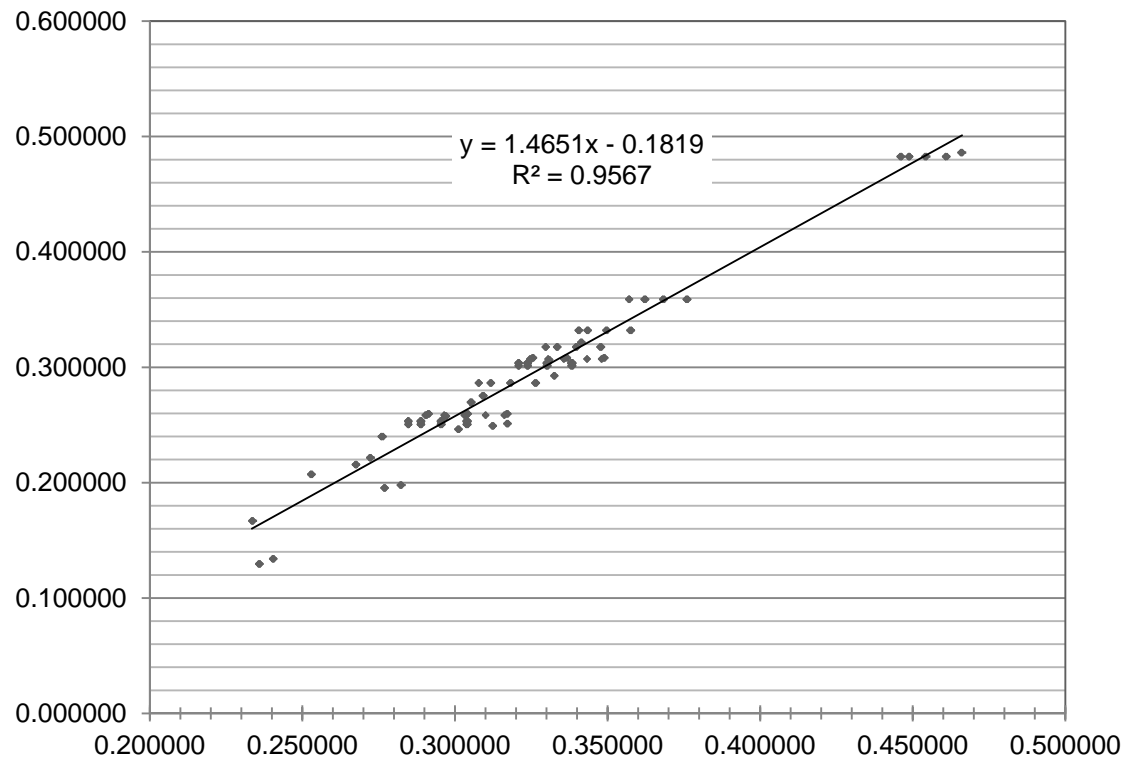
# Previous Research

- 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

## HS - VY/VY



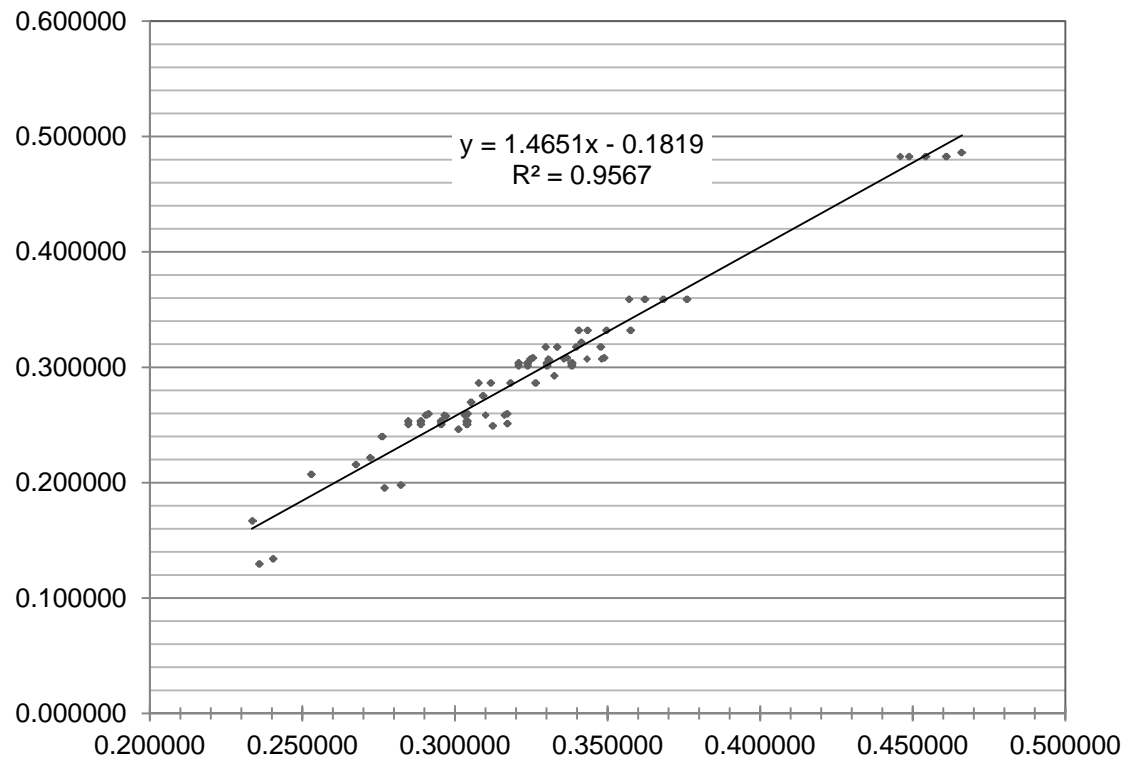
## All Options – 300

$R^2 = 0.9567$





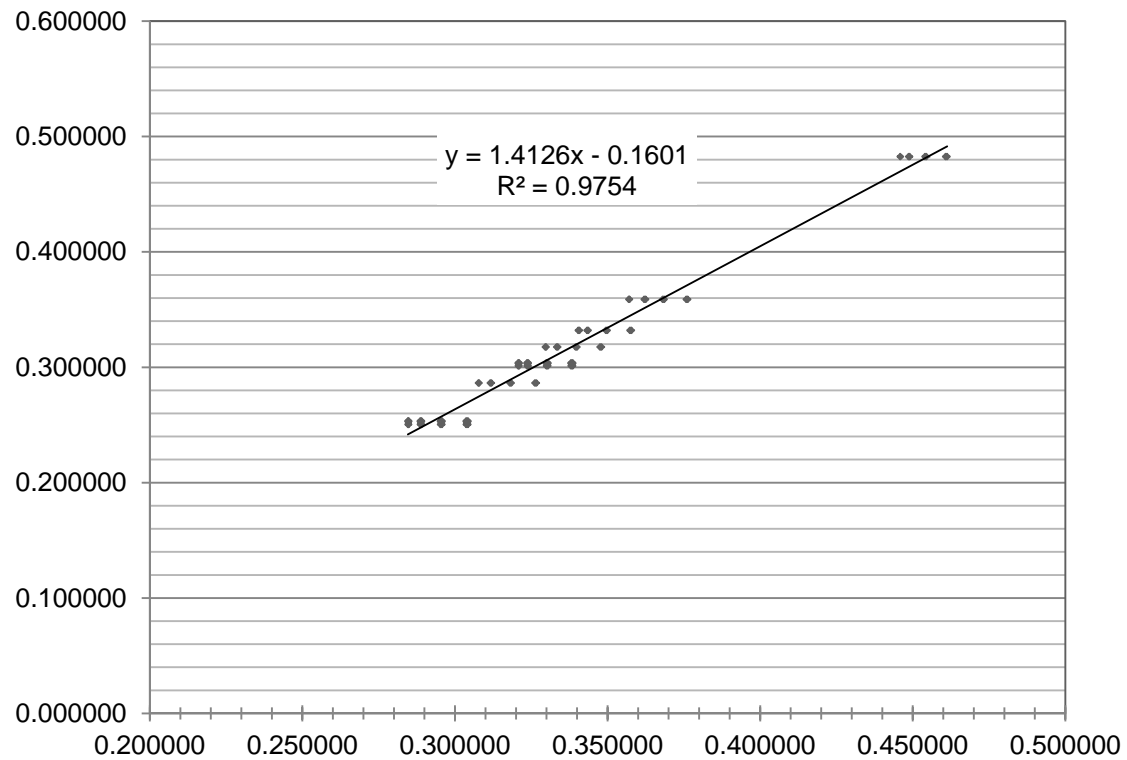
## HS - VY/VY



## No Grids – 150

$R^2 = 0.9567$

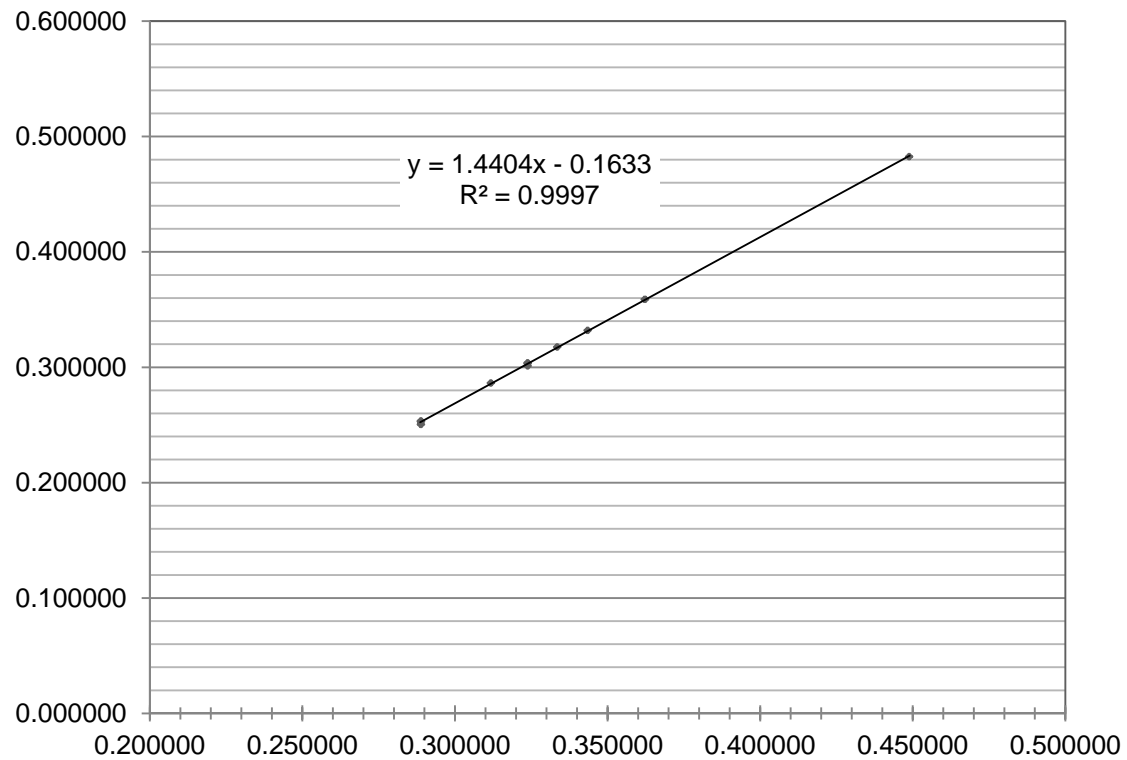
## HS - VY/VY



**No grids, 0.639" gap only – 88**

$R^2 = 0.9754$

## HS - VY/VY

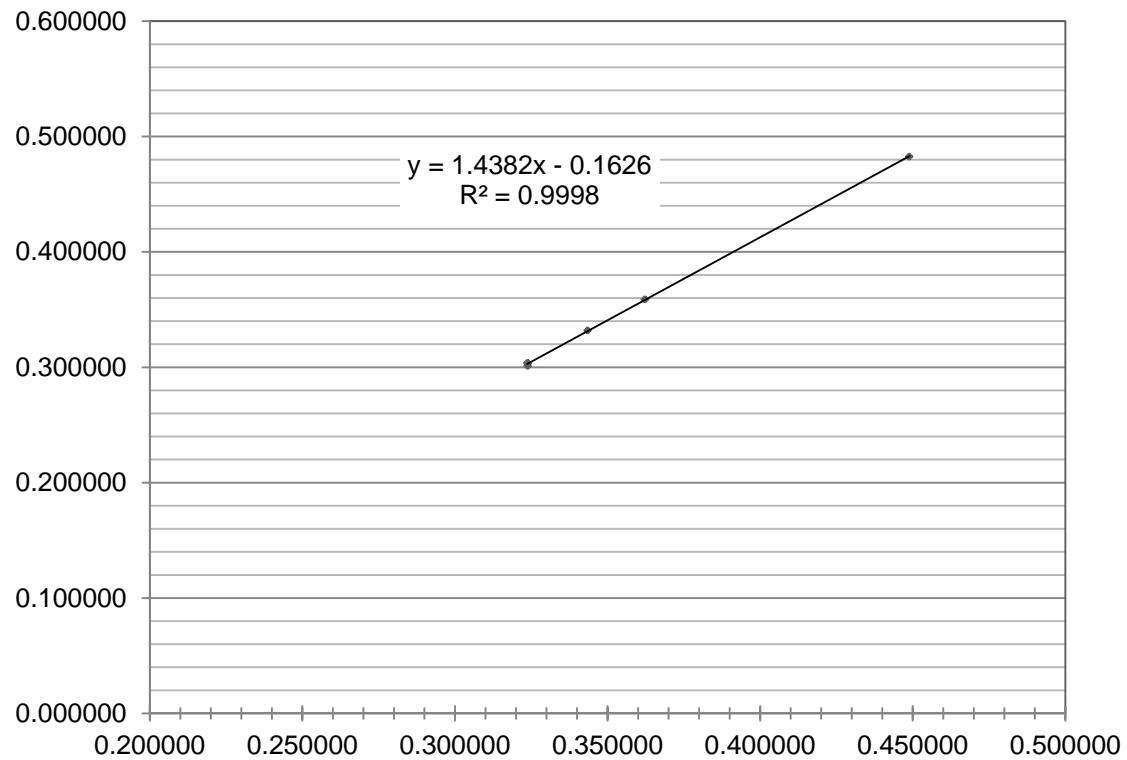


**No grids, 0.639" gap only, ZF only – 22**

R2 = 0.9997



## HS - VY/VY

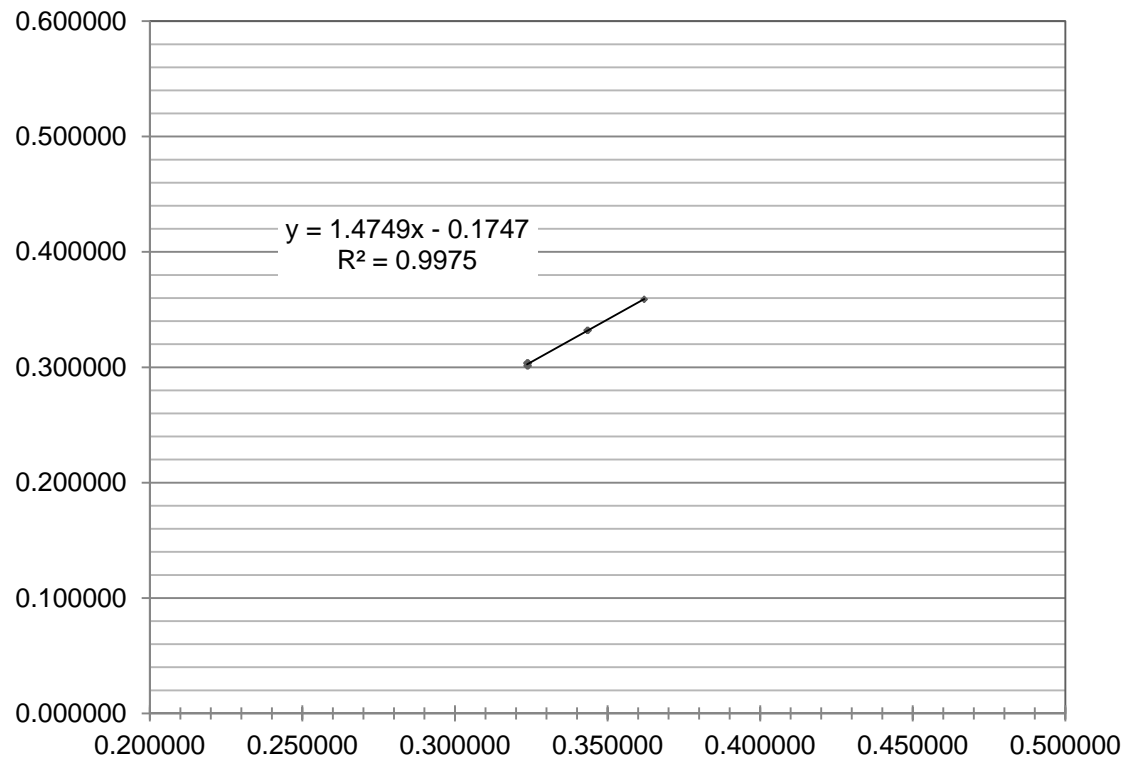


**No grids, 0.639" gap only, ZF only, Air only – 12**

R2 = 0.9998



## HS - VY/VY

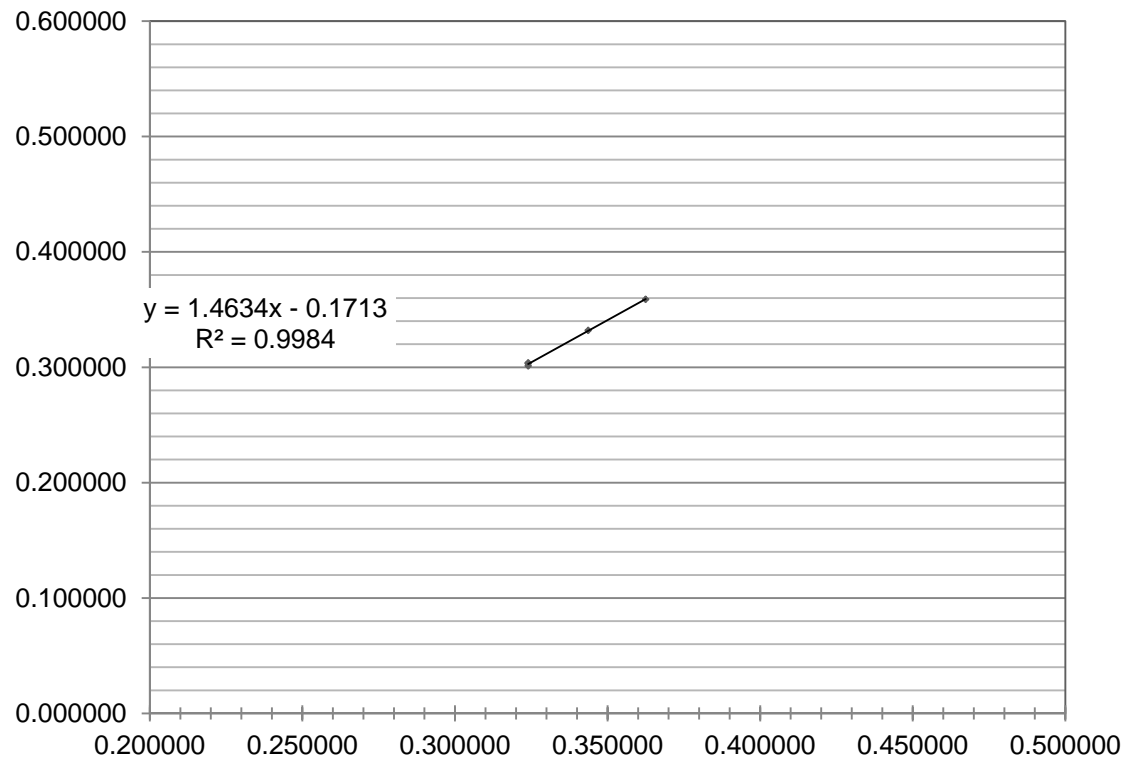


**No grids, 0.639" gap only, ZF only, Air only, No clear, – 9**

R2 = 9975



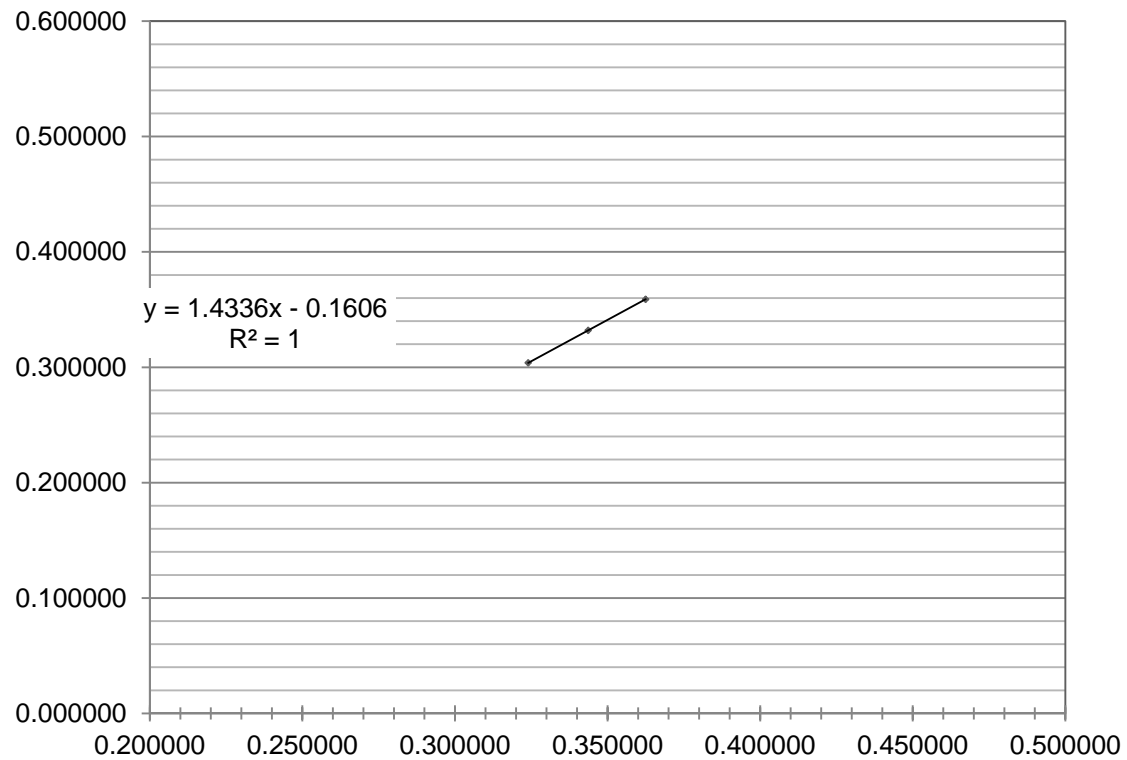
## HS - VY/VY



**No grids, 0.639" gap only, ZF only, Air only, No clear, No reinforcement – 5**

R2 = 0.9984

## HS - VY/VY

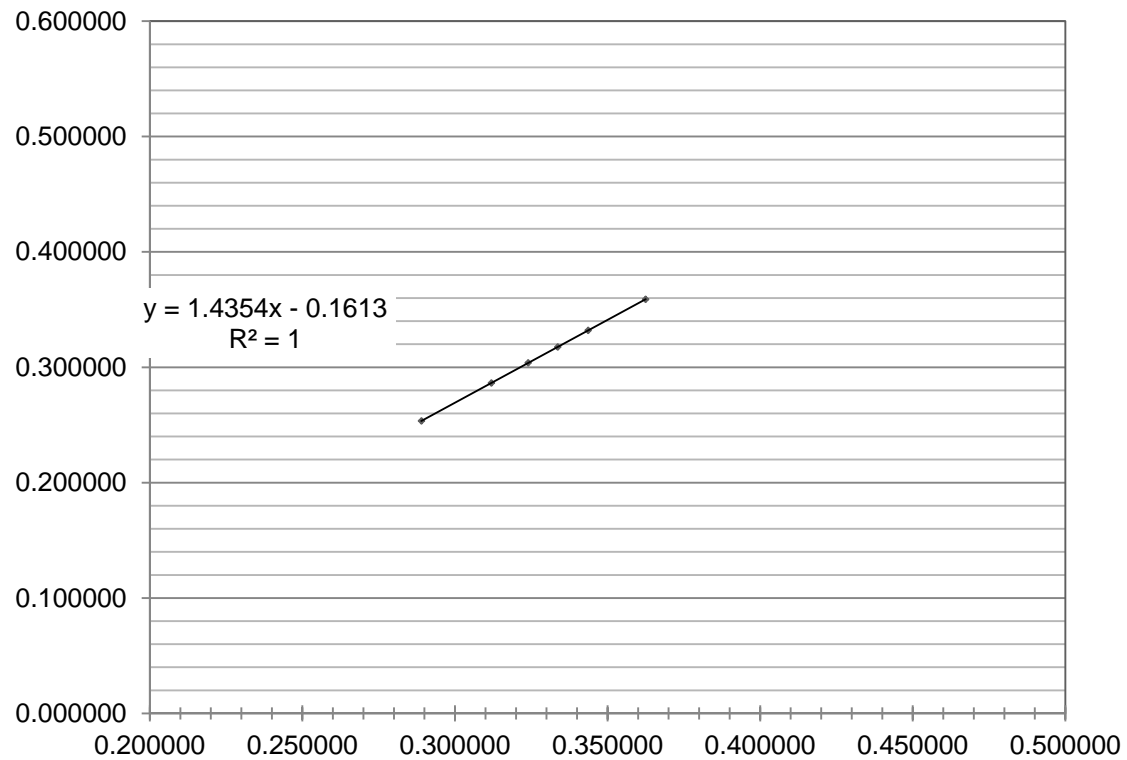


**No grids, 0.639" gap only, ZF only, Air only, No clear, No reinforcement, Surface 3 only – 3**

R2 = 1.0000



## HS - VY/VY

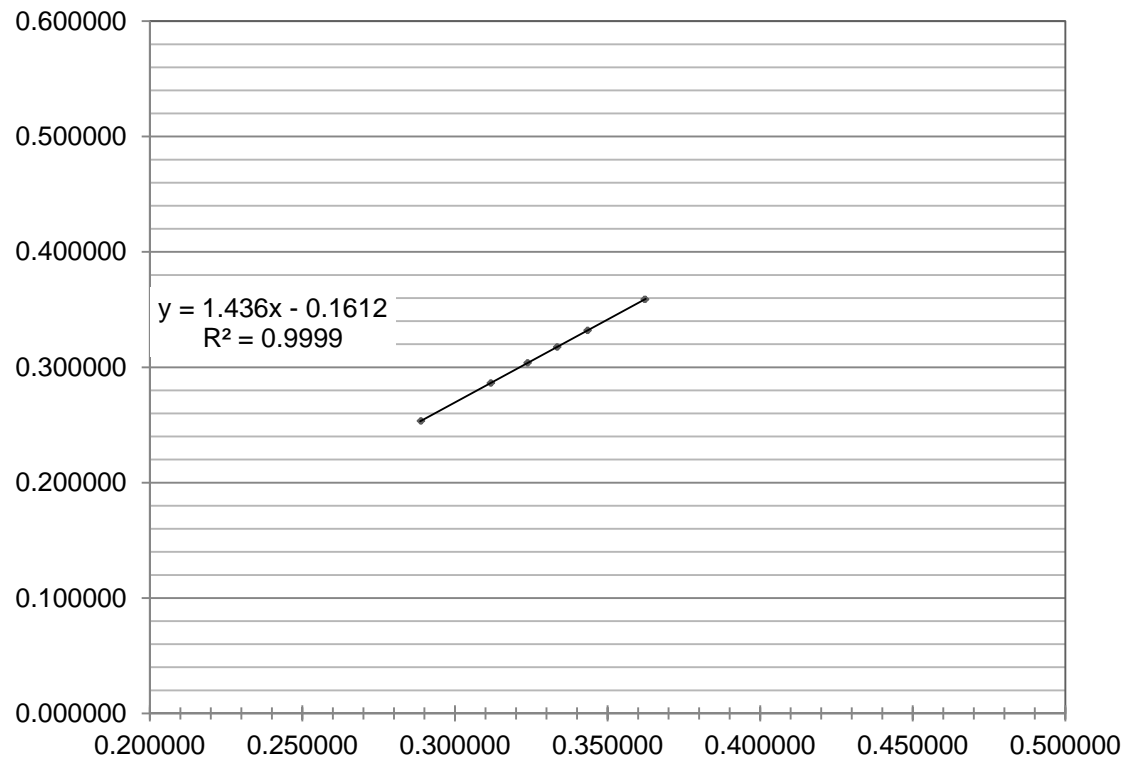


**No grids, 0.639" gap only, ZF only, No clear, No reinforcement, Surface 3 only - 6**

R2 = 1.0000



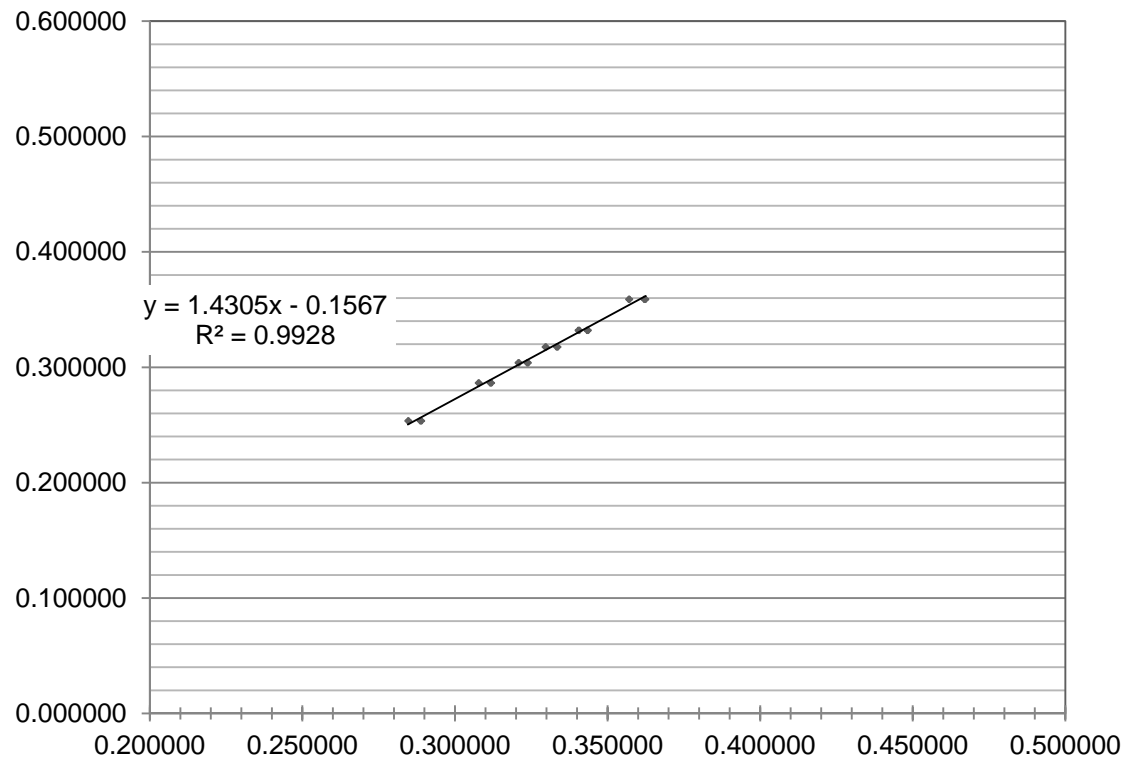
## HS - VY/VY



**No grids, 0.639" gap only, ZF only, No clear,  
Surface 3 only - 12**

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

