

**ORDINANCE NO. \_\_\_\_\_**

An ordinance amending Sections 99.04.106, 99.05.106, 99.11.101, 99.11.102, and 99.12.101 of Article 9, Chapter IX of the Los Angeles Municipal Code to make local environmental and administrative changes to create Cool Roof and Cool Surface requirements.

**WHEREAS**, on April 8, 2015, the City of Los Angeles (City) introduced the first Sustainable City pLAN (pLAN), designed to put the City on a path to protect the environment, grow the economy, and ensure that it remains a city of opportunity;

**WHEREAS**, in the following four years, the City has been recognized as the number-one solar city in America, pioneered new transportation technologies, and reduced greenhouse gas (GHG) emissions by 11 percent in a single year. The City also created more than 35,000 green jobs and generated \$235 million dollars in funding for clean energy and transportation, trees, and transit-oriented affordable housing in City's most disadvantaged communities, demonstrating how the City can concurrently cut carbon and improve people's lives;

**WHEREAS**, on April 29, 2019, the City's Green New Deal, was released as the first four-year update to the pLAN. The Green New Deal provides a global model for becoming a carbon-neutral city and upholding the Paris Climate Agreement. It is guided by the key principle that the City must merge ecological preservation with environmental justice and economic opportunity. The Green New Deal focuses on the "Five Zeros" of climate and clean air action - a zero carbon grid, zero carbon ground transportation, zero carbon buildings, zero waste, and zero wasted water;

**WHEREAS**, despite this progress, the City has seen the escalating effects of a warming planet. Climate change — from dangerous heat to drought and wildfires — is reaching emergency proportions, and this must be the decade of climate action to maintain a world where we all can thrive;

**WHEREAS**, in furtherance of the City's Green New Deal, this ordinance amends the City's Green Building Code by updating the existing: (i) cool roof requirements to cover all new roofs and renovations above an appropriate threshold and increasing roof reflectivity requirements by June 1, 2020; and (ii) hardscape requirements for private property (such as walkways and parking) to increase the cool surface requirement to 50% of total surfaces on the property; and

**WHEREAS**, in support of the following modifications and changes, which include all of the corrections and clarifications requested by the City Council on October 28, 2020, the City hereby expressly finds that the following amendments to the California Building Standards Code pursuant to California Health and Safety Code Sections 17958.5 and 17958.7 are reasonably necessary, due to local climatic or environmental conditions, to reduce energy consumption due to persistent cyclical State-wide drought

conditions and elevated temperature caused by climate change. Both drought and climate change present an immediate and ongoing threat to persons living in the City.

**NOW, THEREFORE,**

**THE PEOPLE OF THE CITY OF LOS ANGELES  
DO ORDAIN AS FOLLOWS:**

Section 1. Subsection 99.04.106.5 of Section 99.04.106, Division 4, Article 9, Chapter IX of the Los Angeles Municipal Code is amended in its entirety to read as follows:

**99.04.106.5. Cool Roof for Reduction of Heat Island Effect.** Roofing material shall comply with both LAMC Subsections 99.04.106.5.1 and 99.04.106.5.2, or comply with LAMC Subsection 99.04.106.5.3.

**EXCEPTIONS:**

1. Roof repair as defined in Section 100.1(b) of the California Energy Code; or
2. Roof replacement when the roof area being replaced is equal to or less than 50% of the total roof area; or
3. Roof replacement where solar systems are being installed; or
4. Additions resulting in less than 500 square feet of added roof area or less than 50% of the total roof area, whichever is greater.
5. Roof construction that has a thermal mass over the roof membrane, including areas of vegetated (green) roofs, weighing at least 25 pounds per square foot.

Sec. 2. Subsection 99.04.106.5.1 of Section 99.04.106, Division 4, Article 9, Chapter IX of the Los Angeles Municipal Code is amended to read as follows:

**99.04.106.5.1. Solar Reflectance.** Roofing material shall have a minimum three-year aged solar reflectance equal to or greater than the values specified in LAMC Tables 99.04.106.5.1 and 99.04.106.5.2. Solar reflectance shall be determined by testing by an approved agency in accordance with ASTM C1549, ASTM E1918 or CRRC-1. Solar reflectance values shall be based on the aged reflectance value of the roofing product or the equation in California Green Building Standards Code (CALGreen) Section A4.106.5.1 if aged solar reflectance values are not available.

Sec. 3. Subsection 99.04.106.5.2 of Section 99.04.106, Division 4, Article 9, Chapter IX of the Los Angeles Municipal Code is amended to read as follows:

**99.04.106.5.2. Thermal Emittance.** Roofing materials shall have an emittance value equal to or greater than those specified in LAMC Tables 99.04.106.5.1 and 99.04.106.5.2. Thermal emittance shall be determined by testing by an approved agency in accordance with ASTM C1371, ASTM E408 or CRRC-1

Sec. 4. Subsection 99.04.106.5.3 of Section 99.04.106, Division 4, Article 9, Chapter IX of the Los Angeles Municipal Code is amended to read as follows:

**99.04.106.5.3. Solar Reflectance Index.** Roofing materials shall have a three-year aged Solar Reflectance Index equal to or greater than those specified in LAMC Tables 99.04.106.5.1 and 99.04.106.5.2. Solar Reflectance Index (SRI) shall be determined in accordance with ASTM E1980. Calculation of aged SRI may be based on either tested or calculated three-year aged values of solar reflectance.

Sec. 5. Table 99.04.106.5 of Section 99.04.106, Division 4, Article 9, Chapter IX of the Los Angeles Municipal Code is deleted in its entirety.

Sec. 6. Table 99.04.106.5.1 [LR] and Table 99.04.106.5.2 [HR] are added to the end of Subsection 99.04.106.5.3 of Section 99.04.106, Division 4, Article 9, Chapter IX of the Los Angeles Municipal Code to read as follows:

**TABLE 99.04.106.5.1 [LOW-RISE]**

<b>ROOF SLOPE</b>	<b>MINIMUM 3-YEAR AGED SOLAR REFLECTANCE</b>	<b>THERMAL EMITTANCE</b>	<b>3 YEAR AGED SOLAR REFLECTANCE INDEX (SRI)</b>
≤ 2:12	0.65	0.85	78
> 2:12	0.25	0.85	20

**TABLE 99.04.106.5.2 [HIGH-RISE]**

<b>ROOF SLOPE</b>	<b>MINIMUM 3-YEAR AGED SOLAR REFLECTANCE</b>	<b>THERMAL EMITTANCE</b>	<b>3 YEAR AGED SOLAR REFLECTANCE INDEX (SRI)</b>
≤ 2:12	0.65	0.75	78
> 2:12	0.25	0.75	20

Sec. 7. A new Subsection 99.05.106.13 of Section 99.05.106, Division 5, Article 9, Chapter IX of the Los Angeles Municipal Code is added to read as follows:

**99.05.106.13. Cool Roof for Reduction of Heat Island Effect.** Roofing material shall comply with both LAMC Subsections 99.05.106.13.1 and 99.05.106.13.2, or comply with LAMC Subsection 99.05.106.13.3.

**EXCEPTIONS:**

1. Roof repair as defined in Section 100.1(b) of the California Energy Code; or
2. Roof replacement when the roof area being replaced is equal to or less than 50% of the total roof area; or
3. Roof replacement where solar systems are being installed; or
4. Additions resulting in less than 500 square feet of added roof area or less than 50% of the total roof area, whichever is greater; or
5. Roof construction that has a thermal mass over the roof membrane, including areas of vegetated (green) roofs, weighing at least 25 pounds per square foot.

Sec. 8. A new Subsection 99.05.106.13.1 of Section 99.05.106, Division 5, Article 9, Chapter IX of the Los Angeles Municipal Code is added to read as follows:

**99.05.106.13.1. Solar Reflectance.** Roofing material shall have a minimum three-year aged solar reflectance equal to or greater than the values specified in LAMC Table 99.05.106.13. Solar reflectance shall be determined by testing by an approved agency in accordance with ASTM C1549, ASTM E1918 or CRRC-1. Solar reflectance values shall be based on the aged reflectance value of the roofing product or the equation in CALGreen Section A4.106.5.1 if aged solar reflectance values are not available.

Sec. 9. A new Subsection 99.05.106.13.2 of Section 99.05.106, Division 5, Article 9, Chapter IX of the Los Angeles Municipal Code is added to read as follows:

**99.05.106.13.2. Thermal Emittance.** Roofing materials shall have an emittance value equal to or greater than those specified in LAMC Table 99.05.106.13. Thermal emittance shall be determined by testing by an approved agency in accordance with ASTM C1371, ASTM E408 or CRRC-1.

Sec. 10. A new Subsection 99.05.106.13.3 of Section 99.05.106, Division 5, Article 9, Chapter IX of the Los Angeles Municipal Code is added to read as follows:

**99.05.106.13.3. Solar Reflectance Index.** Roofing materials shall have a three-year aged Solar Reflectance Index equal to or greater than those specified in LAMC Table 99.05.106.12. Solar Reflectance Index (SRI) shall be determined in accordance with ASTM E1980. Calculation of aged SRI may be based on either tested or calculated three-year aged values of solar reflectance.

Sec. 11. Table 99.05.106.13 is added to the end of Subsection 99.05.106.13.3 of Section 99.05.106, Division 5, Article 9, Chapter IX of the Los Angeles Municipal Code to read as follows:

**TABLE 99.05.106.13**

<b>ROOF SLOPE</b>	<b>MINIMUM 3-YEAR AGED SOLAR REFLECTANCE</b>	<b>THERMAL EMITTANCE</b>	<b>3 YEAR AGED SOLAR REFLECTANCE INDEX (SRI)</b>
≤ 2:12	0.68	0.85	82
> 2:12	0.28	0.85	27

Sec. 12. Section 99.11.101, Division 11, Article 9, Chapter IX of the Los Angeles Municipal Code is amended in its entirety to read as follows:

**SEC. 99.11.101. SCOPE.**

Appendix A4 of the 2019 California Green Building Standards Code (CALGreen) is adopted by reference with the following exceptions: CALGreen Sections A4.105.2, A4.106.7, A4.106.8.2, A4.106.8.3, Table A4.106.8.3.1, Table A4.106.8.3.2, A4.305.2, A4.403.1, A4.404.1, A4.405.2, A4.405.4, A4.407.1, A4.407.3, A4.407.4, A4.407.5, A4.407.7, A4.602 and Table A4.106.5.1(1) are not adopted; and in lieu, LAMC Sections 99.11.102 and 99.11.602 and Subsections A4.105.2, A4.106.7, A4.106.8.2, A4.106.8.3, A4.405.2, A4.405.4, A4.407.1, A4.407.7, A4.602 and Tables A4.106.5.1(1), A4.106.5.1(2), A4.106.5.1(3) and A4.106.5.1(4) are added or amended as provided in this article.

Sec. 13. A new Subsection A4.106.7 is added to Section 99.11.102, Division 11, Article 9, Chapter IX of the Los Angeles Municipal Code to read as follows:

**A4.106.7. Reduction of Heat Island Effect for Nonroof Areas [N].** Reduce nonroof heat islands for 75% of pathways, patios, driveways, or other paved areas by using one or more of the methods listed.

1. Use trees or other plantings to provide shade and that mature within 15 years of planting. Trees shall be suitable in mature size and environmental requirements for the site. Tree selection and placement shall

consider location and size of areas to be shaded, location of utilities, views from the structure, distance to sidewalks and foundations, overhangs onto adjacent properties and streets, and other infrastructure adjacent to landscaping. In addition, shading shall not cast a shadow, as specified, on any neighboring solar collectors pursuant to Public Resources Code Section 25981, et seq. (Solar Shade Control Act);

2. Use high albedo materials with an initial solar reflectance value of at least .30 as determined in accordance with American Society for Testing and Materials (ASTM) Standards E1918 or C1549;

3. Use open grid pavement system or pervious or permeable pavement system;

4. Use solar panel arrays to create a canopy shade system; or

5. Other methods of reducing heat island effects acceptable to the Department.

Sec. 14. Section 99.12.101, Division 12, Article 9, Chapter IX of the LAMC is amended in its entirety to read as follows:

**SEC. 99.12.101. SCOPE.**

Appendix A5 of the 2019 California Green Building Standards Code (CALGreen) is adopted by reference with the following exceptions: CALGreen Sections A5.105.1.1, A5.105.1.2, A5.106.4.3, A5.106.5.3.1, A5.106.5.3.2, A5.106.6.1, A5.106.11.1, A5.303.2.3.4, A5.406.1, A5.406.1.3, A5.602 and Tables A5.106.4.3, A5.106.5.1.1, A5.106.5.3.1, A5.106.5.3.2, A5.106.11.2.2, A5.106.11.2.3, A5.303.2.2, A5.303.2.3.1, A5.601 and A5.602 are not adopted; and in lieu, LAMC Section 99.12.508 and Subsections A5.105.1.1, A5.105.1.2, A5.106.4.3, A5.106.5.1, A5.106.5.1.1, A5.106.5.3.1, A5.106.5.3.2, A5.106.6, A5.106.6.1, A5.106.11.1, A5.303.2.3.1, A5.303.2.3.2, A5.303.2.3.3, A5.303.2.3.4, A5.406.1, A5.410.3 and Tables A5.106.4.3, A5.106.5.1.1, A5.106.11.2.2, A5.106.11.2.3, A5.601 and A5.602 are added or amended as provided in this article.

Sec. 15. A new Subsection A5.106.11.1 is added to Section 99.12.101, Division 12, Article 9, Chapter IX of the LAMC to read as follows:

**A5.106.11.1 Hardscape Alternatives [N].** Use one or a combination of strategies below for 75% of site hardscape.


1. Provide shade (mature within 15 years of occupancy);

2. Use light colored materials with an initial solar reflectance value of at least .30 as determined in accordance with American Society for Testing and Materials (ASTM) Standards E 1918 or C 1549;
3. Use open-grid pavement system or pervious or permeable pavement system; or
4. Use solar panel arrays to create a canopy shade system.

Sec. 16. The City Clerk shall certify to the passage of this ordinance and have it published in accordance with Council policy, either in a daily newspaper circulated in the City of Los Angeles or by posting for ten days in three public places in the City of Los Angeles: one copy on the bulletin board located at the Main Street entrance to the Los Angeles City Hall; one copy on the bulletin board located at the Main Street entrance to the Los Angeles City Hall East; and one copy on the bulletin board located at the Temple Street entrance to the Los Angeles County Hall of Records.

Approved as to Form and Legality

MICHAEL N. FEUER, City Attorney

By   
CHARLES D. SEWELL  
Deputy City Attorney

Date 5/5/2021

File No. 20-1139

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The Clerk of the City of Los Angeles hereby certifies that the foregoing ordinance was passed by the Council of the City of Los Angeles.

CITY CLERK

MAYOR

\_\_\_\_\_

\_\_\_\_\_

Ordinance Passed \_\_\_\_\_

Approved \_\_\_\_\_