ARCHITECTURAL SPANEL

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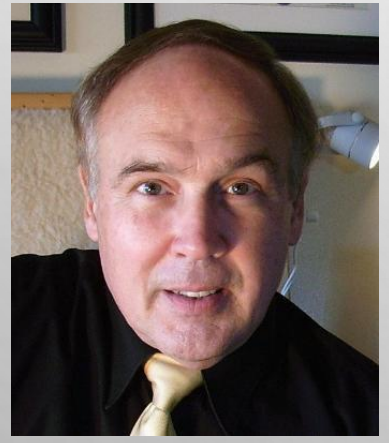


SPANEL FEATURES

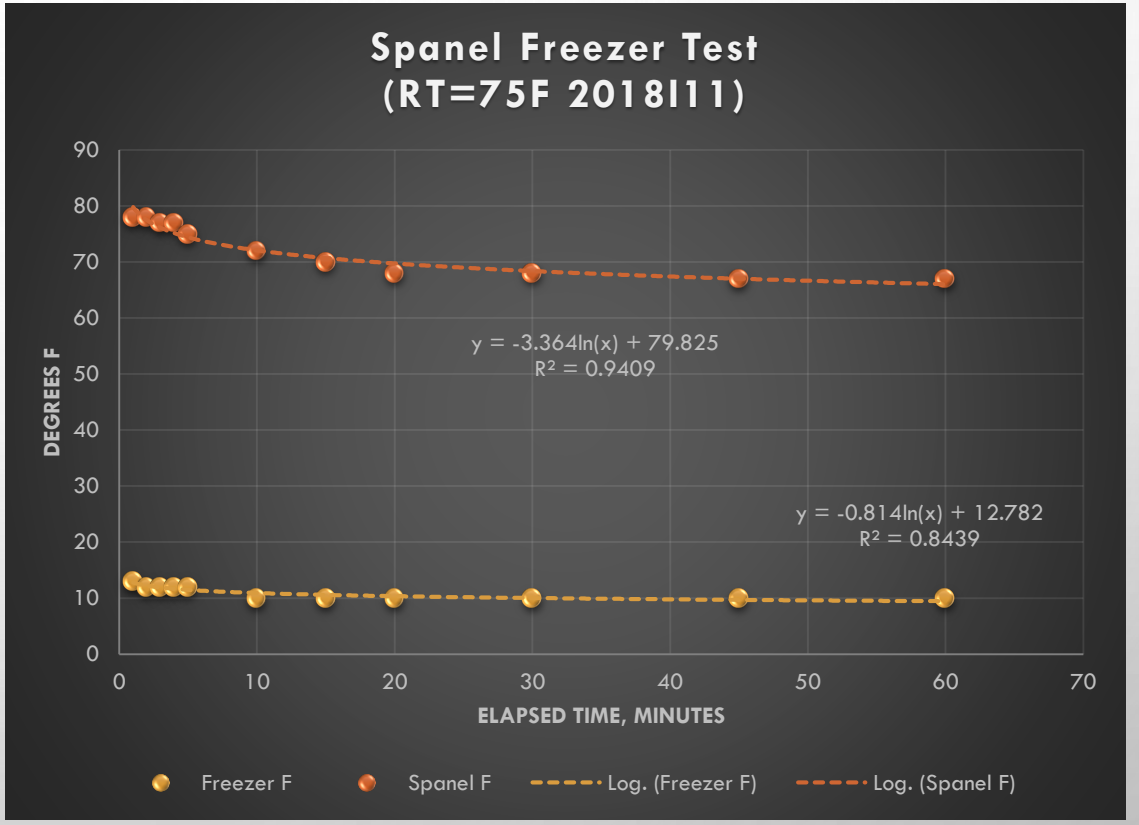
- STRUCTURAL WALL PANEL FOR RESIDENTIAL CONSTRUCTION
  - 6'- 8' X 3'– 4' X 4"- 6"
  - MATERIALS $200 - $600 NOMINALLY $12 PSF (LESS THAN BRICK WALL, NO RE-POINTING)
  - LIGHT WEIGHT: 50 – 120 LB NOMINALLY 2.5 LB PSF (EASY TO SHIP & INSTALL)
- THICK FOAMBOARD CORE
  - R-VALUE = 5/INCH FOR TOTAL R=20 TO 30 (EASIER TO HEAT HOME)
  - STRUCTURAL STRENGTH (SPANELS FREE-STAND, MOUNT TO METAL LATTICE DEFINING HOME PERIMETER)
- ENCAPSULATING ALUMINUM OR STAINLESS STEEL SKIN
  - METALLIC AESTHETICS (PREFERRED ARCHITECTURAL QUALITY CHOICE)
  - FINISH DIVERSITY (SPECULAR, SATIN, DIRECTIONAL)
  - SERVICE PERMANENCE (LIFETIME AND LONGER)
  - FIRE SAFE (NO LETHAL FIRE OR SMOKE)
  - WATER, U.V., INSECT BARRIER (NO FADING, WOOD ROT, OR TERMITES)
  - HEAT & LIGHT REFLECTIVE (EASIER TO COOL HOME)
  - WEATHER RESISTANT (OCCASIONAL CLEANING, NO RE-PAINTING)
- ACRYLIC INTERFACE
  - IMPARTS LIGHT-WEIGHT DENT RESISTANCE
    - ACRYLIC HAS 100 TIMES IMPACT RESISTANCE OF WINDOW GLASS
- INTERIOR FINISH FLEXIBILITY
  - RETAIN METALLIC LOOK (RETAIN FIRE SAFETY) & ARTFULLY ILLUMINATE
  - ADHESIVE BOND WALL-TEX, WALL PAPER, PANELING
  - PAINT (NO NEED FOR PLASTER OR PLASTER BOARD)

SPANEL FREEZER TEST

- VALIDATE LOW HEAT TRANSFER USING REFRIGERATOR FREEZER TO SIMULATE WINTER ENVIRONMENT

SPANEL FREEZER TEST RESULTS

- DELTA F = 62
- Q = 6.6 BTU/HR
- R (TOTAL FOR 2” SPANEL) = 10
- R/INCH = 5
- EXTRAPOLATED R FOR 4” SPANEL = 20
- EXTRAPOLATED R FOR 6” SPANEL = 30
- PA INSULATION STANDARD
  - RESIDENTIAL WALLS IN PA
  - R = 18 TO 22



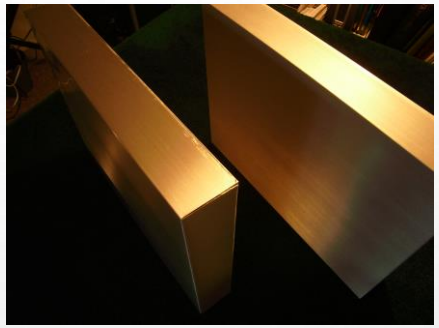
SPANEL RADIATION QUALITY

- ALUMINUM SPANEL REFLECTS 80-90% OF INCIDENT SOLAR RADIATION
  - ALUMINUM IS A PREFERRED MATERIAL CHOICE FOR REFLECTORS
  - ALUMINUM FAÇADE IS POPULAR IN MONUMENTAL ARCHITECTURE
    - LIGHTER WEIGHT THAN MOST OTHER FAÇADE MATERIALS (SHIPPING, INSTALLATION ECONOMIES)
    - EXTREME SOLAR REFLECTION DRAMATICALLY LOWERS HEAT BURDEN UPON BUILDING HVAC SYSTEM
- RED BRICK REFLECTS ONLY 5-25% OF INCIDENT SOLAR RADIATION
  - BRICK ABSORBS 75-95% OF INCIDENT SOLAR RADIATION
  - BRICK FAÇADE HEATS UP THROUGH THE DAY AND RE-RADIATES HEAT INTO HOME OVER NIGHT
  - BRICK IS A GOOD WINTER FAÇADE, BUT YIELDS A HOTTER HOME, MORE EXPENSIVE TO COOL IN SUMMER
- GLASS REFLECTS 8% OF INCIDENT SOLAR RADIATION
  - GLASSY HOMES RECEIVE RADIANT WARMTH IN WINTER, BUT OVERLY HEAT UP IN SUMMER: THE HOT HOUSE EFFECT
  - THIN-PANE GLASSY HOUSES OVERLY LOSE HEAT TO THE WINTER ENVIRONMENT
    - UP TO 75% OF HOME HEATING ESCAPES THROUGH WINDOWS & DOORS

ALUMINUM IN RESIDENTIAL ARCHITECTURE

- PAINTED ALUMINUM SIDING 20-YEAR FINISH WANING STANDARD FOR CONSTRUCTION & REMODELING
  - ATTRACTIVELY RESCUED WOOD FRAME HOMES FROM HEAVY WEATHERING & FREQUENT PAINT & RE-PAINT CYCLE

- SPANEL RE-BIRTHS ALUMINUM ADVANTAGES FOR RESIDENTIAL FAÇADE



  - METALLIC LOOK POPULAR WITH MONUMENTAL BUILDINGS . . . DISTINGUISHES FROM “DATED” PAINTED SIDING
  - INTEGRAL INSULATION BRINGS 2-D THERMAL EXCELLENCE

    VERY LOW THERMAL CONDUCTANCE INTO HOME VERY HIGH THERMAL RADIANCE REFLECTION AWAY FROM HOME
  - METALLIC ENCAPSULATION OF RIGID INSULATION YIELDS FIRE-SAFETY
  - ADHESIVE-BONDED SPANEL DAMPENS WEATHER NOISE, LIMITS THERMAL CREAKING, CUTS TRAFFIC NOISE
  - LIGHT, THICK, STAND-ALONE SPANEL MOUNTS TO METAL LATTICE FOR STRONG, FIRE-SAFE HOME PERIMETER