



# Phased introduction of a particle test for DPFs in the Netherlands

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VERT-Forum

*Ministry of Infrastructure and Water management*



# Particle counter test for checking DPFs





# Organizations involved in the Netherlands



Ministry of Infrastructure and Water management



Netherlands Vehicle authority



Netherlands Metrology Institute



National research organisation





# Phased introduction of DPF particle test



- Phase 1: DPF test available at test station of RDW in 2019
- Phase 2: Road Side Inspections (RSI) by the police in 2019
- Phase 3: Mandatory DPF test in PTI. Target date 2021





# Proposal for Netherlands DPF particle test



- Instrument: According to proposal of the N-PTI working group
- Procedure: 15 sec. measurement period  
any vehicle conditioning allowed
- Limit value:  $\leq 2014$ : 1.000.000 particles per  $\text{cm}^3$   
 $\geq 2015$ : 250.000 particles per  $\text{cm}^3$





# Planning legislation for DPF particle test



- Concept regulation is almost ready.  
Final checks by lawyers.
- Internet consultation and the European notification of the proposed regulation in this spring.
- Regulation planned to be published in the Dutch Staatscourant in September 2019.





# Phase 1 and 2: RDW stations and RSI in 2019



- Regulation published in September 2019.
- DPF tests can be done with the TSI NPET:
  - Certification by METAS equivalent.
  - Measuring procedure equivalent to NL proposal.
- RDW carries out RSI tests in the role of technical support to the police.





## Planning of phase 3: DPF test in the PTI



- NMI certification of PTI particle counters in 2019.
- As soon as in 2020 sufficient counters become available: DPF test becomes a mandatory part of the PTI.
- Making the test mandatory can easily be done on base of regulation to be published in September 2019.
- Target date for introducing DPF test in the PTI: 2021.







# Letter to the Netherlands parliament

See: <https://www.rijksoverheid.nl/documenten/kamerstukken/2019/02/20/plan-van-aanpak-controle-roetfilters>

Translation of this letter into English:

Dear chairman,

In my letter of July 12, 2018, I informed the House of Parliament about the plan of action for effective checking of particulate filters. One of the measures in this plan is the migration of a particulate filter test in the PTI. By means of this letter, I want to inform you about the state of affairs of this plan.

Plan of action for diesel particulate filters

The plan of action for diesel particulate filters is already in full swing. In 2017 the ban on removing particulate filters and other emission control devices has been reintroduced and from May 2018 there is a visual inspection of particulate filters in the Periodical Technical Inspection (PTI). As a follow-up to this, an inspection of the operation of particulate filters with a particle counter is introduced, first in 2019 at inspection stations of the Netherlands Vehicle Authority RDW and at roadside inspections (RSI) by the police and then as a compulsory component of the PTI. The target date for introducing the particle test in the PTI of all diesel cars with a filter is 2021. It is not possible to do so earlier, because particle counters specifically developed for the PTI must be available.

Given the importance of clean air, I want to continue energetically with the introduction of a particle counter test for inspecting the operation of diesel particulate filters. I want to start the internet consultation and the European notification of the proposed regulations in this spring, so that the amendment regulation can be published in the Staatscourant in September 2019. Based on these regulations, the particulate filter test can then be made a mandatory part of the PTI.



### *Particulate filter test with particle counter*

The particulate test for the inspection of particulate filters is carried out by measuring the number of soot particles in the exhaust of a diesel vehicle with a stationary engine. A well-functioning diesel particle filter is capable of capturing virtually all soot particles. The number of particles then decreases from about 5,000,000 per cubic centimeter directly from the engine to less than 5,000 per cubic centimeter after the filter. At more than 250,000 particles per cubic centimeter there is a defect or removed soot filter.

### *International working group*

The method for checking particulate filters with a particle counter has been developed in recent years by an international working group, in which the Netherlands participates in the Netherlands Vehicle Authority RDW, the Netherlands Metrology Institute NMI, the research organization TNO and the Netherlands Ministry of Infrastructure and Water Management. In 2018 this working group has drawn up a set of technical specifications for a PTI particle counter, which NMI has laid down in a technical recommendation.

### *Regulations for the new test*

The regulations for the new particle test for particulate filters are incorporated in the national Vehicle Regulation. The changes concern, among other things, the determination of the technical specifications of the PTI particle counter as proposed for OIML, the manner in which the test must be carried out and the standard for the number of particles per cubic centimeter. As soon as sufficient particle counters are available for use in the PTI, the introduction of the test as a compulsory part of the PTI can easily be realized in the regulations.





### *Certification of particle counters*

In 2019 NMi will set up a procedure for the certification of PTI particle counters. It is expected that NMi will be ready for issuing national type approval certificates by the end of 2019.

At the moment there are no particle counters specially developed for use in workshops. Already available particle counters developed for the European type approval of cars and for the inspection of particulate filters for tunnel construction in Switzerland are too expensive. RDW already has access to the more expensive type of particle counter certified in Switzerland.

Various manufacturers are currently working on the development of cheaper particle counters for use by car companies. It is expected that these instruments will be certified by NMi in early 2020, after which they can be marketed as a measuring instrument for the PTI.

### *Germany and Belgium*

Germany has indicated that they will introduce a particle test for the control of particulate filters in their PTI in 2021. Flemish Minister Weyts of Mobility and Secretary of State Debaets of Road Safety of the Brussels Region recently told in a report from VRT that Belgium will introduce a soot filter test in their PTI in 2020.

In Belgium the PTI is organized differently than in the Netherlands. Belgium only has around 70 large PTI stations, which only carry out inspections. In the Netherlands, almost every car workshop does PTI inspections and the PTI is often combined with maintenance. Due to the smaller number of inspection stations, it is less far-reaching for Belgium to use the more expensive already available particle counters. For the introduction of a PTI particle filter test in the Netherlands, cheaper particle counters specifically developed for the PTI have to be put on the market.





### *Particulate filter checks at roadside inspections*

In roadside inspections, the police checks on the basis of the permanent requirements as formulated in Chapter 5 of the Vehicle Regulations. With the proposed regulations, the new permanent requirement is introduced that the particle filter must work properly. This is checked on the basis of the number of particles per cubic centimeter in the exhaust gas. So far, the (visual) inspection for the presence of particulate filters has taken place at the PTI. In order to make checks on the proper functioning of particulate filters possible in roadside inspections, both the legal basis and the practical means have to be arranged. With the proposed regulations and the already available particle counters certified in Switzerland, these preconditions are realized

### *Online particulate filter information*

Part of the plan for particulate filters is to make filter information online available to consumers at the vehicle level. This involves, among other things, whether a diesel car is fitted with a particle filter and whether a particle filter check must be carried out in the PTI. This information can now not always easily be retrieved from the online information for a car by vehicle owners. To improve this, I asked the RDW to supplement the now available data at vehicle level with specific particle filter information.

### *Finally*

Good progress has been made in recent months with the preparations for the introduction of a particle test for monitoring particulate filters. The proposed regulations for the new test have largely been elaborated and will soon be published. I am pleased that the introduction of a particulate filter test in the PTI is on schedule. Soon, agreements will be made with the Ministry of Justice and Safety on the application of the particle test for roadside checks by the police.

Yours sincerely,

THE STATE SECRETARY OF INFRASTRUCTURE AND WATER MANAGEMENT,

S. van Veldhoven - Van der Meer

