



**HUMMEL® "TESTED FOR WOOD DUST"**



Pic. 1 HUMMEL® is now "tested for wood dust"

Today, wood dust is an important factor for floor sanding machines. In the past this subject was not a major concern in the decision making process. The quality of the sanding and aggression were the exclusive factors. All species of wood dust are considered dangerous, accordingly limits have been set by authorities worldwide in order to protect contractors against health related issues. This is why we continually strive to improve our machines.

In 1987, the HUMMEL® was tested at Stuttgart University's institution for machines and tools. The tests proved the machine was able to perform safely within the limit of 2 milligrams of dust per cubic metre (mg/m<sup>3</sup>). During recent measurements, the figure mentioned above has been cut in half and now tests below 1 mg/m<sup>3</sup>.

The most recent testing using DGUV's latest criteria with the HUMMEL® confirms our commitment to advancing safety. HUMMEL® was awarded the certificate "tested for wood dust" our effort has paid off and we are no. 1 in this respect.

## THE HUMMEL®'S ENHANCEMENTS



Pic. 2 Old Hummel®,  
year of manufacture: 1970



Pic. 3 Current safety engineering

### HUMMEL® "tested for wood dust"

HUMMEL® evolves constantly. A legend and a modern machine in one. HUMMEL® was invented by technical genius Eugen Lägler. Constant improvements have led to the robust high performance machine we see today. At the same time, dust levels were reduced. The new certificate for the HUMMEL® with a measurement below  $1 \text{ mg/m}^3$  is state of the art.

### Before 1987

In the 70's, many aspects of health and wellbeing were given little thought. Dangers from wood dust were widely unknown and safety engineering wasn't as advanced as it is today.

### 1987 GS-Label

In 1987, important amendments such as a switch box or the new belt guard for the HUMMEL® were introduced. As a result, HUMMEL® passed the GS-check. Also, the first wood dust measurements were taken at Stuttgart University. During these tests, today's legal limit of  $2 \text{ mg/m}^3$  was achieved by the HUMMEL®.

## THE HUMMEL®'S DEVELOPMENT INTO A MACHINE "TESTED FOR WOOD DUST"

### Important engineering changes for low-dust sanding

For the suction output, vital components were revised or redesigned one by one. An enhanced geometry of relevant parts as well as modern materials led to better suction and better filtration.

### 1995 MultiClip

Because dust bags need to be sealed well, we introduced the MultiClip for the TRIO in 1993. Based on the positive experience that came with the clip, it was also adapted for use with the HUMMEL® since 1995.



Pic. 4 A dust bag with the MultiClip

# THE GS-LABEL'S TEST REPORT FROM 1986

Fachausschuß  
Holz



BEIM HAUPTVERBAND DER GEWERBLICHEN BERUFGENOSSENSCHAFTEN e.V.  
ZENTRALSTELLE FÜR UNFALLVERHÜTUNG UND ARBEITSMEDIZIN

- Prüfstelle -

## Prüfbericht über die Beurteilung der Arbeitssicherheit

### Antragsteller:

Name, Firma: Eugen Lägler GmbH 0 7 1 2 9 6 0 1  
 Anschrift: Im Kappelrain 2, 7129 Güglingen 2 ANTRAGSTELLER/HERSTELLER  
 Antrag vom: 22.12.83

### Prüfung:

am: 04.06.86 bei: Fa. Lägler  
 Teilnehmer: FA Holz: Dipl.-Ing. Bogs, Kühler  
 Antragsteller: H. Lägler jun.  
 Hersteller: H. Görtz  
 Sonstige: Fr. Thelen, Holz-BG  
 Fr. Schreiber, Bau-BG  
 Frankfurt

### Maschine:

Hersteller: Eugen Lägler GmbH 2 3 9 0  
 Art (Herst. Bez.): Fußbodenschleifmaschine MASCHINE  
 Baujahr: 1986 Typ: Hummel  
 Maschinen-Nr.: 5889 TYPE, BEI LOESCH. »WEGFALL«  
 Sonstige Angaben: PRUEFNUMMER

### Bescheinigung:

AUSST. DATUM

BEFRISTET BIS

BEFRISTUNGSGRUND

### Geräuschkennwerte:

VERFAHREN

Schalleistungspegel  $L_w$  in dB(A) LEERLAUF 90 ARB. GER. 90  
 Arbeitsplatzbezogener  $L_{peq}$  in dB(A) Arbeitsplatz 1: LEERLAUF 77 ARB. GER. 76  
Arbeitsplatz 2: LEERLAUF ARB. GER.

## THE HUMMEL®'S DEVELOPMENT INTO A MACHINE "TESTED FOR WOOD DUST"

### Since 1997: Fan insert

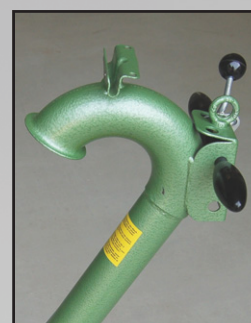
The fan insert is the most important part for a good dust pick-up. New fan geometry developed in collaboration with the University Heilbronn led to a significantly higher suction output.



Pic. 5 / 6 Fan insert;  
latest design / old design; worn out

### Since 2002: A new guide tube

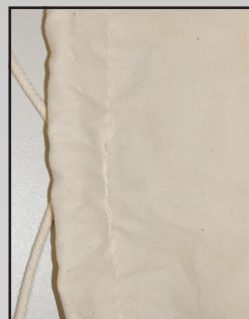
In 2002 the welded guide tube was updated with better manufacturing methods which enhanced airflow. This way, the wood dust particles coming from the fan pass through the guide tube and into the dust bag with less resistance. Thus, the dust pick-up improves significantly.



Pic. 7 / 8 Guide tube;  
latest design / old design

### Since 2007: A new dust bag

Dust bags may all look the same, but in the end it depends on the material they are made of. In 2007, new filter material that was suited for wood dust was designed by a well-known filter manufacturer for the HUMMEL®. It's filter quality is by 30% better than the old model. Compare the two dust bags on the right.



Pic. 9 / 10 Dust bag;  
latest design / old design

### Today's status:

Our HUMMEL® is the perfect universal machine with a large range of application. Continuous development adapts it to the latest guidelines. One by one, details are changed. Our company's philosophy is to assure you will be able to continually update your machine with every design modification. This approach made a wood dust limit of **less than 1 mg/m<sup>3</sup>** possible. What remains is the reliability, the unsurpassed quality of the resulting sanding and a longevity that remains unmatched. Now with the **DGUV test-label "tested for wood dust"**.

### What is the DGUV test-label?

The DGUV test-label is distributed by the Employer's Liability's sections for test and certification. In regard to special aspects, the addition "tested for wood dust" can be certified during the testing. This certificate is valid 5 years.

## MEASUREMENT OF WOOD DUST IN 1987

INSTITUT FÜR WERKZEUGMASCHINEN  
UNIVERSITÄT STUTT GART



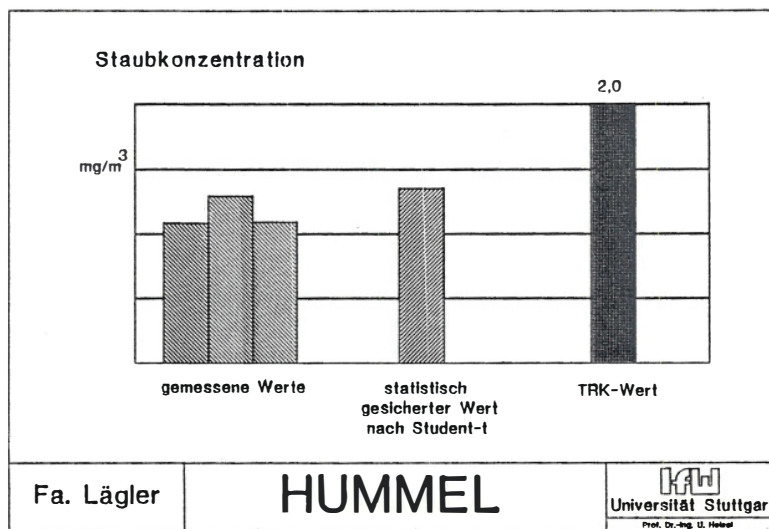
### Konsequenzen aus der neuen Situation für Parkettschleifmaschinen

Aufgrund der krebserzeugenden Wirkung von Eichen- und Buchenholzstäuben wurden 1987 Technische Richtkonzentrationen (TRK-Werte) für Holzstäube durch die Sektion Arbeitsmedizin des Bundesministerium für Arbeits- und Sozialordnung erlassen. Diese TRK-Werte liegen für Neuanlagen bei  $2\text{mg}/\text{m}^3$  und für Altanlagen bei  $5\text{mg}/\text{m}^3$ .

Die Maschinen für die Holzbearbeitung müssen im Hinblick auf ihre Stauberfassungselemente bzw. Absauganlagen so ausgelegt sein, daß die festgelegten Staubkonzentrationswerte in der Umgebungsluft nicht überschritten werden.

Die Firma Eugen Lägler GmbH ließ aus diesen Gründen ihre Maschinen am Institut für Werkzeugmaschinen der Universität Stuttgart auf die entstehenden Staubkonzentrationswerte untersuchen.

Für die **HUMMEL** ergaben sich folgende Staubkonzentrationswerte:



Die ersten drei Balken entsprechen gemessenen Staubkonzentrationswerten aus Versuchen unter Realbedingungen (worst-case-Messungen). Aus diesen Werten errechnet sich nach dem Student-t-Verfahren ein statistisch abgesicherter Wert, der unter dem geforderten TRK-Wert von  $2\text{mg}/\text{m}^3$  (dritter Balken) liegen sollte.

## PST WITH MACHINES “TESTED FOR WOOD DUST”

Flooring professional, sanding machine, sand paper as well as the working process are the most important factors for perfect sanding. Experience, research and extensive tests have led to **PST (Premium Sanding Technology)**. **PST** allows the user to adjust to the demands of each floor through synchronized work steps. Incorporating the TRIO early in the process will reduce physical strain, save time and greatly improve quality.

### Addition of the HUMMEL®

The **PST** uses the HUMMEL® solely for the precise cleaning and levelling of the surface with its rough sanding. This results in a clean and levelled floor as well as in a perfect basis to continue with the TRIO.



Pic. 11 Our three wood dust tested **PST**-machines

### What does the certificate “tested for wood dust” mean in regard to the PST?

All the LÄGLER-**PST** machines have been “tested for wood dust” and are therefore within the legal guidelines. The user’s exposure to wood dust during work stays extremely low day in day out. Also, getting an additional piece of equipment for dust containment becomes unnecessary with the integrated filter system. The disadvantages of needing a lot of electricity with an external vacuum as well as a hindering suction hose will be eliminated. A longer suction hose also lessens the dust pick-up, which results in higher exposure to wood dust.

**The PST along with our machines makes LÄGLER the first producer worldwide with a process that only uses machines “tested for wood dust”.**

# VERIFICATION CERTIFICATE "TESTED FOR WOOD DUST" 2012

Bescheinigung  
Nr. **HO 121003**  
vom 05.01.2012

 **DGUV Test**  
Prüf- und Zertifizierungsstelle  
Holz  
Fachbereich Holz und Metall

## DGUV Test Prüfbescheinigung

Name und Anschrift des Bescheinigungsinhabers: (Auftraggeber)	<b>Eugen Lägler GmbH</b> Maschinenfabrik Kappelrain 2 74363 Göglingen
Name und Anschrift des Herstellers:	siehe oben
Produktbezeichnung:	Parkettschleifmaschine
Typ:	HUMMEL
Bestimmungsgemäße Verwendung:	Trockenes Schleifen von Holz- und Korkfußböden.
Prüfgrundlage:	GS-HO-15 Grundsätze für die Prüfung und Zertifizierung des Teilaspektes „Staubemission“ von Elektrowerkzeugen und Parkettschleifmaschinen, Ausgabe 11.2007.
Zugehöriger Prüfbericht:	111089
Bemerkungen/ Zeichenzusatz:	Hinweis: Holzstaubgeprüft im Sinne von BGI 739-1. Dem DGUV Test-Zeichen muss der Vermerk "holzstaubgeprüft" angefügt werden.  Die Bescheinigung gilt nur für Maschinen, für die eine Konformitätserklärung ausgestellt ist.

Das geprüfte Baumuster entspricht der oben angegebenen Prüfgrundlage.  
Der Bescheinigungsinhaber ist berechtigt, das umseitig abgebildete DGUV Test-Zeichen an den mit dem geprüften Baumuster übereinstimmenden Produkten anzubringen, sofern zutreffend mit dem oben genannten Zeichenzusatz.

Diese Bescheinigung einschließlich der Berechtigung zur Anbringung des DGUV Test-Zeichens ist gültig bis: **04.01.2017**

Weiteres über die Gültigkeit, eine Gültigkeitsverlängerung und andere Bedingungen regelt die Prüf- und Zertifizierungsordnung vom September 2010.

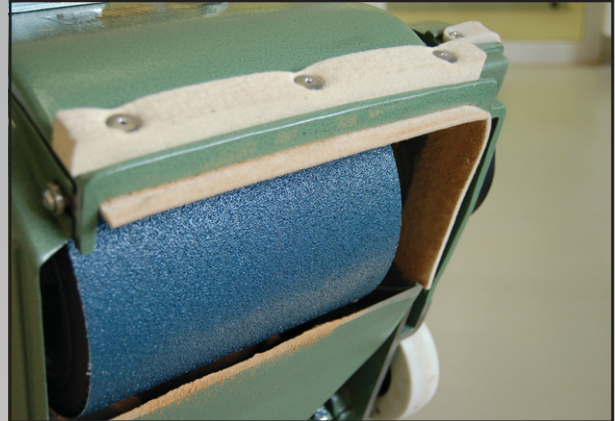


  
Leiter der Prüf- und Zertifizierungsstelle Holz  
Frank Hagendorff

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Telefon: 0711/1334-1117 • Telefax: 0711/1334-1111 • E-Mail: pz-ho@bghm.de •  
<http://www.bghm.de/arbeitschutz/fachausschuesse/holz-pruef-und-zertifizierungsstelle.html>  
Wa • Produktgruppe 009.3503

## DUST-FREE OR LOW IN DUST?

Because of the industry's large efforts in advertising, the subject of 'dust-free' is on everyone's mind. **But those who offer 'dust-free' have to deliver 'dust-free'!** According to experts, 'dust-free' sanding is not possible: A 100% safe seal, e.g. regarding the machine housing and the floor, is not possible; the filter system also lets small amounts of dust pass. Even the HUMMEL®'s (or a good vacuum cleaner's) highest suction quality cannot avoid this.



Pic. 12 New sealing felts reduce the wood dust exposure

With **good maintenance** and **following the manual**, low-dust operation is possible. Especially the parts important for filtering dust have to be in good condition. For example, the sealing felts attached to the machine housing prevent wood dust from escaping. If the sealing felts are worn, this will lead to higher exposure to wood dust. Therefore, it is imperative to change them when worn.

If the dust bags, side cover, fan insert or the MultiClip are defective or worn, the wood dust measurements will worsen drastically. Even if no escaping dust is observed, analysers are able to detect excessive amounts of wood dust in the air. Thus, regular maintenance is very important for working low-dust.

### Low-dust sanding

Learn what is important for sanding low-dust! Participate in a **PST**-training. Improve your skills with our three **PST**-machines.

#### Links:

[www.laegler.com](http://www.laegler.com)

GERMANY

[www.perswood.com](http://www.perswood.com)

SINGAPORE

[www.laeglerparts.com](http://www.laeglerparts.com)

USA

[www.khr-online.com](http://www.khr-online.com)

GREAT BRITAIN

[www.laegler.com.au](http://www.laegler.com.au)

AUSTRALIA

[www.zimbostrading.co.za](http://www.zimbostrading.co.za)

SOUTH AFRICA

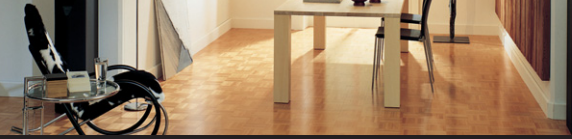
[corner attachment video](#)

CORNER ATTACHMENT

[HUMMEL® manual](#)

HUMMEL® MANUAL





## NEWS / REVIEW

### Review DOMOTEX 2012

According to the management, there was a significant increase in the visitor count for this year's Domotex, which could also be seen at our booth. The number of craftsmen visiting the exhibition was higher than last year. An important subject was our **PST** and the flooring professionals' experiences with it in daily use.



Pic. 13 An impression of the LÄGLER booth



### Event mode

You can also find us at the biggest US-exhibition for wood floors. This year's NWFA Convention / USA will be from April 10-13 in Orlando, Florida. Please visit our booth #505.

### Preview 2012

Our **PST**-training in Frauenzimmern continues to receive positive reviews. Since the program's beginning in 2009, over 1000 companies have visited. And now, **PST** is going to become more international.

**PST** is now officially conducted at our british partner **KHR**.

**PST** in conjunction with Fly & Sand is still very much in demand.

With our American partners we would like to ask US flooring professionals to enter the lottery for a chance to visit the "Home of the **HUMMEL**®" in Germany.



Pic. 14 LÄGLER: Innovative machines - innovative trainings

The fourth Fly & Sand will take place in late July. All entries must be received by **May 31st 2012**.