

ORDINANCE NO. 974

AN ORDINANCE OF THE CITY COUNCIL OF THE CITY OF MENLO PARK AMENDING CHAPTER 12.18 [CALIFORNIA GREEN BUILDING STANDARDS CODE AMENDMENTS] OF TITLE 12 [BUILDINGS AND CONSTRUCTION] OF THE MENLO PARK MUNICIPAL CODE TO ADOPT AMENDMENTS TO PART 11 OF THE 2010 CALIFORNIA BUILDING STANDARDS CODE KNOWN AS THE CALIFORNIA GREEN BUILDINGS STANDARDS CODE

WHEREAS, the City of Menlo Park ("City") wishes to adopt a building code in accordance with law and to use the most updated regulations in the processing of development in the City; and

WHEREAS, because of the City's unique local climatic, geologic and topographic conditions, the City desires to make amendments and additions to the code.

NOW, THEREFORE, THE CITY COUNCIL OF THE CITY OF MENLO PARK DOES ORDAIN AS FOLLOWS:

SECTION 1: FINDINGS AND DETERMINATIONS. The following local climatic, conditions justify modifications to California Building Standards Code.

- a. **Climatic:** The City is located in Climate Zone 3 as established in the 2010 California Energy Code. Climate Zone 3 incorporates mostly coastal communities from Marin County to southern Monterey County including San Francisco. The City experiences precipitation ranging from 13 to 20 inches per year with an average of approximately 15 inches per year. Ninety-five percent of precipitation falls during the months of November through April, leaving a dry period of approximately six months each year. Relative humidity remains moderate most of the time. Temperatures in the summer average around 80 degrees Fahrenheit and in the winter in the mid 50 degrees Fahrenheit. Prevailing winds in the area come from the west with velocities generally in the 12 miles per hour range, gusting from 25 to 35 miles per hour. These climatic conditions along with the green house emissions generated from structures in both the residential and non-residential sectors requires exceeding the energy efficiency standards for building construction established in the 2010 California Buildings Standards Code.

SECTION 2: AMENDMENT OF CODE. Chapter 12.18 [California Green Building Standards Code Amendments] of Title 12 [Buildings and Construction] is hereby amended to read as follows:

**"Chapter 12.18
CALIFORNIA GREEN BUILDING STANDARDS CODE AMENDMENTS**

Sections:

12.18.010	Section 4.201.1 of Chapter 4 amended
12.18.020	Section 4.202 of Chapter 4 added
12.18.030	Section 4.203 of Chapter 4 added
12.18.040	Section 4.204 of Chapter 4 added
12.18.050	Section 4.205 of Chapter 4 added
12.18.060	Section 5.201.1 of Chapter 5 amended
12.18.070	Section 5.202 of Chapter 5 added
12.18.080	Section 5.203 of Chapter 5 added
12.18.090	Section 5.204 of Chapter 5 added
12.18.100	Section 5.205 of Chapter 5 added

12.18.010 Section 4.201.1 of Chapter 4 amended

Section 4.201.1 of Chapter 4 of the California Green Building Standards Code is amended as follows:

4.201.1 Scope. For the purposes of energy efficiency standards in this code, the California Energy Commission will continue to adopt mandatory standards. It is the intent of this code to encourage buildings to achieve exemplary performance in the area of energy efficiency. Specifically, a green building should achieve at least a 15 percent reduction in energy usage when compared to the State's mandatory energy efficiency standards.

12.18.020 Section 4.202 of Chapter 4 added

Section 4.202 of Chapter 4 of the California Green Building Standards Code is added as follows:

4.202 Energy performance. Using an Alternative Calculation Method (ACM) approved by the California Energy Commission, calculate each low-rise residential occupancy building's Time Dependent Valuation (TDV) energy to exceed the *California Energy Code* based on the 2008 *Energy Efficiency Standards* requirements by 15 percent.

12.18.030 Section 4.203 of Chapter 4 added

Section 4.203 of Chapter 4 of the California Green Building Standards Code is added as follows:

4.203 Prescriptive approach. (Reserved)

12.18.040 Section 4.204 of Chapter 4 added

Section 4.204 of Chapter 4 of the California Green Building Standards Code is added as follows:

4.204 Duct leakage. Perform duct leakage testing to verify a total leakage rate of less than six (6) percent of the total fan flow.

Exception: Duct leakage testing is not required if the ducts and forced air unit are installed within the conditioned envelope of the building.

12.18.050 Section 4.205 of Chapter 4 added

Section 4.205 of Chapter 4 of the California Green Building Standards Code is added as follows:

4.205 Cool roof. Roofing materials shall comply with this section:

Exceptions:

1. Install roof constructions that have a thermal mass over the roof membrane with a weight of at least 25 lb/sf.

4.205.1 Solar reflectance. Roofing materials shall have a minimum 3-year aged solar reflectance equal to or greater than the values specified in Table 4.205.

If CRRC testing for 3-year aged reflectance is not available for any roofing products, the 3-year aged value shall be determined using the Cool Roof Rating Council (CRRC) certified initial value using the equation $R_{aged} = [0.2 + 0.7(p_{initial} - 0.2)]$, Where $p_{initial}$ = the initial Solar Reflectance.

Solar reflectance may also be certified by other supervisory entities approved by the Commission pursuant to Title 24, Part 1, Section 10-113.

4.205.2 Thermal emittance. Roofing materials shall have a CRRC initial or 3-year aged thermal emittance equal to or greater than those specified in Table 4.205.

Thermal emittance may also be certified by other supervisory entities approved by the Commission pursuant to Title 24, Part 1, Section 10-113.

4.205.3 Solar reflectance index alternative. Solar Reflectance Index (SRI) equal to or greater than the values specified in Table 4.205 may be used as an alternative to compliance with the 3-year aged solar reflectance values and thermal emittance.

SRI values used to comply with this section shall be calculated using the Solar Reflective Index (SRI) Calculation Worksheet (SRI-WS) developed by the California Energy Commission or in compliance with ASTM E1980-01 as specified in Title 24, Part 6, Section 118(i)3. Solar reflectance values used in the SRI-WS shall be based on the 3-year aged reflectance value of the roofing product or the equation in Section 4.205.1 if the CRRC certified aged solar reflectance are not available. Certified Thermal emittance used in the SRI-WS may be either the initial value or the three year aged value listed by the CRRC.

Solar reflectance and thermal emittance may also be certified by other supervisory entities approved by the Commission pursuant to Title 24, Part 1, Section 10-113.

Note: The Solar Reflective Index Calculation Worksheet (SRI-WS) is available by contacting the Energy Standard Hotline at 1-800-772-3300 or by email at Title24@energy.state.ca.us.

TABLE 4.205

ROOF SLOPE	ROOF WEIGHT	Minimum 3-year Aged Solar Reflectance	Thermal Emittance	SRI
≤ 2 : 12	N/A	0.55	0.75	64
>2 : 12	< 5 lb/ft ²	.20	.75	16
	≥ 5 lb/ft ²	.15	.75	10

4.205.4 Verification. Inspection shall be conducted to ensure roofing materials meet cool roof aged solar reflectance and thermal emittance or SRI values.

4.205.5 Alternate materials, designs, and methods of construction. The provisions of this section are not intended to prevent the installation of any material or to prohibit any design or method of construction not specifically prescribed by this section, provided that any such alternative has been *approved*. An alternative material, design or method of construction shall be *approved* where the *Building Official* finds that the proposed design is satisfactory and complies with the intent of the provisions of this section, and that the material, method or work offered is, for the purpose intended, at least the equivalent of that prescribed in this section in quality, strength, effectiveness, *fire resistance*, durability and safety.

4.205.5.1 Research reports. Supporting data, where necessary to assist in the approval of materials or assemblies not specifically provided for in this section, shall consist of valid research reports from *approved* sources.

4.205.5.2 Tests. Whenever there is insufficient evidence of compliance with the provisions of this section, or evidence that a material or method does not conform to the requirements of this section, or in order to substantiate claims for alternative materials or methods, the *Building Official* shall have the authority to require tests as evidence of compliance to be made at no expense to the jurisdiction. Test methods shall be as specified in this code or by other recognized test standards. In the absence of recognized and accepted test methods, the *Building Official* shall approve the testing procedures. Tests shall be performed by an *approved agency*. Reports of such tests shall be retained by the *Building Official* for the period required for retention of public records.

12.18.060 Section 5.201.1 of Chapter 5 amended

Section 5.201.1 of Chapter 5 of the California Green Building Standards Code is amended as follows:

5.201.1 Scope. For the purposes of energy efficiency standards in this code, the California Energy Commission will continue to adopt mandatory standards. It is the intent of this code to encourage buildings to achieve exemplary performance in the area of energy efficiency. Specifically, a green building should achieve at least a 15 percent reduction in energy usage when compared to the State's mandatory energy efficiency standards.

12.18.070 Section 5.202 of Chapter 5 added

Section 5.202 of Chapter 5 of the California Green Building Standards Code is added as follows:

5.202 Energy performance. Using an Alternative Calculation Method (ACM) approved by the California Energy Commission, calculate each non-residential, high-rise residential, and hotel/motel occupancy building's Time Dependent Valuation (TDV) energy to exceed the *California Energy Code* based on the 2008 *Energy Efficiency Standards* requirements by 15 percent.

12.18.080 Section 5.203 of Chapter 5 added

Section 5.203 of Chapter 5 of the California Green Building Standards Code is added as follows:

5.203 Prescriptive approach. (Reserved)

12.18.090 Section 5.204 of Chapter 5 added

Section 5.204 of Chapter 5 of the California Green Building Standards Code is added as follows:

5.204 Duct leakage. Perform duct leakage testing to verify a total leakage rate of less than six (6) percent of the total fan flow.

Exception: Duct leakage testing is not required if the ducts are installed within the conditioned envelope of the building.

12.18.100 Section 5.205 of Chapter 5 added

Section 5.205 of Chapter 5 of the California Green Building Standards Code is added as follows:

5.205 Cool roof. Roofing materials shall comply with this section:

Exception: Install roof constructions that have a thermal mass over the roof membrane with a weight of at least 25 lb/sf.

5.205.1 Solar reflectance. Roofing materials shall have a minimum 3-year aged solar reflectance equal to or greater than the values specified in Table 5.205.

If CRRC testing for 3-year aged reflectance is not available for any roofing products, the 3-year aged value shall be determined using the Cool Roof Rating Council (CRRC) certified initial value using the equation $R_{aged} = [0.2 + 0.7[p_{initial} - 0.2]]$, Where $p_{initial}$ = the initial Solar Reflectance.

Solar reflectance may also be certified by other supervisory entities approved by the Commission pursuant to Title 24, Part 1, Section 10-113.

5.205.2 Thermal emittance. Roofing materials shall have a CRRC initial or 3-year aged thermal emittance equal to or greater than those specified in Table 5.205.

Thermal emittance may also be certified by other supervisory entities approved by the Commission pursuant to Title 24, Part 1, Section 10-113.

5.205.3 Solar reflectance index alternative. Solar Reflectance Index (SRI) equal to or greater than the values specified in Table 5.205 may be used as an alternative to compliance with the 3-year aged solar reflectance values and thermal emittance.

SRI values used to comply with this section shall be calculated using the Solar Reflective Index (SRI) Calculation Worksheet (SRI-WS) developed by the

California Energy Commission or in compliance with ASTM E1980-01 as specified in Title 24, Part 6, Section 118(i)3. Solar reflectance values used in the SRI-WS shall be based on the 3-year aged reflectance value of the roofing product or the equation in Section 5.205.1 if the CRRC certified aged solar reflectance are not available. Certified Thermal emittance used in the SRI-WS may be either the initial value or the three year aged value listed by the CRRC.

Solar reflectance and thermal emittance may also be certified by other supervisory entities approved by the Commission pursuant to Title 24, Part 1, Section 10-113.

Note: The Solar Reflective Index Calculation Worksheet (SRI-WS) is available by contacting the Energy Standard Hotline at 1-800-772-3300 or by email at Title24@energy.state.ca.us.

TABLE 5.205

ROOF SLOPE	ROOF WEIGHT	Minimum 3-year Aged Solar Reflectance	Thermal Emittance	SRI
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5.205.4 Verification. Inspection shall be conducted to ensure roofing materials meet cool roof aged solar reflectance and thermal emittance or SRI values."

SECTION 3: EXEMPTION FROM CEQA. The City Council finds, pursuant to Title 14 of the California Administrative Code, Section 15061(b)(3) that this Ordinance is exempt from the requirements of the California Environmental Quality Act ("CEQA") in that it is not a project that has the potential for causing a significant effect on the environment.

SECTION 4: SEVERABILITY. If any part of this Ordinance is held to be invalid or inapplicable to any situation by a court of competent jurisdiction, such decision shall not affect the validity of the remaining portions of this Ordinance or the applicability of this Ordinance to other situations.

SECTION 5: EFFECTIVE DATE. This Ordinance shall become effective 30 days after approval of the Ordinance by the California Energy Commission.

SECTION 6: POSTING. Within fifteen (15) days of its adoption, the Ordinance shall be posted in three (3) public places within the City of Menlo Park, and the Ordinance, or a summary of the Ordinance prepared by the City Attorney, shall be

published in a local newspaper used to publish official notices for the City of Menlo Park prior to the effective date.

INTRODUCED on the nineteenth day of July, 2011.

PASSED AND ADOPTED as an ordinance of the City of Menlo Park at a regular meeting of said Council on the twenty-third day of August, 2011, by the following votes:

AYES: Cline, Cohen, Fergusson, Keith, Ohtaki

NOES: None

ABSENT: None

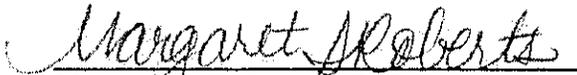
ABSTAIN: None

APPROVED:



Richard Cline
Mayor

ATTEST:



Margret S. Roberts, MMC
City Clerk