

<b>PPC CEMENT (PTY) LTD DE HOEK</b>	
Certificate Number	35/3
Issued	24 February 1999
Period of validity	Not stated
Situation	Farm Rietfontein No 184, district Piketberg (1338,62 ha)
Nature of Process	<p>Cement Process (No 22)</p> <p>Limestone and shale/latorite are mined and crushed in a quarry adjoining the plant. Together with sand and iron ore/filter dust granules (FDG) these raw materials are mixed in computer-controlled ratios and fed to two raw mills. The raw meal is homogenised and stored in silos from where it is fed into two kilns fired with pulverised coal.</p> <p>One kiln (No 5) is a 1150 ton per day (nominal) FL Smidth kiln with a four-stage pre-heater. The other kiln (No 6) is 1450 ton per day (nominal) Polysius kiln with a four-stage preheater.</p> <p>After leaving the kilns the cement clinker is cooled and stored in clinker silos. When required the clinker is finely ground in any of two cement mills where about 5% of gypsum and about 9% limestone is added. The unblended cement is then stored in a silo. The unblended cement is mixed with about 15% slag in a blender and stored in silos. (The milled slag is delivered to De Hoek in rail trucks and is stored in a storage silo.) The blended product is then packed/palletized and dispatched.</p> <p><i>(Note: percentages have been crossed out and new figures written in – 4% gypsum, 9% limestone, 21% slag, respectively. Limestone has been annotated with the term NDM, which is defined as being non-deleterious material).</i></p>
Raw Materials	Limestone, shale, sand, iron ore, gypsum, laterite, filter dust granules, milled slag
Products	Portland Cement, 1 000 000 tons <i>Note: 1 million tons crossed out and replaced with 1.5 million tons.</i>
Appliances and measures to prevent air pollution	<p><u>Quarry</u></p> <ol style="list-style-type: none"> <li>1. Water tankers are used to spray roads. Calcium chloride is added to the water to make it more effective.</li> <li>2. Dust suppression units are fitted to drilling rigs</li> <li>3. Water spray at primary and secondary crushers as well as transfer points on the conveying system</li> </ol> <p><u>Factory</u></p> <ol style="list-style-type: none"> <li>1. Water sprays are installed at the crushing stations and at transfer points on the conveying systems.</li> <li>2. Bag filters, having filtration velocities of less than 1.5 minute, control dust emission from- <ol style="list-style-type: none"> <li>1. raw meals transport and storage;</li> <li>2. clinker transport;</li> <li>3. cement transport and storage;</li> <li>4. cement packers and bulk loading.</li> </ol> </li> <li>3. Each kiln is equipped with a four-stage preheating system and a conditioning tower in which the temperature of the exist gases is reduced to 150°C before entering the electrostatic precipitators. Each precipitator consists of two chambers, each having two fields with each field having its own power pack. The dust emission from No 5 plant shall be less then 350 mg/m<sup>3</sup>. The dust from No 6 plant shall be less then 200 mg/m<sup>3</sup>.</li> <li>4. Exit gases from the two cement mills are passed through electrostatic precipitators. The dust emissions shall not exceed 200 mg/m<sup>3</sup>. Both mills exhaust through 18m high stack.</li> </ol>

	<p>5. The rail truck tippler for offloading coal, iron ore and FDG equipped with a system of automatic water sprays for dust control. <i>(Note: iron ore crossed out)</i></p> <p>6. Exhaust gases from No 6 sand kilns are monitored continuously with a photo-electric opacity meters. <i>(Note: No 6 amended to No 5 &amp; 6, sand deleted)</i></p> <p>Note: All emissions quoted as mg/m<sup>3</sup> shall be corrected to 0°C and 760 mm HG.</p>
Disposal of effluents from purification equipment	No effluents