DUNLOP GmbH

The German subsidiary of Dunlop

ULTRASEAL
INTERNATIONAL INC.

Los Angeles, February 5, 1998

To whom it may concern:

ULTRASEAL INTERNATIONAL INC. is proud to provide you with the enclosed test data.

This independent test was conducted DUNLOP GmbH, the German subsidiary of DUNLOP, to either verify or to contradict the printed product performances of ULTRASEAL the Tire Life Extender/sealer!

The specifications are listed on the enclosed test, faxed to ULTRASEAL INT'L INC.'s European agent.

Test # 1: TREAD AREA TEST

ULTRASEAL was injected into a tire, whose **tread area, (in-side a groove)**, had been punctured prior with a 3/8"ø nail; the tire leaked air at the time of installation.

The tire pressure was recorded as 2.1 bar at the time ULTRASEAL was installed; vehicle: Mercedes Benz C180.

1st tire check: after .62 miles (1 km) movement indicated that ULTRASEAL had *sealed* the puncture, the measured tire pressure was 2.0 bar, a 5% pressure loss;

2nd tire check: after 3.1 m (5 km) movement indicated that the puncture *remained sealed*, the tire pressure had *increased to 2.05 bar*, a 2.5% increase, air pressure was now at 97.5% of original tire pressure;

3rd tire check: after 11.78 miles (19 km) movement, indicated that puncture *remained sealed*, and that tire pressure had increased to the initially recorded tire pressure of 2.1 bar, or *100% of the original recorded tire pressure.*

During the test the tire was subjected to varying speeds: 18.6, 37.2 and 62 miles.

Results: ULTRASEAL performed 100% according to manufacturer's written specifications.

Test # 2: SIDEWALL TEST

ULTRASEAL was injected in a tire, whose **sidewall** had been punctured prior with an ≈5/16"ø nail, therefore the tire leaked air at the time of installation.

The tire pressure was recorded as 2.1 bar at the time ULTRASEAL was installed; vehicle: Mercedes Benz C180.

1st tire check: after 0.62 miles (1 km) movement indicated that ULTRASEAL had *not sealed* the sidewall puncture, and the measured tire pressure was 2.05 bar, a 2.5% pressure loss;

2nd tire check: after 3.1 miles (5 km) movement indicated that puncture had *not sealed*, and the tire had decreased another .05 bar to 2.00 bar, a total pressure loss of 5% from the original tire pressure of 2.1 bar;

3rd tire check: after 11.78 miles (19 km) movement indicated that puncture had *not sealed* and the tire pressure had further decreased another .05 bar to 1.95, a total pressure loss of 7.1% from the original tire pressure of 2.1 bar.

During the test the tire was subjected to varying speeds: 18.6, 37.2 and 62 miles.

Results: ULTRASEAL performed 100% according to the manufacturer's written specifications. ULTRASEAL INTERNATIONAL INC. has stated that for safety reason and in compliance with D.O.T. (U.S. Department of Transportation) rules, that *ULTRASEAL will not permanently seal a sidewall wound or puncture*, which later on could become a dangerous cause, i.e. blow out, etc. What ULTRASEAL does and which was verified by this test is: ULTRASEAL allows a car with sidewall punctures of no more than 1/4" to come to an orderly and controlled stop. *The total distance driven with puncture was 11.78 miles, almost 12 miles, with a 7.1% pressure loss only.*

We are extremely pleased to inform you that once again it has been proven via independent testing that ULTRASEAL is the safest tire sealant available.

1100 N. WILCOX AVE • LOS ANGELES, CA 90038 • PHONES (213) 466-1226
(800) 346-9090 • IN CA (800) 343-9090 • FAX (213) 465-9456

(Dunlop Logo)
DRIVING TO THE FUTURE

DUNLOP GmbH

Seite/Page 1 von/of 1 Seiten/Pages:

An/To: DUNLOP BANDEN BV Von/From: D. Hammer

z. Hd./Attention: Herrn R. Spaans Abt./Dep.: KD-G L

Fax: Fax: (0 61 81) 68-1662

Kopie an/Copies to: Tel.: (0 61 81) 68-1438

Im Fall von Übermittlungsstörungen bitte anrufen. Datum/Date: 16.02.98
In case of garbled transmission please call.

Telefax

Dunlopstraße 2
63450 Hanau

Postfach 22 51
63412 Hanau

Ref.: ULTRA - SEAL
Your fax dated Feb. 13, 1998

Dear Mr. Spaans,

there is not much information to be added to my telephone report.

For our test we took a tire from our running Production (195/65R15). After having injected ULTRASEAL - about 2 large coffee cups *(≈12 units)* - we run tire for one (1) hour at a speed of 150 km/h *(≈93 mph)*, after that we drove for 10 minutes at 180 km/k *(≈112 mph)*, 10 minutes at 220 km/h *(≈136 mph)*, and 10 minutes 250 km/h *(≈155 mph)*, respectively.

After removing the tire from the rim, we noticed a rather even distribution of ULTRASEAL in the inside of the tire. A slightly thicker concentration was noted on the inside tread area, which is caused by centrifugal force.

Imbalance test could not be conducted due to the fact the rim did not fit on our balancing machine.

I trust, dear Mr. Spaans, that these results assist you and I remain with

my collegial Regards,

DUNLOP GmbH
Customer Service

(for D. Hammer)
Signature

NOTE: During the initial telephone conversation Mr. D. Hammer stated to Mr. Spaans that ULTRASEAL did not effect the operation of the MOTORBIKE any different than various tire treads. It was reemphasized that ULTRASEAL did not effect the safe operating of the MOTORBIKE at any of the above tested speeds. US

(Dunlop Logo)
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Dunlopstraße 2
63450 Hanau

Postfach 22 51
63412 Hanau

Betr.: **ULTRA - SEAL**
Ihr Fax vom 13.02.1998

Sehr geehrter Herr Spaans,

zu meinem telefonischen Informationen gibt es nicht viel mehr zu berichten.

Wir haben einen Reifen der laufenden Fertigung zum Test herangezogen (195/65R15). Nach dem Einfüllen von ULTRA-SEAL - etwa 2 große Kaffeetassen - haben wir die Bereifung 1 Stunde mit 150 km/h laufen lassen. Anschließend wurde die Geschwindigkeit auf 10 Minuten 180 km/h, 10 Minuten 220 km/h and 10 Minuten 250 km/h eingestellt, bzw. gefahren.

Nach Demontage der Decke konnten wir eine relativ gleichmäßige Verteilung von ULTRA-SEAL im Reifeninnern feststellen. Eine etwas stärkere Konzentration war im Laufstreifenbereich gegeben, bedingt durch die einwirkenden Fliehkräfte.

Unwuchtprüfungen konnten wir leider nicht durchführen, da die Mess- bzw. Prüffelge von den Anschlußmaßen nicht auf eine stationäre Wuchtmaschine aufgespannt werden konnte.

Ich hoffe, sehr geehrter Herr Spaans, Ihnen mit diesen Ausführen dienen zu können und verbleibe

mit freundlichen Grüßen

DUNLOP GmbH
K u n d e n d i e n s t

(i.V. D. Hammer)
Signature

(Dunlop Logo)
DRIVING TO THE FUTURE

DUNLOP BANDEN BV

Blad/Page 1 van/of 2 bladen/pages

Aan/To: TTN-Oss

T.a.v./Att.: De heer P.J. v. Gellecum

Fax: 0412-646651

Kopie/Copies:

In geval van transmissiestoringen s.v.p. bellen.
In case of garbled transmission please call.

Telefax

Van/From: R.Spaans

Ref.: RS/jh

Fax: 020-3422342

Tel.: 020-3422338

Kulperbergweg 13
1101 AE Amsterdam

Postbus 12566
1100 AN Amsterdam

Datum/Date:

Betr./Re: **ULTRASEAL**

I apologize for having taken such a long time, here is the initial report from our company.

Provided with the following comments:

The sidewall was damaged during the test by a 3.5 mm (1/8+")diameter nail and it did not seal 100%. The tire lost pressure over a 19 km (11.78 miles) distance, but this amounted only to 0.15 bar.

This confirmed our opinion that even when the preventative puncture sealing characteristic of Ultraseal is taken into consideration, a regular scheduled maintenance program, consisting of tire pressure checks and a control check of potentially damaged tire, is still necessary. It is also our opinion that such be recommended to any users of the product and proper guidelines should be established

The chemical analysis revealed that it contained traces of zinc and it had a ph-value of 9. We cannot conclude that this may have any effects on the environment.

The high speed test will be completed in the next few days and the results will be forwarded to you as soon as possible.

With our warmest regards

(R. Spaans)
Signature

(Dunlop Logo)
DRIVING TO THE FUTURE

DUNLOP GmbH

Internal Memo

To: Hr. Hammer, KD-G-L

From: Dr. U. Steinbrecht, MDA-L Tel: (0 61 81) /6811983

Copie: Dr. Fuchs, LC Date: 27.01.98

Hr. Eckhardt, MMS

Ultra Seal Driving Test and Chemical Analysis

Vehicle:	MB C180	Tire:	165/65 R15
Compression:	MB	Amount of sealant:	700 ml
Outside-/Sealant temp.:	0°C *(23°F)*	Speeds:	30 - 60 - 100 km/h *(18.6 - 37.2 - 62 mph)*
Street condition:	dry	Date:	January 26, 1998

Defect: 4.5 mm *(3/16")* nail in tread area profile (inside groove)

Distance driven [m]:	application	1000	5000	19000
Sealing ability:	leaking	sealed	sealed	sealed
Tire pressure [bar]:	2.1	2.0	2.05	2.1

Defect: 3.5 mm *(1/8+")* nail in SW *(side wall)*

Distance driven [m]:	Injecting	1000	5000	19000
Sealing ability:	leaking	leaking	leaking	leaking
Tire pressure [bar]:	2.10	2.05	2.00	1.95

Pressure was required to inject the sealant through the valve stem into the *(fully inflated)* tire.

Note: The above test information is a translation from the original issued in German. The testing data is the result of an independent verification test by DUNLOP GmbH, Germany, and does not constitute an endorsement by DUNLOP Gmbh. nor any other DUNLOP offices or affiliates, neither implied nor intended. This test was requested by our Benelux agent to have ULTRASEAL INT'L INC's. written performances concerning ULTRASEAL either verified or questioned. The authenticity of the original fax can be verified by an independent source upon request. *(Italics ours.)* U.S.A.

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Betr./Re: **ULTRASEAL**

Na veel wachten hierbij de eerste rapportering van onze fabriek.

Hierbij de volgende bemerkingen:

Bij de rijtest met een beschadiging door een spijker met een diameter van 3,5 mm. Blijkt de afdichting niet 100% hoewel het spanningsverlies na 19,000 km zeer laag is. nl. slechts 0,15 bar.

Het bevestigt echter onze mening dat ook bij preventieve toepassing van Ultraseal een regelmatige controle van de bandenspanning en een controle op beschadigingen cq. Ingedrongen voorwerpen van essential belang is. Uit het oogpunt van produkt aansprakelijkheld verdient het daarom aanbeveling hierover in druk aan de gebruiker duidelijke richtlijnen te verschaffen.

De chemische analyse maakt melding van de aanwezigheid van zink en een Ph-waarde van 9. Wat dit voor consequenties heeft o.v. milieu eisen kunnen wij u helaas niet meedelen.

De hoge snelheidstest zal een dezer dagen worden uitgevoerd en de uitslag zullen wij u zo spoedig mogelijk doen toekomen.

Met vriendelijke groet

(R. Spaans)
Signature

(Dunlop Logo)
DRIVING TO THE FUTURE

DUNLOP GmbH

Hausmitteilung

An: Hr. Hammer, KD-G-L

Von: Dr. U. Steinbrecht, MDA-L Tel: (0 61 81) /6811983

Kopie an: Dr. Fuchs, LC Datum: 27.01.98

Hr. Eckhardt, MMS

Ultra Seal Fahrversuch und chem. Analyse

Fahrzeug:	MB C180	Reifen:	165/65 R15
Kompressor:	MB	Dichtmittel-Volumen:	700 ml
Außen-/Dichtmitteltemp.:	0°C	Geschwindigkeit:	30 - 60 - 100 km/h
Straßenzustand:	trocken	Datum:	26.1.98

Defekt: 4,5 mm Nagel in Protektorlängsrille

Kilometerleistung [m]:	Einfüllen	1000	5000	19000
Dichtigkeit:	undicht	dicht	dicht	dicht
Reifendruck [bar]:	2,1	2,0	2,05	2,1

Defekt: 3,5 mm Nagel in SW

Kilometerleistung [m]:	Einfüllen	1000	5000	19000
Dichtigkeit:	undicht	undicht	undicht	undicht
Reifendruck [bar]:	2,10	2,05	2,00	1,95

Das Dichtungsmittel konnte nur unter Kraftaufwand durch das Ventil in den Reifen gefüllt werden.