Dynamic Testing of Road Markings for Optimum Safety

Overview:

- PBS Berlin, a road testing company in Berlin, Germany, looks at the benefits of dynamic road marking testing compared to static testing
- A vehicle-mounted Zehntner ZDR6020 was used for retroreflectivity measurements
- Two types of data were collected and automatically stored for easy export, analysis, and sharing

PBS Berlin (full name *Prüfinstitut und Bauüberwachung Siemund* which literally translates to English as *Siemund Testing Institute and Construction Supervision)* carries out an extensive range of road testing and construction services, as well as delivering training on related topics.

Why is testing road markings important?

PBS agree that road lane markings are our safest traffic control system. In order to guarantee optimal traffic safety for all road users, these lane markings must be constantly maintained and checked. One essential check is that their retroreflection performance is within national standards.

What is dynamic testing and what are the benefits?

With ZDR6020, the RL value (dry night visibility) is measured according to DIN EN 1436 2007 D. The ZDR6020 is used for dynamic testing which means the instrument is mounted on a vehicle and measurements are taken as the vehicle is driven along the road at normal speed, up to 150km/h.

PBS mention three main advantages of dynamic testing of road markings, compared to static testing.

1. There is no disruption to traffic flow. This reduces the cost and inconvenience of road marking testing.

2. The full road marking length is measured and represented in the results. This means that the highest possible quality of the road markings is ensured.

3 Very high safety for all. The inspectors do not need to get out of their vehicle on busy roads; and the road users can be sure of high-quality road markings.

What are some advantages of using ZDR6020?

The measuring head measures 3° to the side. This means that the measuring head does not need to be directly above the road marking. In this way, the driver can safely drive as usual in the centre of the road lane.

Two types of data are collected by the ZDR6020 – GNSS position location and retroreflection data. This data is stored automatically and can easily be exported, analyzed and shared. Customizable graphs and reports can be made.

How does PBS display the results?

The retroreflection (RL) values are plotted against distance. The actual data is shown in blue colour. The values that are required by our national standard are also shown. These are 200mcd/m^2/lx for new road markings (red colour) and 100mcd/m^2/lx which is the minimum required value (yellow colour).

These results show consistent high-quality measurements with dynamic testing, ensuring optimum safety for both inspectors and road users.

Learn more about road marking testing and other related topics in our Tech Hub.