

DEKRA Automobil GmbH • Hufelandstr. 37 • D-80939 München

Premium Vertriebs GmbH
Herrn Hartl
Rieslingweg 23
D-74354 Besigheim

DEKRA Automobil GmbH

Hufelandstr. 37
D-80939 München
Telefon 089.370035-31
Telefax 089.31690-258

Kontakt Franz Nowakowski
E-Mail franz.nowakowski@dekra.com
Datum 19.06.2008

Abteilung/Beratung
E-Mail sondergutachten@dekra.com

Translation into English language. You can read the original German text on the German internet page.

Date of Order: June 11th, 2008

Object: Test of puncture-kit

Trial of the puncture-kits PREMIUM SEAL AIO for passenger cars and AIO for trucks on a Mercedes Sprinter

DEKRA No.: 370/0450/701622/1806396687

Dear Mr. Hartl,

according to your order dated June 11, 2008, we have tested the puncture-kits PREMIUM SEAL AIO for passenger cars and for trucks on a Mercedes Sprinter 313 CDI with a high roof. The testing took place at the company Euromaster in Munich.

As ordered the efficiency of the puncture-kits after penetrating of the tyres with a diameter of 6 mm as well as the efficiency of the gas to be filled in has to be tested in advance.

1. Tyres:

235/65 R 16 Dunlop SP LT30, radial, tubeless on wheel rims made of steel

2. Tested Puncture-kits:

PREMIUM SEAL AIO for passenger cars, quantity 650 ml
PREMIUM SEAL AIO for trucks, quantity 650 ml

Both fore side tyres of the Mercedes Sprinter have been penetrated with a mandrel of 6 mm as follows:

- Left ahead penetration in the outer chamfer of the tyre profile, filling-in of the sealant into the tyre according to instruction manual, whereas the penetration has not been in the surface of the upstanding tyre but has been positioned approx. 100° beyond when filled in (at top view approx. at 10 o'clock).

DEKRA Automobil GmbH
Handwerkstraße 15
D-70565 Stuttgart
Telefon (07 11) 78 61-0
Telefax (07 11) 78 61-22 40
www.dekra.com

Sitz Stuttgart, Amtsgericht Stuttgart,
HRB-Nr. 21039
Bankverbindung:
Dresdner Bank AG Stuttgart
(BLZ 600 800 00) Kto.-Nr. 9 010 051 00
Landesbank Baden-Württemberg
(BLZ 600 501 01) Kto.-Nr. 2 019 525

Vorsitzender des Aufsichtsrates:
Prof. Dr.-Ing. Gerhard Zeidler
Geschäftsführer:
Dipl.-Ing. (FH) Clemens Klinke (Vorsitzender)
Dipl.-Ing. (FH) Werner von Hebel
Dipl.-Kfm. Wolfgang Linsenmaier
Dr.-Ing. Gerd Neumann

- Right ahead of the tyre two cut-ins have been made: one of them in the outer chamfer of the profile and one in a lateral slitting of the profile in the area of the shoulder, i.e. at the intersection to the face of the tyre. Here the sealant has been filled in whereas both adjoining cut-ins have been positioned in the area of the upstanding surface of the tyre.

3. Miscellaneous

The filling-in time up to the deconvolution of the pressure has been measured by a stopwatch. The values are as noted below.

The measurement of the filling-in time starts with the actuation of the pushbutton of the gas bottle and ends with the turning-in of the valve remover using the screwing-device of the valve remover which has been developed especially from Premiumseal.

Due to the large volume of the tested tyre equipment it was necessary to raise the tyre pressure up to an admissible value by means of a second gas bottle.

As described above the following filling-in times have been measured:

Tyre left ahead – AIO – passenger car:

Time for first bottle: 1 minute 54 seconds –
obtained air pressure 1,6 bar

Time for second bottle: 1 minute 27 seconds –
obtained air pressure 2,4 bar

Tyre right ahead – AIO – heavy goods vehicle:

Time for first bottle: 1 minute 38 seconds –
obtained air pressure 1,7 bar

Time for second bottle: 1 minute 10 seconds –
obtained air pressure 2,3 bar

4. Further proceeding:

As there has been a slight and stealthy leakiness at the puncture of the outer shoulder of the tyre right ahead the vehicle was rolled for approx. 100 metres.

Subsequently both tyres with the inserted puncture-kit have been driven at first for 2 kilometres and afterwards for 10 kilometres, whereas the inner pressure of the tyre has been measured by a calibrated pressure gauge each time.

In this connection the filling pressure values according to the chart below have been determined:

Tyre pressure (bar)

Position of the tyre	First bottle filled with gas	Second bottle filled with gas	after 100 m	after 2 km	after 10 km
Left ahead	1,6	2,4	3,1	3,6	4,3
Right ahead	1,7	2,3	3,1	3,6	4,4

5. Rating after the movements of the vehicle

During the test runs no aspects of out-of-balance or inequalities at the ahead tyres have been recognized. At the vehicle subjectively no vibrations were noticeable. However, the test runs happened in the area of the city with a maximum speed of approximately 65 kilometres per hour.

At the beginning there was a slight leakage in the area of the shoulder at the crossover to the flank of the tyre right ahead. This was recognized by the stealthy loss of air at the puncture. After driving 2 km the stealthy loss of air had been reduced considerably.

After driving another 10 km no further loss of air could be recognized at this puncture. This happened by use of a spray which is searching punctures.

The ongoing leakage tests at the puncture areas have been permanently made at each measurement of the air pressure. This happened by means of a spray which is searching punctures, too. Relatively sure this method is disclosing, if there are any leakages at the injury.

Altogether from the sight of the authorised expert the following can be stated:

- The very short time for application and filling-in of the puncture kits of far below 4 minutes is favourable. This time refers to the use of two bottles filled with gas.
- It is also favourable that after a short time for driving-in the internal pressure of the tyre raised itself up to values, which can be considered as absolutely uncritical. The very short driving-in time with a too small air pressure does not cause a pre-damaging of the tyre by means of mistreatment with less pressure or similar. This is from the sight of the experts.
- When using under normal environmental temperatures (tests has been made at 24°C) both puncture kits show their suitability for C-tyres for example at a Mercedes Sprinter. Further tests at minus- resp. high-temperatures in the range of -30°C up to +80°C have not been carried out yet.

Kind regards

DEKRA Automobil GmbH
Special Experts Reports