

## Permashake

### Dry Shake Topping - Slip Resistance Values

DATASHEET ISSUE 1.0

05 JANUARY 2009

#### INTRODUCTION:

Repeat powerfloated Permashake - hardened & coloured concrete floor surfaces have satisfactory to excellent slip resistance values provided they are maintained clean and dry. This has been proven in practice since Permashake Dry-Shake flooring was originally developed for engineering and heavy-duty applications and in the last 15 years widely used for retail warehouses (e.g. B&Q, Woodies, Homebase, Focus, Makro and Wickes).

For these buildings, which are of course open to the public, the slip resistance is very important. Both Permashake Quartz and Permashake Alloy (colour is immaterial to slip resistance results) have been tested on both wet and dry floor areas in these buildings giving the results shown below.

Please also refer to the Permaban information sheet "Industrial Flooring – Guide to Slip Resistance".

#### Permashake Slip Resistance Test Results

	<i>Age</i>	<i>Condition</i>	<i>Surface Roughness microns (average)</i>	<i>Pendulum Value Dry (average)</i>	<i>Pendulum Value Wet (average)</i>
<b>Permashake Alloy</b>	New	New	11	64	32
	New	Textured	32	58	61
	5 yrs	Trafficked	28	61	58
<b>Permashake Quartz</b>	New	New	9	62	29
	New	Textured	36	60	34
	8 yrs	Trafficked	30	49	33

All tests were carried out after floor cleaning.

#### DISCUSSION:

The above results have corresponded well with the Permaban experience (and HSE's guidelines) that new smooth floors are potentially slippery in wet conditions. However, in clean and dry conditions the smooth powerfloated floor surface provides "excellent" slip resistance as defined in the table below related to the pendulum test.

#### Pendulum Result (4S Rubber Slider)

24 or below  
25 to 34  
35 to 64  
65+

#### Floor Categorisation

Dangerous  
Marginal  
Satisfactory  
Excellent

There is a formula available to convert the above pendulum test values precisely into the coefficient of friction but, as an approximate guide, divide by 100.

For floors for use in dry conditions, we recommend a powerfloated Permashake (Quartz or Alloy) surface with appropriate housekeeping.

For floors which may become wet we recommend Permashake Alloy surfacing with texturing which may be by natural wear (this obviously takes time to develop) or at any time by artificial texturing (e.g. acid etching or light shot/grit blasting). This process has been found ideal for applications varying from pedestrian traffic (to date over 400 retail warehouses) to articulated trucks in transfer warehouses.



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