



Independent and Impartial H approved Floor Slip Resistance Pendulum Testing to BS7976-2 and Expert Witness Testimony and Floor Safety Slip Risk Assessments / Advice – By Surface Consultants Ltd

Summary of Findings - Pendulum Slip Testing

Our Reference: 2309021

Date: 06 October 2023

Date of Test: 05 October 2023

Client: Gilboys

Address: Staverton Works
New Lane Staverton
Totnes
TQ9 6AQ

Site Address: 17 Hall Road
Stowmarket
IP14 1TN

Contact: Simon Gilboy

In Attendance:

Surface Consultants: Steve Arber
Gilboys

Overview of Testing Conducted:

Customer has a range of products they market and have recently developed a finish that has been applied to various samples

The client requested testing be carried out on the following samples: -

- Test 1 **Maple**
- Test 2 **Teak**
- Test 3 **Pine**
- Test 4 **Sapela**
- Test 5 **English Ash**
- Test 6 **English Oak**
- Test 7 **Iroko**

As instructed, we conducted 'Independent' Floor Slip Pendulum Testing in accordance with BS 7976-2 / UKSRG Guidelines. Tests were conducted using in date calibrated equipment & methods recognised in UK courts as accurate, consistent and which provide repeatable values; tests recommended & approved by the HSE (Health and Safety Executive) to determine if floors are able to prevent slips.

The HSE / HSL (UK Health and Safety Laboratories) have determined the probability of floor slip should be a minimum of 1 in 1 million footfalls and a 'Pendulum Test Value' (PTV) of 36 relates to this probability rating (in the range 0 to 110 where 0 is the worst value). Typically, a floor never fails the test when the floor is dry but when the floor is WET or CONTAMINATED with liquid or dry contaminants (such as water cooking oil or talcum powder) then the PTV drops significantly; the HSE has determined over 90% of slips on wet floors

The UK HSE (Health and Safety Executive) has recommended a minimum Pendulum Test Value (PTV) of 36 should be achieved on a **horizontal** floor in DRY, WET and (where relevant) **CONTAMINATED** conditions. For a slope, the PTV figure at horizontal has to be increased by $100 \times \tan \alpha$ where α is the slope angle

Notes:

As found readings were affected by contaminants including dust and chemical cleaning fluids. Dry readings were not conducted until contaminants were wiped away.

All areas surpassed: **36PTV for BS7976/2 low risk classification when tested as found (contaminated) & dry wiped**

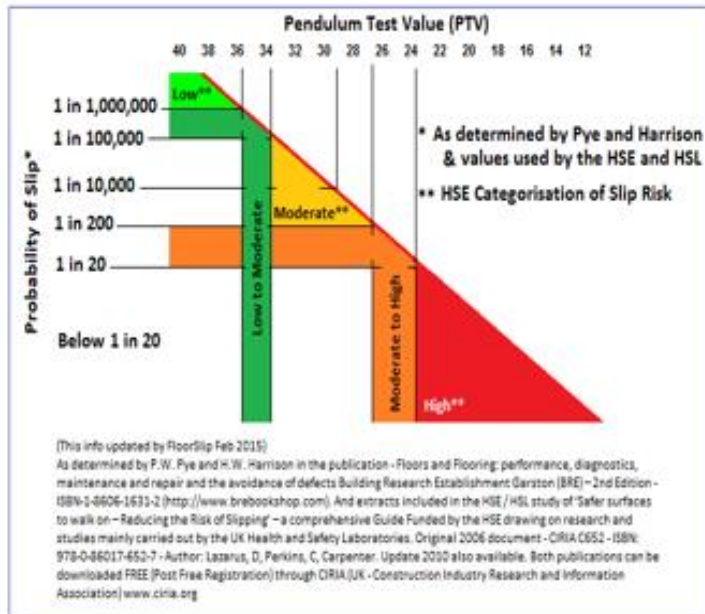
Test carried out on: **Various**

Test were carried out using a: **IHRD 96 Slider**

Site Plan: **None**



Pendulum Test Value	Probability of Slip	HSE Categorisation of Risk of Slip
PTV OF 36	1 in 1,000,000	Low Risk
PTV OF 34	1 in 1,00,000	Moderate Risk
PTV OF 29	1 in 10,000	
PTV OF 27	1 in 200	
PTV OF 24	1 in 20	High Risk
PTV of less than 24	Less than 1 in 20	



Source:- Assessing the slip resistance of flooring:-
<http://www.hse.gov.uk/pubns/geis2.htm>

Equipment used: Cooper Pendulum
Sliders Used: IHRD 96 Slider

Site Conditions:
Internal: Dry
External: N/A

Temp (Deg C.)
 15
 N/A

Calibration of Pendulum to Zero:



Location of tests:

Test1: Maple



Test 2: Teak



Test 3: Pine



Test 4: Sapela



Test 5: English Ash



Test 6: English Oak



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Test 7: Iroko



Conclusion:

There were 7 samples tested in 3 states

All surpassed the 36PTV Low risk classification when **Tested as Found**

All surpassed the 36PTV Low risk classification when **Tested Dry Wiped**

2 surpassed the 36PTV Low risk classification when **Tested Wet**.

**** As found readings can be affected by contaminants including dust and chemical cleaning fluids.**

**** Dry readings are not conducted until contaminants are wiped away.**

If you require any other information on any of the above, please feel free to get in touch.

Assuring you of our best attentions at all times

Steve Arber

Survey manager



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Test 1 Sample: Maple



Internal:
Conditions: Dry
Temperature (C): 15

External:
 N/A
 N/A

Floor Type	Pendulum Test Equip		Lowest Average Pendulum Test value (PTV) Readings Found			
	Type/Ser: No		See note 1			
	Cooper	No 2033-02	As Found	Dry Wiped	Wet	
Maple	IHRD 96 Slider		1	65	65	35
			2	64	65	35
			3	65	67	32
			4	66	64	30
			5	66	65	25

Average	65.20	65.20	31.40
Risk of Slip	Low	Low	Moderate
Comments			



Risk of Slip - Categories as described by the HSE

	Low - Values 36 PTV and Above
	Moderate - Values Between 27.1 & 35.99 PTV
	Moderate / High - Values Between 24.1 & 26.99 PTV
	High - Values Below 24 PTV

Test 2 Sample: Teak

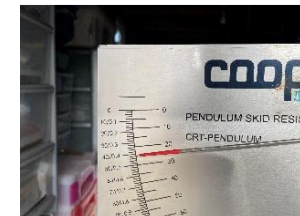
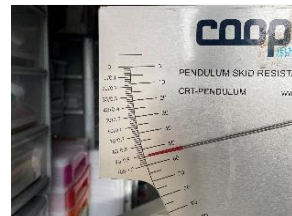
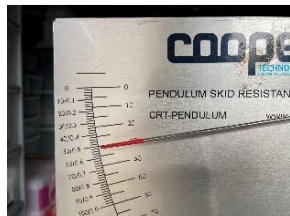


Internal:
Conditions: Dry
Temperature (C): 15

External:
 N/A
 N/A

Floor Type	Pendulum Test Equip Type/Ser: No		Lowest Average Pendulum Test value (PTV) Readings Found See note 1			
	Cooper	No 2033-02	As Found	Dry Wiped	Wet	
	Slider(s) Used					
Maple	IHRD 96 Slider		1	40	55	34
			2	38	55	30
			3	36	52	26
			4	36	54	25
			5	31	54	25

Average	36.20	54.00	28.00
Risk of Slip	Low	Low	Moderate
Comments			



Risk of Slip - Categories as described by the HSE

	Low - Values 36 PTV and Above
	Moderate - Values Between 27.1 & 35.99 PTV
	Moderate / High - Values Between 24.1 & 26.99 PTV
	High - Values Below 24 PTV

Test 3 Sample: Pine

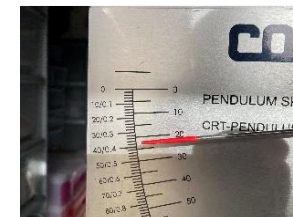
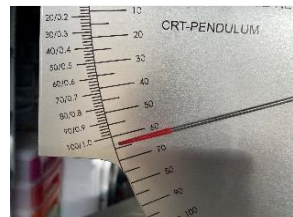


Internal:
Conditions: Dry
Temperature (C): 15

External:
 N/A
 N/A

Floor Type	Pendulum Test Equip Type/Ser: No		Lowest Average Pendulum Test value (PTV) Readings Found See note 1			
	Cooper	No 2033-02	As Found	Dry Wiped	Wet	
	Slider(s) Used					
Maple	IHRD 96 Slider		1	55	70	35
			2	61	68	32
			3	62	68	30
			4	64	71	28
			5	64	69	24

Average	61.20	69.20	29.80
Risk of Slip	Low	Low	Moderate
Comments			



Risk of Slip - Categories as described by the HSE

	Low - Values 36 PTV and Above
	Moderate - Values Between 27.1 & 35.99 PTV
	Moderate / High - Values Between 24.1 & 26.99 PTV
	High - Values Below 24 PTV

Test 4 Sample: Sapela

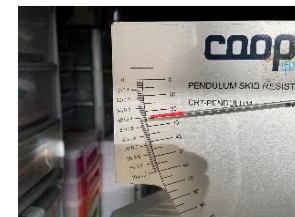
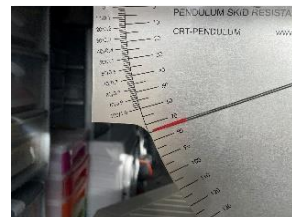
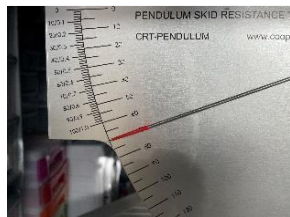


Internal:
Conditions: Dry
Temperature (C): 15

External:
 N/A
 N/A

Floor Type	Pendulum Test Equip Type/Ser: No		Lowest Average Pendulum Test value (PTV) Readings Found See note 1			
	Cooper	No 2033-02	As Found	Dry Wiped	Wet	
	Slider(s) Used					
Maple	IHRD 96 Slider		1	64	74	34
			2	66	72	30
			3	65	74	28
			4	68	74	28
			5	70	74	25

Average	66.60	73.60	29.00
Risk of Slip	Low	Low	Moderate
Comments			



Risk of Slip - Categories as described by the HSE

	Low - Values 36 PTV and Above
	Moderate - Values Between 27.1 & 35.99 PTV
	Moderate / High - Values Between 24.1 & 26.99 PTV
	High - Values Below 24 PTV

Test 5 Sample: English Ash

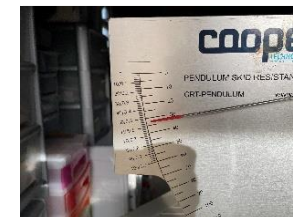
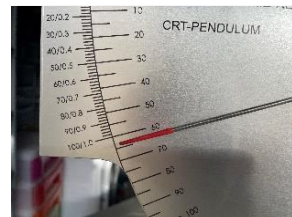
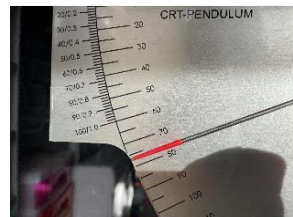


Internal:
Conditions: Dry
Temperature (C): 15

External:
 N/A
 N/A

Floor Type	Pendulum Test Equip Type/Ser: No		Lowest Average Pendulum Test value (PTV) Readings Found See note 1			
	Cooper	No 2033-02	As Found	Dry Wiped	Wet	
	Slider(s) Used					
Maple	IHRD 96 Slider		1	70	60	42
			2	76	62	40
			3	72	63	38
			4	75	61	38
			5	76	64	34

Average	73.80	62.00	38.40
Risk of Slip	Low	Low	Low
Comments			



Risk of Slip - Categories as described by the HSE

	Low - Values 36 PTV and Above
	Moderate - Values Between 27.1 & 35.99 PTV
	Moderate / High - Values Between 24.1 & 26.99 PTV
	High - Values Below 24 PTV

Test 6 Sample: English Oak

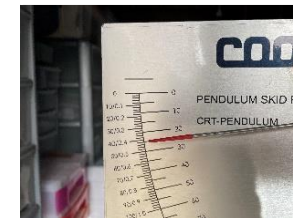
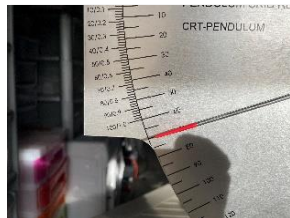


Internal:
Conditions: Dry
Temperature (C): 15

External:
 N/A
 N/A

Floor Type	Pendulum Test Equip Type/Ser: No		Lowest Average Pendulum Test value (PTV) Readings Found See note 1			
	Cooper	No 2033-02	As Found	Dry Wiped	Wet	
	Slider(s) Used					
Maple	IHRD 96 Slider		1	65	63	38
			2	66	64	36
			3	65	66	32
			4	70	65	32
			5	70	65	25

Average	67.20	64.60	32.60
Risk of Slip	Low	Low	Moderate
Comments			



Risk of Slip - Categories as described by the HSE

	Low - Values 36 PTV and Above
	Moderate - Values Between 27.1 & 35.99 PTV
	Moderate / High - Values Between 24.1 & 26.99 PTV
	High - Values Below 24 PTV

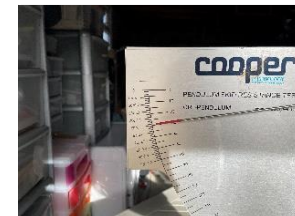
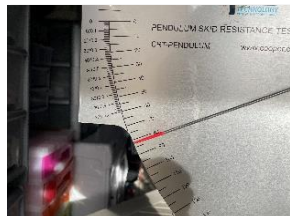
Test 7 Sample: Iroko



Internal:
Conditions: Dry
Temperature (C): 15
External:
 N/A
 N/A

Floor Type	Pendulum Test Equip Type/Ser: No		Lowest Average Pendulum Test value (PTV) Readings Found See note 1			
	Cooper	No 2033-02	As Found	Dry Wiped	Wet	
	Slider(s) Used					
Maple	IHRD 96 Slider		1	74	85	45
			2	81	82	42
			3	79	84	38
			4	75	82	36
			5	81	85	30

Average	78.00	83.60	38.20
Risk of Slip	Low	Low	Low
Comments			



Risk of Slip - Categories as described by the HSE

	Low - Values 36 PTV and Above
	Moderate - Values Between 27.1 & 35.99 PTV
	Moderate / High - Values Between 24.1 & 26.99 PTV
	High - Values Below 24 PTV