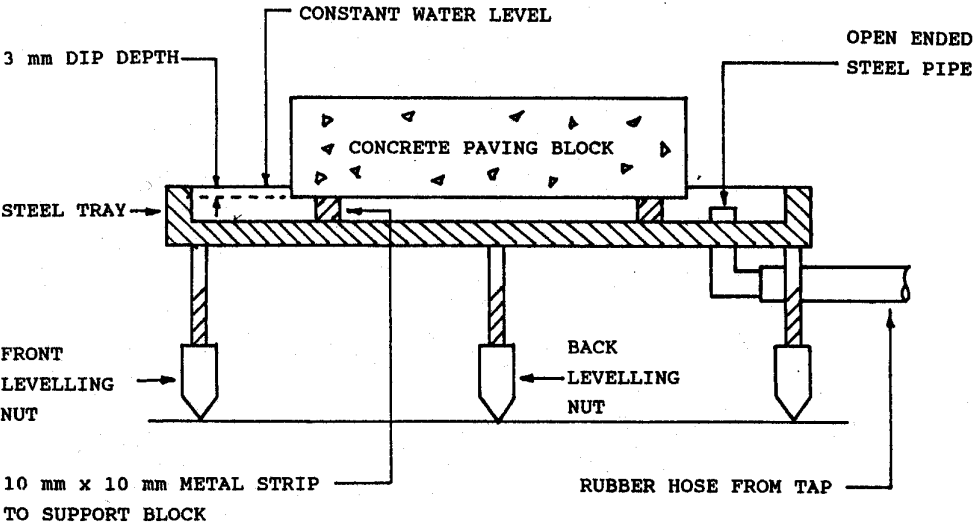


## Appendix U.8.2 – ISAT

<b>Generic Name of Test</b>	Water NDT : Abrasion / Non Destructive Test						
<b>Principle of Test</b>	Water is absorbed into surface at a measured rate						
<b>Historic Development of Test</b>	All that is known is that the <i>SABS 0164:Part 1-1980 Initial Surface Absorption Test</i> was developed in 1980 or earlier.						
<b>Apparatus</b>	The test apparatus consists of a tray with a depth of at least 15mm that can be accurately levelled. Two bars act as supports for the test specimen while in the tray (see figure U.8.2.1). [SABS 0164: Part1-1980]						
 <p style="text-align: center;"><b>Figure U.8.2.1 SABS 1064 Part 1 1980 ISAT apparatus</b> (reproduced from figure 4.17)</p>							
<b>Test Method</b>	The test specimens are dried for 48-72 hours and weighed. The tray is filled with water until the level is 3mm above the support bars. The dried specimen is placed on the support bars for a period of 1 minute after which it is removed, wiped with a damp cloth and weighed. [SABS 0164: Part1-1980]						
<b>Surface Absorption</b>	The initial rate of absorption is calculated by dividing the mass gain of the paver (kg) by the plan area of the paver (length x breadth). [SABS 0164: Part1-1980]						
<b>References</b>	<table border="0" style="width: 100%;"> <tr> <td style="width: 50%;"><u>Author</u></td> <td style="width: 50%;"><u>Comment</u></td> </tr> <tr> <td>SABS 0164: Part1-1980</td> <td>Source document</td> </tr> <tr> <td>Sadegzadeh (1986)</td> <td>Source document</td> </tr> </table>	<u>Author</u>	<u>Comment</u>	SABS 0164: Part1-1980	Source document	Sadegzadeh (1986)	Source document
<u>Author</u>	<u>Comment</u>						
SABS 0164: Part1-1980	Source document						
Sadegzadeh (1986)	Source document						

## APPENDIX U.8.2

### **Mechanisms according to Author**

(i) Sadegzadeh (1986): There is a very close relationship between the abrasion resistance and the initial surface absorption. This is attributed to both tests being influenced by the micro-surface texture and the quality of the surface matrix.

(ii) Visual Effects: None

### **Mechanisms according to writer [R0 S0 I0]**

This test is clearly a measure of the porosity of the surface which is generally influenced by cement content, w/b, power troweling, curing etc. Abrasion resistance is also related to surface porosity and is likewise influenced by these processes.

The test however is unable to measure certain other aspects that positively contribute to abrasion resistance such as hardness of the aggregates and the effect of liquid surface treatments etc.