



Mansell Premix Pty Ltd

Toowoomba Laboratory

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Mix details for Eidsvold Siltstone Cube Specimen Trials.
Investigation for pozzolanic properties of siltstone powders.

Materials	
Sand	Clifton Sand & Gravel - Medium Sand
Cement	Sunstate GP cement
Flyash	Fine Grade Flyash from Millmerran Power Station
Siltstone	Fine siltstone powder supplied by Eidsvold Siltstone:- Sample 32 - Raw; Sample 30 - 450°C ; Sample 28 - 650°C ; Sample 26 - 700°C ; Sample 240 - 900°C
Water	Toowoomba Town Water
Laboratory	Batches weighed and mixed at the Mansell Concrete Laboratory, 550 Alderley St Toowoomba

Mix proportions:- Laboratory mortar mixes
50 x 50 cube specimens cast from each mix; tested for compressive strength at 7-days and 2 x 28-days

Mix No.	Description	Cast Date	Sand (g)	Cement (g)	Additive (g)	Water (ml)	Test Report	Cube Strength (MPa)			% gain 7 to 28-day	% of control at 7-days	% of control at 28-days
								7-day	28-day	28-day			
1	Control (straight cement)	13-May-15	810	540	-	270	TL15/231	33.0	47.5	45.5	71.0%	100.0%	100.0%
2	25% Flyash	13-May-15	810	405	135	270	TL15/231	27.5	49.5	51.5	54.5%	83.3%	108.6%
3	25% Raw (Sample 32)	18-May-15	810	405	135	270	TL15/240	28.5	35.5	36.5	79.2%	86.4%	77.4%
4	25% 450°C (Sample 30)	18-May-15	810	405	135	270	TL15/240	30.0	39.5	40.5	75.0%	90.9%	86.0%
5	25% 650°C (Sample 28)	21-May-15	810	405	135	270	TL15/249	38.0	53.5	53.5	71.0%	115.2%	115.1%
6	25% 700°C (Sample 26)	21-May-15	810	405	135	270	TL15/249	38.5	53.5	53.0	72.3%	116.7%	114.5%
7	25% 900°C (Sample 24)	22-May-15	810	405	135	270	TL15/252	34.0	43.5	45.0	76.8%	103.0%	95.2%

Commentary: From the above trial results it is concluded that the 650°C and 700°C powders supplied have enhanced the strength performance at both 7 and 28-days.

Rod Evans
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