

How Hot is Hot Enough?

By [Paul J. Bello](#) | August 1, 2012

As the use of heat treatments to remediate bed bugs is becoming increasingly popular, one wonders how hot is hot enough, and what are the limitations regarding heat?

Recently, my pickup truck was parked in the direct sunlight of an airport lot. The heat within the Atlanta-sun-scorched cab was intense, but was it hot enough to kill bed bugs? Coincidentally, my inspection thermometer was in the center console tray allowing for a collection of metrics regarding temperatures within the vehicle. Many believe the greenhouse effect in a vehicle parked in the sun is sufficient to produce a 100 percent mortality rate in bed bugs. The front dash surface of my truck measured more than 160 degrees Fahrenheit according to the thermometer, exceeding the lethal bed bug temperature threshold reported to the industry.

However, an efficacious heat treatment requires application of lethal temperatures uniformly to the area being treated. This means all areas must meet or exceed the effective temperature for the required exposure time. Moving the thermometer to the center console storage tray revealed that the temperature there, just 18 inches from the dash, was less than 100 degrees F. Convection systems deliver heat via air circulation.

With conduction heat, the items being heated most are surfaces directly exposed to sunlight. The heat is delivered via radiation from those heated surfaces. Therefore, surfaces not directly exposed are heated via conduction. As such, those surfaces are less likely to reach the same lethal temperatures. It is not uncommon for bed bug professionals to field calls about possible vehicle infestations.

While it might seem as if parking a vehicle in the sun offers a quick and simple solution, we must also recognize that due to their construction, vehicles offer a multitude of safe havens where bed bugs seek sanctuary. Various gaps and openings present within vehicles provide bed bugs with egress to areas where insulation and other such surfaces may provide adequate protection from lethal temperatures allowing the infestation to perpetuate.

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