ADDRESS . : 540 FARABOW DR SUBDIV: JIMMIE D GRANTHAM
CONTRACTOR : SEVENTY WEST BUILDERS, INC. PHONE : (919) 995-5755
OWNER . . : SMITH MICHAEL & ELIZABETH PHONE :
PARCEL . . : 05-0624- - -0016- -06-
APPL NUMBER: 13-50032493 CP NEW RESIDENTIAL (SFD)
DIRECTIONS : T/S: 06/16/2014 10:59 AM VBROWN ----
BALL RD, PREMIS NUMBER 43054105
42 W TO BALL RD LEFT ONTO BALL RD LEFT
ONTO FARABOW RD 2ND PROPERTY ON RIGHT

STRUCTURE: 000 000 80X80 6BDR 0BATH SFD W BSMNT GAR,
FLOOD ZONE . . . . : FLOOD ZONE X
BEDROOMS . . . . . : 6.00 PROPOSED USE . . . . . : SFD
SEPTIC - EXISTING? . . . . : NEW TANK WATER SUPPLY . . . . . : NEW WELL

PERMIT: CPSF 00 CP * SFD

TYP/SQ	REQUESTED COMPLETED	INSP RESULT	DESCRIPTION RESULTS/COMMENTS
B101 01	7/29/14	KS	R*BLDG FOOTING / TEMP SVC POLE TIME: 17:00 VRU #: 002559813
	7/29/14	AP	T/S: 07/28/2014 10:10 AM VBROWN ----------
			T/S: 07/29/2014 01:58 PM KSLATTUM ----------
B103 01	8/04/14	DT	R*BLDG FOUND & TEMP SVC POLE TIME: 17:00 VRU #: 002562197
	8/04/14	CA	T/S: 08/01/2014 12:13 PM DJOHNSON ----------
			LATE AFTERNOON INSPECTION IF POSSIBLE
			T/S: 08/04/2014 11:08 AM DETAYLOR ----------
A814 01	8/05/14	TW	ADDRESS CONFIRMATION TIME: 17:00 VRU #: 002562205
	8/05/14	AP	T/S: 08/01/2014 12:13 PM DJOHNSON ----------
			540 FARABOW DR HOLLY SPRINGS 27540
			***# ON HOME AND BY LONG DRIVEWAY ----------
			T/S: 08/05/2014 03:12 PM TWARD ----------
B103 02	8/05/14	DT	R*BLDG FOUND & TEMP SVC POLE TIME: 17:00 VRU #: 002562783
	8/05/14	AP	T/S: 08/05/2014 12:59 PM DETAYLOR ----------
B113 01	8/13/14	DT	R*BLDG WATER/DAMP PROOFING TIME: 17:00 VRU #: 002566396
	8/13/14	AP	T/S: 08/13/2014 12:38 PM DETAYLOR ----------
B111 01	8/25/14	DT	R*BLDG SLAB INSP/TEMP SVC POLE TIME: 17:00 VRU #: 002571537
	8/26/14	DA	T/S: 08/22/2014 02:06 PM VBROWN ----------
			T/S: 08/26/2014 09:01 AM DETAYLOR ----------
			Inspection was for plumbing under slab
P309 01	8/26/14	DT	R*PLUMB UNDER SLAB TIME: 17:00 VRU #: 002572568
	8/26/14	AP	
B111 02	8/28/14	DT	R*BLDG SLAB INSP/TEMP SVC POLE VRU #: 002572923
	8/28/14	AP	T/S: 08/28/2014 03:20 PM DETAYLOR ----------
B105 01	9/15/14	DT	R*OPEN FLOOR TIME: 17:00 VRU #: 002578094
	9/15/14	CA	T/S: 09/11/2014 04:10 PM LSEGARS ----------
			T/S: 09/15/2014 03:37 PM DETAYLOR ----------
P307 01	12/01/14	DT	R*PLUMB WATER CONNECTION TIME: 17:00 VRU #: 002603371
	12/02/14	AP	T/S: 12/02/2014 01:47 PM DETAYLOR ----------
R125 01	12/10/14	MR	ONE TRADE ROUGH IN TIME: 17:00 VRU #: 002606820
	12/10/14	AP	GIVE THIS TICKET TO DEEN - HE KNOW WHAT TO DO
			T/S: 12/10/2014 01:13 PM MREARIC ----------
R125 02	1/09/15	DT	ONE TRADE ROUGH IN TIME: 17:00 VRU #: 002615284
	1/09/15	AP	T/S: 01/08/2015 09:39 AM DJOHNSON ----------
			CUSTOMER WOULD LIKE A GEO-THERMAL DITCH INSPECTION. DID NOT KNOW HOW TO SCHEDULE THIS.
			T/S: 01/09/2015 03:20 PM DETAYLOR ----------

---------- CONTINUED ONTO NEXT PAGE ----------

ADDRESS . : 540 FARABOW DR SUBDIV: JIMMIE D GRANTHAM
CONTRACTOR : SEVENTY WEST BUILDERS, INC. PHONE : (919) 995-5755
OWNER . . : SMITH MICHAEL & ELIZABETH PHONE :
PARCEL . . : 05-0624- - -0016- -06-
APPL NUMBER: 13-50032493 CP NEW RESIDENTIAL (SFD)

TYP/SQ	REQUESTED COMPLETED	INSP RESULT	DESCRIPTION RESULTS/COMMENTS
H828 01	1/29/15	JM	ENVIRO. WELL PERMIT TIME: 17:00 VRU #: 002622652
	1/29/15	AP	T/S: 01/29/2015 10:33 AM SSTEWART ----------------------
			T/S: 01/29/2015 10:33 AM SSTEWART ----------------------
R425 01	3/13/15	BS	FOUR TRADE ROUGH IN TIME: 17:00 VRU #: 002634038
	3/13/15	DA	T/S: 03/11/2015 02:46 PM VBROWN -----------------------
			T/S: March 13, 2015 03:11 PM BSUTTON ------------------
			Resubmit floor plan for basement with added square footage. Fireblock all dropped ceilings in basement. Draftstop basement framing 10 ft oc adjacent to foundation wall.Repair top plate where cut for beam and kitchen vent duct in basement.Washer drain in basement must be 3 inch inch in the horizontal beyond vent. Close off chase at ceiling heightnear right side bath in basement.No pressure test on plumbing. Need installation instructions for refractory fireplaces. Need load calculations for electrical. NOTE-- This is a partial inspection for the basement only NOTE- Need engineering on ceiling framing and size of header over left rear bedroom in exterior wall.
E205 01	3/27/15	BS	R*ELEC UNDER SLAB TIME: 17:00 VRU #: 002639342
	3/27/15	AP	T/S: 03/25/2015 03:35 PM LBENNETT ---------------------
R425 02	3/30/15	BS	FOUR TRADE ROUGH IN TIME: 17:00 VRU #: 002639359
	3/30/15	CA	T/S: 03/25/2015 03:36 PM LBENNETT ---------------------
			T/S: March 30, 2015 08:20 AM BSUTTON ------------------
			per jennifer
R425 03	4/06/15	BS	FOUR TRADE ROUGH IN TIME: 17:00 VRU #: 002642247
	4/06/15	DA	T/S: April 06, 2015 11:22 AM BSUTTON ------------------
			Fill voids at fireplace between veneer and firebox with fire mortar per installation instructions. Need hangers at girder for porch above foyer area. Need engineers replacement for embedded 5/8 bolts at garage wing walls.Close off chase behind garage stairs. Window at steps from garage must be tempered before final.
I129 01	5/07/15	TI	R*INSULATION INSPECTION TIME: 17:00 VRU #: 002655488
	5-7-15	AEBS	T/S: 05/05/2015 11:05 AM LBENNETT ---------------------
R425 04	5/07/15	TI	FOUR TRADE ROUGH IN TIME: 17:00 VRU #: 002655470
	〃	AEBS	T/S: 05/05/2015 11:05 AM LBENNETT ---------------------

COMMENTS AND NOTES

Windows at master shower
Bolts @ garage
Temp Wind at al stairs
Intumescent in attic

Seal 1st Floor fireplace
Need drawings on
Deck landing/stairs

Harnett County Inspections Dept.

108 East Front St

PO Box 65

Lillington NC, 27546

910-893-7525 910-893-2793 (fax)

VIOLATION NOTICE

Seventy West Builders Inc 540 Farrabow Drive Permit number 13-50032493

The following issues must be corrected ***BEFORE*** final inspection.

1.Engineers repair on bolts for steel columns at garage wing walls

2.Drawing and footing inspections for rear deck extentions and stairs/landings.

The following items must be corrected ***AT FINAL INSPECTION.***

1.Window at second floor landing must be tempered

2.Window at garage stair landing must be tempered

3.Added window at master shower enclosure must be installed/properly sealed/flashed and tempered glass.

4.Seal all joints inside fireplace firebox

5.Intumescent coating on spray foam in attic, or removal of all flooring in attic except as required for service of HVAC equipment.

OK TO DRYWALL. 05/07/2015 BSutton

ICC-ES Evaluation Report

ESR-1172*

Reissued February 1, 2013

This report is subject to renewal February 1, 2015.

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

REPORT HOLDER:

DEMILEC USA LLC
2925 GALLERIA DRIVE
ARLINGTON, TEXAS 76011
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www.demilecusa.com
info@demilecusa.com

EVALUATION SUBJECT:

***SEALECTION*® 500 SPRAY-APPLIED POLYURETHANE FOAM INSULATION**

1.0 EVALUATION SCOPE

Compliance with the following codes:

- 2009 *International Building Code*® (IBC)
- 2009 *International Residential Code*® (IRC)
- 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 installation
- Air permeability
- Fire-resistance-rated construction
- Exterior walls in Type I through IV construction

2.0 USES

SEALECTION® 500 spray-applied polyurethane foam insulation is used as a nonstructural thermal insulating material in Type I, II, III, IV and Type V construction under the IBC and in dwellings under the IRC. The insulation is for use in wall cavities, floor/ceiling assemblies, or attics and crawl spaces when installed in accordance with Section 4.0. Under the IRC, the insulation may be used as air-impermeable insulation when installed in accordance with Section 3.4. The insulation may be used in nonload-bearing, fire-resistance-rated walls when construction is in accordance with Section 4.5.

3.0 DESCRIPTION

3.1 Materials:

SEALECTION® 500 spray-applied foam insulation is semirigid, low-density, polyurethane foam plastic that is installed as a component of floor/ceiling and wall assemblies. The insulation is a two-component spray foam plastic with a nominal in-place density of 0.5 pcf (8 kg/m^3). The insulation is produced in the field by combining a polymeric isocyanate (A500 component) with a polymeric resin (B500 component). The insulation liquid components are supplied in 55-gallon (208 L) drums and/or 250-gallon (946 L) totes and must be stored at temperatures between 40°F (4.5°C) and 100°F (38°C). The liquid components have a shelf life of one year when stored in factory-sealed containers at these temperatures.

3.2 Surface-burning Characteristics:

The insulation, at a maximum thickness of 6 inches (152 mm) and a nominal density of 0.5 pcf (8 kg/m^3), has a flame-spread index of 25 or less and a smoke-developed index of 450 or less when tested in accordance with ASTM E84. Greater thicknesses are recognized as described in Sections 4.3 and 4.4.

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 Air Permeability:

SEALECTION® 500 spray-applied polyurethane foam insulation, at a minimum thickness of 3.5 inches (89 mm), is considered air-impermeable insulation in accordance with Section R806.4 of the IRC, based on testing in accordance with ASTM E283 and ASTM E2178.

3.5 Blazelok™ IB4 Intumescent Coating:

Blazelok™ IB4 intumescent coating, manufactured by TPR^2 Corporation, is a one-component, water-based liquid coating with specific gravity of 1.3. Blazelok™ IB4 is supplied in 5-gallon (19 L) pails and/or 55-gallon (208 L) drums and has a shelf life of one year when stored in factory-sealed containers at temperatures between 45°F (7°C) and 90°F (32°C).

3.6 Blazelok™ TB Intumescent Coating:

Blazelok™ TB intumescent coating, manufactured by TPR^2 Corporation, is a one-component, water-based liquid coating with specific gravity of 1.3. Blazelok™ TB is supplied in 5-gallon (19 L) pails and/or 55-gallon (208 L) drums and has a shelf life of one year when stored in factory-sealed containers at temperatures between 45°F (7°C) and 90°F (32°C).

3.7 Andek Firegard Intumescent Coating:

Andek Firegard intumescent coating, manufactured by Andek Corporation, is a one-component, water-based coating with specific gravity of 1.37. Andek Firegard is supplied in 5-gallon (19 L) pails and has a shelf life of one year when stored in factory-sealed containers at temperatures between 45°F (7°C) and 90°F (32°C).

3.8 No-Burn® Plus XD Intumescent Coating:

No-Burn® Plus XD intumescent coating, manufactured by No-Burn, Inc., is a translucent aqueous liquid in 1- and 5-gallon (3.8 and 18.8 L) pails and 55-gallon (208 L) drums. The coating has a shelf life of three years when stored in a factory-sealed container at temperatures between 40°F (4.5°C) and 90°F (32°C).

4.0 INSTALLATION

4.1 General:

*SEAL*ECTION® 500 spray-applied foam insulation must be installed in accordance with the manufacturer's published installation instructions and this report. A copy of the manufacturer's published installation instructions must be available at all times on the jobsite during installation.

4.2 Application:

The *SEAL*ECTION® 500 insulation is spray-applied on the jobsite using a volumetric positive displacement pump as identified in the Demilec application manual. The insulation must be applied when the ambient temperature is greater than 23°F (-5°C). The insulation must not be used in areas that have a maximum in-service temperature greater than 180°F (82°C). The foam plastic must not be used in electrical outlet or junction boxes or in contact with water, rain or soil. The foam plastic must not be sprayed onto a substrate that is wet, or covered with frost or ice, loose scales, rust, oil, or grease. The insulation must be protected from the weather during and after application. The insulation may be applied to the maximum thickness in a single pass. Where insulation is used as an air-impermeable insulation, such as in unvented attic assemblies under IRC Section R806.4, the insulation must be installed at a minimum thickness of 3.5 inches (89 mm).

4.3 Thermal Barrier:

4.3.1 Application with a Prescriptive Thermal Barrier: *SEAL*ECTION® 500 spray foam insulation 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, IBC Section 2603.4 or IRC Section R316.4, as applicable, except where insulation is in an attic or crawl space as described in Section 4.4. Thicknesses of up to $9^1/_4$ inches (235 mm) for wall cavities and 14 inches (356 mm) for floor/ceiling cavities are recognized, based on room corner fire testing in accordance with NFPA 286.

4.3.2 Application without a Thermal or Ignition Barrier: The prescriptive 15-minute thermal barrier or ignition barrier may be omitted when installation is in accordance with this section. *SEAL*ECTION® 500 spray foam insulation and Blazelok™ TB intumescent 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 ignition barrier. The foam plastic insulation thickness must not exceed $5^1/_2$ inches (140 mm) in walls and 10 inches (254 mm) in floors or ceilings. All foam surfaces must be covered with 14 dry mils (0.36 mm) [25 wet mils (0.64 mm)] of Blazelok™ TB intumescent coating, described in Section 3.6. The intumescent coating must be spray-applied over the insulation in accordance with the coating manufacturer's instructions and this report at a rate of 1 gallon (3.38 L) per 82 square feet (7.6 m^2) to obtain the recommended minimum dry film thickness noted in this section.

4.4 Attics and Crawl Spaces:

4.4.1 Application with a Prescriptive Ignition Barrier: When *SEAL*ECTION® 500 spray foam 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 or IRC Section R316.5.3 or 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 the foam plastic insulation is not exposed. *SEAL*ECTION® 500 spray-applied foam insulation as described in this section may be installed in unvented attics in accordance with IRC Section R806.4.

4.4.2 Application without a Prescriptive Ignition Barrier:

4.4.2.1 General: *SEAL*ECTION® 500 spray-applied foam insulation may be installed in attics and crawl spaces, without a prescriptive ignition barrier as described in IBC Section 2603.4.1.6 and IRC Sections R316.5.3 and R316.5.4, in accordance with Section 4.4.2.2, 4.4.2.3, 4.4.2.4, or 4.4.2.5, when all of the following conditions apply:

a. Entry to the attic or crawl space is only 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. Under-floor (crawl space) ventilation is provided when required by IBC Section 1203.3 or IRC Section R408.1, as applicable.

e. 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 Section R806.4 of the IRC.

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

4.4.2.2 Application with Blazelok™ IB4 Intumescent Coating: In attics, *SEAL*ECTION® 500 foam insulation may be spray-applied to the underside of the roof sheathing and/or rafters; and in crawl spaces, the insulation may be spray-applied to the underside of wood floors as described in this section. The thickness of the foam plastic applied to the underside of the top of the space must not exceed $11^1/_2$ inches (292 mm) and the vertical surfaces must not exceed $9^1/_2$ inches (241 mm). The foam plastic surface must be covered with a minimum nominal thickness of 5 dry mils (0.13 mm) [9 wet mils (0.23 mm)] of the Blazelok™ IB4 intumescent coating described in Section 3.5. The intumescent coating must be spray-applied over the insulation in accordance with the coating manufacturer's instructions and this report at a rate of
1 gallon (3.38 L) per 175 square feet (16.3 m^2) to obtain the recommended minimum dry film thickness noted in this section.

4.4.2.3 Application with Andek Firegard Intumescent Coating: In attics, *SEAL*ECTION® 500 foam insulation may be spray-applied to the underside of the roof

HEATLOK SPRAY POLYURETHANE FOAM SOY-200+

DEMILEC

TECHNICAL DATA SHEET

Heatlok Soy® 200 Plus is a two component, closed cell, spray applied, rigid polyurethane foam system. This product uses recycled plastic materials, rapidly renewable soy oils, and the blowing agent has zero ozone depleting potential. Heatlok Soy 200 Plus complies with the intent of the International Code Council's residential and commercial building codes and is commonly used as a thermal insulation, air barrier, vapor barrier and water resistive barrier in above grade, below grade, interior and exterior applications.

PHYSICAL PROPERTIES			
ASTM D 1622	Density	2.1 lb/ft³	33.6 kg/m³
ASTM C 518	Aged Thermal Resistance (R-value @ 1 inch) See ESR 3210, Table 1 for additional R-value information	7.4 ft²h°F/BTU	1.3 Km²/W
ASTM E 283	Air Leakage @ 75 Pa @ 1"	< 0.02 L/sm²	
ASTM E 2178	Air Permeance @ 75 Pa @ 1"	< 0.02 L/sm²	
ASTM E 96	Water Vapor Permeance @ 1.2" Qualifies as a Class II vapor barrier per IBC Section 202	< 1 perm	< 57.2 ng/Pa•s•m²
ASTM D 1621	Compressive Strength	28.7 psi	198 kPa
ASTM D 1623	Tensile Strength	46.2 psi	319 kPa
ASTM D 2126	Dimensional Stability @ 158°F (70°C) 97% R.H. (168 hrs, sample without any substrate) L/W/T	(% volume change) -1.37 / -0.42 / +0.27	
CA Spec 01350	VOC Emissions Standard	Compliant	
ASTM C 1338	Fungi Resistance	No fungal growth	
ASTM D 2856	Closed Cell Content	~ 90%	

FIRE TEST RESULTS		
ASTM E 84	Surface Burning Characteristics, 4" thick Flame Spread Index Smoke Developed	Class I 20 400
NFPA 286	Ignition Barrier – Compliant with 2006, 2009 & 2012 IBC and IRC, and ICC-ES AC-377 Appendix X, for use in attics and crawl spaces without a prescriptive ignition barrier, thermal barrier or intumescent coating.	Pass
NFPA 286	Thermal Barrier – Compliant with the 2006, 2009 & 2012 IBC and IRC, as an interior finish without a 15 minute thermal barrier with BLAZELOK™ TBX at 11 mils dry film thickness.	Pass
ASTM D 1929	Ignition Properties (spontaneous ignition temperature)	932°F (500°C)

RECYCLED & RENEWABLE CONTENT OF HEATLOK SOY 200 PLUS RESIN	
Polyols Containing Recycled and Renewable Content	~ 40%
Renewable Content	13.5%
Pre-Consumer Recycled Content Post-Consumer Recycled Content Total Recycled Content	In Progress In Progress In Progress

REACTIVITY PROFILE			
Cream Time	Gel Time	Tack Free Time	End of Rise
0 – 1 seconds	3 – 4 seconds	4 – 5 seconds	5 – 6 seconds

3315 E. Division Street • Arlington, TX 76011
Phone (817) 640-4900 • Toll Free (877) DEMILEC (336-4532)
Fax (817) 633-2000 • E-mail: Info@Demilec.com • www.DemilecUSA.com

HEATLOK SOY-200+

LIQUID COMPONENT PROPERTIES*		
Property	**A-PMDI Isocyanate**	**Heatlok Soy 200 Plus Resin**
Color	Brown	Blue
Viscosity	180 – 220 cps @ 77°F (25°C)	650 – 850 cps @ 68°F (20°C)
Specific Gravity	1.24	1.18 – 1.20
Shelf Life of unopened drum properly stored	12 months	6 months
Storage Temperature	50 – 100°F (10 – 38°C)	50 – 85°F (10 – 29°C)
Mixing Ratio (volume)	1:1	1:1

*See SDS for more information.

RECOMMENDED PROCESSING CONDITIONS*		
Initial Primary Heater Setpoint Temperature	110°F	43°C
Initial Hose Heat Setpoint Temperature	110°F	43°C
Initial Processing Setpoint Temperature	1200 psi	8274 kPa
Substrate & Ambient Temperature	Regular > 50°F Winter > 25°F	Regular > 10°C Winter > -4°C
Moisture Content of Substrate	≤ 19%	≤ 19%
Moisture Content of Concrete	Concrete must be cured, dry and free of dust and form release agents.	

*Foam application temperatures and pressures can vary widely depending on temperature, humidity, elevation, substrate, equipment and other factors. While processing, the applicator must continuously observe the characteristics of the sprayed foam and adjust processing temperatures and pressures to maintain proper cell structure, adhesion, cohesion and general foam quality. It is the sole responsibility of the applicator to process and apply Heatlok Soy 200 Plus within specification.

General Requirements: Equipment must be capable of delivering the proper ratio (1:1 by volume) of polymeric isocyanate (PMDI) and polyol blend at adequate temperatures and spray pressures. Substrate must be at least 5 degrees above dew point, with best processing results when ambient humidity is below 80%. Substrate must also be free of moisture (dew or frost), grease, oil, solvents and other materials that would adversely affect adhesion of the polyurethane foam. Due to the exothermic reaction of the isocyanate and polyol blend, mixed components should be applied in layers (maximum 3" thickness per layer). Allow foam to cool completely before applying successive layers.

Heatlok Soy 200 Plus must be separated from the interior of the building by an approved thermal barrier or an approved finish material equivalent to a thermal barrier in accordance with applicable codes. Heatlok Soy 200 Plus must be sprayed at a minimum thickness of 1" per pass. This product must not be used when the continuous service temperature of the substrate or foam is below -60°F (-51°C) or above 180°F (82°C). Heatlok Soy 200 Plus should not be to cover flexible ductwork.

Disclaimer: The information herein is to assist customers in determining whether our products are suitable for their applications. We request that customers inspect and test our products before use and satisfy themselves as to contents and suitability. Nothing herein shall constitute a warranty, expressed or implied, including any warranty of merchantability or fitness, nor is protection from any law or patent inferred. All patent rights are reserved. The foam product is combustible and must be protected in accordance with applicable codes. Protect from direct flame and spark contact, around hot work for example. The exclusive remedy for all proven claims is replacement of our materials.

ENERGY STAR PARTNER

U.S. GREEN BUILDING COUNCIL MEMBER

INTERTEK Warnock Hersey C US

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Phone (817) 640-4900 • Toll Free (877) DEMILEC (336-4532)
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ICC-ES Evaluation Report

ESR-3210*

Reissued February 1, 2013
This report is subject to renewal March 1, 2015.

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

REPORT HOLDER:

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ARLINGTON, TEXAS 76011
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EVALUATION SUBJECT:

HEATLOK SOY® 200 PLUS SPRAY-APPLIED POLYURETHANE FOAM 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 installation
- Air permeability
- Water vapor transmission
- Water-resistive barrier
- Fire-resistance-rated construction
- Exterior walls in Types I through IV construction

2.0 USES

HEATLOK SOY® 200 PLUS spray-applied polyurethane foam plastic insulation is used as a nonstructural thermal insulating material in Types I, II, III, IV and V construction under the IBC and in dwellings under the IRC. The insulation is for use in wall cavities, floor/ceiling assemblies, or attics and crawl spaces when installed in accordance with Section 4.4. Under the IRC, the insulation may be used as air-impermeable insulation when installed in accordance with Section 3.4. When installed in accordance with Section 4.5, the insulation may be used as an alternative to the water-resistive barriers required in IBC Section 1404.2 and IRC Section R703.2. The insulation may be used in nonload-bearing, fire-resistance-rated walls when construction is in accordance with Section 4.6. The insulation also may be used in exterior walls of Type I, II, III or IV construction when used as described in Section 4.7.

3.0 DESCRIPTION

3.1 General:

HEATLOK SOY® 200 PLUS spray-applied foam insulation is rigid, medium-density, polyurethane foam plastic that is installed as a component of floor/ceiling and wall assemblies. The insulation is a two-component, spray-applied foam plastic with a nominal in-place density of 2.0 pcf. The insulation is produced in the field by combining a polymeric isocyanate (A-PDMI component) with a polymeric resin (HEATLOK SOY® 200 PLUS B-side component). The insulation liquid components are supplied in 55-gallon (208 L) drums and/or 250-gallon (946 L) totes and have a shelf life of one year when stored in factory-sealed containers at temperatures between 59°F (15°C) and 77°F (25°C).

3.2 Surface-burning Characteristics:

The insulation, at a maximum thickness of 4 inches (102 mm) and a nominal density of 2.0 pcf, has a flame-spread index of 25 or less and a smoke-developed index of 450 or less when tested in accordance with ASTM E84. Thicknesses of up to $9^1/_4$ inches (235 mm) for wall cavities and $11^1/_4$ inches (286 mm) for ceiling cavities are recognized, based on testing in accordance with NFPA 286, when the insulation is covered with a minimum $^1/_2$-inch-thick (12.7 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 Vapor Retarder:

The insulation has a vapor permeance of less than 1 perm [5.7×10^{-11} kg/(Pa-s-m^2)], in accordance with ASTM E96, when applied at a minimum thickness of 1.2 inches (30.5 mm), and qualifies as Class II vapor retarder under the IRC.

3.5 Air Permeability:

The insulation, at a minimum thickness of $1^1/_2$ inches (38 mm), is considered air-impermeable insulation in accordance with 2012 IRC Section R806.5 and 2009 IRC Section R806.4, based on testing in accordance with ASTM E283 and ASTM E2178.

3.6 Intumescent Primer and Coating:

3.6.1 BlazeLok™ TB 200 Primer: BlazeLok™ TB 200 primer is a one-component, water-based liquid coating manufactured by TPR[2] Corporation. The gray-colored coating has a flame-spread index of 25 or less and a smoke-developed index of 450 or less when tested in accordance with ASTM E84. The coating is supplied in 5-gallon (19 L) pails and/or 55-gallon (208 L) drums and has a shelf life of one year when stored in factory-sealed containers at temperatures between 45°F (7°C) and 90°F (32°C). The coating is applied in one coat with a manufacturer-recommended spray gun to a substrate with a temperature of at least 50°F (10°C). The primer requires 1.5 hours of drying time before application of the coating.

3.6.2 BlazeLok™ TB 200 Intumescent Coating: Blazelok™ TB 200 intumescent coating, manufactured by TPR[2] Corporation, is a one-component, water-based liquid coating that is white in color. Blazelok™ TB 200 is supplied in 5-gallon (19 L) pails and/or 55-gallon (208 L) drums and has a shelf life of one year when stored in factory-sealed containers at temperatures between 45°F (7°C) and 90°F (32°C). The coating is applied in one coat with a manufacturer recommended spray gun to a substrate with a temperature of at least 50°F (10°C).

4.0 INSTALLATION

4.1 General:

HEATLOK SOY® 200 PLUS spray-applied polyurethane foam insulation must be installed in accordance with the manufacturer's published installation instructions, the applicable code and this report. A copy of the manufacturer's published installation instructions must be available at all times on the jobsite during installation.

4.2 Application:

The insulation is spray-applied on the jobsite using a volumetric positive displacement pump as identified in the Demilec application manual. The insulation must be applied when the ambient temperature is greater than 23°F (-5°C). The insulation must not be used in areas that have a maximum in-service temperature greater than 180°F (82°C). The foam plastic must not be used in electrical outlet or junction boxes or in contact with water, rain or soil. The foam plastic must not be sprayed onto a substrate that is wet, or covered with frost or ice, loose scales, rust, oil, or grease. The insulation must be protected from the weather during and after application, except as specified in Section 4.5. Where insulation is used as an air-impermeable insulation, such as in unvented attic assemblies under 2012 IRC Section R806.5 and 2009 IRC IRC Section R806.4, the insulation must be installed at a minimum thickness of $1^1/_2$ inches (38 mm). The insulation must be applied in passes not exceeding 2 inches (51 mm) per pass and must be allowed to fully expand and cure for a minimum of 20 minutes prior to the application of the next additional pass.

4.3 Thermal Barrier:

4.3.1 Application with a Prescriptive Thermal Barrier: HEATLOK SOY® 200 PLUS insulation 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, IBC Section 2603.4 or IRC Section R316.4, as applicable, except where insulation is in an attic or crawl space as described in Section 4.4. Thicknesses of up to $9^1/_4$ inches (235 mm) for wall cavities and $11^1/_4$ inches (286 mm) for floor/ceiling cavities are recognized, based on room corner fire testing in accordance with NFPA 286.

4.3.2 Application without a Prescriptive Thermal Barrier: The prescriptive 15-minute thermal barrier or ignition barrier may be omitted when installation is in accordance with this section (Section 4.3.2). The insulation, primer and intumescent coating may be spray-applied to the interior facing of walls, the underside of the roof sheathing or roof rafter, and in crawl spaces, and may be left exposed as an interior finish without a prescribed 15-minute thermal barrier or ignition barrier. The thickness of the foam plastic applied to the underside of roof sheathing must not exceed $11^1/_4$ inches (286 mm). The thickness of the spray foam insulation applied to vertical wall surfaces must not exceed $9^1/_4$ inches (235 mm). The foam plastic must be covered on all surfaces with BlazeLok™ TB 200 primer applied over the foam plastic at a minimum wet film thickness of 7 mils (4 mils dry or 170 square feet per gallon). BlazeLok™ TB 200 intumescent coating must be applied over the primer at a minimum wet film thickness of 14 mils (8 mils dry or 120 square feet per gallon). The primer and the coating must be applied over the 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.

4.4 Attics and Crawl Spaces:

4.4.1 Application with a Prescriptive Ignition Barrier: When the spray-applied 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 or IRC Section R316.5.3 or 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 the foam plastic insulation is not exposed. The insulation as described in this section may be installed in unvented attics in accordance with 2012 IRC Section R806.5 and 2009 IRC IRC Section R806.4.

4.4.2 Application without a Prescriptive Ignition Barrier:

General: HEATLOK SOY® 200 PLUS spray-applied polyurethane foam insulation may be installed in attics and crawl spaces as described in this section without the ignition barriers required by IBC Section 2603.4.1.6 and IRC Sections R316.5.3 and R316.5.4, subject to the following conditions:

a. Entry to the attic or crawl space is only 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. Under-floor (crawl space) ventilation is provided when required by IBC Section 1203.3 or IRC Section R408.1, as applicable.

e. 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 IBC Section 1203.2 or 2012 IRC Section R806.5 and 2009 IRC Section R806.4.

f. Combustion air is provided in accordance with IMC Section 701.

4.4.2.1 Attics and Crawl Spaces: In attics and crawl spaces, the insulation may be spray-applied to the underside of the roof sheathing and/or rafters, to the underside of wood floors, and to vertical surfaces as described in this section. The thickness of the foam plastic applied to the underside of the top of the space must not exceed 11 1/2 inches (292 mm), and the thickness when applied to vertical surfaces must not exceed 7 1/2 inches (191 mm).

4.4.2.2 Use on Attic Floors: The spray-applied foam insulation may be installed at a maximum thickness of 7 1/2 inches (191 mm) between and over the joists in attic floors.

4.5 Water-resistive Barrier:

HEATLOK SOY® 200 PLUS insulation may be used as the water-resistive barrier prescribed in IBC Section 1404.2 and IRC Section R703.2, when installed on exterior walls as described in this section. The insulation must be spray-applied to the exterior side of sheathing, masonry or other suitable exterior wall substrates to form a continuous layer of 1 1/2 inches (38 mm) minimum thickness. All construction joints and penetrations must be sealed with HEATLOK SOY® 200 PLUS insulation.

4.6 One-hour Nonload-bearing Fire-resistance-rated Wall Assemblies:

HEATLOK SOY® 200 PLUS insulation may be used as a component of a one-hour fire-resistance-rated, nonload-bearing wall assembly as described in this section (Section 4.6).

4.6.1 Interior and Exterior Face: Two layers of 5/8-inch-thick (15.9 mm), Type X gypsum board complying with ASTM C36 or ASTM C1396 is installed on both the interior and exterior sides of 3 5/8-inch (92 mm), No. 20 gage, galvanized steel studs spaced 24 inches (610 mm) on center. The base layer of the wallboard is secured with No. 6 by 1 1/4-inch-long (32 mm), self-drilling drywall screws 8 inches (203 mm) on center along the perimeter and 12 inches on center (305 mm) in the field of the wallboard. The face layer of the wallboard is secured with No. 6 by 1 7/8-inch-long (48 mm), self-drilling drywall screws 8 inches (203 mm) on center along the perimeter and in the field of the wallboard. Gypsum board joints must be taped and joints and fasteners heads treated with joint compound in accordance with ASTM C840 or GA-216.

4.6.2 Stud Cavity: Nominally 3 5/8-inch-thick (92 mm) HEATLOK SOY® 200 PLUS foam insulation is spray-applied in all stud cavities.

4.7 Exterior Walls of Type I, II, III and IV Construction:

4.7.1 General: When used on exterior walls of Type I, II, III, and IV construction, the HEATLOK SOY® 200 PLUS insulation must comply with Section 2603.5 of the IBC and this section (Section 4.7), and the insulation must be installed at a maximum thickness of 3.4 inches (86 mm). The potential heat of Demilec HEATLOK SOY® 200 PLUS insulation is 1930 Btu/ft^2 (21.8 Mj/m^2) per inch of thickness when tested in accordance with NFPA 259.

4.7.2 Interior Face: One layer of 5/8-inch-thick (15.9 mm), Type X gypsum wallboard complying with ASTM C36 or ASTM C1396 is installed with the long dimension perpendicular to 3 5/8-inch-deep (92 mm), No. 20 gage steel studs spaced a maximum of 24 inches (610 mm) on center. The wallboard is attached with No. 6, 1 1/4-inch-long (32 mm), self-tapping screws located 8 inches (203 mm) on center along the perimeter and in the field of the wallboard. Wallboard joints must be taped and treated with joint compound in accordance with ASTM C840 or GA-216. Fastener heads must also be treated with joint compound in accordance with ASTM C840 or GA-216.

4.7.3 Exterior Face: One layer of 5/8-inch-thick (15.9 mm) GP DensGlass® sheathing is attached to steel studs using 1 1/4-inch-long (32 mm), self-tapping screws spaced 8 inches (203 mm) on center along the perimeter and in the field of the sheathing. HEATLOK SOY® 200 PLUS spray-applied polyurethane foam insulation, at a maximum thickness of 3.4 inches (86 mm), is spray-applied onto the exterior of GP DensGlass® sheathing. Brick ties, 3 1/2 inches long (89 mm), must be installed at a nominal 24 inches on center to each vertical steel stud, using two No. 14 by 5-inch-long (127 mm) hex head screws. Exterior veneer must be 4-inch-thick (102 mm) standard brick with a nominally 2-inch air gap between brick and the foam plastic insulation.

5.0 CONDITIONS OF USE

The HEATLOK SOY® 200 PLUS spray foam 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 The products must be installed in accordance with the manufacturer's published installations instructions, this evaluation report and the applicable code. If there are any conflicts between the manufacturer's published installation instructions and this report, this report governs.

5.2 The insulation must be separated from the interior of the building by an approved 15-minute thermal barrier, except when installation is as described in Sections 4.3.2 and 4.4.2. A thermal barrier must be installed between the insulation and the interior space above (crawl space) or below (attic).

5.3 The insulation must not exceed the thicknesses noted in Sections 3.2, 4.3, 4.4, 4.6, and 4.7.

5.4 The insulation must be protected from exposure to weather during and after application.

5.5 The insulation must be applied by contractors authorized by Demilec (USA) LLC.

5.6 Use of the insulation in areas where the probability of termite infestation is "very heavy" must be in accordance with 2012 IBC Section 2603.9 or 2009 IBC IBC Section 2603.8 or IRC Section R318.4, as applicable.

5.7 When use is on exterior walls of buildings of Types I, II, III, and IV, construction must be as described in Section 4.7.

5.8 Jobsite certification and labeling of the insulation must comply with IRC Sections N1101.4 and N1101.4.1 and 2012 IECC Section C303.1 or R403.1 or 2009 IECC Sections 303.1 and 401.3, as applicable.

5.9 The insulation components A and B are produced in Arlington, Texas, under a quality control program with inspections by Intertek Testing Services NA (AA-647).

6.0 EVIDENCE SUBMITTED

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

ADDRESS . : 540 FARABOW DR SUBDIV: JIMMIE D GRANTHAM
CONTRACTOR : SEVENTY WEST BUILDERS, INC. PHONE : (919) 995-5755
OWNER . . : SMITH MICHAEL & ELIZABETH PHONE :
PARCEL . . : 05-0624- - -0016- -06-
APPL NUMBER: 13-50032493 CP NEW RESIDENTIAL (SFD)
DIRECTIONS : T/S: 06/16/2014 10:59 AM VBROWN ----
BALL RD, PREMIS NUMBER 43054105
42 W TO BALL RD LEFT ONTO BALL RD LEFT
ONTO FARABOW RD 2ND PROPERTY ON RIGHT

STRUCTURE: 000 000 80X80 6BDR 0BATH SFD W BSMNT GAR,
FLOOD ZONE . . . . : FLOOD ZONE X
BEDROOMS . . . . . : 6.00 PROPOSED USE . . . . . : SFD
SEPTIC - EXISTING? . . . . : NEW TANK WATER SUPPLY . . . . . : NEW WELL

PERMIT: CPSF 00 CP * SFD

TYP/SQ	REQUESTED / COMPLETED	INSP RESULT	DESCRIPTION / RESULTS/COMMENTS
B101 01	7/29/14	KS	R*BLDG FOOTING / TEMP SVC POLE TIME: 17:00 VRU #: 002559813
	7/29/14	AP	T/S: 07/28/2014 10:10 AM VBROWN ----------
			T/S: 07/29/2014 01:58 PM KSLATTUM ----------
B103 01	8/04/14	DT	R*BLDG FOUND & TEMP SVC POLE TIME: 17:00 VRU #: 002562197
	8/04/14	CA	T/S: 08/01/2014 12:13 PM DJOHNSON ----------
			LATE AFTERNOON INSPECTION IF POSSIBLE
			T/S: 08/04/2014 11:08 AM DETAYLOR ----------
A814 01	8/05/14	TW	ADDRESS CONFIRMATION TIME: 17:00 VRU #: 002562205
	8/05/14	AP	T/S: 08/01/2014 12:13 PM DJOHNSON ----------
			540 FARABOW DR HOLLY SPRINGS 27540
			***# ON HOME AND BY LONG DRIVEWAY ----------
			T/S: 08/05/2014 03:12 PM TWARD ----------
B103 02	8/05/14	DT	R*BLDG FOUND & TEMP SVC POLE TIME: 17:00 VRU #: 002562783
	8/05/14	AP	T/S: 08/05/2014 12:59 PM DETAYLOR ----------
B113 01	8/13/14	DT	R*BLDG WATER/DAMP PROOFING TIME: 17:00 VRU #: 002566396
	8/13/14	AP	T/S: 08/13/2014 12:38 PM DETAYLOR ----------
B111 01	8/25/14	DT	R*BLDG SLAB INSP/TEMP SVC POLE TIME: 17:00 VRU #: 002571537
	8/26/14	DA	T/S: 08/22/2014 02:06 PM VBROWN ----------
			T/S: 08/26/2014 09:01 AM DETAYLOR ----------
			Inspection was for plumbing under slab
P309 01	8/26/14	DT	R*PLUMB UNDER SLAB TIME: 17:00 VRU #: 002572568
	8/26/14	AP	
B111 02	8/28/14	DT	R*BLDG SLAB INSP/TEMP SVC POLE VRU #: 002572923
	8/28/14	AP	T/S: 08/28/2014 03:20 PM DETAYLOR ----------
B105 01	9/15/14	DT	R*OPEN FLOOR TIME: 17:00 VRU #: 002578094
	9/15/14	CA	T/S: 09/11/2014 04:10 PM LSEGARS ----------
			T/S: 09/15/2014 03:37 PM DETAYLOR ----------
P307 01	12/01/14	DT	R*PLUMB WATER CONNECTION TIME: 17:00 VRU #: 002603371
	12/02/14	AP	T/S: 12/02/2014 01:47 PM DETAYLOR ----------
R125 01	12/10/14	MR	ONE TRADE ROUGH IN TIME: 17:00 VRU #: 002606820
	12/10/14	AP	GIVE THIS TICKET TO DEEN - HE KNOW WHAT TO DO
			T/S: 12/10/2014 01:13 PM MREARIC ----------
R125 02	1/09/15	DT	ONE TRADE ROUGH IN TIME: 17:00 VRU #: 002615284
	1/09/15	AP	T/S: 01/08/2015 09:39 AM DJOHNSON ----------
			CUSTOMER WOULD LIKE A GEO-THERMAL DITCH INSPECTION. DID NOT KNOW HOW TO SCHEDULE THIS.
			T/S: 01/09/2015 03:20 PM DETAYLOR ----------

---------- CONTINUED ONTO NEXT PAGE ----------

ADDRESS . : 540 FARABOW DR SUBDIV: JIMMIE D GRANTHAM
CONTRACTOR : SEVENTY WEST BUILDERS, INC. PHONE : (919) 995-5755
OWNER . . : SMITH MICHAEL & ELIZABETH PHONE :
PARCEL . . : 05-0624- - -0016- -06-
APPL NUMBER: 13-50032493 CP NEW RESIDENTIAL (SFD)

TYP/SQ	REQUESTED / COMPLETED	INSP RESULT	DESCRIPTION / RESULTS/COMMENTS
H828 01	1/29/15	JM	ENVIRO. WELL PERMIT TIME: 17:00 VRU #: 002622652
	1/29/15	AP	T/S: 01/29/2015 10:33 AM SSTEWART ----------
			T/S: 01/29/2015 10:33 AM SSTEWART ----------
R425 01	3/13/15	BS	FOUR TRADE ROUGH IN TIME: 17:00 VRU #: 002634038
	3/13/15	DA	T/S: 03/11/2015 02:46 PM VBROWN ----------
			T/S: March 13, 2015 03:11 PM BSUTTON ----------
			Resubmit floor plan for basement with added square footage. Fireblock all dropped ceilings in basement. Draftstop basement framing 10 ft oc adjacent to foundation wall.Repair top plate where cut for beam and kitchen vent duct in basement.Washer drain in basement must be 3 inch inch in the horizontal beyond vent. Close off chase at ceiling heightnear right side bath in basement.No pressure test on plumbing. Need installation instructions for refractory fireplaces. Need load calculations for electrical. NOTE-- This is a partial inspection for the basement only NOTE- Need engineering on ceiling framing and size of header over left rear bedroom in exterior wall.
E205 01	3/27/15	BS	R*ELEC UNDER SLAB TIME: 17:00 VRU #: 002639342
	3/27/15	AP	T/S: 03/25/2015 03:35 PM LBENNETT ----------
R425 02	3/30/15	BS	FOUR TRADE ROUGH IN TIME: 17:00 VRU #: 002639359
	3/30/15	CA	T/S: 03/25/2015 03:36 PM LBENNETT ----------
			T/S: March 30, 2015 08:20 AM BSUTTON ----------
			per jennifer
R425 03	4/06/15	TI	FOUR TRADE ROUGH IN TIME: 17:00 VRU #: 002642247
	4-6-15	DAB	

COMMENTS AND NOTES

ELECTRICAL LOAD CALCULATION FOR:

540 FARABOW DRIVE HOLLY SPRING, NC 27540

(Optional Method) - Nameplate Ratings -

- 7943 sq ft x 3VA = 23,829 VA
- SMALL APPLIANCE CIRCUITS (4) x 1500VA = 6000 VA
- LAUNDRY (3) x 1500VA = 4500 VA
- Fixed Appliances -
  - STEAM OVEN = 4800 VA
  - WALL OVEN = 7200 VA
  - RANGE = 9600 VA
  - WATERHEATER (2) x 4500 VA = 9000 VA
  - DISHWASHER (2) x 1200 VA = 2400 VA
  - DRYER (3) x 5600 VA = 16,800 VA
  - GARBAGE DISPOSAL (2) x 1500VA = 3000 VA
  - MICROWAVE (2) x 1500 VA = 3000 VA
  - CENTRAL VACUUM = 2880 VA
  - WARMER DRAWER = 1500 VA
  - DOWN DRAFT VENT BLOWER = 1500 VA
  - STEAM SHOWER UNIT = 12000 VA
  - THERMAL AIR JET WHIRLPOOL TUB = 2400 VA
  - WELL PUMP = 2400 VA
  - GATE OPENER = 1127 VA
  - FLOOR HEATERS IN BATHROOMS = 4800 VA
  - COOLING DRAWER = 800 VA
- TOTAL GENERAL LOAD = 119,536 VA

119,536 VA - 10,000 VA = 109,536 x 40% = 43,814.40

43,814.40 VA + 10,000 VA = 53,814.40 VA

ELECTRICAL LOAD CALCULATION FOR:
540 FARABOW DRIVE . HOLLY SPRINGS, NC 27540

(Optional METHOD)

HEAT pump AND Supplementary HEAT
Heat pump = 19.1 Amps x 240 Volts = 4584 VA
(23,000 VA (supplement HEAT) x 65%) = 14,950 VA
(2) MITSUBISHI WALL HEAT UNITS = 5760 VA
TOTAL = 25,294 VA

53 814.40 VA + 25,294 VA = 79,108.40 VA

79,108.40 VA ÷ 240 Volts = 329.62 Amps

329.62 Amps for load on house

* We have a 400 Amp electrical service installed on the house.

A A Takla Engineering
418 Vivaldi Drive
Durham, NC 27712
919-358-1758 atef.a.takla@gmail.com

Consulting. Design. Efficiency.

FIELD REPORT

Date : 3/17/15
Project: Smith Residence
Location: 540 Farabow DR
Client: Holly Springs, NC
Contractor: Hayes

Report No: Joe Barker

NORTH CAROLINA PROFESSIONAL SEAL 14578 ENGINEER ATEF AZIZ TAKLA (seal)

3/17/15

AS REQUESTED, A.TAKLA VISITED THE Site and observed THE following Items:—

(A) AT Basement, Install 2X4 Ties (nailed TO 2x6, Top & bottom Flanges of I-Joists with (2)-8d nails) for The "HVAC" Ducts Framing.

— Install "CS22" straps nailed from Floor sheathing TO 2x6 @ 48" o.c at Area TO the Right.

(B) In-place (2)-2x10 Header at Rear window @ BedRoom (Rear left corner) is adequate.

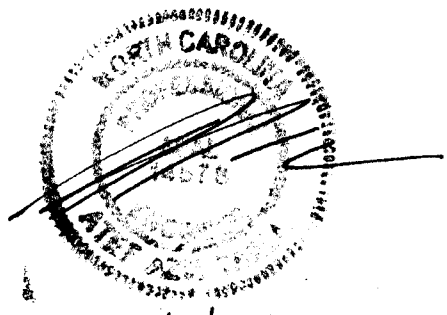
(C) All Windows/Doors Headers were checked and found adequate.
No repairs are needed.

A A Takla Engineering
418 Vivaldi Drive
Durham, NC 27712
919-358-1758 atef.a.takla@gmail.com

Consulting. Design. Efficiency.

FIELD REPORT

Date : 4/3/15
Project: Smith Residence
Location: 540 Farabow Dr.
Client: Holly Springs, NC
Contractor:
Report No: c/o Joe Baker



AS REQUESTED, A. TAKLA, PE VISITED THE PROPERTY AND OBSERVED THE FOLLOWING ITEMS:—

(A) Completed Repairs for Dropped Ceiling AT Basement (Box out "HVAC Ducts) were checked and found adequate.

(B) repairs for Cut Top plates @ Basement wall (steel posts) SIZE adequate.

(C) Ceiling Framing (2)- 2"X10" @ 16" o.c (Storage Area) Left End of House, SIZE adequate.

(D) Bed Room #3 (2"X10") Valley and It's support on Ceiling joists were observed and found adequate