Speed Post

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April 20, 2012

To,
Shri Rajiv Gauri
General Manager
Reliance Industries Limited
(Fiber Marketing Division)
A-3, Mohan Cooperative, 2nd Floor,
Mathura Road, New Delhi-110 044

Subject : Performance Evaluation of Recron 3S Polyester Micro Fiber Reinforced Concrete in Structure – interim report

Dear Sir,
Please find enclosed herewith the interim brief report of aforesaid project.

With warm regards,

Yours Sincerely,

20.04.2012

(S. K. Singh)
Principal Scientist

Mix Proportioning of Concrete

Ingredients	Quantity of Materials (Kg)	
	M 25	M 40
Cement (OPC-43 Grade- Vikram)	330	390
Fine Aggregate (River Sand) Zone-II)	720	682.5
Coarse Aggregate (Crushed Stone)	1221	1250
Water	158.4	148
Super plasticizer (Glenium 51)	1.32	3.9
Total weight of Materials	2430.7	2474.4

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Principal Scientist
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Compressive Strength of Micro Polyester Fiber Reinforced Concrete

Dosage of Recron 3s per m^3	Compressive Strength (MPa)							
	Micro-Polyester Fiber (Recron 3s-Triangular)							
	12 mm Length				18 mm Length			
	7 Days	28 Days	90 Days	180 Days	7 Days	28 Days	90 Days	180 Days
M 25 Grade Concrete								
0% (Control)	24.75	36.98	38.95	41.85	24.75	36.98	38.95	41.85
0.067% (0.9 Kg)	24.94	38.15	39.46	42.50	25.35	38.57	39.78	43.24
0.1% (1.36 Kg)	25.96	38.82	40.18	43.25	26.41	39.19	40.58	43.37
0.2% (2.72 Kg)	27.15	39.73	40.73	43.50	27.76	40.89	41.60	44.95
0.3% (4.08 Kg)	27	38.87	40.90	42.68	27.94	39.39	40.58	43.32
M 40 Grade Concrete								
0% (Control)	40.17	58.02	60.32	63.20	40.17	58.02	60.32	63.20
0.067% (0.9 Kg)	41.82	60.14	61.84	64.48	42.08	60.92	62.10	64.68
0.1% (1.36 Kg)	42.45	61.12	62.38	64.85	42.53	61.31	62.74	65.10
0.2% (2.72 Kg)	43.42	62.74	63.98	65.70	43.52	62.91	64.32	65.83
0.3% (4.08 Kg)	42.95	59.49	62.00	63.84	42.82	59.31	61.87	62.98

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Dosage of Recron 3s per m^3	Mechanical Properties of Fiber Reinforced Concrete at 28 days					
	Micro-Polyester Fiber (Recron 3s – Triangular)					
	12 mm Length			18 mm Length		
	Compressive Strength f_{ck} (MPa)	Flexural Strength f_{cr} (MPa)	Split Tensile f_{ct} (MPa)	Compressive Strength f_{ck} (MPa)	Flexural Strength f_{cr} (MPa)	Split Tensile f_{ct} (MPa)
M 25 Grade Concrete						
0% (Control)	36.98	4.86	2.67	36.98	4.86	2.67
0.067% (0.9 Kg)	38.15	5.02	3.02	38.57	5.11	3.06
0.1% (1.36 Kg)	38.82	5.38	3.18	39.19	5.48	3.26
0.2% (2.72 Kg)	39.73	5.55	3.40	40.89	5.74	3.45
0.3% (4.08 Kg)	38.87	5.70	3.61	39.39	5.91	3.63
M 40 Grade Concrete						
0% (Control)	58.02	5.47	2.80	58.02	5.47	2.80
0.067% (0.9 Kg)	60.14	5.77	3.18	60.92	5.85	3.26
0.1% (1.36 Kg)	61.12	6.21	3.41	61.31	6.25	3.44
0.2% (2.72 Kg)	62.74	6.52	3.55	62.91	6.66	3.56
0.3% (4.08 Kg)	59.49	6.65	3.69	59.31	6.59	3.58

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