

What's Behind the "DOT"

Lots of bulbs have the "DOT" marking. But what does it mean? And why is it important?

In North America, the law requires headlamp bulbs to be marked DOT. But this is no assurance that the bulb has passed any quality or performance tests, and doesn't guarantee that the bulb meets DOT requirements.

Like all engineered products, bulbs are built to a technical standard. There's one for every kind of bulb. The standard specifies all the mechanical and electrical characteristics and the dimensions of each bulb. These standards make sure that all bulbs of any particular type are interchangeable, no matter who manufactures them, and that the performance of a lamp will not be degraded or changed when its bulb is replaced. The standards control:

- Bulb base dimensions**, to make sure all bulbs of a given type fit and seal properly in all headlamps designed to take that kind of bulb.
- Filament size and placement**, to make sure the filaments are in exactly the right places.
- Light output**, so headlamps perform correctly when the bulb is replaced.
- Power consumption**, to make sure the bulb doesn't overload or overheat the vehicle's wiring, switches and electrical system
- Light color**, to make sure that the headlamp shines a beam of the legally required color.
- Clarity** of the bulb glass and placement of caps and shields, to make sure the lamp's optics have a clear, undistorted view of the filament.

When bulbs are made, these characteristics must be controlled very carefully to make sure they're within standards. If not, beam quality will suffer when the bulb is installed, robbing the driver of seeing light and causing dangerous glare for other road users. There can also be a serious risk of vehicle or headlamp damage.

The technical standards call for manufacturing precision within 0.05 mm, half the width of a single human hair. The testing involved for the manufacturer to make

sure his bulb design meets the specification, the machinery needed to manufacture bulbs precisely, and the ongoing quality control program necessary to make sure all the maker's bulbs continue to meet the standard—all of these are very expensive and complicated.

Some people tell you their bulbs are "DOT approved." But there's no such thing as a "DOT approved" bulb. The U.S. Department of Transportation (DOT) does not test or "approve" bulbs. Instead, the law says the manufacturer or importer must promise, or certify, that his bulbs comply with all the requirements in the technical standard. The "DOT" mark on the bulb stands for the manufacturer's certification that his bulbs meet the standard. But unless people start getting hurt in car crashes due to improper headlamps, the DOT seldom checks to make sure.

With all that expense and trouble, it's tempting for some to cheat—and there's a lot of cheating. They use worn out machinery that can't hold precision settings, and run it too fast, so the bulb assembly is sloppy. They use low quality materials so the bulb stops working properly long before it burns out. They mark "DOT" on untested bulbs, or even on bulbs they *know* wouldn't pass, or would just barely pass. They modify bulbs after they've already been marked "DOT" so they are no longer legal.

That's why it's important to look beyond the "DOT" mark. Know your bulb vendors, and know their products. Ask about their manufacturing and quality control practices. Anybody can stamp "DOT" on a bulb; ask to see proof that the bulbs you're getting really earned the "DOT" mark. Don't wait for the DOT to do it for you—by the time they check, it's too late. You can't "unsell" the bulb that caused the crash, you can only wait for the blame and the fines and the lawsuits and the guilt.

At Candlepower, we're dedicated to excellence. We carefully make sure all our bulbs are better than the law requires. The "DOT" mark on a bulb from Candlepower is your guarantee that the bulb can be used safely, legally, and with confidence. We'll be happy to prove it to you.

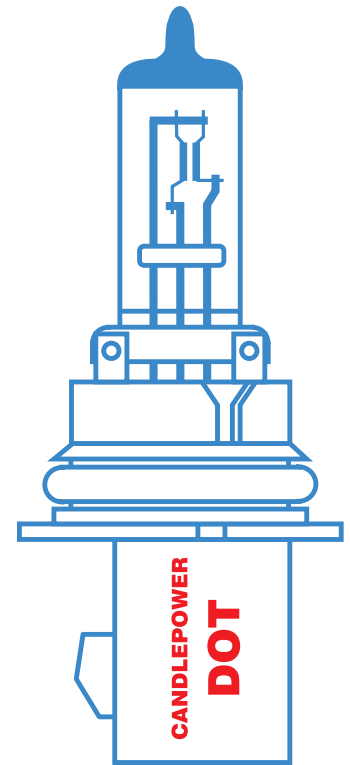
Just ask us!

Technical bulletin: "DOT" markings.

Not all "DOT" marked bulbs are created equal.

Many bulbs are marked "DOT" but how do you know they're the real thing? Only a vendor with a solid reputation can assure you of quality, legal bulbs.

Accept no substitutes—insist on **Candlepower** quality!



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