

CLIENT: INTERNATIONAL FIREPROOF TECHNOLOGY, INC
Attn: Gary Wolfe
17528 Von Karman Ave
Irvine, CA 92614

Test Report No: TJ1707	Date: December 16, 2013
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Sample Identification:

The Client submitted and identified the following test material as “DC 315 Intumescent Fireproof Coating.” This project was approved by client and opened on October 28, 2013.

Facility Details:

All of the described tests in this summary were conducted in the QAI Laboratories Tulsa, OK office in the Building One Conditioning Room. An atmosphere of 70°F and 50% RH was maintained throughout the testing duration.

Personnel Present During Testing:

Gary Wolfe: (on film) Executive Vice President – International Fireproof Technology, Inc.

Richard Guarneri: Vice President of Technology and Testing for International Fireproof Technology, Inc.

Chris Birchfield: (on film) President - Global Fireproof Solutions, Inc. Chris is an ICC Certified Spray Applied Fireproofing Inspector, and AIA Certified Provider and is an ASTM Subcommittee Member for Fireproofing Standards.

Mike Green: Sales Associate with FH Associates

J. Brian McDonald: Operations Manager of QAI Laboratories Tulsa Branch

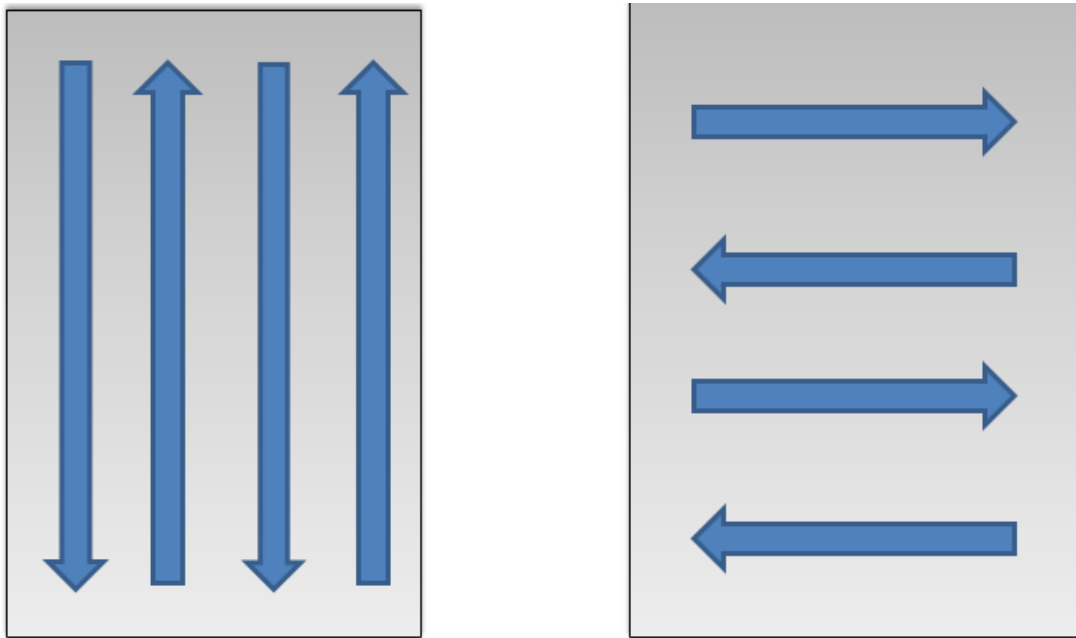
Jason Lawwill: QAI Laboratories Technician

Jeff Foster: QAI Laboratories Technician

All tests documented in this summary and on film was monitored and witnessed by QAI personnel.

Wall Assembly Information:

All wall assemblies constructed of wood studs, measuring approximately 4 feet wide by 8 feet tall, studs on 24 inch centers. Lumber used was 2 x 6 and the cavities were filled with 2 lbs/ft³ closed cell spray applied polyurethane foam. Testing area was 32 square feet on all tests with the exception of Test Number 6 and 7, in which case the total square feet of the testing area was measured to be 26 square feet. Two metal plates, or coupons, were used in each test assembly for the purpose of taking measurements of actual film build, measured with a wet film thickness gauge. All application of coating was done using coatings application best practices standard of cross-out application. This is a continuous application of up and down followed by a left to right, or side to side, cross out pattern to ensure proper coating of high and low points on the spray foam surface. See below figure for diagram of this pattern:



Spray Pattern for All Tests

Instrumentation:

- Viscosity measurements done with Brookfield Instruments, model LVDVE viscometer.
- Large Display Clock
- Sprayers Used (additional information such as attachments and hoses identified in body of report)
 - Titan Advantage 400
 - Titan 840

Definitions:

WFT – Wet Film Thickness
DFT – Dry Film Thickness
cPs – Viscosity in Centipose
psi – pounds per square inch

Results:

Presented on the following pages of this report.

Prepared By



David Bauchmoyer
Fire Test Technician

**Signed for and on behalf of
QAI Laboratories, Inc.**



J. Brian McDonald
Operations Manager



TEST NUMBER ONE: (November 20, 2013). 18 Mil WFT Thermal Barrier coating simulation with very small airless sprayer and high viscosity coating of 19300 cPs.

- Equipment Used:
 - Pump – Titan Advantage 400
 - Hose – 50 feet of 3/8” hose connected to 50 feet of 1/4” hose, combined length of 100 feet
 - Filter Removed
 - Pump primed with water prior to introduction of paint
 - Pressure – 3300 psi max
 - 519 tip

- Intumescent Paint Application (From Bucket Marked #2C):
 - Wall Orientation - vertical
 - Viscosity prior to mixing – 31040 cPs (sample mixed for a measured 5 minutes)
 - Viscosity after mixing, prior to application – 19300 cPs
 - Target Wet Film Thickness – 18 WFT (12 DFT)
 - Actual Measured Wet Film Thickness taken from two readings on installed metal medallions – 19 WFT
 - Application Time for horizontal pass was 48 seconds and vertical pass was 26 seconds
 - Total application time was 1 minute and 14 seconds.
 - Application achieved in one coat
 - Note – no sagging or dripping witnessed from assembly



TEST NUMBER TWO: (November 20, 2013). Simulation of Ignition Barrier coatings application of 4 mils WFT. Adding tint to assist in opacity, high viscosity coating of 19300 cPs.

- Equipment Used:
 - Pump – Titan 840
 - Hose – 50 feet of 3/8” hose connected to 50 feet of 1/4” hose, combined length of 100 feet
 - Pump primed with water prior to introduction of paint
 - Pressure – 3200 psi max
 - 311 tip

- Intumescent Paint Application (From Bucket Marked #2C):
 - Wall Orientation - vertical
 - 1/2 oz. of Black Tint added prior to mixing to assist in contrast
 - Viscosity prior to mixing – 31040 cPs (sample mixed for a measured 5 minutes)
 - Viscosity after mixing, prior to application – 19300 cPs
 - Target Wet Film Thickness – 4 WFT (3 DFT)
 - Actual Measured Wet Film Thickness taken from two readings from metal medallions – 5 WFT
 - Total application Time was 59 seconds
 - Achieved in one coat
 - Note – no sagging or dripping witnessed from assembly



TEST NUMBER THREE: (November 20, 2013). 18 Mil WFT Thermal Barrier coatings simulation with lower viscosity coating of 14050 cPs.

- Equipment Used:
 - Pump – Titan 840
 - Hose – 50 feet of 3/8” hose connected to 50 feet of 1/4” hose, combined length of 100 feet
 - Pump primed with water prior to introduction of paint
 - Pressure – 3200 psi max
 - 519 tip

- Intumescent Paint Application (From Bucket Marked #3C):
 - Wall Orientation - vertical
 - Viscosity prior to mixing – 24390 cPs (sample mixed for a measured 5 minutes)
 - Viscosity after mixing, prior to application – 16500 cPs
 - Viscosity after cutting with approximately 5 oz. of water and mixing for 3 minutes – 14050 cPs
 - Target Wet Film Thickness – 18 WFT (12 DFT)
 - Actual Measured Wet Film Thickness taken from two readings – 18 WFT
 - Application Time for first coat application was 62 seconds (10-12 WFT reading taken from metal medallions)
 - Application Time for second coat application was 44 seconds (Total of 18-20 WFT reading from metal medallions)
 - Total application time of 1 minute and 46 seconds
 - Application of 18-20 Mils WFT needed two separate coats
 - Small areas noted of slight paint running



TEST NUMBER FOUR: (November 20, 2013). 18 Mil WFT Thermal Barrier coatings simulation with very low viscosity coating of 8600 cPs.

- Equipment Used:
 - Pump – Titan Impact 640
 - Hose – 50 feet of 3/8” hose connected to 50 feet of 1/4” hose, combined length of 100 feet
 - Pump primed with water prior to introduction of paint
 - Pressure – 3200 psi max
 - 519 tip

- Intumescent Paint Application (From Bucket Marked #3C):
 - Wall Orientation - vertical
 - Viscosity prior to mixing – 24390 cPs (sample mixed for a measured 5 minutes)
 - Viscosity after mixing, prior to application – 13400 cPs
 - Viscosity after cutting with approximately 5 oz. of water and mixing for 3 minutes – 8600 cPs
 - Target Wet Film Thickness – 18 WFT (12 DFT)
 - Total Application Time for first application was 1:14, or two separate passes of 37 seconds each (12 WFT reading taken from metal medallions)
 - Application Time for second application was 50 seconds (20 WFT total film build reading taken from installed metal medallions)
 - Total Application Time is 2 minutes and 4 seconds, Application of 20 Mil WFT needed two separate coats.
 - Note - Dripping and Sagging of coating noted



TEST NUMBER FIVE: (November 20, 2013). 18 Mil WFT Thermal Barrier coatings simulation with very high viscosity coating of 23700 cPs.

- Equipment Used:
 - Pump – Titan Impact 840
 - Hose – 50 feet of 3/8” hose connected to 50 feet of 1/4” hose, combined length of 100 feet
 - Pump primed with water prior to introduction of paint
 - Pressure – 3200 psi max
 - 519 tip

- Intumescent Paint Application (From Bucket Marked #4C):
 - Wall Orientation - vertical
 - Viscosity prior to mixing – 34240 cPs (sample mixed for a measured 5 minutes)
 - Viscosity after mixing, prior to application – 23700 cPs
 - Target Wet Film Thickness – 18 WFT (12 DFT)
 - Actual Measured Wet Film Thickness taken from two readings – (18 WFT reading taken from metal medallions)
 - Application Time for application was 55 seconds (18 WFT reading)
 - Application achieved in one coat
 - Note – no sagging or dripping from coating witnessed



TEST NUMBER SIX: (November 21, 2013). 18 Mil WFT Thermal Barrier coatings simulation of ceiling painting with high viscosity coating 18100 cPs

- Equipment Used:
 - Pump – Titan Impact 840
 - Hose – 50 feet of 3/8” hose connected to 50 feet of 1/4” hose, combined length of 100 feet
 - Pump primed with water prior to introduction of paint
 - Pressure – 3200 psi max
 - 519 tip

- Intumescent Paint Application (From Bucket Marked #4C):
 - Wall Orientation – horizontal (suspended 8 feet from floor) simulating a ceiling application
 - Coating area reduced to 26 square feet
 - Viscosity after mixing, prior to application – 18100 cPs
 - Target Wet Film Thickness – 18 WFT (12 DFT)
 - Actual Measured Wet Film Thickness taken from two readings – 18 WFT measured on metal medallions
 - Application Time for application was 1:03 seconds (18 WFT reading)
 - Application achieved in one coat
 - Note – No sagging and dripping from coating witnessed



TEST NUMBER SEVEN: (November 21, 2013). 18 Mil WFT Thermal Barrier coating simulation of ceiling painting with low viscosity coating 8450 cPs.

- Equipment Used:
 - Pump – Titan Impact 840
 - Hose – 50 feet of 3/8" hose connected to 50 feet of 1/4" hose, combined length of 100"
 - Pump primed with water prior to introduction of paint
 - Pressure – 3200 psi max
 - 519 tip

- Intumescent Paint Application (From Bucket Marked #4C):
 - Wall Orientation – horizontal (suspended 8 feet from floor) simulating a ceiling application
 - Coating area reduced to 26 square feet
 - Viscosity after mixing, prior to application – 8450 cPs
 - Target Wet Film Thickness – 18 WFT (12 DFT)
 - Application Time for first application was 46 seconds (9 WFT reading taken from metal medallions)
 - Application Time for second application was 49 seconds (16-18 WFT total film build reading taken from metal medallions)
 - Actual Measured Wet Film Thickness taken from two readings – 16-18 WFT
 - Total Application Time was 1:35 seconds (16-18 WFT reading)
 - Application required two coats and was noted 2 mils under required WFT after second coat.
 - Note – Sagging and drips from coating witnessed

PICTURES OF WALL ASSEMBLIES:



Test Number One



Test Number Two



Test Number Three



Test Number Four



Test Number Five

PICTURES OF WALL ASSEMBLIES, CONTINUED:



Test Number Six



Test Number Seven



Test Set up for Ceiling Assemblies

*****END OF REPORT*****

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