

REVISIONS	BY
05-24-10 ISSUED FOR PLAN CHECK	SR

**PERFORMANCE CERTIFICATE OF COMPLIANCE (Part 1 of 3) PERF-1C**  
 Project Name: HCC Bldg. B Date: 7/24/2010  
 Project Address: 1232 Arrowhead Ave., Livermore Climate Zone: CA Climate Zone 12 Total Cond. Floor Area: 15,887 Addition Floor Area: 7,287

**GENERAL INFORMATION**  
 Building Type:  Nonresidential  High-Rise Residential  Hotel/Motel Guest Room  
 School (Public School)  Recreational Public School  Daycare  All climates  
 Phase of Construction:  New Construction  Addition  Alteration

**STATEMENT OF COMPLIANCE**  
 This certificate of compliance lists the building features and specifications needed to comply with Title 24, Parts 1 and 6 of the California Code of Regulations. This certificate applies only to a building using the performance compliance approach.

**Documentation Author**  
 Name: Maguire Susan P.E. Signature: \_\_\_\_\_ Date: 7/24/2010  
 Company: The 24 Group Address: 531 N. Main Street, Suite 200, Livermore, CA 94551 Phone: 925-933-2600

**ENV. LTO. MECH.**  
 I hereby affirm that I am eligible under the provisions of Division 3 of the Business and Professions Code to sign this document as the person responsible for its preparation and that I am licensed in the State of California as a civil engineer, mechanical engineer, electrical engineer, or I am a licensed architect.  
 I affirm that I am eligible under the provisions of Division 3 of the Business and Professions Code by section 5537.2 or 8727.9 to sign this document as the person responsible for its preparation, and that I am a licensed contractor performing this work.  
 I affirm that I am eligible under Division 3 of the Business and Professions Code to sign this document because it pertains to a structure or type of work described as exempt pursuant to Business and Professions Code Sections 5507, 5508 and 8727.1.

**Principal Envelope Designer**  
 Name: B.R. Givista P.E. Signature: \_\_\_\_\_ Date: \_\_\_\_\_  
 Company: B.R. Givista P.E. Address: 884 Broadway Way, Livermore, CA 94551 Phone: 925-832-0784

**Principal Mechanical Designer**  
 Name: \_\_\_\_\_ Signature: \_\_\_\_\_ Date: \_\_\_\_\_  
 Company: Mechanical Compliance Not in the Scope of This Submittal Address: \_\_\_\_\_ License #: \_\_\_\_\_ Phone: \_\_\_\_\_

**Principal Lighting Designer**  
 Name: \_\_\_\_\_ Signature: \_\_\_\_\_ Date: \_\_\_\_\_  
 Company: Lighting Compliance Not in the Scope of This Submittal Address: \_\_\_\_\_ License #: \_\_\_\_\_ Phone: \_\_\_\_\_

**INSTRUCTIONS TO APPLICANT COMPLIANCE & WORKSHEETS (check box if worksheets are included)**  
 ENV-1C Certificate of Compliance. Required on plans.  MECH-1C Certificate of Compliance. Required on plans.  
 LTO-1C Certificate of Compliance. Required on plans.  MECH-2C Air/Water Source/Service Unit & Pool Requirements.  
 LTO-2C Lighting Controls Credit Worksheet.  MECH-3C Mechanical Ventilation and Exhaust.  
 LTO-3C Indoor Lighting Power Allowance.  MECH-4C Mechanical Equipment Details.

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**PERFORMANCE CERTIFICATE OF COMPLIANCE (Part 3 of 3) PERF-1C**  
 Project Name: HCC Bldg. B Date: 7/24/2010  
 Project Address: 1232 Arrowhead Ave., Livermore Climate Zone: 12 Total Cond. Floor Area: 15,887 Addition Floor Area: 7,287

**ZONE INFORMATION**

System Name	Zone Name	Occupancy Type	Floor Area (sqft)	Int. LPD (W/sqft)	Chl. Credit (W/sqft)	Allowed LPD (W/sqft)	Proc. Loads (W/sqft)
AC-1	Proposed Addition	Religious Worship	7,287	0.000	0.000		
	Existing Building	Religious Worship	6,590	0.000	0.000		

**EXCEPTIONAL CONDITIONS COMPLIANCE CHECKLIST**  
 The local enforcement agency should pay special attention to the items specified in this checklist. Items have been reviewed and approved for special treatment and documentation, and special verification to be used with the performance approach. The local enforcement agency determines the adequacy of the justifications, and may reject a building or design that otherwise complies based on the adequacy of the special justifications and documentation submitted.

The Zone Proposed Addition has a Non-Residential Occupancy Permitted Credit of 32 ft.  
 The Zone Existing Building has a Non-Residential Occupancy Permitted Credit of 32 ft.  
 The Roof R-18 Roof Reflectance = 0.26, Emittance = 0.76 shall be rated and labeled by the Cool Roof Rating Council in accordance with Section 10-1.13.

The exceptional features listed in this performance approach application have specifically been reviewed. Adequate written justification and documentation for their use have been provided by the applicant.

Authorized Signature or Stamp: \_\_\_\_\_  
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**CERTIFICATE OF COMPLIANCE AND FIELD INSPECTION ENERGY CHECKLIST (Part 1 of 3) ENV-1C**  
 Project Name: HCC Bldg. B Date: 7/24/2010  
 Project Address: 1232 Arrowhead Ave., Livermore Climate Zone: 12 Total Cond. Floor Area: 15,887 Addition Floor Area: 7,287

**GENERAL INFORMATION**  
 Building Type:  Nonresidential  High-Rise Residential  Hotel/Motel Guest Room  
 Schools (Public School)  Recreational Public School  Daycare  All climates  
 Phase of Construction:  New Construction  Addition  Alteration

**FIELD INSPECTION ENERGY CHECKLIST**

TagID	Assembly Type	Area (ft²)	Orientation (N, E, S, W)	U-Factor	Chl. R-Value	Emittance	Emittance	Number R-Value	Number R-Value	Number R-Value	Number R-Value	Condition	Phase	Pass	Fail
8	Door	16	(N)	0.350	Insul			4.5	1-4-3	None		Existing			
10	Door	16	(N)	0.350	Insul			4.5	1-4-3	None		Existing			
11	Door	21	(N)	0.350	Insul			4.5	1-4-3	None		Existing			
12	Wall	764	(W)	0.099	R-21			4.2	1-4-2	None		Existing			
13	Wall	421	(E)	0.099	R-21			4.2	1-4-2	None		Existing			
14	Wall	11	(E)	0.099	R-21			4.2	1-4-2	None		Existing			
15	Door	16	(E)	0.350	Insul			4.5	1-4-3	None		Existing			
16	Roof	8,364	(N)	0.023	R-38			4.2	1-4-21	Existing		Existing			

1. See Instructions in the Nonresidential Compliance Manual, page 3-96.  
 2. If Fail, then describe on Page 2 of the Inspection Checklist Form and take appropriate action to correct. Verify building plans if necessary.

**FENESTRATION SURFACE DETAILS**

TagID	Fenestration Type	Area (ft²)	Orientation (N, E, S, W)	U-Factor	Chl. R-Value	Emittance	Emittance	Number R-Value	Number R-Value	Number R-Value	Number R-Value	Condition	Phase	Pass	Fail
9	Window	84	(W)	0.710	Default	0.730	Default					Existing			

1. See Instructions in the Nonresidential Compliance Manual, page 3-96.  
 2. If Fail, then describe on Page 2 of the Inspection Checklist Form and take appropriate action to correct. Verify building plans if necessary.

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**CERTIFICATE OF COMPLIANCE AND FIELD INSPECTION ENERGY CHECKLIST (Part 2 of 3) ENV-1C**  
 Project Name: HCC Bldg. B Date: 7/24/2010  
 Project Address: 1232 Arrowhead Ave., Livermore Climate Zone: 12 Total Cond. Floor Area: 15,887 Addition Floor Area: 7,287

**ROOFING PRODUCT (COOL ROOFS)**  
 (Note: If the roofing product is not CRRC certified, this compliance approach cannot be used). Go to Overall Envelope Approach or Performance Approach.

**CHECK APPLICABLE BOX BELOW IF EXEMPT FROM THE ROOFING PRODUCT "COOL ROOF" REQUIREMENTS:**

Requirement	Pass	Fail	N/A
Roofing compliance required in Climate Zone 1 and 18 with a Low-Sloped, 2:12 pitch or less.	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Roofing compliance required in Climate Zone 1 with a Steep-Sloped roof with a pitch greater than 12:12.	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Low-sloped Metal building roofs in Climate Zones 3 and 5 are exempt, solar reflectance and thermal emittance or SRI that have a U-factor of 0.099 or lower. See Cool Roof Surface Details roof assembly below, Column H of ENV-1C.	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Low-sloped Metal building roofs in Climate Zones 3 and 5 are exempt, solar reflectance and thermal emittance or SRI that have a U-factor of 0.049 or lower. See Cool Roof Surface Details roof assembly below, Column H of ENV-1C.	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
The roof area covered by building integrated photovoltaic panels and building integrated solar thermal panels are exempt. Solar reflectance and thermal emittance or SRI, see spreadsheet calculator at <a href="http://www.energy.ca.gov/roofs">www.energy.ca.gov/roofs</a> .	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Roof concrete that has thermal mass over the roof membrane with a weight of at least 25 lb/ft² are exempt from the Cool Roof criteria below.	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
High-rise residential buildings and hotels and motels with low-sloped roofs in Climate Zones 1 through 6, 12 and 18 are exempt from the low-sloped roofing criteria.	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>

1. If Fail then describe on this page of the Inspection Checklist Form and take appropriate action to correct. Verify building plans if necessary.

**CRRC Product ID**

CRRC Product ID	Roof Slope	Product Weight	Product Type	Agel Solar Reflectance	Thermal Emittance	SRI	Pass	Fail
A-38	2:12 to 12:12 <td>1.5 lb/ft² <td>Asph/Flt</td> <td>0.25</td> <td>0.90</td> <td>0.75</td> <td><input type="checkbox"/></td> <td><input type="checkbox"/></td> </td>	1.5 lb/ft² <td>Asph/Flt</td> <td>0.25</td> <td>0.90</td> <td>0.75</td> <td><input type="checkbox"/></td> <td><input type="checkbox"/></td>	Asph/Flt	0.25	0.90	0.75	<input type="checkbox"/>	<input type="checkbox"/>

1. The CRRC Product ID Number can be obtained from the Cool Roof Rating Council's Rated Product Directory at [www.coolroofs.org/products.asp](http://www.coolroofs.org/products.asp).  
 2. Indicate the type of product being used for the roof top, i.e. single-ply roof, asphalt roof, metal roof, etc.  
 3. If the Agel Reflectance is not available in the Cool Roof Rating Council's Rated Product Directory then use the Initial Reflectance value from the same directory and use the equation  $0.2 + 0.7 \times \text{Initial Reflectance}$  to obtain a calculated Agel value. Where  $P$  is the Initial Solar Reflectance from the Cool Roof Rating Council's Rated Product Directory.  
 4. Check if the Agel Reflectance is a calculated value using the equation above.  
 5. The SRI value needs to be calculated from a spreadsheet calculator at <http://www.coolroofs.org/calculator.asp>.  
 6. Check if the SRI value is a calculated value using the equation above.  
 7. To apply Liquid Field Applied Coatings, the coating must be applied across the entire roof surface and meet the dry film thickness or coverage requirements for the coating manufacturer and the minimum performance and test requirements listed in 10-1.13.1. Select the applicable coating.  
 Aluminum-Fluoropolymer Asphalt Roof Coating  Cement-Based Roof Coating  Other

**Discrepancies:**

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**ENVELOPE MANDATORY MEASURES: NONRESIDENTIAL ENV-MM**  
 Project Name: HCC Bldg. B Date: 7/24/2010

**DESCRIPTION**  
 Building Envelope Measures:

1116(A): Installed Insulating material shall have been certified by the manufacturer to comply with the California Quality Standards for Insulating material, Title 24, Chapter 4, Article 3.

1116(B): All Insulating Materials shall be installed in compliance with the flame spread rating and smoke density requirements of Sections 2602 and 707 of Title 24, Part 2.

1116(C): The opaque portions of framed opening walls in nonresidential buildings shall have insulation with an installed R-value of no less than R-13 between framing members.

1117(A): All Exterior Joints and openings in the building that are observable sources of air leakage shall be caulked, gasketed, weatherstripped or otherwise sealed.

1116(A) 1: Manufactured fenestration products and exterior doors shall have air infiltration rates not exceeding 0.3 cfm/ft² of window area, 0.3 cfm/ft² of door area for residential doors, 0.3 cfm/ft² of door area for nonresidential single doors (swing and sliding), and 1.0 cfm/ft² for nonresidential double doors (swing).

1116(A) 2: Fenestration U-factor shall be rated in accordance with NFRC 100, or the applicable default U-factor.

1116(A) 3: Fenestration SHGC shall be rated in accordance with NFRC 200, or NFRC 100 for site-built fenestration, or the applicable default SHGC.

1116(B) 3: Site Constructed Doors, Windows and Skylights shall be caulked between the unit and the building, and shall be weatherstripped (except for unframed glass doors and fire doors).

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**PERFORMANCE CERTIFICATE OF COMPLIANCE (Part 2 of 3) PERF-1C**  
 Project Name: HCC Bldg. B Date: 7/24/2010  
 Project Address: 1232 Arrowhead Ave., Livermore Climate Zone: 12 Total Cond. Floor Area: 15,887 Addition Floor Area: 7,287

**ANNUAL TDV ENERGY USE SUMMARY (kBtu/sq-ft-yr)**

Energy Component	Standard Design	Proposed	Compliance Margin
Space Heating	33.64	31.16	2.29
Space Cooling	229.42	225.02	3.90
Indoor Fans	37.24	35.48	1.08
Heat Rejection	0.00	0.00	0.00
Pumps & Misc.	0.00	0.00	0.00
Domestic Hot Water	0.00	0.00	0.00
Lighting	82.84	82.84	0.00
Receptacle	29.44	29.44	0.00
Process	0.00	0.00	0.00
Process Lighting	0.00	0.00	0.00
<b>TOTALS</b>	<b>442.71</b>	<b>435.64</b>	<b>7.27</b>

Percent better than Standard: 1.6% (1.6% excluding process)

**BUILDING COMPLIES**

**GENERAL INFORMATION**  
 Building Orientation: (E) 90 deg Conditioned Floor Area: 15,887 sqft  
 Number of Stories: 1 Unconditioned Floor Area: 0 sqft  
 Number of Systems: 1 Conditioned Footprint Area: 15,887 sqft  
 Number of Zones: 2 Natural Gas Available On Site: Yes

**Orientation**

Orientation	Gross Area	Glazing Area	Glazing Ratio
Front Elevation	1,443 sqft	127 sqft	8.8%
Left Elevation	2,545 sqft	290 sqft	7.3%
Rear Elevation	1,192 sqft	119 sqft	9.9%
Right Elevation	7,900 sqft	251 sqft	3.2%
Total	13,080 sqft	787 sqft	6.0%

**Lighting Power Density**  
 Standard: 1.20 W/sqft Proposed: 0.95 W/sqft  
 Prescriptive Envelope TDV Energy: 489.84 W/sqft Proposed: 489.82 W/sqft

Remarks: \_\_\_\_\_

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**CERTIFICATE OF COMPLIANCE AND FIELD INSPECTION ENERGY CHECKLIST (Part 1 of 3) ENV-1C**  
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1	Roof	7,053	(N)	0.023	R-38			4.2	1-4-21	None		Existing			
2	Slab	7,287	(N)	0.770	None			4.4	1-4-1	None		Existing			
3	Wall	2,314	(E)	0.099	R-21			4.2	1-4-2	None		Existing			
4	Door	21	(E)	0.350	Insul			4.5	1-4-3	None		Existing			
5	Door	3	(E)	0.350	Insul			4.5	1-4-3	None		Existing			
6	Door	3	(E)	0.350	Insul			4.5	1-4-3	None		Existing			
7	Wall	2,314	(W)	0.099	R-21			4.2	1-4-2	None		Existing			
8	Door	21	(E)	0.350	Insul			4.5	1-4-3	None		Existing			

1. See Instructions in the Nonresidential Compliance Manual, page 3-96.  
 2. If Fail, then describe on Page 2 of the Inspection Checklist Form and take appropriate action to correct. A fail does not meet compliance.

**FENESTRATION SURFACE DETAILS**

TagID	Fenestration Type	Area (ft²)	Orientation (N, E, S, W)	U-Factor	Chl. R-Value	Emittance	Emittance	Number R-Value	Number R-Value	Number R-Value	Number R-Value	Condition	Phase	Pass	Fail
1	Skylight	235	(N)	0.480	NFRC	0.330	NFRC					New			
2	Window	200	(E)	0.330	NFRC	0.190	NFRC					New			
3	Window	251	(N)	0.330	NFRC	0.190	NFRC					New			
4	Window	35	(W)	0.330	NFRC	0.190	NFRC					New			
5	Window	13	(E)	0.330	NFRC	0.190	NFRC					New			
6	Skylight	235	(N)	0.710	Default	0.730	Default					Existing			
7	Window	84	(E)	0.710	Default	0.730	Default					Existing			
8	Window	60	(E)	0.330	NFRC	0.190	NFRC					New			

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**CERTIFICATE OF COMPLIANCE AND FIELD INSPECTION ENERGY CHECKLIST (Part 1 of 3) ENV-1C**  
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17	Slab	7,053	(N)	0.730	None			4.4	1-4-1	None		Existing			
18	Wall	2,314	(E)	0.099	R-21			4.2	1-4-2	None		Existing			
19	Wall	964	(W)	0.099	R-21			4.2	1-4-2	None		Existing			
20	Wall	228	(E)	0.099	R-21			4.2	1-4-2	None		Existing			
21	Door	45	(E)	0.700	None			4.5	1-4-2	None		Existing			
22	Door	20	(E)	0.700	None			4.5	1-4-2	None		Existing			

1. See Instructions in the Nonresidential Compliance Manual, page 3-96.  
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1	Skylight	235	(N)	0.480	NFRC	0.330	NFRC					New			
2	Window	200	(E)	0.330	NFRC	0.190	NFRC					New			
3	Window	251	(N)	0.330	NFRC	0.190	NFRC					New			
4	Window	35	(W)	0.330	NFRC	0.190	NFRC					New			
5	Window	13	(E)	0.330	NFRC	0.190	NFRC					New			
6	Skylight	235	(N)	0.710	Default	0.730	Default					Existing			
7	Window	84	(E)	0.710	Default	0.730	Default					Existing			
8	Window	60	(E)	0											





