

“Hey, Kayla?” says Levon into the phone. “I’m sorry to do this again, but I have to stay late at the plant. I won’t be home for another couple of hours.” In the reflected glare of the overhead fluorescent lights, the break room stands in harsh relief. In the corner sits the aging refrigerator, the plastic chairs, and the plastic table. On the walls hang laminated safety posters, and the clock. “I know, I know,” says Levon. “I’m sorry. I was looking forward to the chicken parm. I can heat it up when I get back. There’s nothing I can do. Hyundai sent our tail lights back. I guess they were the wrong red. Now we need to make new ones. At least it’s some overtime, right? Right? Okay, yeah, you’re right. Look, I gotta go. I’m not supposed to be on break and they’ll write me up. I’ll be home as soon as I can, okay? I promise. I love you. Okay, bye.” He hangs up the phone. The clock ticks. Levon sighs and opens the door to the factory floor.



The color of tail lights, brake lights, and blinkers are mandated by federal law. Image Credit: Flickr User [Sarah Marshall](#) (CC BY 2.0)

Rigorous Quality Control Is Essential to Auto Parts Manufacturers Bottom Line

Automotive manufacturers, such as Hyundai, GM, and Audi, expect their parts orders to come in on time, as delivered, and they’ll put the squeeze on to make sure that happens. So for parts manufacturers making red and amber lights, it’s important to deliver shipments on time, in full, and as specified. Not only does that mean constantly increasing efficiency and productivity to keep up with climbing demand, it also means implementing rigorous quality control processes. Without

stringent quality control, all the hard work it takes to turn out a tail light can end up tossed away with the rejects.

Rejected shipments can be a big problem for auto parts manufacturers. They end up costing the company in labor time, materials, shipping costs and energy costs. Most damaging, perhaps, are the fines that auto manufacturers impose on their parts manufacturers for failing to meet delivery standards. In this low-margin, high-volume business, these fines can make the difference between a quarter in the black and a quarter in the red. Of course, the issue of supplier choice also arises. With competition among parts manufacturers coming down to tooth and claw, repeated delivery standards failures can result in contracts lost to the competition. Quality control then becomes a matter of survival for auto parts manufacturers.



Automotive companies, like Ford, demand high levels of quality and productivity from their suppliers. Image Credit: Flickr User [Thomas Hawk](#) (CC BY 2.0)

Spectrophotometers Ensure Colored Lights Meet Tolerance Standards

Colored lights on automobiles—tail lights, brake lights, and blinkers—are red or amber because they are legally required to be these colors under the federal authority of the Department of Transportation¹<https://www.law.cornell.edu/cfr/text/49/571.108>. Companies selling cars in the U.S. market must manufacture to these standards; those selling to foreign markets must meet similar standards. These color tolerances are then passed to parts manufacturers, who must assure

that their lights meet standards. As a result, it is essential to utilize objective, spectrophotometric measurement to ensure the proper colors are met.

Using a spectrophotometer for color quality control can entirely eliminate quality uncertainty. The instrument will assess each light against a predetermined standard. Off-color lights can be rejected on the factory floor. These instruments return nearly instantaneous results, so very little time is added to the quality control process. They can improve efficiency as well. Rising numbers of rejects can prompt manufacturers to look at their production line to discover where issues may lie. They can then correct issues in incoming materials, residue in machines, vats, or additive lines, or improper temperature control. For accurate color analysis, we recommend using [HunterLab's UltraScan PRO spectrophotometer](#) since it can precisely measure transmitted color and transmission haze of solids.

With over sixty years experience in industry applications of spectrophotometers, HunterLab has the expertise to help you choose the correct instrument for your process, and help train your employees on their proper use. For more information on how to improve your color quality control process, [contact the experts at HunterLab](#) today.

1. "49 CFR 571.108 – Standard No. 108; Lamps, reflective devices, and associated equipment."