

DEPARTMENT OF INDUSTRIAL RELATIONS
DIVISION OF OCCUPATIONAL SAFETY AND HEALTH
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Juliann Sum, Chief

October 30, 2018

David Dorame
Proactive Management
1822 Cabernet Drive
Chula Vista, CA 91913

RE: Whether A Modified Bus Can Comply With The Shade Requirements In Title 8 Section 3395

Dear Mr. Dorame,

I write in response to your request of August 17, 2018. You asked Cal/OSHA to clarify whether a modified farm labor bus, without air conditioning, could comply with the shade requirements in California Code of Regulations, title 8, section 3395, Heat Illness Prevention.¹ Your letter explains that the bus would be equipped with interior blackout curtains that cover windows on the sides of the bus, two 12-inch fans at the rear of the bus, and one driver-area fan at the front of the bus.

Shade is defined in subsection 3395(b) and establishes that shade is not adequate when heat in the area does not allow the body to cool.

§3395. Heat Illness Prevention

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(b) Definitions.

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“Shade” means blockage of direct sunlight. One indicator that blockage is sufficient is when objects do not cast a shadow in the area of blocked sunlight. Shade is not adequate when heat in the area of shade defeats the purpose of shade, which is to allow the body to cool. For example, a car sitting in the sun does not provide acceptable shade to a person inside it, unless the car is running with air conditioning. Shade may be provided by any natural or artificial means that does not expose employees to unsafe or unhealthy conditions and that does not deter or discourage access or use.

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¹ <https://www.dir.ca.gov/title8/3395.html>

The Cal/OSHA Heat Illness Prevention Enforcement Q&A webpage, updated July 2018,² provides additional clarification to the definition of shade:

The interior of a vehicle may not be used to provide shade unless the vehicle is air-conditioned and the air conditioner is running throughout the workday.

A car sitting in the sun without a running air conditioning does not provide acceptable shade according to section 3395. The same is true for most vehicles as stated in the Cal/OSHA Enforcement Q&A webpage.

However, it is possible for a vehicle without air-conditioning to provide shade compliant with section 3395. Examples include:



Folding shade awning attached to the exterior of a vehicle³



An open sided bus³

The bus described in your letter, however, may not provide shade that complies with section 3395, for the following reasons.

1. The metal exterior portion of the bus will absorb the radiant heat of the sun, and then conduct and radiate the heat to the interior of the bus. Since the bus is mostly enclosed, heat and humidity can build up inside the bus from sources such as the sun, occupants, and the fan motors.
2. There is insufficient information in your letter to determine that the fans supply outside air and exhaust interior air in amounts that are sufficient to eliminate a buildup of heat in the bus.
3. The temperature measurements in your letter do not show that the bus would allow workers to cool, because the measurements do not address the following:
 - a. How long the bus was in direct sunlight when the measurements were taken.
 - b. How long the fans were running when the measurements were taken.

² <https://www.dir.ca.gov/DOSH/heatIllnessQA.html>

³ The shade shown in the pictures may not comply with section 3395 if radiant heat from the vehicle engine defeats the purpose of the shade.

- c. How many occupants were in the bus and for how long.
- d. What the temperature is in the front and rear of the bus when the sun shines directly on those locations. No curtains are provided on either end of the bus. Measurements were only collected in the middle of the bus.

Thank you for your interest in occupational safety and health. Please feel free to contact me if you have any further questions.

Sincerely,



Eric Berg, Deputy Chief
Cal/OSHA Research and Standards

cc:

Patricia Coyle
David Hornung
Chris Kirkham
Amalia Neidhardt