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Understanding the New SANS standard and Amendments for Concrete Paving Blocks

Pan Mixers South Africa (PMSA) has outlined the important implications for the local industry, following recent amendments to the SANS 1058 paving block standards.



A side view of the abrasion tester.

As the leading supplier of concrete brick, block and paving-making machinery and technology in Africa, PMSA is assisting its clients and local concrete paving block manufacturers in understanding and complying with the new SANS 1058:2010 standard for concrete paving blocks, which was officially introduced in September 2011, as well as the most recent amendment to the standard.

PMSA marketing and sales manager Quintin Booysen points out that the most important aspects of the amendment is the fact the tensile splitting strength test and abrasion test compliances have been modified. "It is vitally important that the new SANS 1058:2010 standard and amendments are effectively communicated to the industry and to testing laboratories, as some manufacturers are struggling to consistently meet the criteria for compliance."

Under the SANS 1058:2012 specifications, the previous Class 25 SANS 1058:2006 standard, which was based on a compressive strength rating of 25 MPa, with the amendment is now recognised as Class 30/2.0. The previous Class 35 SANS 1058:2006 standard, based on a compressive strength rating of 35 MPa, with the amendment is now recognised as Class 40/2.6. This amendment became official in February 2012.

"According to the Concrete Manufacturers Association (CMA), Class 30/2.0 is officially rated at 2.0 MPa tensile strength, and is indicative of a compressive strength rating over 30MPa. Class 40/2.6 is rated at 2.6 MPa tensile strength, and approximates a compressive strength rating over 40 MPa," adds Booysen.

He also highlights the fact that the two strength ratings within the standard have been renamed for greater clarity. "The SANS 1058:2010/2012 standard includes two new performance measurement techniques, namely: tensile splitting and abrasion testing. This sets a higher quality benchmark and is more comprehensive than the SANS 1058:2006 standard it replaced, as research has shown that paving blocks are rarely crushed under load. Abrasion, cracking and break-up are the main causes of paving failure."

SANS 1058 - WHAT HAS CHANGED?

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| Now (SANS 1058 :2012 Edition 2.1 - Amendment) | Class 30/2.0 | Class 40/2.6 |
| Was (SANS 1058 :2010 Edition 2) | Class I | Class II |
| Previous (SANS 1058: 2006) | Class 25 (25MPa) | Class 35 (35MPa) |

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The abrasion tester machine.

The amended standard SANS 1058:2012 restricts the average mass loss per block to 15 g after being pounded by 600 16 g ball bearings for 60 minutes in a rotating steel box.

A water absorption test had been included in the original SANS 1058:2010, although the requirement has been left out of the amended SANS 1058:2012, it remains as an informative and voluntary part of the standard according to the CMA.

Booyesen continues: "The SANS 1058:2012 standard, therefore, attempts to replicate an accelerated and more accurate performance of paving bricks, whereas the previous SANS 1058:2006 testing method was more focused only on compression strength testing, which does not suitably simulate the real conditions that pavers are exposed to in everyday applications."

PMSA encourages manufacturers to get in contact with the CMA for greater details on the amendments. Booysen admits that it will be a challenge to disseminate details of the new standard and the amendments to the market; however, he does point out that PMSA manufactures the abrasion testing machinery, and provides the necessary training to any individuals or companies that require it.

"As a market-leader in concrete brick, block and paver making machinery, PMSA is committed to providing a broader base of knowledge to a wide range of clients, in order to ensure that the standards are adopted. This also ultimately ensures that specifiers of the architectural, engineering and construction industries benefit from the new standards for paving brick manufacture," he concludes.



Quintin Booysen

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