

Test Report

Product description

Product name:	Neways Roil Platinum Fuel Treatment (Gasoline/Petrol), # 5380
Producer:	CTP GmbH/PRO-TEC Deutschland
Product properties:	Neways Roil Platinum Fuel Treatment removes operationally caused contamination in the complete Fuel System from the tank to the combustion chambers, resin residues in the ignition and injection zones, carbonisation and soot deposits in the whole upper cylinder zone as well as moisture and condensation water from the whole fuel system and protects against corrosion. The product lubricates and protects the upper cylinder area.
Product character:	EC Safety Data Sheet
Application area:	Car and truck applications - Otto engine / diesel engine / high-performance engine - Manual and/or differential gear
Application:	Add Neways Roil Platinum Fuel Treatment into the fuel tank as per the dosing indication or using a dosing device. In special difficult cases clean systematically using pure product
Dosing:	200 ml for bikes 375 ml for cars 0,25% of the tank volume for trucks

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Inspection

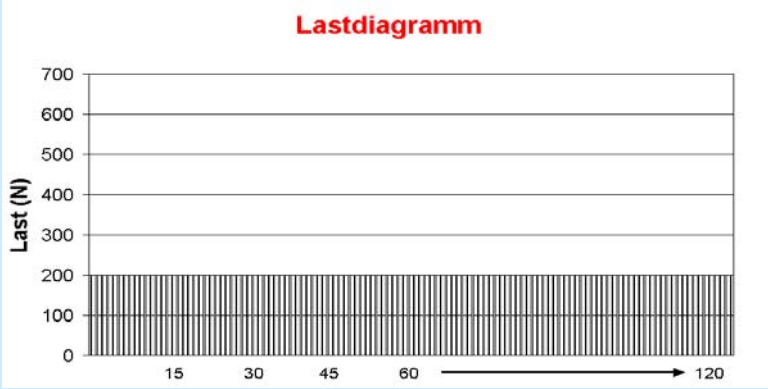
Product properties mentioned here below have to be checked within this test report. Corresponding test standards are used as control basis.

Test	Control basis
Water bonding capacity	Transmission
Wear protection	Friction test
Emission reduction	Exhaust gas test
Compression test	Compression test
Dirt dilution	Exhaust gas test / compression test

Test execution

Water bonding capacity	
Objective:	Transmission admission depending on the water absorption capacity of the product.
<p>The product Neways Roil Platinum Fuel Treatment binds water in form of an emulsion. At a certain level the water binding capacity is exhausted. In this case the water is not bound any longer and is available as own phase (Fuel Treatment/water). In the first test level the water absorption is determined by titration until turbidity occurs (the water drops are so big, so that they optically lead to turbidity). Different quantities of Neways Roil Platinum Fuel Treatment are used, in order to determine a dependence of the Neways Roil Platinum Fuel Treatment volume to the water quantity to be bound.</p> <p>In the second test level water is introduced in Neways Roil Platinum Fuel Treatment (titration). After every addition of water the transmission (transparency) is determined for a wavelength of $\lambda = 668$ of the tested solution. When the opacity is complete, the test is finished.</p>	

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Friction test		
Objective:		Friction test on a standard body with and without using Neways Roil Platinum Fuel Treatment
<p>The wear protection test is carried out according to DIN 51 350 and DIN 68 861. The selected load task in a time interval of max. 120 seconds is not identical with the conditions under normal vehicle operation. The objective of this test is it to prove the effect of the wear protection component in the product.</p>		
Procedure		Equipment: Timken machine Test body: Steel h= 10 mm , d = 6 mm Temperature: 23°C
		Material: Gasoline (lead free) Neways Roil Platinum Fuel Treatment Gasoline and Neways Roil Platinum Fuel Treatment
Force (N)	Time (s)	 <p>* Lastdiagramm = Load diagramm Last = Load Zeit= Time</p>
200	0 – 15	
Remarks		

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* Due to the high evaporation of gasoline and Neways Roil Platinum Fuel Treatment the friction test has been carried out only with max. 200 N.

Emission reduction	Compression test	Dirt dilution
<p>Procedure</p>	<p>Before the use of Neways Roil Platinum Fuel Treatment:</p> <ul style="list-style-type: none"> ➤ a conforming exhaust gas test was carried out ➤ the compression of the single cylinders was determined. <p>Subsequently, the fuel system cleaning was carried out using the cleaning equipment "Clear Flow 2000" *. Therefore 375 ml Neways Roil Platinum Fuel Treatment were up-titrated in a time interval of 15 min.</p> <p>After the use of Neways Roil Platinum Fuel Treatment:</p> <ul style="list-style-type: none"> ➤ a conforming exhaust gas test was carried out ➤ the compression of the single cylinders was determined. 	
<p>Remarks</p>		

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Both tests were carried out at the same time. The results are shown in a combined result sheet of the company PRO-TEC (see appendix).

The cleaning equipment Clear Flow 2000 is used to clean dirty and resinified nozzles or fuel injection valves. Besides, problems with carbonised inlet and outlet valves can be solved.



Evaluation

Water bonding capacity					
Test level 1 / Volume absorption water					
10 ml Neways Roil Platinum Fuel Treatment x ml water		50 ml Neways Roil Platinum Fuel Treatment x ml water		100 ml Neways Roil Platinum Fuel Treatment x ml water	
0	clear	0	clear	0	clear
0,1	clear	0,5	clear	1	clear
0,2	clear	1	clear	2	clear
0,3	clear	1,5	clear	3	clear
0,4	clear	2	clear	4	clear
0,5	clear	2,5	clear	5	clear
0,6	clear	3	clear	6	clear
0,7	clear	3,5	clear	7	clear
0,8	clear	4	clear	7,8	clear
0,9	dull	4,1	light dull	8	clear

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1	dull	4,2	light dull	8,2	light dull
		4,3	dull	8,4	dull
		4,5	dull	8,6	dull
		5	dull	9	dull
		5,5	dull	10	dull

Result evaluation

The tests showed that the product Neways Roil Platinum Fuel Treatment binds water in form of an emulsion. The pure product can bind 30 ml water until the first visible turbidity appears. This means that the water drops bound in the emulsion up to this water volume are so small that they do not lead to a provable turbidity in the Neways Roil Platinum Fuel Treatment.

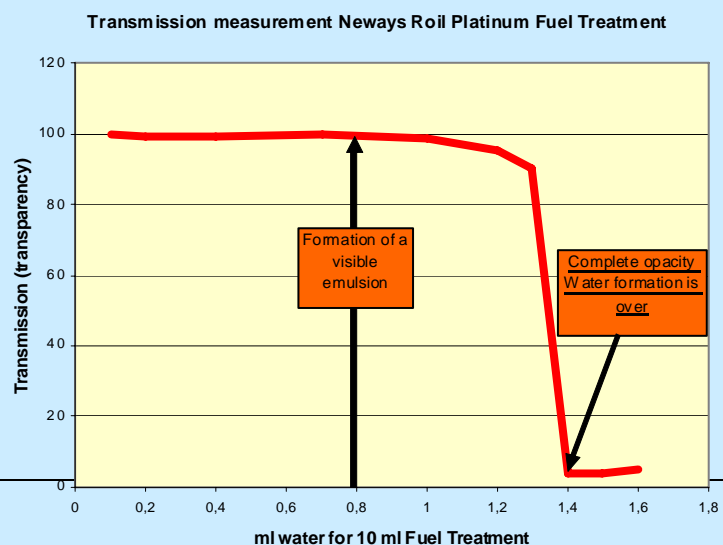
Water bonding capacity

Test level 1 / Volume absorption water

10 ml Neways Roil Platinum Fuel Treatment
 x ml water

Absorption of the transmission

0,1	100,0000
0,2	99,5000
0,4	99,3760
0,7	99,8320
1	98,6000
1,2	95,3000
1,3	90,2820
1,4	3,7884
1,5	3,7884



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1,6	4,8676	

Result evaluation

The transmission tests have confirmed the results of the test level 1 (volume absorption water). When 0,8 ml water are added to 10 ml Neways Roil Platinum Fuel Treatment the transmission of the test solution is reduced. When 1,3 ml water are added, a complete opacity appears. When 1,4 ml water are added, the water is again in its own phase outside the Neways Roil Platinum Fuel Treatment. This means that up to a volume of 30 ml water a Fuel Treatment/water emulsion is formed. Herein the bound water drops are so small that they do not lead to a provable turbidity in the Neways Roil Platinum Fuel Treatment. In the fuel system the emulsion is formed at the phase boundary surface gasoline/water. The Neways Roil Platinum Fuel Treatment available in the gasoline reacts to the water available as phase and divides the water drops into many small water droplets. The result is a discharge of the water (by the action of the fuel pump) from the fuel system. As secondary effect, Neways Roil Platinum Fuel Treatment causes in the fuel system an active corrosion protection as well. The corrosion effect of the water on metal is effectively prevented.

Friction test

Gasoline

Test body No.	Weight [g]		Friction [mg]	
	before	after	Difference	Average
42	8,51026	8,5032	7,06	10,26
41	8,51475	8,50317	11,58	
40	8,51383	8,50198	11,85	

Neways Roil Platinum Fuel Treatment

Test body No.	Weight [g]		Friction [mg]	
	before	after	Difference	Average
39	8,5137	8,51044	3,26	3,29
38	8,51692	8,51329	3,63	
37	8,51292	8,50994	2,98	

Gasoline and Neways Roil Platinum Fuel Treatment

Test body No.	Weight [g]		Friction [mg]	
	before	after	Difference	Average

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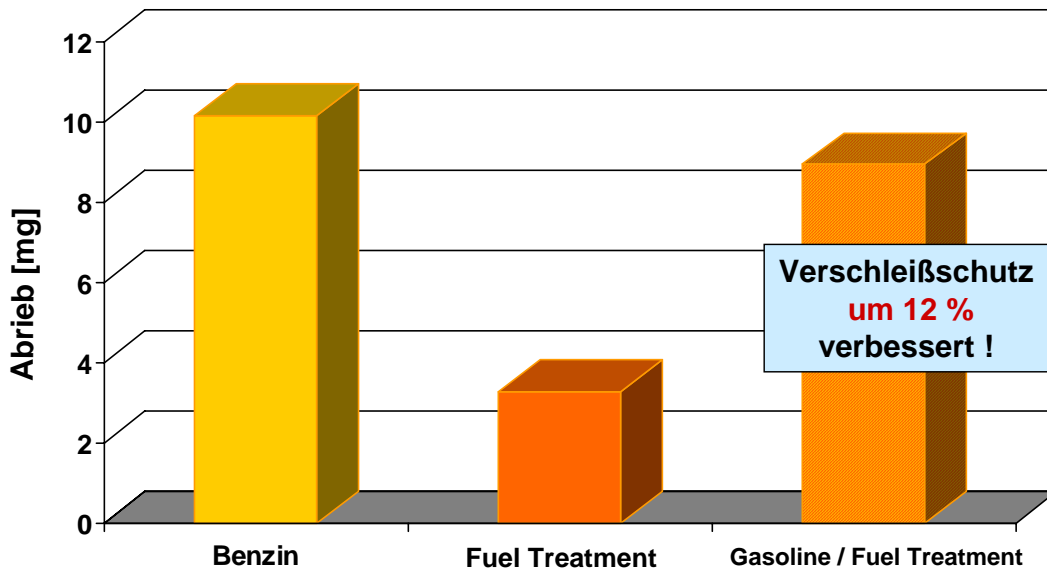
36	8,51395	8,50578	8,17	8,94
35	8,51509	8,50583	9,26	
34	8,519	8,50961	9,39	

Abrasion test	
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* Abrieb = Friction
Benzin = Gasoline
Verschleißschutz um 12% verbessert = Wear protection improved by 12%

Result evaluation

The tests showed that the application of the product Neways Roil Platinum Fuel Treatment generates the wear protection. The tests were carried out with pure gasoline (lead free) and pure Neways Roil Platinum Fuel Treatment. Afterwards Neways Roil Platinum Fuel Treatment was added to the gasoline (7,5 ml Fuel Treatment/1000 ml gasoline \equiv 375 ml Fuel Treatment/ 50 l gasoline) and the friction test was carried out.

By using Neways Roil Platinum Fuel Treatment in the fuel it could be proved that the wear protection in the gasoline improved by approx. 12%.

In this way strongly used engine components (like gasoline pump, fuel pipes) are protected.

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Emission reduction	Compression test	Dirt dilution
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Engine type:	Gasoline				Kilometer:	33.540			
Emission	before				after				Result
CO (%)	0,54				0,00				reduced by 100%
HC (ppm)	165				0				reduced by 100%
CO₂	14,5				15,4				0,0
Compression	before				after				(Kp. after - Kp. before) *100
Cylinder	1	2	3	4	1	2	3	4	Kp. vor
Compression pressure	6,4	9,7	6,8	-	13,5	12,1	7,9	-	improved by 46 %

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Result evaluation

A large number of data was available for the evaluation. This can be examined at PRO-TEC. The a. m. test results were carried out at the PRO-TEC company. The exhaust gas values of the vehicle and the compression were measured before the use of Neways Roil Platinum Fuel Treatment. After the use, the measurements were repeated.

Before the use of Neways Roil Platinum Fuel Treatment the compression was determined and an exhaust inspection was carried out. The evaluation of the investigations showed that the emission data were so bad that this vehicle would not have passed the legally prescribed emissions inspection. This was due to contamination in the fuel system. For this reason a direct cleaning in the area of the inlet valves was done with the equipment "Clear Flow 2000".

The compression in the engine was improved by around 46% and the emission by around 100%. In this way the dirt removing effect of Neways Roil Platinum Fuel Treatment and the cleaning of the valves could be proven.



Afterwards it was found out that the compression of the cylinders did not correspond to the ideal conditions yet. Therefore an engine internal cleaning was done with the product Neways Roil Platinum Engine Flush. The total effect of both products led to the complete compression performance of the engine (according to manufacturer data).

Arnstadt, June 30, 2003

T. Heßler
TÜV Thüringen Anlagentechnik GmbH

Remark:

Translation into English language carried out by CTP GmbH / PRO-TEC Deutschland in July 2009.

The present document only represents the English translation of a German text. In case of doubt on the meaning of this translation, the German text version is legally binding.