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Port of Rotterdam, The Netherlands



Reduced fuel consumption thanks to tire pressure inspection at APMT

More economy - more safety

By means of the Free Tire Check, truck drivers can check the tire pressure of their trucks quickly and free of charge when leaving the APM terminal of Maasvlakte 2.

BY JOOP VERDOORN

The innovative VENTECH PNEUSCAN System analyses the 'foot print' of the tire with the Free Tire Check and calculates the tire pressure. The Free Tire Check is in operation since mid-May and is a joint initiative of the Port of Rotterdam, APM Terminals and De Verkeersonderneming, implemented agency for the 'Beter Benutten' ('Better Usage') program by the Ministry of Infrastructure and Environment in the Rotterdam region.



Within 1 minute

It is the most user friendly system for road based tire pressure inspection. When leaving the terminal, the driver slowly passes at a speed of 5 to 10 km/h over the measuring station. After approx. 30 m a green or red *Smiley* appears on a matrix sign. If it is red, the tire pressure is too low; if it is green the tire pressure is above 7.5 bar. After that, it is enough to press onto the button at the information column in order to print the inspection results. The print-out also includes the addresses of tire service repair shops

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nearby so that the driver can immediately react on low pressure. So nearly nothing can go wrong: only sharp turns, gear shifting, a jerky drive style or stopping on the measuring system will render the inspection results useless. The Free Tire Check needs at maximum 1 minute and the driver remains in the vehicle.

Avoidance of accidents

As accidents with trucks can have an enormous impact on the traffic flow form and to the harbor and the number of truck-accidents is growing, De Verkeersonderneming and the Port of Rotterdam have started a pilot with VENTECH for prevention of these accidents. Tire breakdowns and tire blow-outs are nearly always a consequence of former damages. In most cases, the tire pressure loss is caused by sharp or heavy objects, which were entered into the running surface, or are due to other damages. Tires with reduced pressure are submitted to more resistance from the road surface, so that the temperature in the tire rises. The consequence is either a puncture or a tire blow-out. Until that moment, the tire is functional, but the tire pressure decreases more and more.

The in-time detection of a tire pressure which is too low is for this reason an efficient means to reduce the number of accidents and jams on highways. Becoming active when the tire pressure is too low does not avoid accidents and jams. An appropriate tire pressure ensures also a lower rolling resistance, so that fuel consumption as well as the CO₂ emission can be reduced. TNO measurements prove that savings of approx. 0.5 percent on fleet level and approx. 2.5 percent on vehicle level are possible. According to the tire manufacturer the under-pressure in the tire is in direct connection with the useful life: A tire e.g. with an under-pressure of 20% has a life-time which is reduced for 20%.

The reduced fuel consumption and extended tire life time are also perfectly in line with the sustainability effort of APM Terminals and the Port of Rotterdam. The transport branch also profits from the tire pressure inspection as the intensive use of a truck quickly leads to a significant cost reduction.

Pilot project

The core of the system is the free of charge inspection of the tire pressure with a short storage of the inspection data. Forwarding agencies could however subscribe and thus establish a maintenance protocol for each truck separately, which in turn can be integrated into an existing fleet management system. For further information please refer to www.freetyrecheck.nl. The port of

Rotterdam has started a pilot project with the system. Explora, the Dutch representative of VENTECH manages the corresponding web page. In the summer, it will be evaluated whether the transportbranch really uses the system. If the results are positive the Port of Rotterdam and De Verkeersonderneming are opting to have such measuring systems also installed at other locations in the harbor.

This article was written by the project manager of the Port of Rotterdam

Company Profile

Port of Rotterdam, The Netherlands

The Port of Rotterdam is the largest port in Europe, located in the city of Rotterdam, The Netherlands. From 1962 until 2002 it was the world's busiest port, now overtaken first by Singapore and then Shanghai. The port is the gateway to the European market and hence one of the most important junctions of good flows of the world. The annual throughput is about 450 million tons.



Rotterdam thanks its position to the excellent accessibility via the sea, the hinterland connections and the many companies and organizations, active in the port and industrial complex. The port stretches out over 40 kilometers and is about 12.500 ha.

Most important for the port of Rotterdam are the petrochemical industry and general cargo transshipment handlings. The harbor functions as an important transit point for transport of bulk and other goods between the European continent and other parts of the world. From Rotterdam goods are transported by ship, river barge, train or road.