

*Adopt new Subarticle 9, sections 95600 to 95606, title 17, California Code of Regulations, to read as follows:*

**Subarticle 9. Cool Car Standards and Test Procedures – 2012 and Subsequent Model-Year Passenger Cars, Light-Duty Trucks, and Medium-Duty Vehicles.**

*95600. Purpose.* The purpose of this article is to reduce greenhouse gas emissions from 2012 and subsequent model-year passenger cars, light-duty trucks, and medium-duty vehicles less than or equal to 10,000 pounds.

NOTE: Authority cited: Sections 39600, 39601, 38510, 38560, 38560.5, 38580, 41510, and 41513, Health and Safety Code. Reference: Sections 39600, 38560, 38560.5, and 38580, Health and Safety Code.

*95601. Applicability.* This article applies to:

- (a) manufacturers of new 2012 and subsequent model-year passenger cars, light-duty trucks, and medium-duty vehicles less than or equal to 10,000 pounds.
- (b) collision repair facilities.
- (c) persons that provide vehicle window replacement services.
- (d) repainting facilities.

NOTE: Authority cited: Sections 39600, 39601, 38510, 38560, 38560.5, 38580, 41510, and 41513, Health and Safety Code. Reference: Sections 39600, 38560, 38560.5, and 38580, Health and Safety Code.

*95602. Definitions.* In addition to the definitions found in title 13, California Code of Regulations, Section 1900, which are incorporated by reference herein, the following definitions also apply to this subarticle:

- (a) "Backlite" means the rear window of a vehicle, whether composed of glass or some other transparent or translucent material.
- (b) "Collision repair facility" means any business involved in the repair or restoration of damaged vehicles, including repainting or recoating of portions of the vehicular body or replacement of transparent or translucent components.

- (c) "Custom color" means a special order color requested by a person for a new vehicle. A custom color is not offered to the general public.
- (d) "Deletion windows" are areas on a vehicle's glazing specifically designed to facilitate transmission of electromagnetic signals into and out of the vehicle.
- (e) "Direct solar reflectance" or "Rds" means the ratio of reflected solar flux to the incident solar flux, i.e., the ratio of the solar energy that is reflected outward by the paint or glazing system to the amount of solar energy impacting the paint or glazing system, usually expressed as a percent. Rds includes ultraviolet, visible, and infrared reflectance.
- (f) "Glazing" means all transparent or translucent portions of the vehicle body designed to allow occupants to see outside of the vehicle or others to see in, whether made of glass or some other material.
- (g) "Infrared Reflectance" means the ratio of infrared solar energy which is reflected outward by the paint or glazing system to the amount of infrared solar energy impacting the paint or glazing system, usually expressed as a percent. The infrared wavelengths are considered to be those falling between 780-2500 nanometers.
- (h) "Opaque" means neither transparent nor translucent; impenetrable to sight.
- (i) "Paint or coating" means any material that is applied to a vehicle's surface that forms a film in order to beautify, preserve, repair, or protect such a surface.
- (j) "Paint or coating system" includes all layers necessary to apply a durable paint/coating to a vehicle and typically consists of an electrocoat, primer, basecoat, and topcoat layers.
- (k) "Repainting facility" means any business involved in the repainting or recoating of vehicles.
- (l) "Rooflite" means all transparent or translucent materials, whether fixed or not, on the top surface, or roof, of a vehicle.

- (m) "Sidelites" means all windows, whether fixed or not, on the sides of the vehicle, composed of glass or any other transparent or translucent material.
- (n) "Solar spectrum" means the full solar wavelength range of 300 to 2500 nanometers.
- (o) "Total Solar Transmittance" or "Tts" means the ratio of the transmitted solar flux to the incident solar flux, i.e., the ratio of the amount of solar energy that passes through the glazing (including energy absorbed and subsequently re-radiated to the interior) to the amount of solar energy falling on the glazing, usually expressed as a percent.
- (p) "Windows" means all glazing, including the windshield, sidelites, backlite(s), and any roof component that transmits light.

NOTE: Authority cited: Sections 39600, 39601, 38510, 38560, 38560.5, 38580, 41510, and 41513, Health and Safety Code. Reference: Sections 39600, 38560, 38560.5, and 38580, Health and Safety Code.

*95603. Automotive Coating Reflectivity Standards.*

- (a) The opaque surfaces of new passenger cars, light-duty trucks, and medium duty vehicles less than or equal to 10,000 pounds must reflect at least 20 percent of the impinging direct solar energy ( $R_{ds} \geq 20\%$ ).
  - (1) From 2012 to 2015 model years, at least one third of the vehicle manufacturer's color palette must comply with paragraph (a).
  - (2) For 2016 and subsequent model years, the vehicle manufacturer's entire color palette must comply with paragraph (a), except as specified in paragraph (b).
  - (3) Opaque surface materials not painted or coated, such as non-metal convertible tops, must also meet this reflectivity standard.
  - (4) Direct solar reflectance shall be determined using American Society of Testing and Materials Method E903, dated xx/xx/xxxx or by an alternate method approved in advance by the Executive Officer.
- (b) A manufacturer who paints or coats the roof of the vehicle with a paint or coating system that achieves an  $R_{ds}$  of  $\geq 50$  percent ( $\geq 50\%$ ) need not utilize a solar reflective paint or coating system on the balance of the vehicle.
- (c) Compliance with this subarticle does not exempt covered entities from complying with any other regulations or statutes including but not limited to those pertaining to hazardous substances or volatile organic compound requirements for paint or painting operations.
- (d) Exemptions. The following are excluded from the direct solar energy reflectance standard for opaque surfaces in paragraph (a).
  - (1) Bumpers/fascias, cladding, side view mirrors, lenses, and cosmetic details such as spoilers.
  - (2) The bed, inside and out, of non-refrigerated pick-up trucks.
  - (3) Custom colors in volumes of no more than 500 cars per given custom color per year.
  - (4) Graphic designs, such as logos, letters, numbers and other graphics, applied to a compliant painted or coated surface, with or without the use of a template.

(e) Manufacturer Requirements.

- (1) For 2012 and subsequent model-year vehicles, manufacturers must provide information in the vehicle owner's manual that notifies the consumer that in the event the vehicle needs to be repainted, failure to use paint that complies with paragraph (a) may impair the ability of the air conditioner to properly cool the vehicle. A table must be included in the vehicle owner's manual that indicates the direct solar reflectance for each color offered in that model-year's color palette.
- (2) For 2016 and subsequent model-year vehicles, manufacturers must provide paint and primer specifications and any specific application processes to collision repair facilities within five business days of request by the collision repair facility, such that repaired vehicles will continue to meet the standard in paragraph (a).
- (3) For 2016 and subsequent model-year vehicles, manufacturers must provide paint and primer specifications that meet the standard in paragraph (a) to companies responsible for formulating paint for repainting purposes within 30 days of finalizing the color palette for each model-year.
- (4) As a condition to receive an Executive Order for 2012 and subsequent model-year vehicles, manufacturers must submit to the Executive Officer with each initial certification application the infrared reflectance and the direct solar reflectance for each color system proposed, and submit for review and approval facsimiles of the information in (1) and (2). Manufacturers shall provide a copy of correspondence template for (2) and (3) in Part B of the application for certification.
- (5) Records Retention.
  - (A) Beginning with the 2012 model-year, for each model year, manufacturers must maintain records of the infrared reflectance and direct solar reflectance for each color system offered for ten (10) years after the end of that model year.
  - (B) The records in (A) must be provided within 30 days of request by the California Air Resources Board.
  - (C) The records must include the following information: model-year, engine test group, model name, paint and primer color

(including part numbers as appropriate), infrared reflectance, direct solar reflectance, and a graph showing reflectance over the solar spectrum.

(f) Repaint requirements.

(1) Collision repair or repainting facilities painting 2016 and subsequent model-year vehicles must use paint or coating systems that meet the manufacturer's specification in (e)(3) for those vehicles.

(2) Records Retention.

(A) A collision repair or repainting facility must retain records showing that paint or coating systems applied when repairing or repainting each 2016 and subsequent model-year vehicle meet the requirements in paragraph (a) or (b).

(B) A collision repair facility must retain these records for a period of not less than five (5) years.

(C) Such records must be provided within 30 days of request by the California Air Resources Board.

NOTE: Authority cited: Sections 39600, 39601, 38510, 38560, 38560.5, 38580, 41510, and 41513, Health and Safety Code. Reference: Sections 39600, 38560, 38560.5, and 38580, Health and Safety Code.

*95604. Automotive Glazing Standards.*

- (a) Except as allowed in paragraph (b), the following glazing areas for new passenger cars, light-duty trucks, and medium duty vehicles less than or equal to 10,000 pounds must comply with the specified standards:
- (1) For 2012 and subsequent model-years, the windshield must reflect at least 30 percent of the direct solar energy ( $R_{ds} \geq 30\%$ ) when the vehicle is parked.
  - (2) For 2012 and subsequent model-years, the rooflite(s), if any, must transmit no more than 20 percent ( $T_{ts} \leq 20\%$ ) of the total solar energy into the vehicle when the vehicle is parked.
  - (3) For 2013 and subsequent model-years, the sidelites and backlite(s) must transmit no more than 55 percent ( $T_{ts} \leq 55\%$ ) of the total solar energy into the vehicle when the vehicle is parked. When calculating  $T_{ts}$ , visible light transmission is the higher of 70 percent or actual visible light transmission.
- (b) Except as noted in (a) above, direct solar reflectance and total solar transmittance shall be measured using International Standards Organization Standard 13837 Road Vehicles – Safety Glazing Materials – Method for the Determination of Solar Transmittance at 4 m/s, Convention A, dated April 15, 2008, which is incorporated by reference herein, or using an alternate methodology approved in advance by the Executive Officer.
- (c) Exemptions. The following are excluded from the standards in paragraph (a) for solar control glazing.
- (1) Glazing that is internal to the conditioned space, having both surfaces exposed to the controlled environment (e.g., taxi cab dividers).
  - (2) Glazing for spaces in the vehicle that are not normally designed to be occupied or environmentally conditioned while the vehicle is in motion (e.g., pick-up bed covers, camper shells).
  - (3) Deletion windows as necessary. Deletion windows shall not exceed ten percent (10%) of the area of each individual piece of glazing.
- (d) Manufacturer Requirements.

- (1) For 2012 and subsequent model-year vehicles, manufacturers must provide information in the vehicle owner's manual that notifies the consumer that in the event any glazing must be replaced, failure to use glazing that complies with paragraph (a) may impair the ability of the air conditioner to properly cool the vehicle. A table must be included in the vehicle owner's manual that indicates the direct solar reflectance or total solar transmittance, as appropriate, for each individual piece of glazing in that model.
- (2) For 2012 and subsequent model-year vehicles, manufacturers must include in the owner's manual the location of all deletion windows, pictorially and with measurements, to aid in the positioning of aftermarket devices.
- (3) As a condition to receive an Executive Order for 2012 and subsequent model-year vehicles, manufacturers must submit to the Executive Officer with each initial certification application the direct solar reflectance and total solar transmittance of the glazing proposed, and submit for review and approval facsimiles of the information in (1) and (2).
- (4) Records Retention.
  - (A) Beginning with the 2012 model-year, manufacturers must maintain records of the direct solar reflectance and total solar transmittance of the glazing(s) utilized for each model vehicle for ten (10) years after the end of that model-year.
  - (B) The records in (A) must be provided within 30 days of request by the California Air Resources Board.
  - (C) The records must include the following information: model-year, engine test group, model name, direct solar reflectance, and total solar transmittance for each type and position (i.e., windshield, sidelite, roofite, backlite, etc.) of glazing used.
- (e) Window Replacement Requirements.
  - (1) Collision repair facilities and other persons that provide vehicle window replacement services must use replacement glazing that meets the requirements of paragraph (a), and as described in the table included in the vehicle owner's manual for 2012 and subsequent model-year vehicles that indicates the direct solar reflectance or total solar transmittance, as appropriate, for each individual piece of glazing.

## (2) Records Retention.

- (A) Collision repair facilities and other persons that provide vehicle window replacement services shall retain records showing that replacement glazing for 2012 and subsequent model-year vehicles meets the requirements in paragraph (a)
- (B) These records must be retained for a period of not less than five (5) years.
- (C) Such records must be provided within 30 days of request by the California Air Resources Board.

NOTE: Authority cited: Sections 39600, 39601, 38510, 38560, 38560.5, 38580, 41510, and 41513, Health and Safety Code. Reference: Sections 39600, 38560, 38560.5, and 38580, Health and Safety Code.

*95605. Manufacturer Compliance Option.* The vehicle manufacturer may choose to pursue an alternate compliance option for 2016 and subsequent model-year vehicles. Manufacturers doing so must notify the Executive Officer of the alternative being utilized for the specified vehicle model in the initial certification application. A vehicle manufacturer that achieves greater than required performance for its solar reflective glazing may reduce the performance of its paint or coating system. Glazing performance (Rds or Tts) shall be averaged on an area basis for each type of glazing for all glazing positions complying with section 95604 paragraph (a), not including any deletion windows or roofrites.

- (a) If the minimum Rds of the windshield for a specified model is greater than or equal to 40 percent ( $\geq 40\%$ ), then the minimum Rds for the paint or coating system for that model is reduced five percentage points (5%).
- (b) If the minimum Rds of the windshield for a specified model is greater than or equal to 42 percent ( $\geq 42\%$ ), then the minimum Rds for the paint or coating system for that model is reduced a total of 10 percentage points (10%).
- (c) If the minimum Rds of the windshield for a specified model is greater than or equal to 44 percent ( $\geq 44\%$ ), the requirements for the paint or coating systems are eliminated.

NOTE: Authority cited: Sections 39600, 39601, 38510, 38560, 38560.5, 38580, 41510, and 41513, Health and Safety Code. Reference: Sections 39600, 38560, 38560.5, and 38580, Health and Safety Code.

*95606. Enforcement and Penalties.*

- (a) If the Executive Officer determines that a person is manufacturing for sale, advertising for sale, selling, purchasing, distributing or offering for sale in California vehicles in violation of the requirements of this subarticle, the Executive Officer may enjoin the person from any further manufacture, advertisement, sales, offers for sale, or distribution in California pursuant to section 41513 of the Health and Safety Code. The Executive Officer may also assess penalties for any violation of this subarticle as provided in Health and Safety Code section 38580.
  
- (b) An agent or employee of ARB has the right of entry to applicable facilities for the purpose of inspecting operations and their records to determine compliance with this subarticle, as provided in Health and Safety Code section 41510.

NOTE: Authority cited: Sections 39600, 39601, 38510, 38560, 38560.5, 38580, 41510, and 41513, Health and Safety Code. Reference: Sections 39600, 38560, 38560.5, and 38580, Health and Safety Code.