

**Report on Pendulum Slip test
Carried out for**

Treatex Ltd.

Test Carried out on the 19th March 2018.

1. My Instructions were received from Treatex Ltd. to carry out a Pendulum slip test using a type 96 rubber slider both wet and dry.
2. Treatex Ltd. delivered to my premises two 600 x 600 pre-prepared panels. These had been allowed to acclimatize for five days at an ambient temperature of 18°C. No modification of the surface has been carried out since delivery.
3. The product to be tested was identified to me by Treatex Ltd. as their Ultra Hard Wax Oil product. One panel had been applied with two coats of the standard product and a second panel had been coated in the Ultra finish with a non slip agent added.
4. The tests were carried out at approximately 1200hrs on 19th March 2018 at our Kington Office on a prepared and stable bench. The test area had an ambient temperature of 18°C.
5. The tests were carried out to *The UK Slip Resistance Group Guidelines Issue 5 2016*.
6. The Pendulum was first verified using a prepared type 96 rubber slider in wet conditions and on Pink Lapping Film, Plate Glass, and a Pavigres tile. The pendulum and slider were then dried before the sample panels were tested.
7. The tests were carried out both dry and wet, each in three directions, with the grain, across the grain and 45°angle to the grain. The size of the panel allowed sufficient surface area for no test to overlap a previous test.
8. The tests carried out, (results on the following page), show that in a dry and wet conditions using a type 96 rubber slider to simulate a standard shoe sole, the surface of the Ultra with anti slip agent added has a Pendulum Test Value of over 36, and is classified as having a LOW slip potential. The standard Ultra product has a low slip potential for the dry test and a moderate slip potential when wet tested.



21st March 2019.

Signed: Date:
 R.P. Winstone. MEWI. MCI Arb. MInstLM.

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 Registered in Wales No. 3248012

IN HOUSE / ON SITE PEDESTRIAN SLIP TEST WORK SHEET

CUSTOMER NAME	Treatex Ltd.
JOB No / TEST No	W1263
OPERATOR	Rob Winstone
DATE OF TEST TIME OF TEST	19 th March 2018 1200hrs.
ON SITE / LABORATORY	Kington.
SLIP TESTER CALIBRATION No & EXPIRY DATE	CN545 16 th February 2019.
SLIP TESTER SERIAL No	SK 1569
ROUGHNESS METER SERIAL No	NA
SLIDER TYPE, CERTIFICATE No & EXPIRY DATE	Type 96. Serial No 79 19 th February 2019.
CONTAMINATE DESCRIPTION	De-ionized Water
SURFACE TEMPERATURE C	NA
TEST LOCATION / MATERIAL DESCRIPTION (including customer ref) Kington Bench test. Treatex Hardwax Oil Ultra.	

Rz	1	2	3	4	5	6	7	8	9	10	MEAN
Results											
DIR A	1	2	3	4	5	6	7	8			MEAN
DRY	52	54	54	54	55	56	57	57			56
WET	32	31	30	30	29	28	27	27			28
DIR B	1	2	3	4	5	6	7	8			MEAN
DRY	52	52	53	54	54	54	54	55			54
WET	32	31	31	30	27	27	26	26			27
DIR C	1	2	3	4	5	6	7	8			MEAN
DRY	45	46	48	48	48	48	49	49			48
WET	31	29	28	28	27	27	28	26			27
DIR D	1	2	3	4	5	6	7	8			MEAN
DRY											
WET											

TEMPERATURE ADJUSTMENT VALUE	NA						
Zero check start	√	Zero check finish	√	Page	1		

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SLIP TESTER SERIAL No	SK 1569
ROUGHNESS METER SERIAL No	NA
SLIDER TYPE, CERTIFICATE No & EXPIRY DATE	Type 96. Serial No 79 19 th February 2019.
CONTAMINATE DESCRIPTION	De-ionized Water
SURFACE TEMPERATURE C	NA
TEST LOCATION / MATERIAL DESCRIPTION (including customer ref) Kington Bench test. Treatex Hardwax Oil Ultra with anti slip agent added.	

Rz	1	2	3	4	5	6	7	8	9	10	MEAN
Results											
DIR A	1	2	3	4	5	6	7	8			MEAN
DRY	49	50	50	50	52	52	52	52			52
WET	52	49	49	49	49	49	49	49			49
DIR B	1	2	3	4	5	6	7	8			MEAN
DRY	55	54	55	55	55	55	56	55			55
WET	51	48	49	48	48	49	48	48			48
DIR C	1	2	3	4	5	6	7	8			MEAN
DRY	58	55	56	56	56	57	57	57			57
WET	50	48	48	48	48	49	48	49			48
DIR D	1	2	3	4	5	6	7	8			MEAN
DRY											
WET											

TEMPERATURE ADJUSTMENT VALUE	NA
Zero check start	√
Zero check finish	√
Page	2

Interpretation of Pendulum Test Values (PTV)
(UK Slip Resistance Group Guidelines issue 5 2016)

Potential For Slip	Pendulum Test Value (PTV)
High Slip Potential	0-24
Moderate Slip Potential	25-35
Low Slip Potential	36+

Potential for Slip

The Potential for slip value, (Table 1), applies in the instance of access by able-bodied pedestrians. See also: -

note 4

note 5

Continuous monitoring.

Floors should be continuously monitored. It is recommended this be carried out at least twice a year. Also in the unfortunate event of an occurrence of a slip accident the floor in the immediate area of the accident needs to be tested. All such tests are recommended to be carried out by an independent party and a report issued.

Notes and References

❖ Test methods

Tests have been carried out in accordance with: -
BS 7976 -2: 2002

In conjunction with: -UK Slip Resistance Group Guidelines (UKSRG)

1. Note 1

Slider rubbers used in pedestrian testing are the Type 96.

The Type 96 rubber being representative of a typical/average type shoe type sole.

2. Note 2

The Building Research Institute and the former GLC this work suggested that for unencumbered reasonably active pedestrians aged between 18 and 60 a PTV level of **36 or above** represented an acceptably low risk of slipping when walking in a **straight line on a level surface**

3. Note 3

Level Floors

Wherever possible all floor/pedestrian surfaces should be such that they fall within the parameters of Low Slip Potential (36+) and ideally on a level floor a minimum Pendulum Test Value (PTV) of 40.

4. **Note 4**

Where assisted access is required, for example a person aiding a wheel chair user then a higher PTV is required; (a lighter person controlling/pushing a wheel chair requiring a higher PTV than a heavier person controlling/pushing the same load.).

In such instances due consideration should therefore be given to increase further the traction slip resistance of the walkways.

5. **Note 5**

Slopes /Gradients

Where gradients are involved the PTV requires to be increased.

References:

- ❖ BS 7976 –2: 2002 Pendulum Testers scope for use in the determination of slip/skid resistance of surfaces
- ❖ UK Slip Resistance Group Guidelines (UKSRG) - The Assessment of Floor Slip Resistance - issue 5 2016
- ❖ *## Slips and fall safety testing makes forward strides, George Sotter P.E., PhD - Building Services Management January 2006*
- ❖ Slip Resistance of Polished Concrete Surfaces - Cement Concrete and Aggregates Nov 2006.

Legislation

- ❖ *Health and Safety at work act 1974 requires employees to ensure the health and safety of all employees and anyone who may be affected by their work*

“With respect to its construction the floor shall not be slippery so as to expose any person to a risk to their safety” The Management of Health and Safety at work regulations 1999 includes duty on the employer to assess risk and where necessary take action to safeguard health and safety
- ❖ The Workplace Regulations 1992 require floors to be suitable, in good condition and free from obstructions
- ❖ Business/property owners are obliged to have a duty of care to employees and carry out risk assessment programmes to protect their employees and the General public. If the floor surface is slippery under wet conditions then action need to be taken to reduce the risk of an accident. Determining the relative safety of the floor under wet conditions and monitoring it maybe evidence of due diligence. Findings and accident prevention measures should be recorded
- ❖ According to legislation – Health, Safety & Welfare Regulations 1992 (Reg. 12) and Greater London Council Bulletin 43 (item No. 5 March 1971 –Slip Assistance of Floors) we have a duty to ensure floors are not slippery.

