ADDRESS . : 270 REGAL CREST DR SUBDIV: REGAL CREST 13LOTS
CONTRACTOR : STANTON HOMES INC. PHONE : (919) 278-8070
OWNER . . : J BLANCHARD FARMS LLC PHONE :
PARCEL . . : 05-0633- - -0013- -07-
APPL NUMBER: 12-50030124 CP NEW RESIDENTIAL (SFD)

DIRECTIONS : T/S: 11/19/2012 02:50 PM DJOHNSON --
REGAL CREST SUBD LOT 8
401N ABOUT 2.8 MILES LEFT ONTO
CHRISTIAN LIGHT RD 4.1 MILES TO LEFT
ONTO RIVER RD RIGHT ONTO REGAL CREST DR
LOT 8 REGAL CREST SUBD

STRUCTURE: 000 000 110X80 5 BR UNF BASEMENT ATT GARAGE
FLOOD ZONE . . . . : FLOOD ZONE X
BEDROOMS . . . . . : 5.00 PROPOSED USE . . . . . : SFD
SEPTIC - EXISTING? . . . . : NEW WATER SUPPLY . . . . . : NEW WELL

PERMIT: CPSF 00 CP * SFD

TYP/SQ	REQUESTED / COMPLETED	INSP RESULT	DESCRIPTION / RESULTS/COMMENTS
B101 01	2/08/13	DT	R*BLDG FOOTING / TEMP SVC POLE VRU #: 002336831
	2/08/13	CA	VOICE MESSAGE LEFT
B101 02	2/14/13	BS	R*BLDG FOOTING / TEMP SVC POLE VRU #: 002338848
	2/14/13	AP	T/S: February 14, 2013 11:17 AM BSUTTON ----------
			Walkout basement and garage, all superior wall system w. stone footings
A814 01	3/05/13	TW	ADDRESS CONFIRMATION TIME: 17:00 VRU #: 002346526
	3/12/13	AP	270 regal crest dr lot 8 fuquay varina 27526----------
			T/S: 03/12/2013 09:11 AM TWARD ----------
P309 01	3/05/13	BS	R*PLUMB UNDER SLAB TIME: 17:00 VRU #: 002346534
	3/05/13	AP	T/S: March 05, 2013 11:03 AM BSUTTON ----------
B103 01	3/08/13	BS	R*BLDG FOUND & TEMP SVC POLE TIME: 17:00 VRU #: 002348811
	3/08/13	AP	T/S: 03/07/2013 10:53 AM DJOHNSON ----------
			T/S: March 08, 2013 11:12 AM BSUTTON ----------
B111 01	3/08/13	BS	R*BLDG SLAB INSP/TEMP SVC POLE TIME: 17:00 VRU #: 002348837
	3/08/13	AP	T/S: 03/07/2013 10:54 AM DJOHNSON ----------
			T/S: March 08, 2013 11:12 AM BSUTTON ----------
B113 01	3/18/13	BS	R*BLDG WATER/DAMP PROOFING VRU #: 002352778
	3/18/13	AP	T/S: March 18, 2013 01:24 PM BSUTTON ----------
R425 01	5/20/13	DT	FOUR TRADE ROUGH IN TIME: 17:00 VRU #: 002384097
	5/20/13	DA	T/S: 05/17/2013 09:45 AM DJOHNSON ----------
			T/S: 05/20/2013 12:35 PM DETAYLOR ----------
			Front door not installed
			Fire block chases for fireplace
			All holes in top and bottom plate must be firecaulked
			Okay to side and insulate
			Basement unfinished, spray foam insulated, no air barriers
P307 01	5/22/13	BS	R*PLUMB WATER CONNECTION TIME: 17:00 VRU #: 002385573
	5/22/13	AP	T/S: 05/21/2013 12:36 PM VBROWN ----------
			T/S: May 22, 2013 10:27 AM BSUTTON ----------
I129 01	6/03/13	TI	R*INSULATION INSPECTION TIME: 17:00 VRU #: 002390342
	6-3-13	APBS	
R425 02	6/03/13	TI	FOUR TRADE ROUGH IN TIME: 17:00 VRU #: 002390649
	/	)	T/S: 05/31/2013 03:13 PM DJOHNSON ----------

---------- COMMENTS AND NOTES ----------

MPI,INC.

Myers Professional INSULATION, Inc.

Since 2002

Fuquay Inspections
May 27, 2013

ATTN: Inspector

Myers Professional Insulation, Inc. installed BaySeal Open Cell Spray Foam in the open roof deck cavities and open exterior walls at 270 Regal Crest Dr. Fuquay, NC. BaySeal OC Spray-Applied Polyurethane Insulation, ESR-1655 was installed in accordance to the manufactures installer's specification. In addition, this was installed in compliance with the Chapter 11 Energy Efficiency Code of NC, as well as the current 2013 building code regulations. The R-Value of the open cell in the ceiling is R23 at 6" and the R-Value on the exterior walls is R15 at 4".

Myers Professional Insulation, Inc. also installed DC-315 over the exposed spray foam insulation on the roof deck and side gable walls. This was installed in accordance to the manufactures installer's specification.

Myers Professional Insulation, Inc. is a certified installer for Henry, Bayer, and Quadrant Foam. Please contact with any questions or concerns. 919.656.8464

Robert Myers
Myers Professional Insulation, Inc.

Generated by RES*check-Web* Software

Compliance Certificate

Energy Code:	**North Carolina Energy Conservation Code**
Location:	**Fuquay-Varina, North Carolina**
Construction Type:	**Single Family**
Project Type:	**New construction**
Glazing Area Percentage:	**19%**
Heating Degree Days:	**3182**
Climate Zone:	**4**

Construction Site:
270 Regal Crest Dr
Fuquay, North Carolina

Owner/Agent:

Designer/Contractor:

Compliance: **Passes using UA trade-off**

Compliance: **0.3% Better Than Code** Maximum UA: **681** Your UA: **679** Maximum SHGC: **0.40** Your SHGC: **0.28**

The % Better or Worse Than Code index reflects how close to compliance the house is based on code trade-off rules.
It DOES NOT provide an estimate of energy use or cost relative to a minimum-code home.

Assembly	Gross Area or Perimeter	Cavity R-Value	Cont. R-Value	Glazing or Door U-Factor	UA
1st and 2nd Floor Walls: Wood Frame, 16in. o.c.	3200	15.0	0.0		186
Window: Wood Frame, 2 Pane w/ Low-E SHGC: 0.28	700			0.290	203
Door: Solid	82			0.400	33
Basement Wooden Exterior Walls: Wood Frame, 16in. o.c.	420	15.0	0.0		32
Garage Ceiling: All-Wood Joist/Truss Over Uncond. Space	595	23.0	0.0		24
Basement: Solid Concrete or Masonry Wall height: 8.0' Depth below grade: 8.0' Insulation depth: 8.0'	1000	15.0	0.0		51
Ceiling: Cathedral	3400	23.0	0.0		150

Compliance Statement: The proposed building design described here is consistent with the building plans, specifications, and other calculations submitted with the permit application. The proposed building has been designed to meet the North Carolina Energy Conservation Code requirements in RES*check-Web* and to comply with the mandatory requirements listed in the RES*check* Inspection Checklist.

Scott Jansen - Project Manager
Name - Title

Signature

5/13/13
Date

Bayer MaterialScience

January 1, 2013

To Whom It May Concern:

This letter will certify that the contractor listed below ("Contractor") is a Bayer MaterialScience LLC ("BMS") Bronze level contractor in the Bayer Accreditation Program and approved to apply BMS products.

Myers Professional Insulation, Inc
5605 Chapel Hill Road Ste. 120
Raleigh, NC 27607

This approval letter supersedes all previous communication verbal or written regarding BMS and Contractor. Contractor is an independent contractor, and is not in a partnership relationship, pooling agreement, association, principal and agent relationship, or an employer and employee relationship. Application of materials supplied by BMS is under the control of Contractor.

This approval letter does not bind BMS to any warranty obligation of any kind that is not specifically contained in a warranty supplied by BMS on any specific project.

If we may be of further service, please do not hesitate to contact us.

Sincerely,

Martha Vandamme

Martha Vandamme
Sr. Technical Marketing Manager, Accreditation and AIP

Bayer MaterialScience LLC
2400 Spring Stuebner Road
Spring, TX 77389
Tel. 800 221 3626
Fax 281 288 6450

spf.bayermaterialscience.com

ICC-ES Evaluation Report

ESR-1655*

Reissued April 1, 2012

This report is subject to renewal April 1, 2014.

www.icc-es.org | (800) 423-6587 | (562) 699-0543 *A Subsidiary of the International Code Council®*

DIVISION: 07 00 00—THERMAL AND MOISTURE PROTECTION
Section: 07 21 00—Thermal Insulation

REPORT HOLDER:

BAYER MATERIALSCIENCE LLC
2400 SPRING STUBNER ROAD
SPRING, TEXAS 77389
(800) 221-3626
www.spf.bayermaterialscience.com

EVALUATION SUBJECT:

BAYSEAL™ OC SPRAY-APPLIED POLYURETHANE INSULATION

1.0 EVALUATION SCOPE

Compliance with the following codes:

- 2012 and 2009 *International Building Code®* (IBC)
- 2012 and 2009 *International Residential Code®* (IRC)
- 2012 and 2009 *International Energy Conservation Code®* (IECC)
- Other Codes (see Section 8.0)

Properties evaluated:

- Surface-burning characteristics
- Physical properties
- Thermal resistance
- Attic and crawl space applications
- Fire-resistance-rated construction
- Exterior walls in Types I through IV construction
- Air permeability

2.0 USES

The Bayseal™ OC insulation is used as a nonstructural thermal insulating material in Type I, II, III, IV and V construction (IBC) and dwellings under the IRC. See Section 4.5 for use in Type I, II, III and IV construction. The insulation is for use in wall cavities, floor assemblies, ceiling assemblies or attics and crawl spaces when installed in accordance with Section 4.3. The insulation may be used in wall assemblies in fire-resistive-rated-construction as described in Sections 3.8 and 4.4.

3.0 DESCRIPTION

3.1 General:

Bayseal™ OC is a spray-applied cellular polyurethane foam plastic insulation that is installed in stud wall assemblies, ceilings, floors, crawlspaces and cavities of roofs. The foam plastic insulation is a two-component, open-cell, one-to-one by volume spray foam system with a nominal density of 0.5 pcf (8 kg/m^3). The insulation is produced in the field by combining a polymeric isocyanate (A component) with a polymeric resin blend (B component). The insulation components have a shelf life of six months when stored at temperatures between 65°F (18°C) and 85°F (29°C) before installation.

3.2 Surface-burning Characteristics:

The insulation, at a maximum thickness of 4 inches (102 mm) and a nominal density of 0.5 pcf (8 kg/m^3), has a flame spread index of less than 25 and a smoke-developed index of less than 450 when tested in accordance with ASTM E84. Thicknesses up to 12 inches (305 mm) for wall cavities and 16 inches (406 mm) for ceiling cavities are recognized based on room corner fire testing in accordance with NFPA 286, when covered with minimum $^1/_2$-inch-thick (13 mm) gypsum board or an equivalent thermal barrier complying with and installed in accordance with the applicable code.

3.3 Thermal Resistance (*R*-values):

The insulation has thermal resistance (*R*-value), at a mean temperature of 75°F (24°C), as shown in Table 1.

3.4 Bayseal™ IC Coating:

Bayseal™ IC intumescent coating is manufactured by Bayer MaterialScience and is a water-based latex coating with a specific gravity of 1.31. Bayseal™ IC is supplied in 5-gallon (19 L) pails and 55-gallon (208 L) drums and has a shelf life of 12 months when stored in a factory-sealed container at temperatures between 50°F (10°C) and 100°F (38°C).

3.5 Paint to Protect® DC315 Fireproof Paint:

Paint to Protect® DC 315 Fireproof Paint is manufactured by International Fireproof Technology, Inc., and is a water-based coating supplied in 5-gallon (19 L) pails and 55-gallon (208 L) drums. The coating material has a shelf life of 24 months when stored in factory-sealed containers at temperatures between 50°F (10°C) and 90°F (32°C).

3.6 TPR^2 Fireshell® BMS-TC Intumescent Coating:

TPR^2 Fireshell® BMS-TC Intumescent Coating is a one-component, water-based polymer coating. The coating is supplied in 5-gallon (19 L) pails and 55-gallon (208 L) drums and has a shelf life of one year when stored in a factory-sealed container at temperatures of 50°F (10°C) or above.

3.7 TPR^2 Fireshell® BMS-IC Intumescent Coating:

TPR^2 Fireshell® BMS-IC Intumescent Coating is a one-component, water-based polymer coating. The coating is

supplied in 5-gallon (19 L) pails and 55-gallon (208 L) drums and has a shelf life of one year when stored in a factory-sealed container at temperatures of 50°F (10°C) or above.

3.8 Fire-resistance-rated Construction:

Bayseal™ OC spray-applied foam insulation is recognized for use in a limited load-bearing, one-hour, fire-resistance-rated wall assembly when installed as described in Section 4.4.

3.9 Air Permeability:

Bayseal™ OC spray-applied polyurethane insulation, at a minimum thickness of 3.5 inches (89 mm), is considered air-impermeable insulation in accordance with Sections R806 and R202 of the IRC based on testing in accordance with ASTM E283.

4.0 INSTALLATION

4.1 General:

Bayseal™ OC insulation must be installed in accordance with the manufacturer's published installation instructions and this report. A copy of the instructions must be available at all times on the jobsite during installation.

The substrates to which the insulation is applied must be clean, dry and free of frost, ice, loose debris, or contaminates that will interfere with adhesion of the spray foam insulation.

The insulation must be protected from the weather during and after application. The insulation must not be applied in electrical boxes.

The insulation is applied in passes having a maximum thickness of 6 inches (152 mm) per pass. Multiple passes are made to obtain the desired thickness, which is not to exceed 12 inches (305 mm) for wall cavities and 16 inches (406 mm) for ceiling cavities. The insulation must not be used in areas that have a maximum service temperature greater than 180°F (82°C). The foam plastic insulation must not be used in electrical outlet or junction boxes or in contact with rain, water or soil. The substrate must be free of moisture, frost or ice, loose scales, rust, oil and grease.

4.2 Thermal Barrier:

4.2.1 Application with a Prescriptive Thermal Barrier: The Bayseal™ OC insulation, with a maximum nominal thickness of 12 inches (305 mm) for wall cavities and 16 inches (406 mm) for ceiling cavities, must be separated from the interior of the building by an approved thermal barrier of $^1/_2$-inch-thick (12.7 mm) gypsum wallboard or an equivalent 15-minute thermal barrier complying with and installed in accordance with the applicable code. Exception: within an attic or crawl space, installation must be in accordance with Section 4.3.

4.2.2 Application without a Prescriptive Thermal Barrier:

4.2.2.1 Application with Paint to Protect® DC-315 Intumescent Coating: The prescriptive 15-minute thermal barrier may be omitted when installation is in accordance with this section. The insulation and coating may be spray-applied to the interior facing of walls, the underside of roof sheathing or roof rafters, and in crawl spaces, and may be left exposed as an interior finish without a prescribed 15-minute thermal barrier or prescribed ignition barrier. The thickness of the foam plastic applied to the underside of the roof sheathing must not exceed $11^1/_2$ inches (292 mm). The thickness of the foam plastic applied to vertical wall surfaces must not exceed 10 inches (254 mm). The foam plastic must be covered on all surfaces with DC 315 Fireproof Paint at a minimum wet film thickness of 22 wet mils (0.56 mm) [14 dry mils (0.36 mm)], at a rate of 1.37 gallons (5.2L) per 100 square feet (9.2 m^2). The coating must be applied over the Bayseal™ OC insulation in accordance with the coating manufacturer's instructions and this report. Surfaces to be coated must be dry, clean and free of dirt, loose debris and other substances that could interfere with adhesion of the coating. The coating is applied in one coat by airless spray equipment at ambient temperatures above 50°F (10°C) and relative humidity of less than 70 percent.

4.2.2.2 Application with TPR2 Fireshell® BMS-TC Intumescent Coating: The prescriptive 15-minute thermal barrier may be omitted when installation is in accordance with this section. The insulation and coating may be used in lieu of the code-prescribed 15-minute thermal barrier. The foam plastic insulation thickness must not exceed $7^1/_2$ inches (191 mm) in walls and $9^1/_2$ inches (241 mm) in ceilings, and the insulation must be covered with 20 wet mils (0.5 mm) [12 dry mils (0.30 mm)] of TPR^2 Fireshell® BMS-TC intumescent coating applied in a single coat at a rate of 1.25 gallons (4.75L) per 100 square feet (9.2 m^2). Surfaces to be coated must be dry, clean and free of dirt, loose debris and other substances that could interfere with adhesion of the coating. The coating is applied in one coat by airless spray equipment, medium knap roller or brush at ambient temperatures above 62°F and 95°F (16°C and 35°C) and relative humidity of less than 70 percent.

4.3 Attics and Crawl Spaces:

4.3.1 Application with a Prescriptive Ignition Barrier: When Bayseal™ OC insulation is installed within attics or crawl spaces where entry is made only for service of utilities, an ignition barrier must be installed in accordance with IBC Section 2603.4.1.6 and IRC Sections R316.5.3 and R316.5.4, as applicable. The ignition barrier must be consistent with the requirements for the type of construction required by the applicable code, and must be installed in a manner so that the foam plastic insulation is not exposed. Bayseal™ OC insulation, as described in this section, may be installed in unvented attics in accordance with IRC Section R806. The attic or crawl space area must be separated from the interior of the building by an approved 15-minute thermal barrier as described in Section 4.2.1.

4.3.2 Application without a Prescriptive Ignition Barrier: Where the spray-applied insulation is installed in accordance with Sections 4.3.2.1, 4.3.2.2 or 4.3.2.3 the following conditions apply:

a) Entry to the attic or crawl space is to service utilities, and no storage is permitted.

b) There are no interconnected attic or crawl space areas.

c) Air in the attic or crawl space is not circulated to other parts of the building.

d) Attic ventilation is provided when required by IBC Section 1203.2 or IRC Section R806, except when air-impermeable insulation is permitted in unvented attics in accordance with the 2012 IRC Section R806.5 (2009 IRC Section R806.4). Under-floor (crawl space) ventilation is provided when required by IBC Section 1203.3 or IRC Section R408.1, as applicable.

e) Combustion air is provided in accordance with *International Mechanical Code®* Section 701.

4.3.2.1 Application with Bayseal IC Intumescent Coating: In attics, Bayseal™ OC insulation may be spray-applied to the underside of roof sheathing or roof rafters; and in crawl spaces, Bayseal™ OC insulation may be spray-applied to the underside of floors as described in this section. The thickness of the foam plastic applied to the

underside of the top space must not exceed 16 inches (406 mm). The thickness of the foam plastic applied to vertical surfaces must not exceed 11 1/4 inches (286 mm). All foam plastic surfaces must be covered with 7.5 wet mils (0.2 mm) [4 dry mils (0.10 mm)] of the Bayseal™ IC intumescent coating described in Section 3.4. The Bayseal™ IC intumescent coating must be applied over the Bayseal™ OC insulation in accordance with the manufacturer's instructions and this report. Surfaces to be coated must be dry, clean, and free of dirt, loose debris and any other substances that could interfere with adhesion of the coating. The Bayseal™ IC coating is applied with a medium-size nap roller, soft brush or conventional airless spray equipment at a rate of 0.5 gallon (1.9L) per 100 square feet (9.2 m^2). The coating must be applied when ambient and substrate temperatures are above 50°F (10°C) and requires a 24-hour curing time after application. Bayseal™ OC insulation, as described in this section, may be installed in unvented conditioned attics in accordance with the 2009 IRC Section R806.4 or the 2012 IRC Section R806.5. The attic or crawl space area must be separated from the interior of the building by an approved 15 minute thermal barrier as described in Section 4.2.1.

4.3.2.2 Application with TPR² Fireshell® BMS-IC Intumescent Coating: In attics, Bayseal™ OC insulation may be spray-applied to the underside of roof rafters; and in crawl spaces, Bayseal™ OC insulation may be spray-applied to the underside of floors as described in this section. The thickness of the foam plastic applied to the underside of the top space must not exceed 9 1/2 inches (241 mm). The thickness of the foam plastic applied to vertical surfaces must not exceed 7 inches (178 mm). All foam plastic surfaces must be covered with the TPR² Fireshell® BMS-IC intumescent coating described in Section 3.7. The intumescent coating must be applied over the Bayseal™ OC insulation in accordance with the manufacturer's instructions and this report. The foam plastic insulation must be covered with 7 wet mils (0.2 mm) [4 dry mils (0.10 mm)] of TPR² Fireshell® BMS-IC intumescent coating applied in a single coat at a rate of 0.83 gallon (1.10 L) per 100 square feet (9.2 m^2). Surfaces to be coated must be dry, clean and free of dirt, loose debris and other substances that could interfere with adhesion of the coating. The coating is applied in one coat by airless spray equipment, medium knap roller or brush at ambient temperatures above 70°F (21°C) and relative humidity of less than 70 percent, and requires a 24-hour curing time. The attic or crawl space area must be separated from the interior of the building by an approved 15-minute thermal barrier as described in Section 4.2.1.

4.3.2.3 Use on Attic Floors: Bayseal™ OC insulation may be installed at a maximum thickness of 11 1/4 inches (286 mm) between joists in attic floors. The insulation must be covered on all exposed surfaces with Bayseal™ IC intumescent coating as described in Section 4.3.2.1. The Bayseal™ OC insulation must be separated from the area beneath the attic by an approved thermal barrier. An ignition barrier in accordance with IBC Section 2603.4.1.6 and IRC Section R316.5.3 may be omitted.

4.4 One-hour Fire-resistance-rated Wall Assembly (Limited Load-bearing):

4.4.1 Initial Face: One layer of 5/8-inch-thick (15.9 mm) Type X gypsum wallboard must be applied parallel to the interior face of 2-by-6 wood studs spaced a maximum of 16 inches (406 mm) on center. The gypsum boards must be attached using Type S, 1 5/8-inch-long (41 mm) screws spaced 8 inches (203 mm) on center. All exposed wallboard joints must be taped with joint tape, and compound and screw heads must be covered with joint compound in accordance with ASTM C840 or GA216.The interior cavity is filled with Bayseal™ OC spray-applied foam insulation.

Opposite Face: One layer of 5/8-inch-thick (15.9 mm) Type X gypsum wallboard must be applied in the same manner as for the initial face. The horizontal joints in the gypsum wallboard on the opposite face must be staggered a minimum of 8 inches (203 mm) from the horizontal joints in the wallboard on the initial face. If the intention is for use as an exterior wall, code- complying sheathing and a code-complying exterior wall covering must be installed in accordance with the applicable code.

4.4.2 Axial Load Design: Axial loads applied to the wall assembly must be limited to the lesser of the following:

1. 2,756 pounds (122 642 N) per stud.
2. A maximum of 51 percent of the load calculated in accordance with Sections 3.6 and 3.7 of the ANSI/AF&PA NDS.

4.5 Exterior Walls in Types I, II, III and IV Construction:

When used on exterior walls of Type I, II, III and IV construction, must comply with Section 2603.5 of the IBC and this section (Section 4.5), and the insulation must be installed at a maximum thickness of 3 5/8 inches (92 mm) See Table 2 for a description. The potential heat of the Bayseal™ OC spray-applied polyurethane insulation is 488 Btu/ft² (5.5 MJ/m²) per inch of thickness.

5.0 CONDITIONS OF USE

The Bayseal™ OC insulation described in this report complies with, or is a suitable alternative to what is specified in, those codes listed in Section 1.0 of this report, subject to the following conditions:

5.1 This evaluation report and the manufacturer's published installation instructions, when required by the code official, must be submitted at the time of permit application.

5.2 Bayseal™ OC insulation and Bayseal™ IC intumescent coating must be installed in accordance with the manufacturer's published installation instructions, this report and the applicable code. The instructions within this report govern if there are any conflicts between the manufacturer's published installation instructions and this report.

5.3 Bayseal™ OC insulation must be separated from the interior of the building by an approved 15-minute thermal barrier, as described in Section 4.2.1, except as noted in Section 4.2.2.

5.4 Bayseal™ OC insulation must be protected from the weather during and after application.

5.5 Bayseal™ OC insulation must be applied by installers certified by Bayer MaterialScience LLC.

5.6 When use is on buildings of Types I, II, III and IV construction, installation must be as described in Section 4.5 and Table 2.

5.7 Use of Bayseal™ OC insulation in areas where the probability of termite infestation is "very heavy" must be in accordance with IBC Section 2603.8 or IRC Section R318.4, as applicable..

5.8 Jobsite certification and labeling of the insulation must comply with IRC Sections N1101.4 and N1101.4.1 and IECC Sections 303.1.1 and 303.1.2, as applicable.

5.9 In exterior wall applications, a vapor retarder may be required by the code official in accordance with IBC Section 1405.3 or IRC Section R601.3, as applicable.

5.10 Bayseal™ OC insulation is produced in Phoenix, Arizona and Spring, Texas, under a quality control program with inspections by UL LLC (AA-668).

6.0 EVIDENCE SUBMITTED

6.1 Data in accordance with the ICC-ES Acceptance Criteria for Spray-applied Foam Plastic Insulation (AC377), dated June 2012, including reports of tests in accordance with Appendix X of AC377.

6.2 Reports of room corner tests in accordance with NFPA 286.

6.3 Report of air leakage testing in accordance with ASTM E283.

6.4 Report of testing in accordance with ASTM E119.

6.5 Report of potential heat of foam plastic testing in accordance with NFPA 259.

6.6 Report of fire propagation characteristics testing in accordance with NFPA 285.

7.0 IDENTIFICATION

Components for Bayseal™ OC insulation are identified with the manufacturer's name (Bayer MaterialScience, LLC), address and telephone number; the product trade name (Bayseal™ OC); product type (A or B component); use instructions; the density; the flame-spread and smoke-developed indices; the evaluation report number (ESR 1655); and the name of the inspection agency (UL LLC).

Intumescent coatings are identified with the manufacturer's name and address, the product name and use instructions.

8.0 OTHER CODES

In addition to the codes reference in Section 1.0, the products described in this report were evaluated for compliance with the requirements of the following codes:

- 2006 *International Building Code®* (2006 IBC)
- 2006 *International Residential Code®* (2006 IRC)
- 2006 *International Energy Conservation Code®* (2006 IECC)

The products comply with the above-mentioned codes as described in Sections 2.0 through 7.0 of this report, except as noted below:

- **Application with a Prescriptive Thermal Barrier:** see Section 4.2.1, except the approved thermal barrier must be installed in accordance with Section R314.4 of the 2006 IRC.
- **Application without a Prescriptive Thermal Barrier:** See Section 4.2.2.
- **Application with a Prescriptive Ignition Barrier:** See Section 4.3.1 except attics must be vented in accordance with Section 1203.2 of the IBC or Section R806 of the IRC, and crawl space ventilation must be in accordance with IBC Section 1203.3 or IRC Section R408, as applicable.
- **Application without a Prescriptive Ignition Barrier:** See Section 4.3.2, except attics must be vented in accordance with Section 1203.2 of the IBC or Section R806 of the IRC, and crawl space ventilation must be in accordance with IBC Section 1203.3 or IRC Section R408, as applicable.
- **Protection Against Termites:** See Section 5.7, except use of the insulation in areas where the probability of termite infestation is "very heavy" must be in accordance with Section R320.5 of the 2006 IRC.
- **Jobsite Certification and Labeling:** See Section 5.8, except jobsite certification and labeling must comply with Sections 102.1.1 and 102.1.1.q, as applicable, of the 2006 IECC.

TABLE 1—THERMAL RESISTANCE (*R*-VALUES)

THICKNESS (Inches)	*R*-VALUE (°F.ft².h/Btu)
1	3.7
2	7.4
3	11
3.5	13
4	15
5	18
5.5	20
6	22
7	25
7.75	27
8	28
9	32
10	35
11	39
12	42
13	46
14	50
15	53
16	56

For **SI:** 1 inch = 25.4 mm; 1°F.ft².h/Btu = 0.176 110 k.m²/W.

[1]Calculated *R*-values are based on tested *K*-values at 1- and 3.5-inch thicknesses.
[2]*R*-values greater than 10 are rounded to the nearest whole number.

TABLE 2—NFPA 285 COMPLYING EXTERIOR WALL ASSEMBLIES IN TYPES I, II, III AND IV CONSTRUCTION

WALL COMPONENT	MATERIALS
Base Wall System – Use either 1, 2 or 3	1 – Concrete wall 2 – Concrete masonry wall 3 – 1 layer $^5/_8$-inch-thick Type X gypsum wallboard complying with ASTM C36 or C1396 on interior, installed over steel studs, minimum $3^5/_8$-inch deep, No. 20 gage, C-shaped, spaced a maximum of 24 inches on center. Gypsum wallboard must be attached with No.6, $1^1/_4$-inch-long self-tapping screws located 8 inches on center along the perimeter and in the field of wallboard. Gypsum wallboard joints must be taped and treated with joint compound in accordance with ASTM C840 or GA-216.
Floorline Firestopping	4 pcf mineral wool (e.g., Thermafiber) in each stud cavity at each floorline attached with Z-clips
Cavity Insulation – Use either 1 or 2 or 3	1 – None 2 – Full cavity depth or less of Bayseal™ OC insulation applied using exterior sheathing as substrate and covering the width of the cavity and inside the stud flange 3 - Fiberglass batt insulation (faced or unfaced)
Exterior Sheathing – Only for Base Wall System No. 3 Use either 1 or 2	1 – $^1/_2$-inch-thick, exterior type gypsum sheathing 2 – $^5/_8$-inch-thick, exterior type gypsum sheathing
Exterior Wall covering– Use either 1 or 2	1 – Brick - standard nominal 4-inch-thick clay brick - Brick veneer anchors – standard types installed a maximum of 24 inches OC vertically on each stud - Maximum 2 inch air gap between exterior insulation and brick 2 – Stucco - minimum $^3/_4$-inch-thick, exterior cement plaster and lath. A secondary water-resistive barrier may be installed between the exterior insulation and the lath. The secondary water-resistive barrier must not be full-coverage asphalt or butyl-based self-adhered membranes.

For SI: 1 inch = 25.5 mm; 1 pcf = 16.018 kg/m^3.

International Fireproof Technology Inc.

Leading Edge Technology for Unsurpassed Fire Protection

Paint To Protect™

Material Safety Data Sheet – DC315

Emergency Telephone Number:	CHEMTREC 1 800 424 9300
Revised	10/05/11

1. Product and Company Identification

Product:	Water based fireproof paint
Product Code:	DC315
Company:	International Fireproof Technology Inc. 17528 Von Karman Avenue Irvine, CA 92614 Phone: 949-975-8588

2. Composition/Information on Ingredients

Ingredient:	CAS No.	Percent
Ammonium Polyphosphate:	68333799	25-45 %
Melamine	1008781	10-25 %
Pentaery thritol	115775	10-25 %
PVAC Resin	9003-20-7	5-30 %
Titanium Oxide	13463-67-7	5-10 %
Water		20-40 %

3. Hazards Identification

Hmis	Hazard Classification
Toxicity:	0
Flammable:	0
Reactivity:	0
Personal Protection:	B
Scale Low:	1
Moderate:	2
High:	3
Extreme:	4
Emergency Overview:	None
Potential Health Effects:	None
General:	No Danger
Inhalation:	It may result in irritation of throat and lungs if inhaling.
Ingestion:	None
Skin Contact:	Direct skin contact doesn't cause skin irritation or dermatitis.
Eye Contact:	May cause irritation upon direct contact.

NFPA 704M	
Health:	0
Flammable:	0
Reactivity:	0
Personal Protection:	B
Scale Low:	1
Moderate:	2
High:	3
Extreme:	4

4. First Aid Measures

Inhalation:	None
Ingestion:	Seek medical attention or drinking amounts of water immediately.
Skin Contact:	Wash with soap and water
Eye Contact:	Flush with water. Consult a physician if necessary.
Note to Physician:	None

5. Fire Fighting Measures

Fire:	None-Flaming
Explosion:	Not considered to be an explosion hazard.
Fire Extinguishing Media:	None-Flaming
Special Information:	None

6. Accidental Release Measures

Steps to be taken in case of spill or leak:	Maintain adequate ventilation. Prevent runoff to sewers. Use sand or other material to dam or contain spill. Soak up with an inert absorbent.

7. Handling and Storage

Handling:	Keep containers tightly closed.
Storage:	Period $\leq$ 24 months
Special Comments:	Store between 5°C - 35°C in a closed container in a protected area. Wash hands thoroughly with soap and water after handling as a standard hygienic practice.

8. Exposure Controls / Personal Protection

Airborne Exposure Limits:	None
Ventilation:	A system of local and/or general exhaust is recommended to keep employee exposures below the Airborne Exposure Limits. Local exhaust ventilation is generally preferred because it can control the emissions of the contaminant at its source, preventing dispersion of it into the general work area. Please refer to the ACGIH document, Industrial Ventilation, A Manual of Recommended Practices, most recent edition, for details.
Personal Respirators:	Wear dust mask during work.
Skin Protection:	It is good to use protective gloves.
Eye Protection:	Wear goggles to avoid splash.

9. Physical and Chemical Properties

Appearance:	White liquid
Odor:	Odorless
Data relevant to safety:	
Changes in physical state:	Temperature > 60°C; after the pail is opened.
Flash point:	Not applicable
Ignition temperature:	Not applicable
Self-ignition temperature:	Not applicable
Color:	White; also available in standard color range
Particle size:	< 45 μ m
Solid Content:	Above 65%
Density:	1.30 ± 0.05
Viscosity:	> 80 KU (at 25°C)
pH:	7.0 ± 1.0
Thinner:	Water
Storage Temperature:	5°C - 35°C

10. Stability and Reactivity

Stability:	Stable under ordinary conditions of use and storage.
Hazardous Decomposition Products:	Ammonium gas. Vinyl monomers if the temperature is higher than 45°C.
Hazardous Polymerization:	Should not occur.
Incompatibilities:	Evolution of ammonia under high temperature.
Conditions to Avoid:	High temperature condition (> 45°C)

11. Toxicological Information

Acute oral toxicity (LD_{50}):	None
Irritant effect on skin:	None
Irritant effect on eyes:	Slightly irritant
Duration of exposure:	24 hours

12. Ecological Information

Ecological effect:	Fish toxicity (LC_{50}); None
Environmental Fate:	When released into the soil, this material is not expected to leach into groundwater. When released into the soil, this material is not expected to evaporate significantly. When released into water, this material is not expected to evaporate significantly.

13. Disposal Considerations

Dispose waste by sanitary landfill or incineration in accordance with appropriate regulations.

14. Transport Information

Shipping Name:	DC315
Product Name:	DC315 Fireproof Paint
Product Code:	DC315
Size:	1 Gallon or 5 Gallon by plastic bucket.
Road transport:	Non-hazardous goods
Inland waterways transport:	Non-hazardous goods
Marine transport:	Non-hazardous goods
Air transport:	Non-hazardous goods
Dispatch by post:	Permitted

15. Regulatory Information

Health hazardous goods:	NO
Environmental hazardous goods:	NO
Fire hazardous goods:	NO

16. Other Information

Hazard Warning:	None
Cautions:	Avoid contact with eyes. Use with adequate ventilation. Wash thoroughly after handling.
Label First Aid:	Assist person to understand and exactly avail the materials.
Product Use:	Fireproof Paint
Remark:	This information is based on our present state of knowledge. It should not therefore be construed as guaranteeing specific properties of the products described or their suitability for a particular application