

14.09.2009

Penetron Australia

Request No.: 33598

Client No.: 773/09

**Australian
Construction
Materials**

**Materials Technical Services
Boral Resources (NSW) PTY LTD**
ABN 51 399 754 000

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AS 1478.1-2000 Compliance Certificate for PENETRON Type SN Admixture
(Average of Two Tests using Type GP Cement)

Tests were conducted at the Boral Materials Technical Services Laboratory to investigate the performance of a Penetron Admixture at a dosage rate of 0.8% (by weight of total cement content) against the requirements of AS1478.1-2000, Chemical Admixture for Concrete, for Special Purpose Normal-Setting Admixture (Type SN) Admixture.

Laboratory Number: 91763, 91764, 91765, 91766

Date of Mixed: 29.04.2009

Cement: Blue Circle Southern Cement – Type-GP, (SL)

		<u>AS1478.1 REQUIREMENTS</u>	<u>CONTROL MIX</u>	<u>MIX CONTAINING Penetron Type SN</u>
Cement Content (kg/m ³)		300 ± 15	305	310
Slump (mm)		80 ± 10	75	75
Air content (%)		Test and Report	1.4	1.4
Time of Setting	Initial	±1 hour	6hr:40min	6hr:50min (+10min)
	Final	±1 hour	8hr:20min	8hr:30min (+10min)
Water Content (L/m ³)		Report	198	196
Drying Shrinkage (56 days)		Test and Report	555 µε	540 µε (97%)
Compressive strength (MPa)	<u>Age at Test</u>	<u>Minimum % of control</u>		
	3 days	90	22.5	25.0 (111%)
	7 days	90	33.5	34.5 (103%)
	28 days	90	41.0	44.0 (107%)
	90 days	90	45.5	48.0 (105%)

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