



SRI VENKATESWARA COLLEGE OF ENGINEERING

(an Autonomous Institution affiliated to Anna University, Chennai)

Pennalur, Sriperumbudu Tk – 602 117

DEPARTMENT OF CIVIL ENGINEERING



Indian Concrete Institute

Report of the Webinar on “Role of Admixture In Precast Concrete and Its Applications”

Date : Monday, 8 June 2020

Time : 10:00 am - 11:30 am

Mode : Online through Cisco Webex

Meeting Link: Meeting URL: meetingsapac17.webex.com

Meeting number: 1669684076

Meeting password: yT9V6pjh

Speaker

Er.G.Shiva Prakash

Technical and Marketing Manager – Admixture Systems

Fosroc Chemicals (India) Limited Bengaluru

Convenor & Organising Secretary

Dr.R.Kumutha, Professor & Head/Civil Engg.

Coordinator

Ms.K.SathyaPriya, Assistant Professor/ Civil Engg

Target Audience : Students , Faculty members and Industry Personnel

Number of Participants benefited: 110 (30 internal and 80 external)

UG Students : 54

PG Students : 8

Faculty : 48

BROCHURE

SRI VENKATESWARA COLLEGE OF ENGINEERING
Sriperumbudur, Tamilnadu



Department of Civil Engineering

cordially invites you for a Webinar on

**Role of Admixture in Precast Concrete
and its Applications**



Er.G.Shivaprakash
Technical & Marketing Manager - Admixture Systems
FOSROC Chemicals (India) Limited
Bengaluru

Date: 08.06.2020 Time: 10:00 - 11:30 AM Join us in



Register at : <https://forms.gle/dEoiRyvVxjBf6PSo7>



**Ms.K.SathyaPriya AP / Civil
Coordinator**

**Dr.R.Kumutha, HoD / Civil
Convenor & Organising Secretary**

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PROFILE OF THE COMPANY AND SPEAKER

Company Profile

Fosroc is a leading international manufacturer and supplier of high performance chemicals for the construction industry, with a particular focus on concrete and cement. But they don't just supply world-renowned products, they deliver complete construction solutions – from advice and training to site support. A British heritage brand, Fosroc began over 80 years ago and has become the go-to name for construction companies, offering a wide range of products and brands including Nitoproof, Nitoseal, Proofex, Supercast, Conplast and Dekguard.

Speaker Profile

Er.G. Shivaprakash, Civil Engineer, having 26 years of experience in construction chemicals, out of which 15 years in abroad and rest in India. He is Currently Working as Technical and Marketing Manager – Admixture Systems at Fosroc Chemicals (India) Limited Bengaluru.

EDUCATIONAL & PROFESSIONAL CREDENTIALS

Master of Technology (Industrial Structure - Civil) – 1993 -S.J.C.E College, Mysore University

Bachelor of Civil Engineering – 1990- Siddaganga Institute of Technology, Tumkur, Bangalore University

- ◆ Started career way back in 1993 exclusively in construction chemical industry and moved to Gulf countries in 1996 journey went up to 2011.
- ◆ Offering over 26years of experience in construction chemicals, out of which 15 years in abroad and rest in India.
- ◆ Overseas exposure mainly in Gulf countries such as Kuwait, Qatar and Saudi Arabia.
- ◆ Currently Working as Technical and Marketing Manager – Admixture Systems at Fosroc Chemicals (India) Limited Bengaluru
- ◆ Managing products in particular Admixture, right from development to launch stage across **Fosroc India** and hand holding launched products for a specific period to obtain sales results. Product customization to suit customer requirements on technical and commercial aspects.
- ◆ Dexterity in formulating & implementing **Marketing & Sales Operation** plans and ensuring profitability of organization. Diligent and resourceful professional with hands on expertise in devising measures for enhancing **Operational Efficiency** through effective **Administration**.
- ◆ Presented technical papers on concrete related subjects in ICI, ASCE, REDECON and Several International symposium across country.
- ◆ Motivated and goal driven with a strong work ethics, continuously striving for improvement coupled with excellent Administrative aptitude with an eye for detail and the commitment to offer quality work.

BRIEF REPORT OF THE WEBINAR

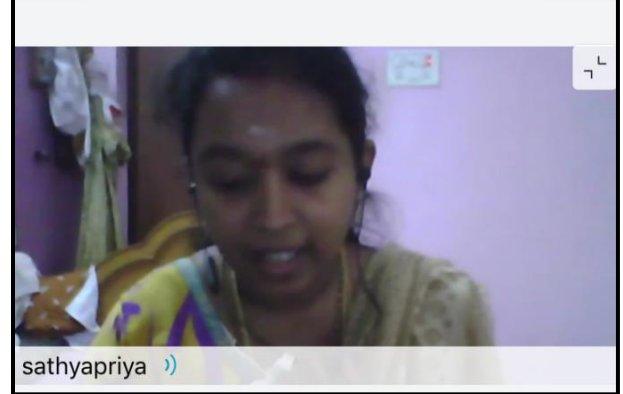
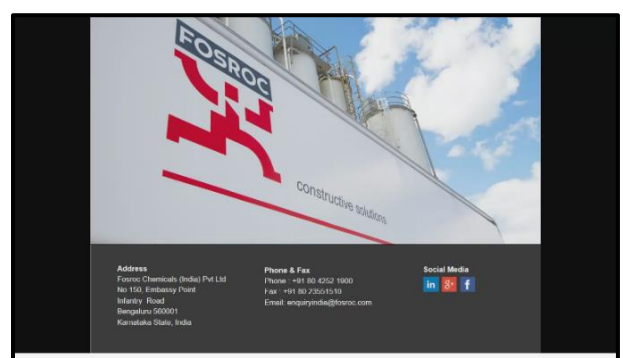
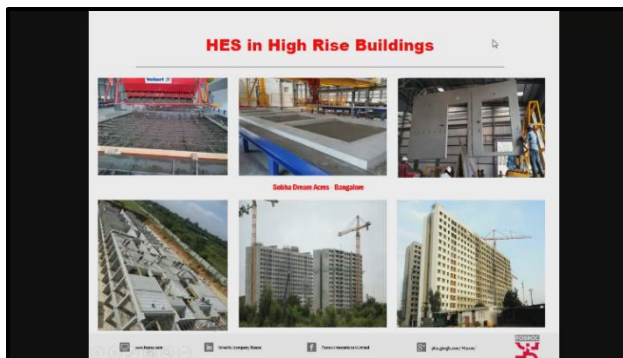
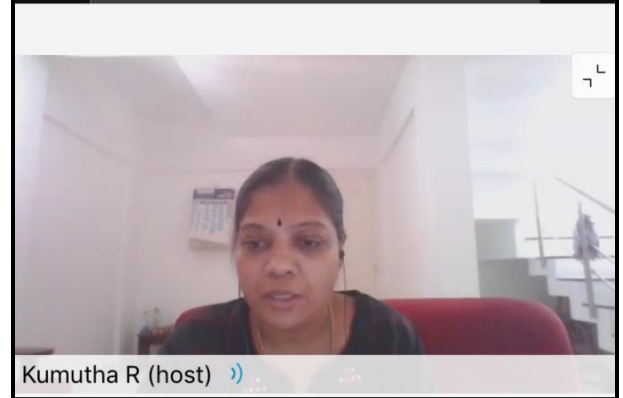
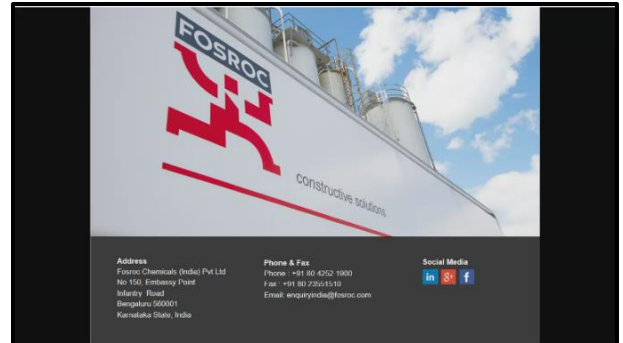
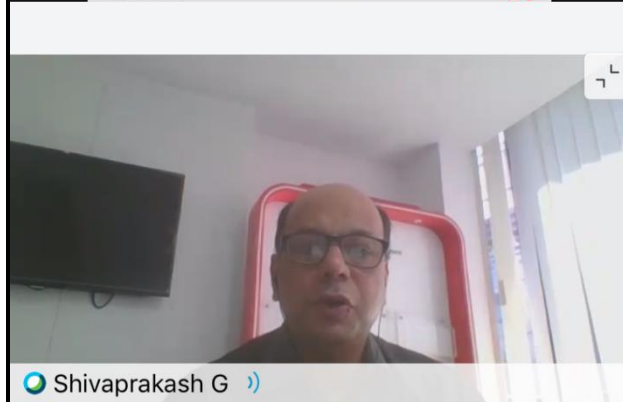
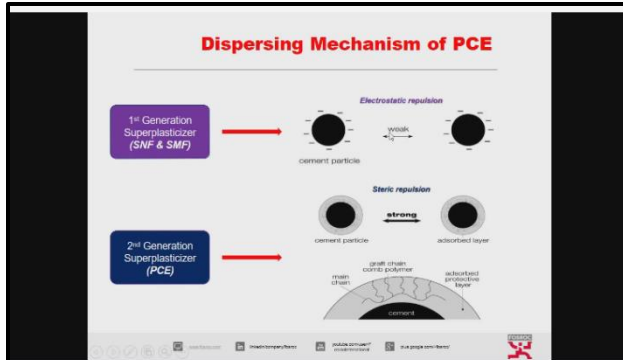
The webinar started with a welcome note and the introduction of the speaker to the Participants by Dr.R.Kumutha, Professor & Head/ Civil Engineering, who is the Convenor and Organizing Secretary of this Program. Er.G.Shiva Prakash explained role of cement and other cementitious (admixtures) in precast concrete. He elucidated the strength characteristics at different ages under different curing conditions of precast concrete. He explained the importance of water cement ratio and secondary cementitious material to achieve the required strength. He also briefed the temperature controlled concrete. The RCPT value of concrete with different cementitious material at different ages are discussed. Addition of fibres in the high strength concrete also discussed briefly. He explained the Precast concrete casting and TBM in the metro rail construction. The student and faculty participants from host as well as other institutions participated in the webinar.

The session was interactive and the following queries were raised by the participants which were answered by Er.G.Shiva Prakash.

1. We have done a project on light weight concrete but we haven't achieved the expected compressive strength and we have used cementitious admixture like silica fume and GGBS. My doubt is about is this admixture suitable only for normal concrete or it can be applicable for lightweight materials also?
2. Is it possible to produce sustainable concrete using recycled aggregates?
3. Any guidelines for using recycled aggregate in fresh concrete?
4. Mineral admixtures does not have much effect on workability. how will be it is useful to add it in the SCC?
5. Apart from polyvinyl alcohol fibre whether glass fibre holds good for bendable concrete in strain enhancement characteristics of plain concrete.
6. What is the assurance that the chemical or mineral admixture added to the fibre reinforced concrete does not affect the property of fibre composites?
7. To what percentage will the strength of concrete increases with the application of carbon fiber?

The session ended with a vote of thanks delivered by Ms.K.SathyaPriya, Assistant Professor/ Civil Engineering. The participants also had appreciated the webinar.

SNAPSHOTS OF THE WEBINAR



Features of Precast Concrete Mix

- Mix design contain only OPC cement and supplemented with high fines reactive powder as strength enhancer.
- Total binder content will be high compared to traditional concrete for same grade.
- Water cement ratio - generally in between 0.24 to 0.28
- Designed for high early strength to increase productivity.
- In general - No curing
- Compression strength requirements will be in the range of 18 to 25Mpa in 18 hours.

Normal curing procedure

Influencing Factors

Cementitious content and its type
Type of cement and cement replacement material in high early strength concrete play very important role in obtaining desired strength.

OPC 450kg OR 440kg + 40kg of fine reactive powder

Water / cement ratio
Water cement ratio will be in the range of 0.23 to 0.29 depending on strength requirement.

Ambient temperature

Dispersing Mechanism of PCE

Temperature Control Concrete - OPC

Sl. No	MATERIALS	Qty	Ass. Meas	ρ (kg/m³)	ρ (kg)
1	CEMENT	1.00	1.00	1440	1440
2	FA	1.00	1.00	1440	1440
3	SP	0.05	0.05	1440	72
4	WATER	0.25	0.25	1000	250
5	AD	0.01	0.01	1440	14.4
6	AD	0.01	0.01	1440	14.4
7	AD	0.01	0.01	1440	14.4
8	AD	0.01	0.01	1440	14.4
9	AD	0.01	0.01	1440	14.4
10	AD	0.01	0.01	1440	14.4
11	AD	0.01	0.01	1440	14.4
12	AD	0.01	0.01	1440	14.4
13	AD	0.01	0.01	1440	14.4
14	AD	0.01	0.01	1440	14.4
15	AD	0.01	0.01	1440	14.4
16	AD	0.01	0.01	1440	14.4
17	AD	0.01	0.01	1440	14.4
18	AD	0.01	0.01	1440	14.4
19	AD	0.01	0.01	1440	14.4
20	AD	0.01	0.01	1440	14.4

OPC M40 Compressive strength results

Slump 120mm
Cure casting strength after 28 days - 28.70 Mpa.

RCPT Results - 2027
Chennai.

Role of Admixture

The difference in dispersion of the cement particles and subsequent stabilization between polycarboxylate acting through steric stabilization and the naphthalene & melamine based admixtures acting through electrostatic repulsion.

Wind Energy

Performance Challenges

- Workability retention : Very high flow concrete with out any segregation and bleeding;
- Initial Flow : 700 -750 mm and
- Flow after 45 min : 600 -650 mm
- Very high early strength - 20 Mpa at 9 hrs with hot air blower for 3 hrs
- Concrete has to flow semicircular curved slender section with out any vibration-each segment requires 18 m³ concrete .One ring comprises of 4 such curved sections.
- Excellent finish like mirror finish with out any surface defects.
- Grade of concrete M40 – 450 kg (+25 KG Alcofines+80 Fly ash
- Admixture : Aurcast 270M

Shivaprakash G

LIST OF PARTICIPANTS

S.No	Name of the Participant	Name of the Institution/Industry	Category
1	Dr.K.Vijai	St.Joseph's College of Engineering	Faculty
2	V.Hariharan	SRI VENKATESWARA COLLEGE OF ENGINEERING	UG Student
3	C.MERLIN RANI	SSM INSTITUTE OF ENGINEERING AND TECHNOLOGY	Faculty
4	Mr.R.Sibi	Coimbatore Institute of Engineering and Technology	Faculty
5	S.DHIVIYANTHAN	ST.JOSEPH'S COLLEGE OF ENGINEERING	UG Student
6	THANGAM N	Peri institute of technology	Faculty
7	LIJA R L	Jeppiaar SRR Engineering College	Faculty
8	B N BRINILA BRIGHT	Mohamed Sathak AJ College of Engineering	Faculty
9	Nandhakumar P	Kumaraguru College of Technology	Faculty
10	NAVEEN S	SRI VENKATESWARA COLLEGE OF ENGINEERING, SRIPERUMBUDUR	UG Student
11	Alagappan SP	S.A.Engineering College	UG Student
12	Hemalatha.R	Sri Venkateshwara College Of Engineering	UG Student
13	SIDHARTH SARAVANAN . T	SRI VENKATESWARA COLLEGE OF ENGINEERING	UG Student
14	Albeena Jasmine.T	St.Joseph's college of engineering OMR Chennai 119	UG Student
15	Yahaya Hassan Labaran	Sharda University	PG Student
16	PAVI PRADHAN	SURENDRA INSTITUTE OF ENGINEERING & MANAGEMENT	UG Student
17	Laleeth kumar D	SVCE	UG Student
18	P.RANJITHA	P.A college of engineering and technology	Faculty
19	RAHINI D A	St. Joseph's College of Engineering	UG Student
20	S. SATHYA PRIYA	PERI INSTITUTE OF TECHNOLOGY	UG Student
21	G MONISHA	SRI VENKATESHWARA COLLEGE OF ENGINEERING	UG Student
22	Logeshwari R	Sri Venkateswara College of Engineering Sriperumbuthur	UG Student
23	Keerthana Pannerselvan	Bannari Amman institute of technology	UG Student
24	S. Saravanakumar	P.A.College of Engineering and Technology	Faculty
25	Mr. MANIKANDAN E	ADHI COLLEGE OF ENGINEERING AND TECHNOLOGY	UG Student
26	Satadru Moitra	Baghmundi Government Polytechnic	Faculty
27	SUBASHREE P	Hindusthan College of Engineering and Technology	Faculty

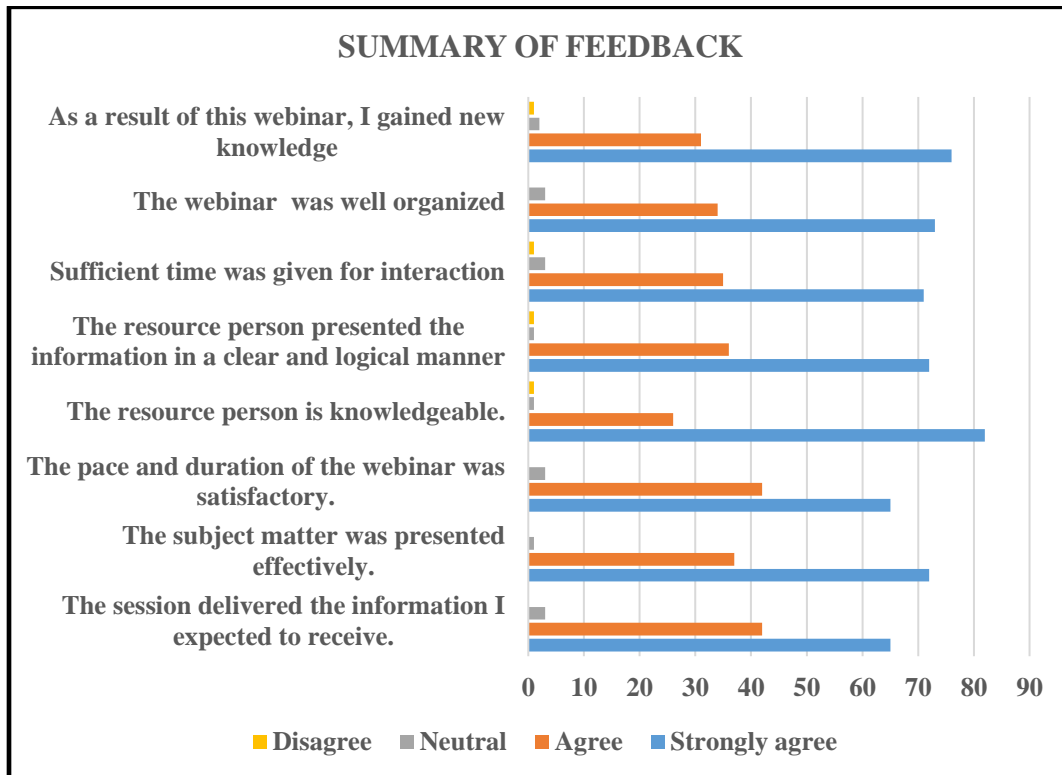
S.No	Name of the Participant	Name of the Institution/Industry	Category
28	Perla Mounika	Pallavi Engineering College	Faculty
29	GUNASEKAR.S	K.S.Rangasamy College of Technology, Tiruchengode	Faculty
30	R.VINODHKUMAR	MEENAKSHI COLLEGE OF ENGINEERING	Faculty
31	MAHESH M	ST. JOSEPH'S POLYTECHNIC COLLEGE	Faculty
32	A.VIGNESH	St Joseph's College of Engineering	UG Student
33	ASWINI R	sri venkateswara college of engineering	UG Student
34	SANKARANARAYANAN J	SRI VENKATESWARA COLLEGE OF ENGINEERING, SRIPERUMBUDUR, KANCHIPURAM, TAMILNADU, INDIA	UG Student
35	CHAYAN SARDAR	SRI VENKATESWARA COLLEGE OF ENGINEERING	UG Student
36	R RANJITH	K.S.Rangasamy College of Technology	PG Student
37	Mrs.J.Kalaiselvi Nivedha.	P.A.College of Engineering and Technology	Faculty
38	G.Harshavarthani	Sri Venkateswara College of Engineering	UG Student
39	Vaibhav Prasad Swarnkar	Kalinga University Naya Raipur	UG Student
40	Lavanya. C	Peri institute of Technology	Faculty
41	Mathiyazhagan R	Sri Venkateswara College of Engineering	Faculty
42	Avinash R	Hindusthan College of engineering and technology, Coimbatore.	UG Student
43	K.VIJAYA SUNDRAVEL	K.S.RANGASAMY COLLEGE OF TECHNOLOGY	Faculty
44	Brithisha s	Sri Venkateshwara college of engineering	UG Student
45	KARTHIK PANDI M	P A POLYTECHNIC COLLEGE POLLACHI	Faculty
46	Murali Manogar Joshi S	Sri Venkateswara College of engineering	UG Student
47	Pavithra S	S.A.Engineering College , Chennai	Faculty
48	R Banupriya	Sethu Institute of Technology	Faculty
49	A.SARANYA	P.A College of Engineering and Technology	UG Student
50	K.C.JOTHESWARAN	SRI VENKATESWARA COLLEGE OF ENGINEERING	UG Student
51	A.JEEVA	K S RANGASAMY COLLEGE OF TECHNOLOGY	UG Student
52	REVATHI M P	Coimbatore Institute of Engineering and Technology	Faculty
53	A. JENISHA	Sri Venakateswara College Of Engineering	UG Student
54	PURBASHA DAS	Surendra Institute of engineering and management	UG Student
55	MOHAN.A	Easwari Engineering College	Faculty

S.No	Name of the Participant	Name of the Institution/Industry	Category
56	Dr. G. Balamurugan	P.A.College of Engineering and Technology	Faculty
57	YOURAJ BHUJEL	SURENDRA INSTITUTE OF ENGINEERING & MANAGEMENT	PG Student
58	N.SHIFU JAHAN	Prathyusha Engineering college	Faculty
59	SIVA KUMAR. B	KPR INSTITUTE OF ENGINEERING AND TECHNOLOGY	PG Student
60	Sakhimol B	Coimbatore Institute of Technology	Faculty
61	Nirpex Amrutlal Patel	Charotar University of Science and Technology	Faculty
62	VETRIVEL S	St.Joseph's College of Engineering	UG Student
63	R.SANJAY KUMAR	Aarupadai Veedu Institute of Technology, Chennai	Faculty
64	ANEES K	SRI VENKATESHWARA COLLEGE OF ENGINEERING	UG Student
65	MALAVAN.K	Coimbatore Institute of Technology	PG Student
66	Krishnan L	Knowledge Institute of Technology Salem	Faculty
67	GEETHANJALI S	PA College of engineering and technology	Faculty
68	Dr.S.ROBERT RAVI	ACE ENGINEERING COLLEGE HYDERABAD	Faculty
69	Selvabharathi Gopal	SSM Institute of Engineering and Technology	Faculty
70	Dr. R. Manju	Kumaraguru College of Technology	Faculty
71	GUNASEKARAN M A	K S RANGASAMY COLLEGE OF TECHNOLOGY	UG Student
72	Sridhar	St.joseph's college of engineering	UG Student
73	Inam-UI-Haq	Global Institute of Engineering and Technology	UG Student
74	P.VINODHKUMAR	Meenakshi College of Engineering	Faculty
75	HARSHAK	SRI VENKATESWARA COLLEGE OF ENGINEERING, SRIPERUMBUDUR	UG Student
76	Meera.S	PA college of engineering and technology	UG Student
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78	praveen kumar v	SRI VENKATESWARA COLLEGE OF ENGINEERING	UG Student
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80	Shunmugam. M	Sethu institute of technology	Faculty
81	MAGENDIRA RAJ S	sri venkateswara college of engineering	UG Student
82	Ranjana Piriyaadharshini	Sri venkateshwara College of Engineering	UG Student
83	R. Yamni	Sri Venkateswara College of Engineering	UG Student
84	Dhinesh Kanna Ramkumar	Vellore Institute of Technology	UG Student
85	AKRIITHA K	Sri Venkateswara College of engineering	UG Student

S.No	Name of the Participant	Name of the Institution/Industry	Category
86	Raahul	St. Joseph's college of engineering	UG Student
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88	Gokul k	Sri Venkateswara college of engineering	UG Student
89	Sindhu Vaardini U	Kumaraguru College of Technology	Faculty
90	Adnan Akthar	Adnan Akthar	UG Student
91	M MADHAN KUMAR	Saveetha Engineering College	Faculty
92	SIDDHARTH J U	Sri Venkateshwara College of Engineering	UG Student
93	UMAR AZIZ NAJAR	St. Joseph's College Of Engineering	UG Student
94	SathyaPriya K	Sri Venkateswara college of Engineering	Faculty
95	Jailakshmi Menon	Saveetha Engineering college	Faculty
96	Goutham Priya M	Rajalakshmi Engineering College	Faculty
97	Dr.P.Muthupriya	Dr.NGP Institute of Technology	Faculty
98	Dr S Praveenkumar	PSG College of Technology	Faculty
99	KARAN.K	SRI VENKATESWARA COLLEGE OF ENGINEERING	PG Student
100	S.Vedavalli	S.A.Engineering college	UG Student
101	Ponni M	Ponni M	Faculty
102	SARASWATHI.K	SARASWATHI.K	Faculty
103	GOWTHAM RAJ R	SRI VENKATESWARA COLLEGE OF ENGINEERING	UG Student
104	Moumita Roy	Surendra institute of engineering and management	PG Student
105	Anand T	Kumaraguru College of Technology	Faculty
106	Arindam Kumar Roy	Surendra Institute Of Engineering & Management	PG Student
107	Dr Sakthivel R	Hindusthan College of Engineering and Technology	Faculty
108	Saurav kumar patel	Surendra institute of engineering and management	UG Student
109	S M SARAT KANNA	St.Joseph's College of Engineering	UG Student
110	G.SARAVANAPANDI	SRI VENKATESHWARA COLLEGE OF ENGINEERING	UG Student

SUMMARY OF FEEDBACK

Total Number of respondents: 110				
Feedback	Strongly Agree	Agree	Neutral	Disagree
The session delivered the information I expected to receive	65	42	3	0
The subject matter was presented effectively	72	37	1	0
The pace and duration of the webinar was satisfactory	65	42	3	0
The resource person is knowledgeable	82	26	1	1
The resource person presented the information in a clear and logical manner	72	36	1	1
Sufficient time was given for interaction	71	35	3	1
The webinar was well organized	73	34	3	0
As a result of this webinar, I gained new knowledge	76	31	2	1



Additional comments/feedback from participants:

- Gained lots of additional knowledge about admixture, and very good exposure
- The webinar was very much informative.
- It was a very beneficial and informative session.
- It was well organised.
- Presentations could be shared.
- Expecting webinars in all different disciplines of civil engineering.
- Research Scholar category can be added in the feedback form



Prepared By

Ms.K.Sathyapriya (AP/Civil Engg.)
Coordinator



Approved By

Dr.R.Kumutha(HoD /Civil Engg.)
Convenor & Organising secretary