



To be a catalyst in construction industry by providing innovative, Sustainable, durable and value adding quality products to our customers.



Ultrafine MINERAL

High Strength ■ Durable ■ Sustainable



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COMPANY INTRODUCTION

Ultrafine
MINERAL
High Strength ■ Durable ■ Sustainable



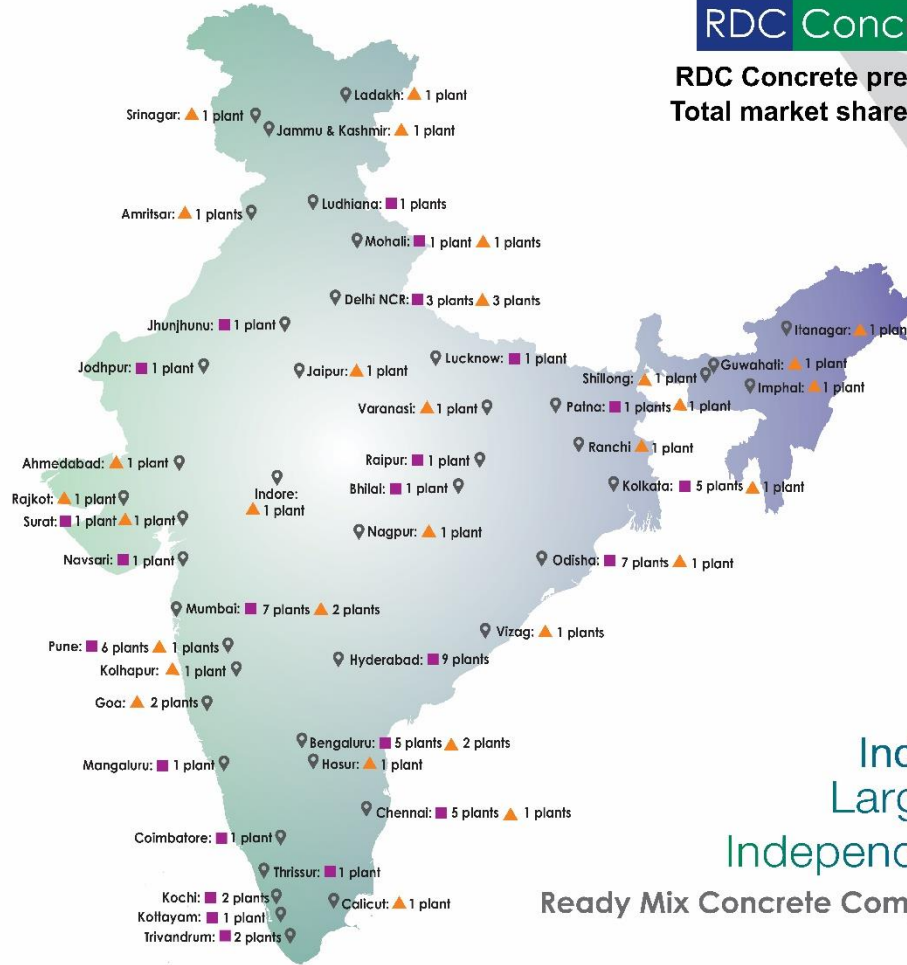
“

Ultrafine Mineral and Admixtures Pvt.Ltd company of INR 1000 Crores turnover having state of the art manufacturing facility at Nagpur and Mumbai, which specialize in manufacturing and distribution of UltraFine™ additives for Concrete, grouts and high strength mortars.

”

RDC Concrete

RDC Concrete presence
Total market share 7.1 %



India's
Largest
Independent

Ready Mix Concrete Company

■ Existing Plant: 65 ▲ Upcoming Plant: 35 ● Total Plant: 100

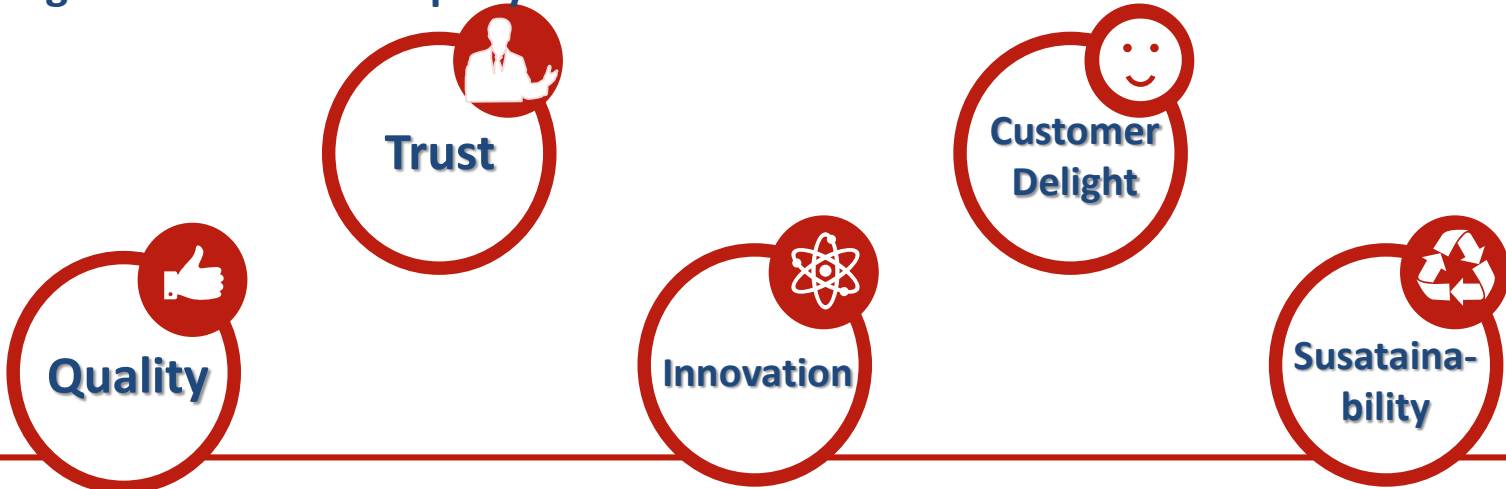
Growing at a CAGR of 48%,
highest in the RMC Industry in past 4 years.

VALUES & VISION

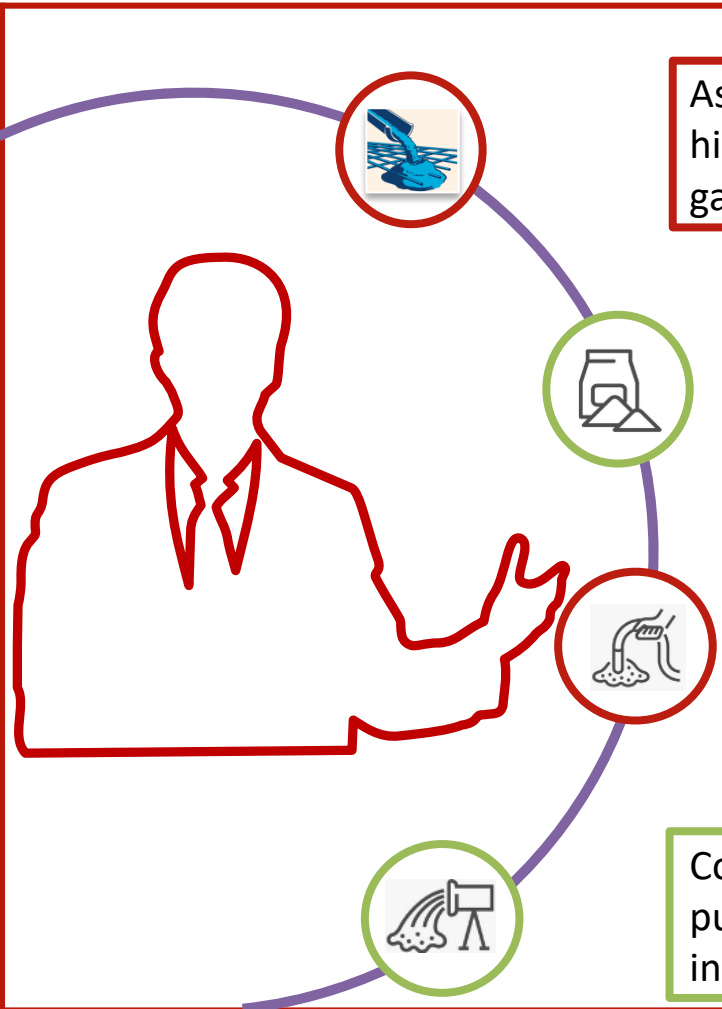
We at **Ultrafine Mineral and Admixtures Pvt. Ltd** are passionate about creating effective solutions for concrete and construction industry which are robust, cost effective and sustainable.

With the right mix of enthusiastic people and highly competent team in R&D, Sales and Production company is set take a leading role in the industry segment.

Driving values of the company are-



WHY UltraFine™



As a result of advancement in concrete technology, high strength and high performance concrete has gained worldwide demand and popularity.

Commonly used additives increases the water demand of concrete.

Additives available in market can increase the admixture requirement for given workability.

Consistency and Rheology required for high rise pumping is hard to achieve with solutions available in the market.

UltraFine™ – Conforming to IS:16715-2018 & its amendment in 2019



UltraFine™ is an additive which is controlled for its particle size and shape in order to achieve high level of reactivity and particle packing within concrete and cement paste matrix which leads to better strength and durability of the concrete.

Carefully selection of raw material combined with production capabilities and controls make **UltraFine™** a very effective performance enhancer in combination with Ordinary Portland cement

How UltraFine™ works

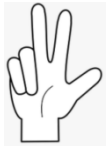
UltraFine™ works in three ways –



Primary hydration reaction attributed to inbuilt CaO.



Secondly, pozzolanic reaction that converts un-reacted Calcium Hydroxide into C-S-H crystal structure.

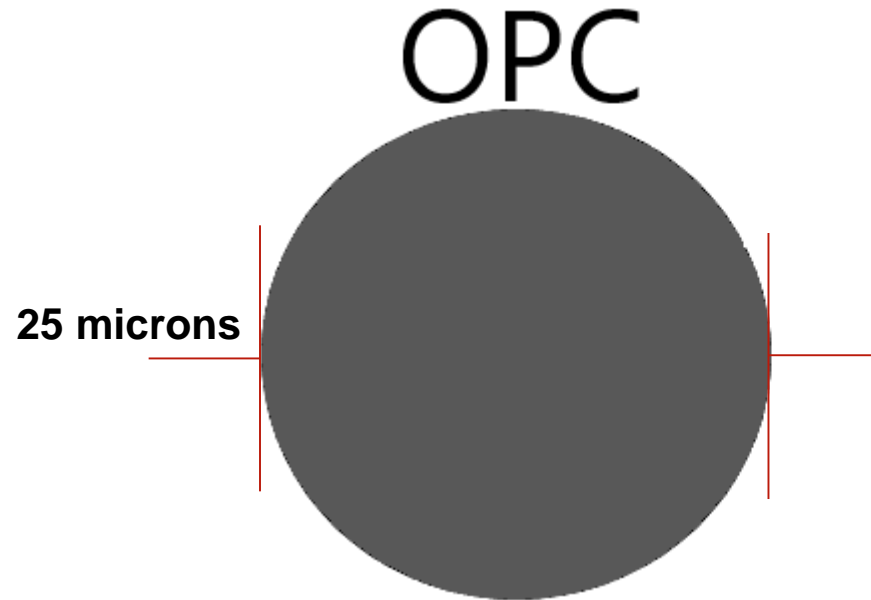


With average particle size less than 6 micron and uniform distribution of particles ensures a densely packed matrix.

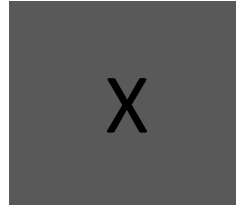


Increased strength of cement paste due to **Pore Size Refinement** and **Grain Size Refinement**

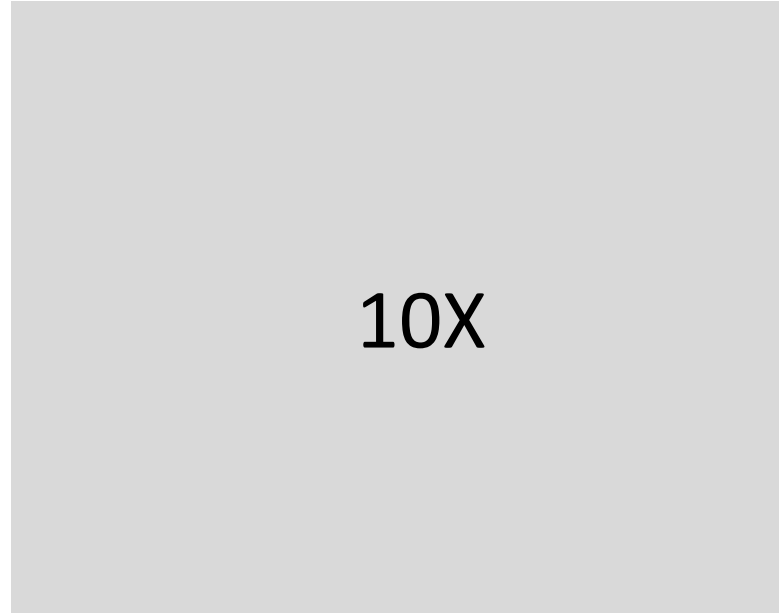
OPC vs ULTRAFINE Comparison



Surface Area Available for Reaction Per Unit Weight



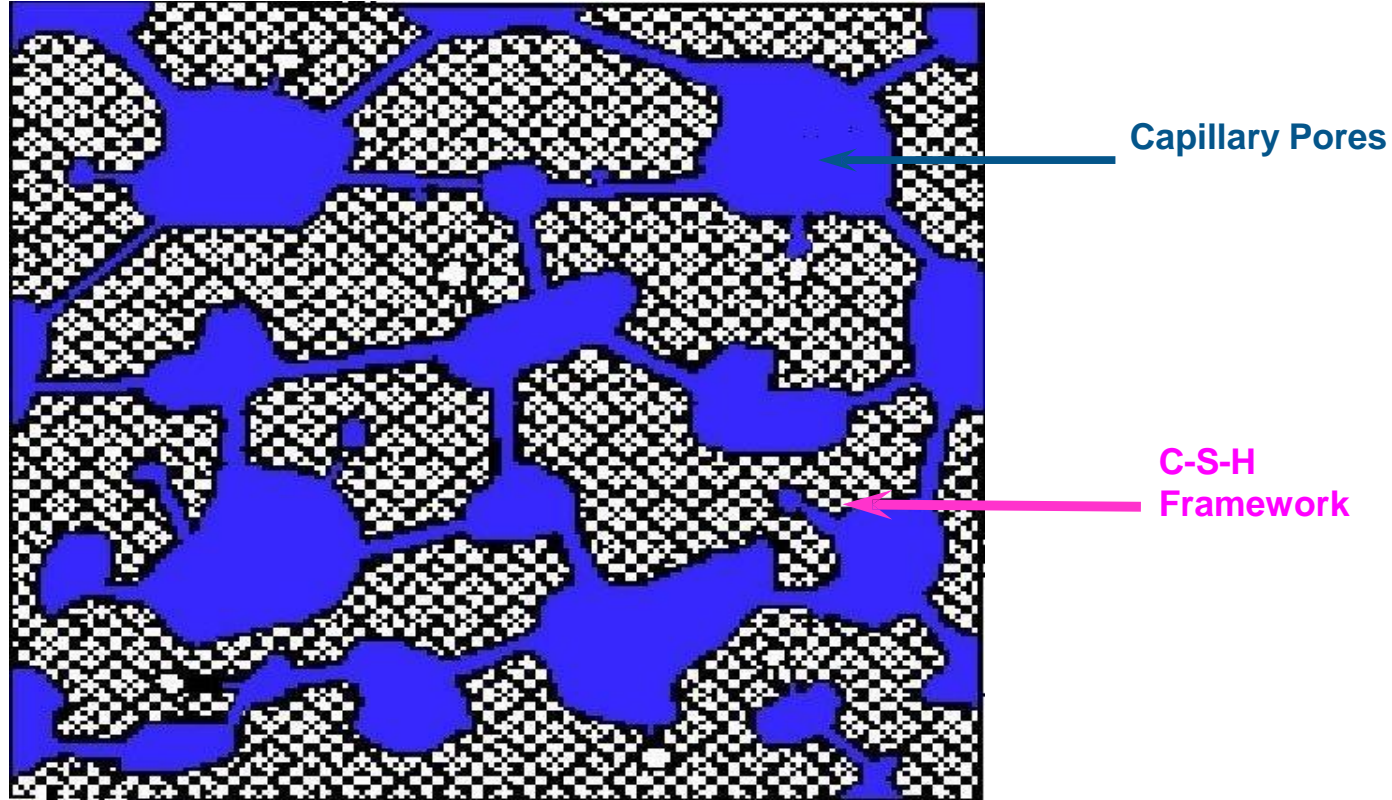
OPC



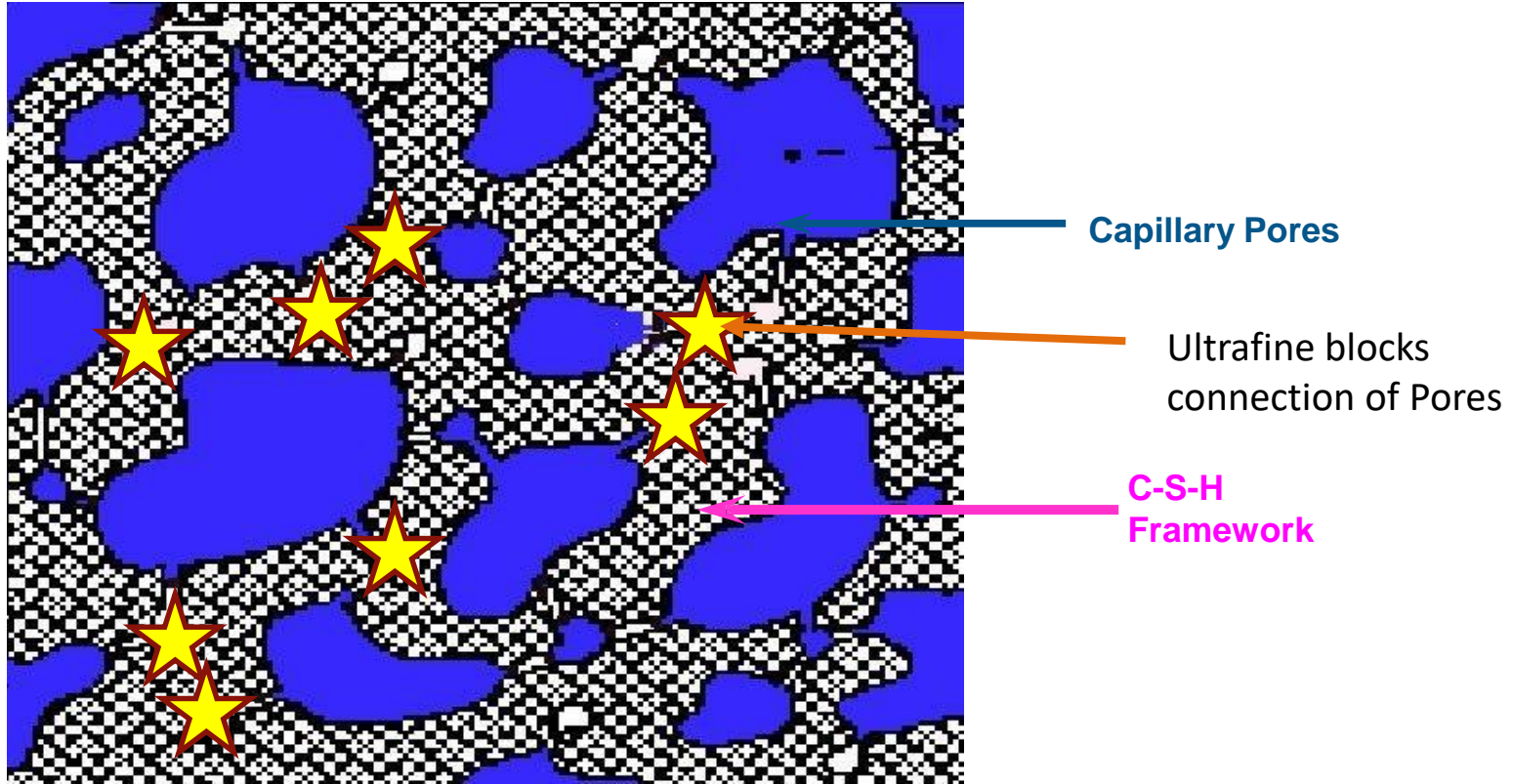
ULTRAFINE



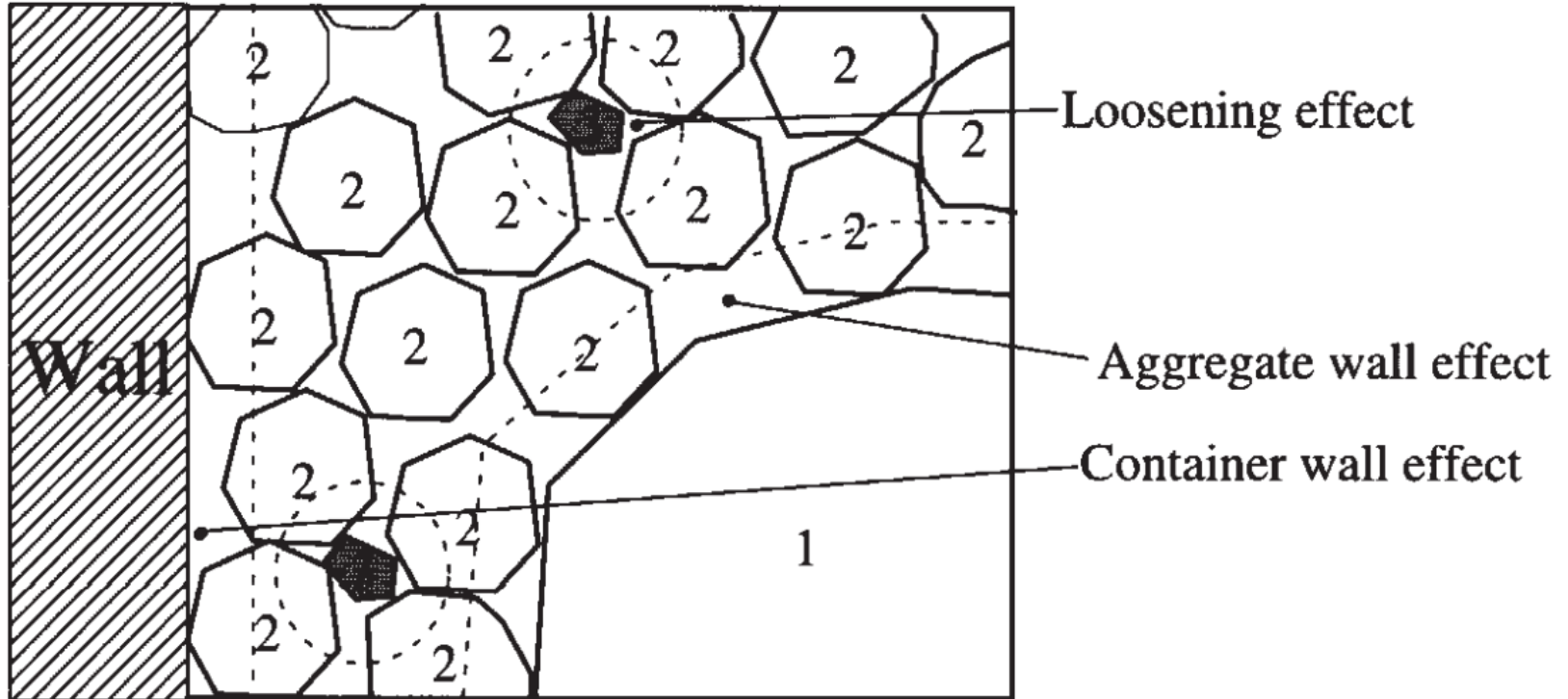
Disadvantages of Normal Concrete



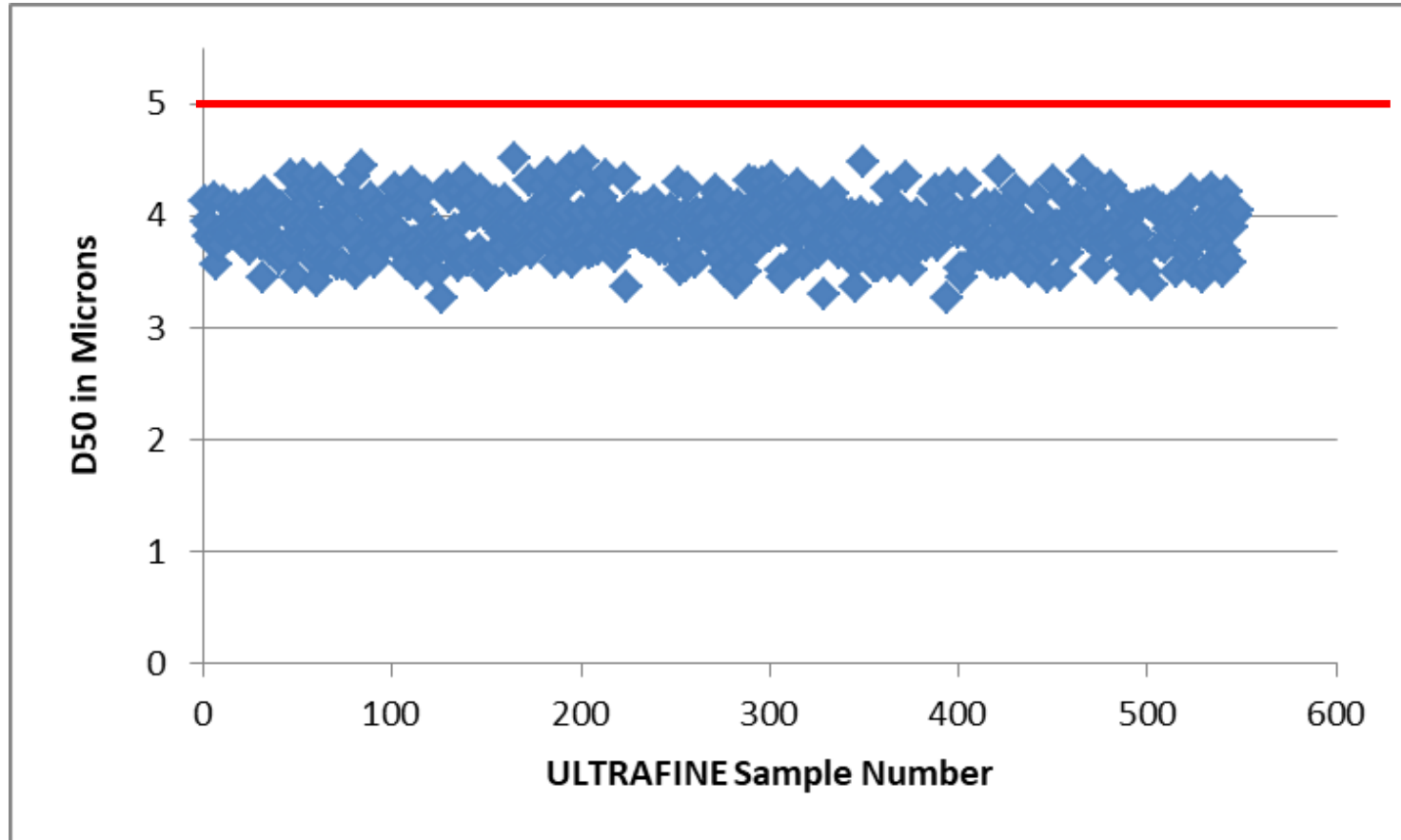
Effect with Ultrafine



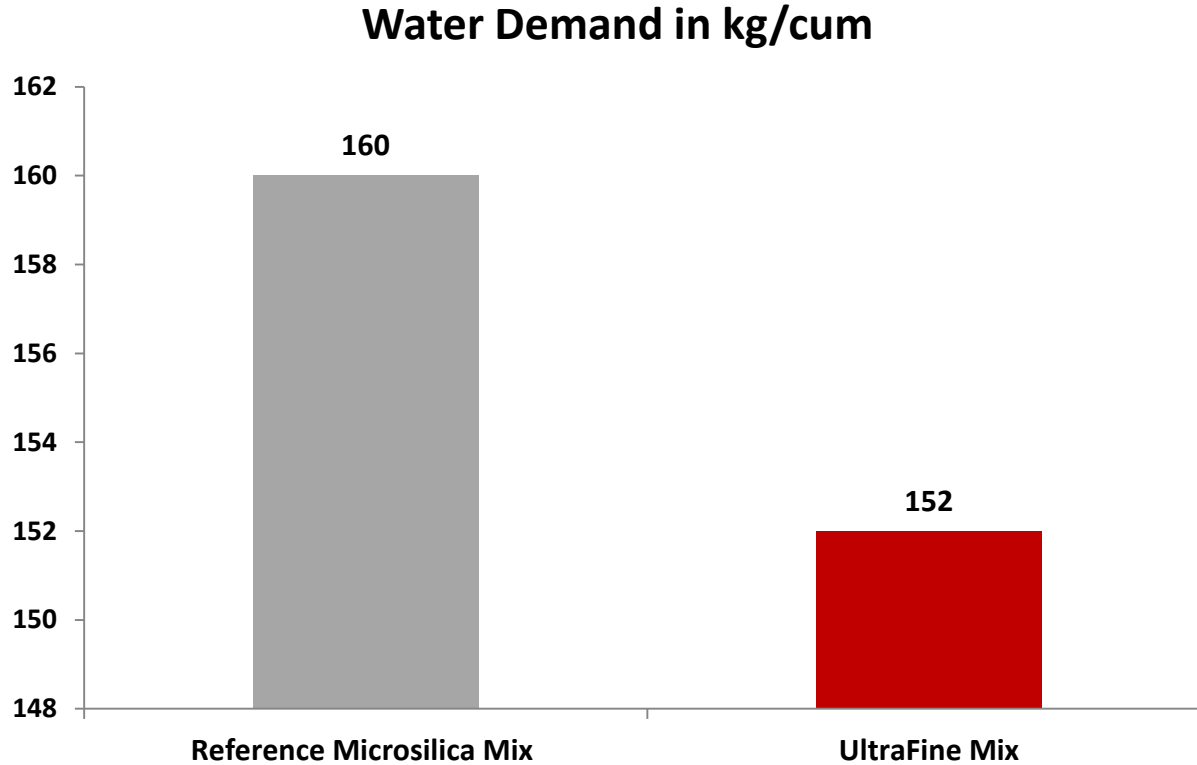
Effect of Ultrafine



Ultrafine Size Consistency



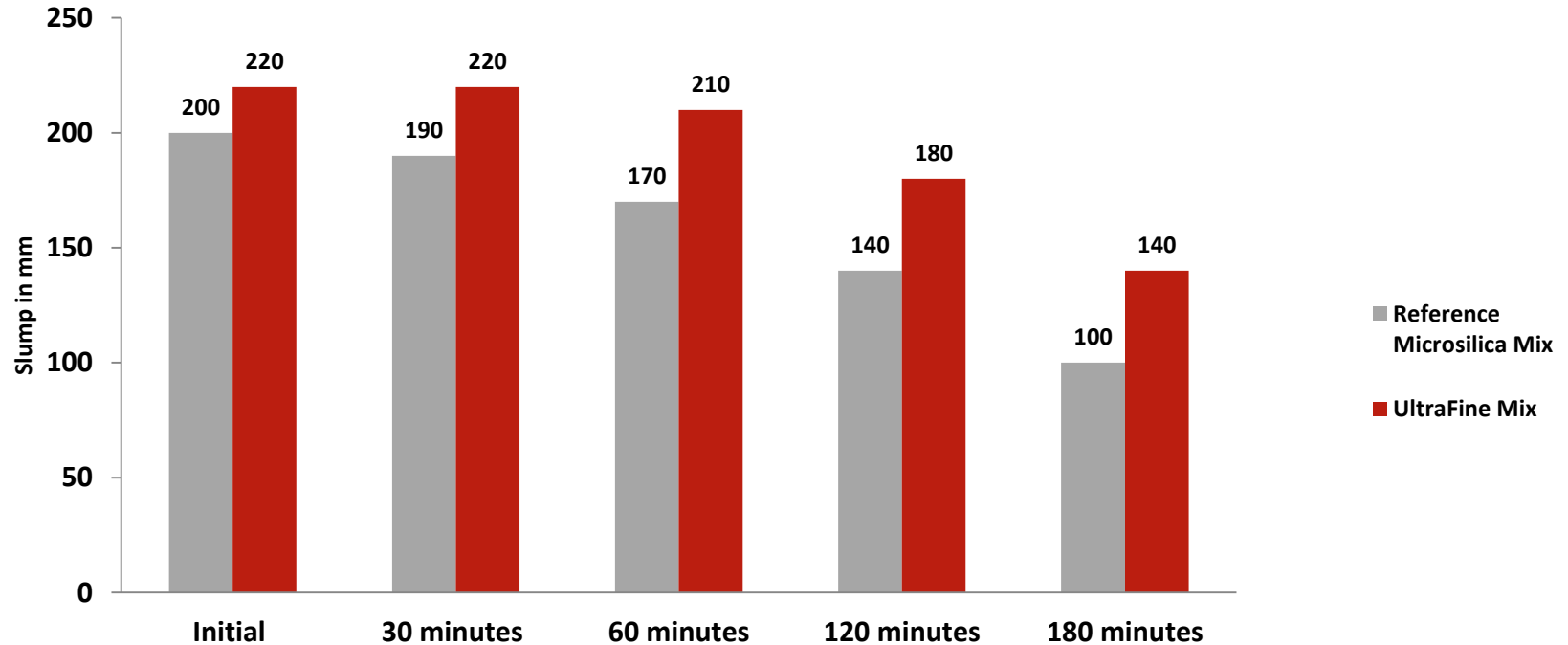
REDUCTION IN WATER DEMAND



Results based on observations made in laboratory.

BETTER SLUMP RETENTION

Slump Retention

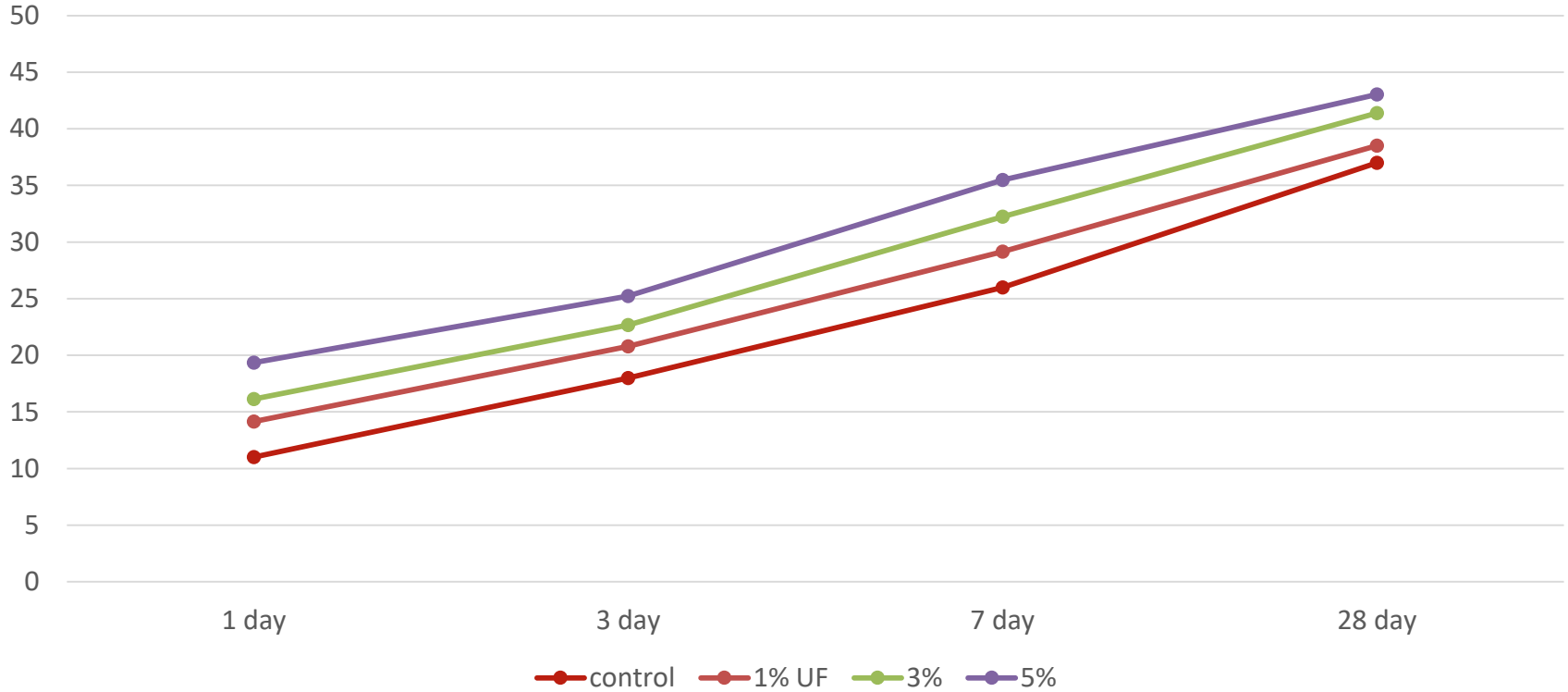


Results based on observations made in laboratory.

Significance of Better Workability

- Significantly less chances of water tampering at site due to longer slump retention of Ultrafine as compared to Micro Silica.
- Improved Quality of final in-situ concrete
- Higher quality of workmanship
- Low rejection and high productivity

INCREASED STRENGTH WITH INCREASE IN % ADDITION



Significance of Higher Early Strength

- Faster Turnaround time for de-moulding, and improved profits for Contractor
- Faster Post-tensioning resulting in faster completion of projects
- Faster attainment of final creep
- Reduced rejection

Bullet Train Project

Test No.	Initial Value	Final Value	Percentage Change
①	8822	881.19	39.18
②	8717	873.15	38.82
③	8735	880.45	39.14




3 days strength results

3 cube results

- 1) 49.30 N/mm²
- 2) 48.36 N/mm²
- 3) 47.20 N/mm²

Average 3 days strength :- 48.28 N/mm²

Bullet Train Project

 		LARSEN & TOUBRO LIMITED			Format no: T / F 9		
					Rev.No. 0		
COMPRESSIVE STRENGTH OF CONCRETE (As Per IS: 516 - 1959)							
PROJECT : Mumbai Ahmedabad High Speed Rail (Package No. MAHSR -C-6)							
CLIENT : National High Speed Rail Corporation Limited (NHSRCL)							
ENGINEER :							
CONTRACTOR : Larsen & Toubro Limited							
Name of Structure		TM-303			Grade of Concrete		M-50 PSC
Structural Member		TRIAL WITH ULTRAFINE GAB			Qty.		-
Location		C-Y-3			Tested by		Jadav
Date of Casting		03-05-2022			Size of Cube (mm)		150x150x150
Cube No.	Weight (g)	Density (g/cc)	Date of Testing	Age (days)	Load (KN)	Compressive Strength (N/mm ²)	Average (N/mm ²)
7	8817	2.612	10-05-22	7 DAYS	1281.6	56.96	57.36
8	8707	2.579			1231.4	54.72	
9	8854	2.625			1359.1	60.40	
							

Bullet Train Project

Date	TM	M-50	PSI	Days	8594	8617	8615	8686	8733	8587	8687	8701	8601	8794	8587	8657
24-05-22	TM-303/2	M-50	1	18-05-22 14 DAYS	2-546 1318.5	2-559 1289.7	2-552 1280.9	2-573 1492.50	2-587 1454.27	2-544 1519.92	2-550 1516.77	2-578 1558.55	2-548 1550.94	2-605 1440.40	2-544 1406.87	2-565 1475.00
		PSI	2		58.60	57.32	56.90	66.35	64.66	67.57	67.43	69.29	68.95	64.04	62.53	65.58
			3													
			4	25-05-22 21 DAYS												
			5													
			6													
			7	01-06-22 28 DAYS												
			8													
			9													
04-06-22	TM-303/C	M-50	1	01-06-22 28 DAYS												
		PSI	2													
			3													
			4	15-06-22 42 DAYS												
			5													

Tata Projects (M30) Ujjain

Cement	Adx	sand %	Microfine %	Binder	opc	ultrafine	Adx %	Adx	C-sand	R-sand	10mm	20mm	water
OPC 43	Osroc Naphtha	40.4%	5%	383	364	19	1.00%	3.83	406	406	600	600	167

1days						3days					
wt1	st1	wt2	st2	Avg wt.	Avg st.	wt1	st1	wt2	st2	Avg wt.	Avg st.
9.01	28.84	8.887	23.15	8.95	25.995	9.85	34.22	8.884	27.68	9.367	30.95

Case Study of Optimization

Casting date	Testing Date	Grade	Cube Fillup Timing	days	Cube Weight	Load	N/mm2	Average
14-07-2022	21-07-2022	M-25	Initial	7	8.864	403.5	17.93	20.00
14-07-2022	21-07-2022	M-25	1 Hour		8.794	476.2	21.16	
14-07-2022	21-07-2022	M-25	2 Hour		8.681	470.5	20.91	
14-07-2022	21-07-2022	M-30	Initial	7	8.969	496.9	22.08	22.76
14-07-2022	21-07-2022	M-30	1 Hour		8.625	482.5	21.44	
14-07-2022	21-07-2022	M-30	2 Hour		8.787	556.8	24.75	
14-07-2022	21-07-2022	M-35	Initial	7	8.748	545.6	24.25	27.56
14-07-2022	21-07-2022	M-35	1 Hour		8.982	626.5	27.84	
14-07-2022	21-07-2022	M-35	2 Hour		8.991	688	30.58	

Ultrafine

M-60

Date - 30/06/22

Time - 12:25 hrs

Admix MAPP

Ultrafine	- 30	0.05M ³
Cement	- 450	0.900
GGBS	- 150	13.5
20MM	- 300 593	4.5
12.5MM	- 482	17.79
M. Sand	- 531	14.46
Water	- 195	15.93
Admix	- 3.15 (0.5%)	5.85
		0.094

Admix used: 0.5%
 Initial full bleed found.
 bleed rest - 1 Hrs.
 Initial slump - collapse.
 30 MM) collapse
 60 MM) collapse
 120 MM) collapse
 150 MM) 230 MM
 180 MM) 200 MM

JME

Ud P J
 Ultrafine Mineral

7 days

$$\left. \begin{array}{l} 8.522 - 1163.2 - 51.69 \\ 8.362 - 1489.0 - 66.17 \\ 8.362 - 1260.9 - 56.04 \end{array} \right\} = 57.97 \text{ N/mm}^2$$


09/07/22



			CUBE COMPRESSIVE STRENGTH						
SR NO.	GRADE	D.O.C.	D.O.T.	DAYS	LOCATION	WEIGHT	KN	N/MM2	AVERAGE
1	M-25	18-06-2022	26-06-2022	7 DAYS	PLANT CUBE	8681	499.2	22.19	22.43
2	"	"	"	"	"	8796	545.4	24.24	
3	"	"	"	"	"	8716	469.6	20.87	
4	M-30	"	"	"	"	8681	526	23.38	25.42
5	"	"	"	"	"	8785	591.5	26.29	
6	"	"	"	"	"	8678	598.3	26.59	
7	M-25	"	"	"	SITE CUBE	8800	460.5	20.47	20.16
8	"	"	"	"	"	8846	432.8	19.24	
9	"	"	"	"	"	8963	467.4	20.77	
10	M-30	"	"	"	"	8846	600.6	26.69	25.37
11	"	"	"	"	"	8966	582.6	25.89	
12	"	"	"	"	"	8999	529.6	23.54	
13	M-25	18-06-2022	17-07-2022	28 DAYS	PLANT CUBE	8907	697.5	31.00	33.53
14	"	"	"	"	"	8713	744.5	33.09	
15	"	"	"	"	"	8768	821	36.49	
16	M-30	"	"	"	"	8623	930	41.33	39.15
17	"	"	"	"	"	8658	864	38.40	
18	"	"	"	"	"	8560	848.5	37.71	
19	M-25	"	"	"	SITE CUBE	8610	775	34.44	31.96
20	"	"	"	"	"	8755	699.5	31.09	
21	"	"	"	"	"	8858	682.5	30.33	
22	M-30	"	"	"	"	8994	758	33.69	36.70
23	"	"	"	"	"	8834	871.5	38.73	
24	"	"	"	"	"	8976	848	37.69	

Case of MMRC Cracks

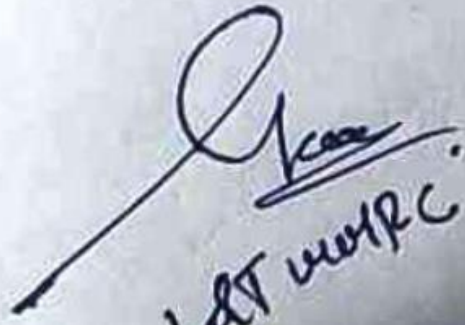
Materials		Mass	Absorption	Moisture	Final Quantity	Batch Weight	0.030cum	Remarks	Water correction
Detail	Source	kg/m ³	(%)	(%)	kg/m ³	kg			kg
Cement	ULTRATECH	380			380	11.40			
FLYASH		100			100	3.06			
Ultrafine		0			0	0.00			
Water	Lab	160			191	5.73			30.98
20 mm	Panvel	554	2.20%	0.40%	544	16.32			9.97
10mm	Panvel	461	0.00%	0.40%	463	13.89			-1.84
Crushed sand	Panvel	825	1.67%	0.90%	802	24.06			22.86

		Trial Sheet-Mix Calculation		
		Lab ID:- CENTRAL LAB	Grade:	M35
Date	11-Jul-22	RH (%)	Concrete Temp.	Ambient temp
Reference standard IS 516 & IS 1199,1059		%	°C	°C
Client name	L&T PVT LTD (Mumbai Metro Line 3, Govandi)	Water added at instant		
Cement	Ultratech OPC 53			
Admixture	Sika Plast 5246			
Raw Materials	Panvel			
		Batch weight 74.54 kg		

Strength of Current Mix



Hardened Concrete Properties						
Cube No.	1	2	3	4	5	6
Age	3	3	3	7	7	7
Date of testing	12-Jul-22	12-Jul-22	12-Jul-22	18-Jul-22	18-Jul-22	18-Jul-22
Cube Weight	8.48	8.43		8.375	8.437	
Load (kN)	533.6	513.5		656.4	642.5	
Comp. Str Mpa	23.72	22.82		29.17	28.56	
Average	23.27			28.86		

Witnessed by:-


S. T. MURPHY

ULTRAFINE



Modified Ultrafine Mix

 		Trial Sheet-Mix Calculation			Grade
					M35
Date : 11-Jul-22		RH (%)	Concrete Temp.	Ambient temp.	
Reference standard : IS 516 & IS 1199 1959		%	°C	°C	
Client name	M/s SKYWAY RMC (L&T MMRC)				
UNIT	Water added at instant				
		Batch weight :		73.18 kg	

Materials		Mass	Absorption	Moisture	Final Quantity	Batch Weight:	0.030cum	Remarks	Water correction
Detail	Source	kg/m ³	(%)	(%)	kg/m ³	kg			kg
Cement	ULTRATEGH	300			300	9.00			
FLYASH	NASHIK	100			100	3.00			
Ultrafine	NAGPUR	25			25	0.75			
Water	Lab	148			179	5.36			30.55
20 mm	URAN	573	2.20%	0.40%	563	16.88			10.31
10mm	URAN	488	0.00%	0.40%	490	14.70			-1.95
Crushed sand	URAN	801	3.67%	0.90%	779	23.36			22.19
Admixture 1		1.00%			4.250	0.128			

Modified Ultrafine Mix

Hardened Concrete Properties						
Cube No.	1	2	3	4	5	6
Age	3	3	3	7	7	7
Date of testing	12-Jul-22	12-Jul-22	12-Jul-22	18-Jul-22	18-Jul-22	18-Jul-22
Cube Weight	8.48	8.43	8.45	8.375	8.437	8.428
Load (kN)	512.6	523.8	522.6	713.4	687.5	690.5
Comp. Str Mpa	22.78	23.28	23.23	31.71	30.56	30.69
Average	23.10			30.98		


Witnessed by:-

ULTRAFINE

College Competition S/W



TECHNICAL BENEFITS OF UltraFine™

Use of **UltraFine™** will directly lead to following technical advantages

Lower water demand in comparison to Microsilica.

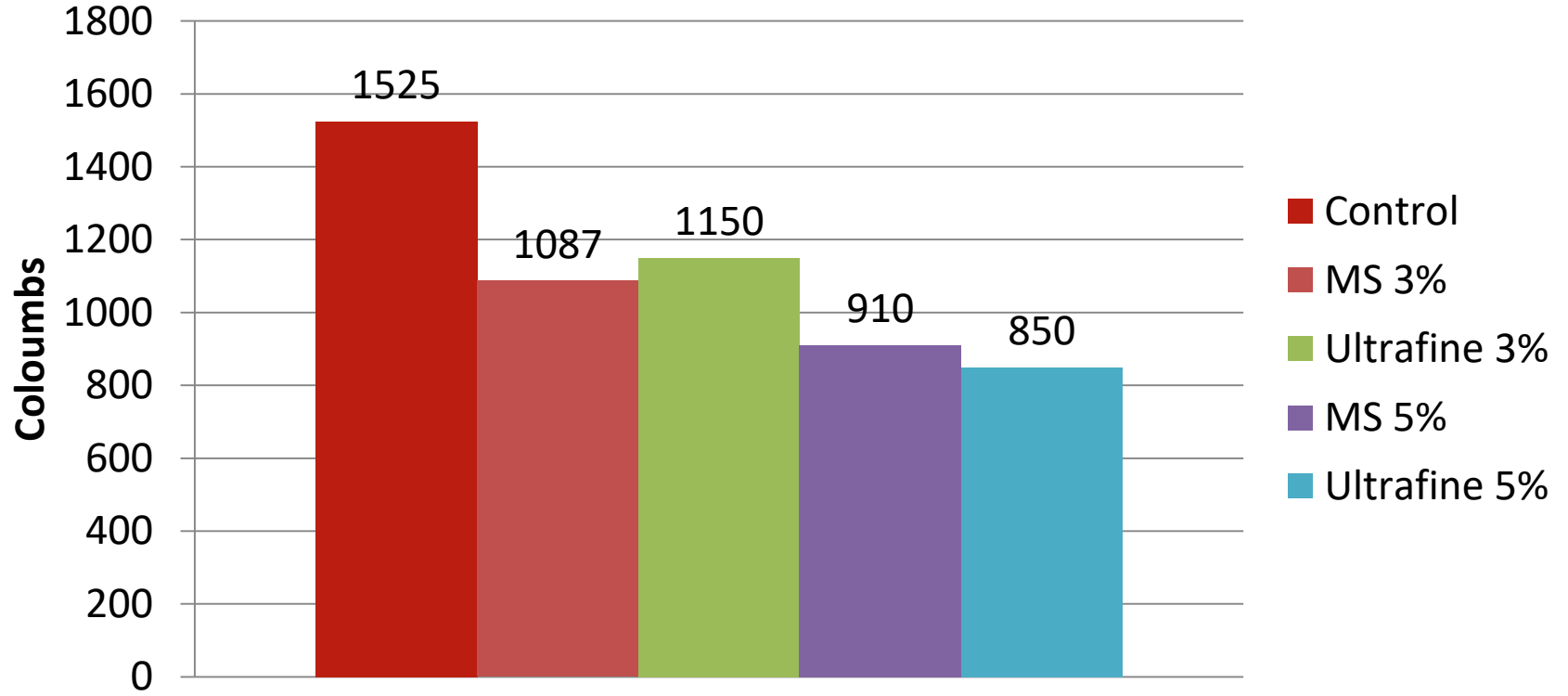
Better compressive strength at 24 hours.

Better workability and slump retention.

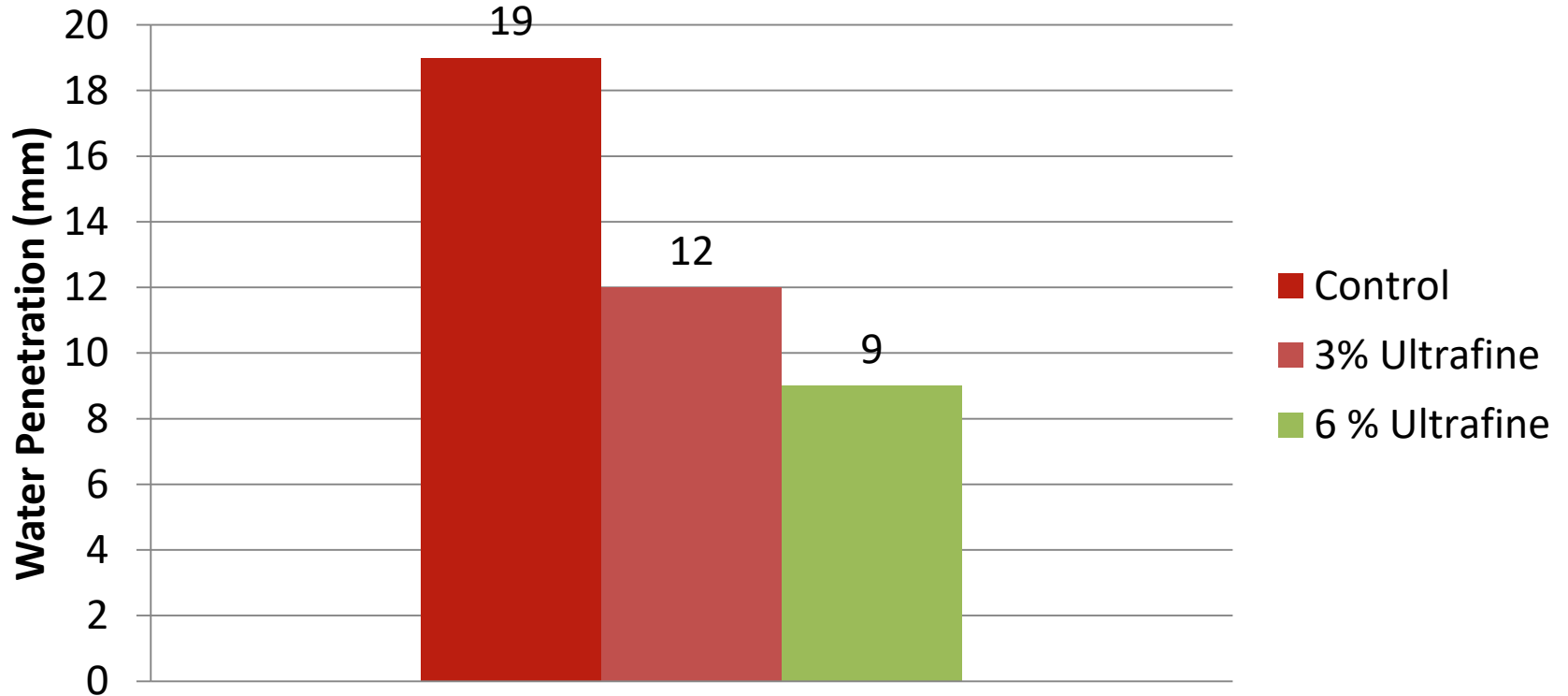
Lower heat of hydration released for given strength of concrete.



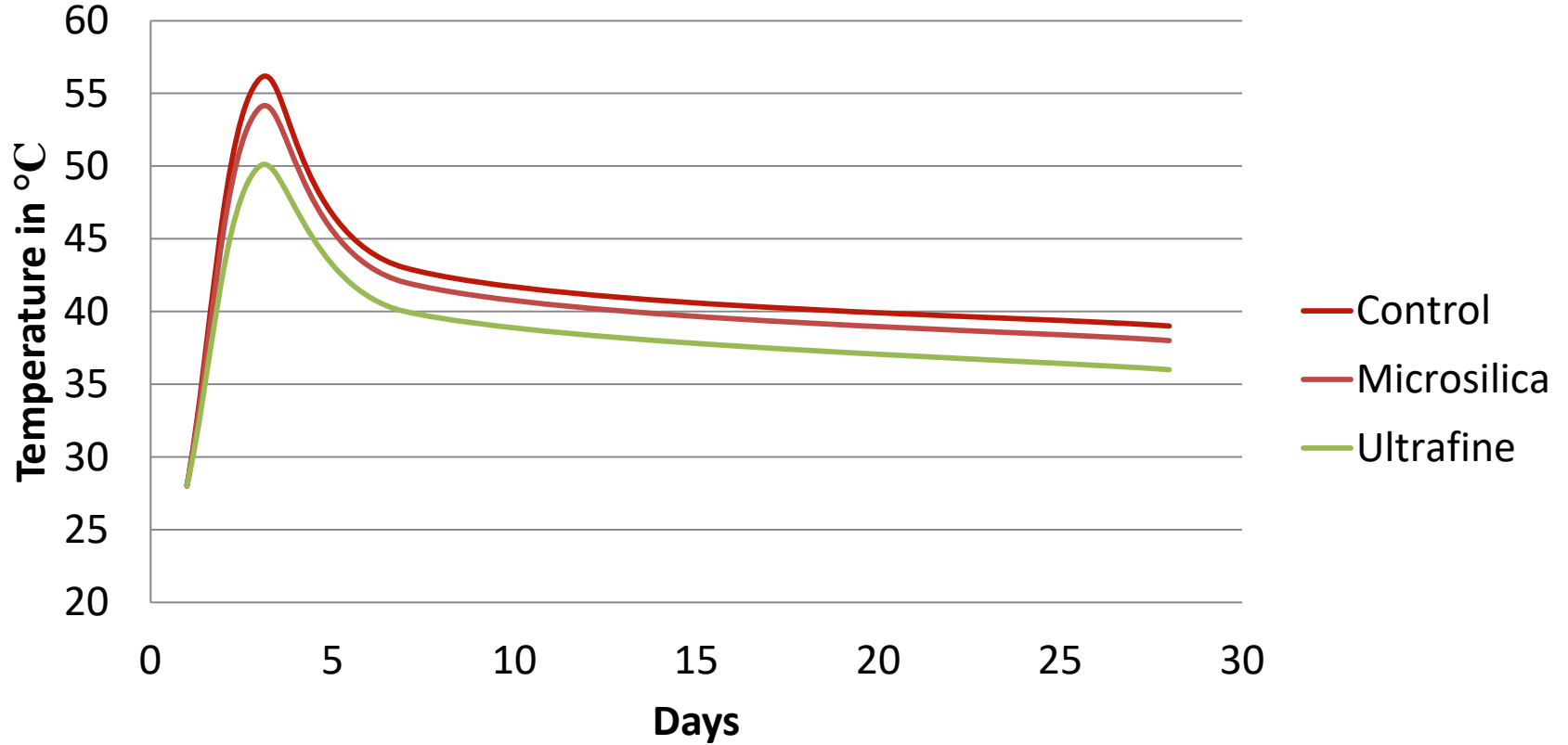
Improvement in RCPT



Water Penetration



Concrete temperature Study



INCREASED DURABILITY

UltraFine™ increases the durability of concrete structures by-

Improved capability
to resist Sulphate
attack.

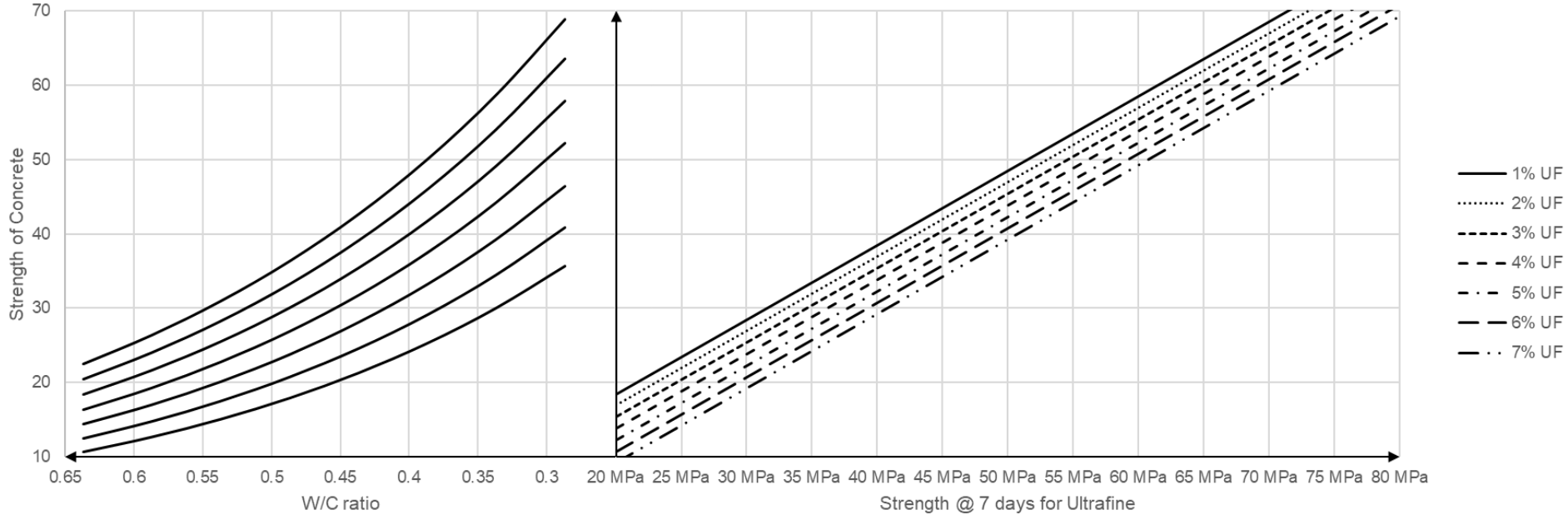
Increased
resistance to Water
penetration,
reduces
permeability.

Reducing
Chloride
penetration
and migration.

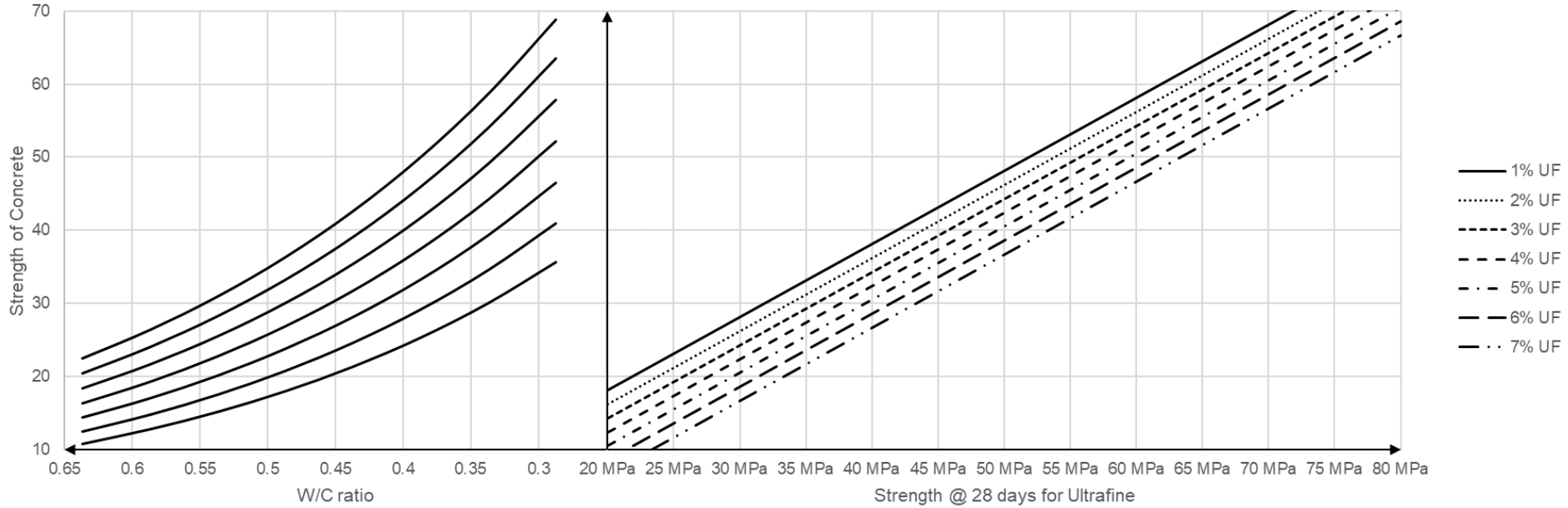
Reducing
thermal cracking
in mass concrete
structures.



CONCRETE DESIGN CHART WITH ULTRAFINES



CONCRETE DESIGN CHART WITH ULTRAFINES



भारतीय मानक ब्यूरो
BUREAU OF INDIAN STANDARDS

मानक चिन्ह के उपयोग के लिए अनुज्ञप्ति
Licence for the use of STANDARD MARK

अनुज्ञप्ति (साइनेज) सं. सीएम/एल- 7400041098
Licence No. CML- 7400041098

यह ब्यूरो, भारतीय मानक ब्यूरो अधिनियम, 2016 (2016 का 11) द्वारा प्रदत्त शक्तियों के आधार पर
By virtue of the power conferred on it by the BUREAU OF INDIAN STANDARDS ACT, 2016
(11 of 2016) the BUREAU hereby grants to

मेसर्स अल्ट्राफाइन मिनेरल एंड एडमिक्सचर्स प्रा लि
M/s ULTRAFINE MINERAL & ADMIXTURES PRIVATE LIMITED
76/1, मौजा डोंगरगाँव
76/1, Mouza Dongargeon,
जिला नागपुर, महाराष्ट्र 441108.
Distt.: Nagpur, Maharashtra 441108.

को (जिसे इसमें आगे 'अनुज्ञापिधारी' कहा गया है) इसकी प्रथम अनुसूची के पहले स्तंभ में विनिर्दिष्ट मानक चिन्ह का इस अनुसूची के सीटरे स्तंभ में दी गई किस्मों पर, उपयोग करने के लिए वह अनुज्ञप्ति प्रदान करता है। इन उत्पादित किस्मों पर चिन्ह का उपयोग एक अनुसूची के द्वितीय स्तंभ में समय-समय पर संशोधित अथवा पुनरीधित /संशोधित संबद्ध भारतीय मानक (मानकों) के अनुसार/अनुरूप विनिर्दिष्ट हो।
(hereinafter called 'the Licensee') this Licence to use the Standard Mark set out in the first column of the First Schedule hereto, upon or in respect of the varieties set out in the third column of the said Schedule which is manufactured in accordance with/conforms to the related Indian Standard(s) referred to in the second column of the said Schedule as from time to time amended or revised.


2. इस अनुज्ञप्ति में अतिरिक्त अनुज्ञप्ति की शर्तों के लिए अनुज्ञापिधारी उत्तरदायी है। यह अनुज्ञप्ति पहली अनुसूची में यथा-उल्लिखित नाम, कारखाना के पते और अवधि के लिए विधिमान्य होगा और इसे स्कीम-1 में निर्दिष्टानुसार नवीकृत कराया जा सकता है।
This Licence carries obligations on part of the licensee as conditions of licence which are given in Annexure attached herewith. This licence shall be valid for the name, factory address and period as mentioned in the schedule and may be renewed as specified in the scheme-1.

अनुसूची / Schedule
अनुज्ञप्ति सं सीएम/एल - 7400041098/ Licence No.CM/L- 7400041098

नाम/Name : मेसर्स अल्ट्राफाइन मिनेरल एंड एडमिक्सचर्स प्रा लि / M/s ULTRAFINE MINERAL & ADMIXTURES PRIVATE LIMITED

कारखाने का पता / Factory Address : 76/1, मौजा डोंगरगाँव, जिला नागपुर, महाराष्ट्र 441108 / 76/1, Mouza Dongargeon, Distt.: Nagpur, Maharashtra 441108

विधिमान्यता 25 जनवरी 2022 से 24 जनवरी 2023 तक / Validity from 25 January 2022 to 24 January 2023.

मानक चिन्ह Standard Mark	भारतीय मानक Indian Standard	अनुज्ञप्ति का विषय क्षेत्र Scope of Licence	चिह्नंकन फीस Marking Fee
(1)	(2)	(3)	(4)
IS 16715 	आई एस 16715 : 2018 IS 16715 : 2018	वात्या भट्टी का अतिमहीन पिंसा हुआ दानेदार धातुमल/ Ultrafine ground granulated blast furnace slag वात्या भट्टी का अतिमहीन पिंसा हुआ दानेदार धातुमल - विधि / ULTRAFINE GROUND GRANULATED BLAST FURNACE SLAG - SPECIFICATION	एक वर्ष की प्रचालन अवधि के दौरान न्यूनतम मुहरंकन फीस रु. 190000.00 के साथ सभी इकाइयों लिए रु.2.40 प्रति इकाई। Rs.2.40 per unit for all units with a minimum marking fee of Rs.190000 .00 during an operative period of one year. इकाई/ Unit - 1 MT एक प्रचालन वर्ष के लिए न्यूनतम चिह्नंकन शुल्क अग्रिम में देय होगी जो अग्रलेख नवीकरण में अग्रनीत होगी। Minimum marking fee for one operative year payable in advance which will be carried over to next renewal(s).

आज वर्ष दो हजार बाईस के माह की तारीख को हस्ताक्षरित, मुहरबंद किया गया।
Signed, Sealed and Dated this 02nd day of Feb. month of Year Two
Thousand Twenty Two.

भारतीय मानक ब्यूरो के लिए/for BUREAU OF INDIAN STANDARDS



(विजय नितनवरे / VIJAY NITNAWARE)

वैज्ञानिक ई एवं प्रमुख (नागपुर शाखा कार्यालय)/ Scientist E & Head (Nagpur Branch Office)

विजय नितनवरे / VIJAY NITNAWARE
वैज्ञानिक ई एवं प्रमुख / Scientist E & Head
भारतीय मानक ब्यूरो
BUREAU OF INDIAN STANDARDS
एन.आर.टी. बिल्डिंग, गोकुलपथ, नागपुर-440010
NIT BUILDING, GOKULPETH, NAGPUR-440010

TEST REPORT

ID- M200928002-1

Sr. No.	Test	Results	Requirements As per IS 16715– 2018	Conformity
Physical Analysis				
1	Fineness, m ² /kg (BET Method)	2890	1500 Min.	Yes
2	Particle Size, μm			
	a) D ₅₀	3.82	5 Max.	Yes
	b) D ₉₅	9.60	15 Max.	Yes
3	Slag activity index, %			
	a) 7Days	88.7	85 Min.	Yes
	b) 28 Days	112.5	100 Min.	Yes

Test Method : IS:11578:1986, Laser Diffraction PSD Analyzer & IS:4031 (Part 8).

CHEMICAL PROPERTIES (as per IS 16715:2018)

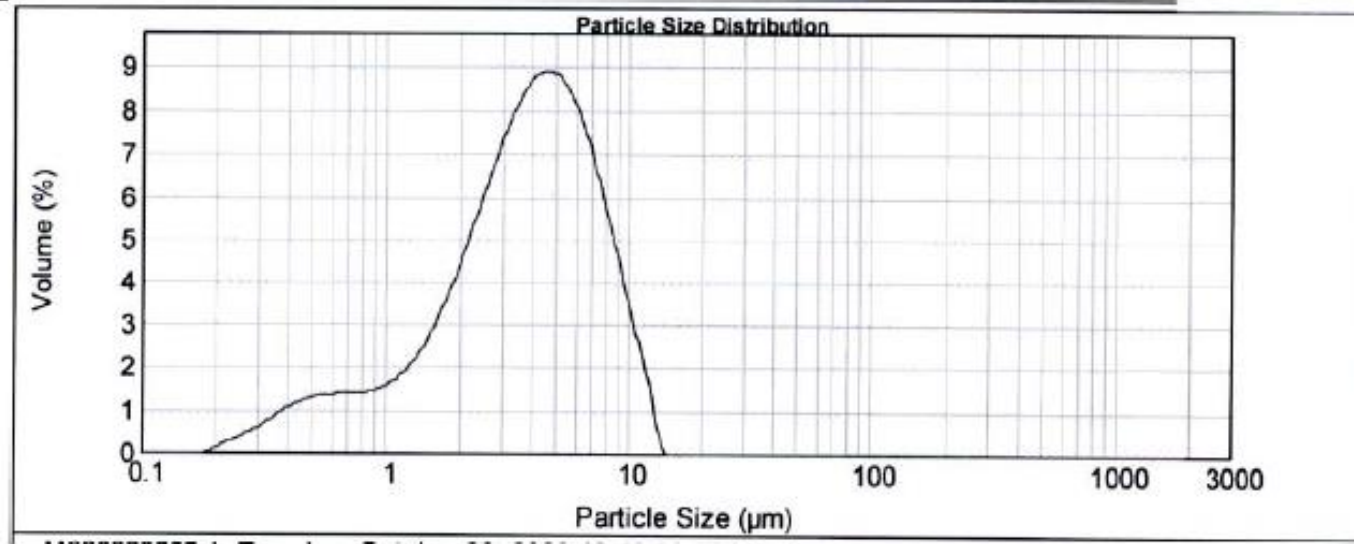
SR. No.	Test	Results	Requirements As per IS 16715 – 2018	Test Method	Conformity
Chemical Analysis					
1	Manganese Oxide (as MnO),% by mass	0.35	5.5 Max	IS:4032:1985(RA:2019) Clause.6.10	Yes
2	Magnesium Oxide (as MgO),% by mass	6.11	17.0 Max	IS: 4032:1985(RA:2019) Clause.4.8.1	Yes
3	Insoluble Residue, % by mass	0.22	3.0 Max	IS: 4032:1985(RA:2019) Clause.4.10	Yes
4	$\frac{(CaO+MgO+1/3 Al_2O_3)}{SiO_2+2/3 Al_2O_3}$	1.08	1.0 Min	IS:4032:1985(RA:2019)	Yes
5	$\frac{(CaO+MgO+ Al_2O_3)}{SiO_2}$	1.83	1.0 Min	IS:4032:1985(RA:2019)	Yes
6	Chloride (as Cl) , % by mass	0.016	0.1 Max	IS: 4032:1985(RA:2019) Clause.4.13 Amnd.2 (2010)	Yes
7	Moisture content, % by mass	0.20	1.0 Max.	IS :16715 (ANNEX-B)	Yes
8	Sulphide Sulphur(as S), % by mass	0.39	2.0 Max	IS:4032:1985(RA:2019) Clause.6.12	Yes
9	Sulphate (as SO ₃), % by mass	0.31	3.0 Max	IS:4032:1985(RA:2019) Clause.4.9	Yes
10	Loss on Ignition , % by mass	0.30	3.0 Max	IS:4032:1985(RA:2019) Clause.4.2	Yes
11	Glass Content, % by mass	86.47	85.0 Min	IS-16715 (ANNEX-C)	Yes

Chemical Tests

Sr. No.	Test	Results	IS 16715-2018	Conformity
1	Glass Content	86.47%	85% minimum	Yes
2	Loss on Ignition	0.30%	3% max	Yes
3	Chlorides	0.02%	0.1% max	Yes
4	Sulphate	0.31%	3% max	Yes

Typical Particle size distribution by Laser Diffraction method

D(0.10): 0.955μm	D(0.50): 3.821μm	D(0.90): 8.184μm	D(0.95): 9.60μm
D[3,2] – Volume Weighted Mean: μm			Mode – 2.078 μm
D[4,3] – Volume Weighted Mean: μm			Mode – 4.278 μm



AREAS OF APPLICATION

UltraFine™ has wide range of applications.

- High strength Concrete Structures
- Precast segments for tunnels, flyovers, Metro
- High strength grouts and mortars
- Grouting inside tunnels
- High Rise pumping operations
- Structures where durability parameters are important like structures near sea, soil with sulphates and chlorides etc.



DIRK UltraPozzo™ UF100

Ultrafine
MINERAL
High Strength ■ Durable ■ Sustainable

DIRK UltraPozzo™ UF100: Ideal Pozzolanic material for concrete and mortars.



DIRK UltraPozzo™ UF100 is a very highly efficient pozzolonic material which increases the efficiency of the Portland cement. It is a processed and classified fine material, carefully controlled for its particle size **with 100% passing on 45 micron sieve.**

DIRK UltraPozzo™ U100 enhances the secondary hydration reaction in cement paste making complex crystalline microstructures in concrete which attributes to increased compressive strength and durability in concrete. Also, spherical particles greatly increase the flow ability of concrete.

DIRK UltraPozzo™ U100 has wide range of applications.

- High strength Concrete Structures
- Precast segments for tunnels, flyovers, Metro
- High strength grouts and mortars
- Grouting inside tunnels
- High Rise pumping operations
- Structures where durability parameters are important like structures near sea, soil with sulphates and chlorides etc.



Chemical Properties UF100

Sr No	Characteristic	Requirement	Observed value (%)
1	SiO ₂ +Al ₂ O ₃ +Fe ₂ O ₃ , min	70	87.79
2	SiO ₂ , min	35	57.22
3	MgO, max	5	1.11
4	SO ₃ , max	3	0.29
5	LOI, max	4	0.75
6	Moisture content, max	2	0.2
7	Total Alkali (N ₂ O), max	1.5	0.3
8	Chloride, max	0.05	0.008

Physical Properties UF100

Sr No	Characteristic	Requirement	Observed value
1	Specific Surface area (m ² /Kg), min	1000	2125
2	ROS 45 micron (%), max	5	0%
3	Compressive Strength at 7 day as percent of control, Mpa , Min	85	98
4	Lime Reactivity, Mpa, Min	7	10.7
5	PSD D10, mic, D50, mic, D90, mic,	> 2 micron > 7 micron > 15 micron	1.2 micron 6 micron 12 micron

Ultrafine Products would make a huge impact in terms of material optimization and carbon footprint reduction.

By using each kilogram of **UltraFine™** / **UltraPozzo™** tens of kgs of cement is reduced in mix designs which lead to reduced carbon emission for a given project.



List of prime Customers

Ultrafine
MINERAL
High Strength ■ Durable ■ Sustainable



List of prime Customers

Ultrafine
MINERAL
High Strength ■ Durable ■ Sustainable



AMIT INFRA LOGIC INDIA PVT. LTD.





Thank You for Your Kind Attention

Address:

UltraFine Mineral & Admixtures Pvt Ltd.

Plot no. 76/1, Mouza: Dongargaon, Wardha Road, Nagpur, Maharashtra, India : 441108.

Mobile No: WEST INDIA (MUMBAI & PUNE) : +91 99202 56789, EAST/NORTH/CENTRAL INDIA: +91 99201 56789,
SOUTH INDIA: +91 97399 90219

Email: sales@ultrafine.in



TESTING LABORATORIES (NCB/TL/QM/TRF-1.1)
INDEPENDENT TESTING LABORATORIES
TEST REPORT

Customer Address ULTRAFINE MINERALS AND ADMIXTURES PVT. LTD. No. : ITL/006413
PLOT NO. 76/1, MOUZA, DONGARGAON, WARDHA ROAD, Date : 29/07/2021
NAGPUR, MAHARASHTRA, PIN- 441108

Reference LETTCR, DTD. NIL

Sample Said to be UltraFine GGBF Slag

Identification ULTRAFINE GGBS

Condition of Sample UnSealed with ID Tag

Date of Receipt 08/04/2021 **Laboratory Mark -** ILL1240/1/1

Period of Testing 22/04/2021 - 29/07/2021

Tested for Conformity to IS:16715:2018

Discipline Mechanical Testing **Group** Building Materials

SI No	Test Name	Test Method	Test Results	Lower Limit As Per	Upper Limit As Per
1	Fineness by BET Method	IS:11578:1986	2995 m2/Kg	1500	--
2	Particle Size	D50 Laser Diffraction Analyzer	4.57 micron	--	5
		D95 Laser Diffraction Analyzer	9.65 micron	--	15
3	Slag Activity Index (% of control OPC43G cement mortar cube)	7 Days IS:4031(Pt-8):1988	103.7 %	85	--
		28 Days IS:4031(Pt-8):1988	117.7 %	100	--

----- END OF THE TEST REPORT -----

Conditions

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2. The Report is being issued on the specific understanding that NCB will not in any way be involved in any action following the interpretation of the above results.
3. This report shall not be reproduced except in full without written approval from NCB.
4. Sample shall be retained for 90 days after reporting the results.
5. This report does not imply that the sample/material is approved or endorsed by NCB or IITR.

30enisi/s

Page 1 of 1

Dr D Yadav
Authorised Signatory

Centre for Cement Research and Independent Testing



TESTING LABORATORIES (NCB/TL/QM/TRF-1.1)

INDEPENDENT TESTING LABORATORIES

TEST REPORT

Customer Address **ULTRAFINE MINERALS AND ADMIXTURES PVT. LTD.** No. : ITL/006414
PLOT NO. 76/1, MOUZA, DONGARGAON, WARDHA ROAD,
NAGPUR, MAHARASHTRA, PIN- 441108 Date : 20/07/2021
Reference LETTER, DTD. NIL
Sample Said to be UltraFine GG&F Slag
Identification ULTRAFINE GG&S
Condition of Sample UnSealed with ID Tag
Date of Receipt 08/04/2021 **Laboratory Mark -** ITL1240/2/1
Period of Testing 26/04/2021 - 20/07/2021
Tested for Conformity to IS:16715:2018
Discipline Chemical Testing **Group** Building Materials

SI No	Test Name	Test Method	Test Results	Lower Limit As Per	Upper Limit IS:16715:2018
1	Moisture Content	IS:16715:2018 Annex-B	0.06 % by mass	--	1.0
2	Loss on Ignition	IS 4032:1985	0.79 % by mass	--	3.0
3	Silica	IS 4032:1985	34.05 % by mass	--	--
4	Alumina	IS 4032:1985	20.68 % by mass	--	--
5	Calcium Oxide	IS 4032:1985	34.16 % by mass	--	--
6	Magnesium Oxide	IS 4032:1985	7.63 % by mass	--	17.0
7	Sulphate(as SO3)	IS 4032:1985	0.08 % by mass	--	3.0
8	Insoluble Residue	IS 4032:1985	0.31 % by mass	--	3.0
9	Chloride	IS 4032:1985	0.011 % by mass	--	0.1
10	Sulphur as Sulphide	IS 4032:1985	0.41 % by mass	--	2.0
11	Manganese Oxide	IS 4032:1985	0.19 % by mass	--	5.5
12	CaO+MgO+0.33Al ₂ O ₃ / SiO ₂ +0.67Al ₂ O ₃	Calculated	1.01	1.0	--
13	CaO+MgO+Al ₂ O ₃ /SiO ₂	Calculated	1.83	1.0	--
14	Glass Content	IS:16715:2018 Annex-C	93 %	85	--
***** END OF THE TEST REPORT *****					

Conditions

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Scientist/s

[Signature]

Dr D. Yadav
Authorised Signatory

Page 1 of 1

Centre for Cement Research and Independent Testing



**BUREAU
VERITAS**



Date: 14.12.2020 *NABL Accredited Lab*
ULR-TC600620000015858F *per ISO/IEC: 17025*

**Ultrafine
MINERAL**
High Strength ■ Durable ■ Sustainable

Ref: BVIPL:GGBS: BL/1745/10/2020/1/A
Test Order dated: 20.10.2020

Ultrafine Mineral & Admixtures Pvt. Ltd.
Plot no. 76/1, Mouza, Dongargaon, Wardha Road,
Nagpur, Pin – 441108, Maharashtra, India

CHEMICAL TESTING
Building Materials

**CHEMICAL TEST REPORT ON ULTRAFINE
GROUND GRANULATED BLAST FURNACE SLAG SAMPLE**

Source of sample : Sample supplied by the customer
Customer's reference : Letter dated 17.10.2020 & Email dated 09.11.2020 & 11.12.2020
UIN : 20024061
Sample Name # : Ultrafine GGBS
Brand # : Ultrafine
Period of Test : 27.10.2020 to 04.11.2020
Condition of sample : Satisfactory
Test Method : IS:12089-1987 (Reaffirmed 2013)
IS : 4032 - 1985 (Reaffirmed 2014)

Test Conducted	Results	Requirements as per IS:16715 -2018
Manganese Oxide (MnO) (%)	0.24	Maximum 5.5
Magnesium Oxide (MgO) (%)	8.28	Maximum 17.0
Sulphide Sulphur (S) (%)	0.50	Maximum 2.0
Sulphate (as SO ₃)	0.10	Maximum 3.0
Insoluble residue (Max.) (%)	0.16	Maximum 3.0
Chloride Content	0.004	Maximum 0.1
Loss on Ignition	0.15	Maximum 3.0
$\text{CaO} + \text{MgO} + 1/3 \cdot \text{Al}_2\text{O}_3$	1.10	Minimum 1.0
$\text{SiO}_2 + 2/3 \cdot \text{Al}_2\text{O}_3$		
$\text{CaO} + \text{MgO} + \text{Al}_2\text{O}_3$	1.83	Minimum 1.0
SiO_2		
Glass Content (%)	98.9	Minimum 85.0

As furnished by the customer

This report supersedes the earlier report of ULR-TC600620000012966F dated 09.11.2020

- Note:**
1. The results relate only to the items tested.
 2. Report shall not be reproduced except in full, without the written approval of the lab.
 3. Any corrections invalidate this report.

for **BUREAU VERITAS (INDIA) PRIVATE LIMITED**
Construction Services Laboratory

BV 15/11/2020
BHAGWAN. S.
Senior Chemist

Bureau Veritas (India) Private Limited
(Construction Services Laboratory)
43, 45-47, Pete, Chennappa Inds. Estate, 1st Main
Magadi Road, Kamakshipalya, Bangalore - 560 079
Tel: +91 80 23011820 Fax: +91 80 26716833
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Tel.: +91 22 62742000 Fax: +91 22 62742008
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Surat, Trichy & Visakhapatnam



NABL Accredited Lab
as per ISO/IEC: 17025

Ultrafine
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Ref: BVIPL.GGBS: BL/1745/10/2020/2/A
Test Order dated: 20.10.2020

Date: 14.12.2020
ULR-TC600620000015202F

Ultrafine Mineral & Admixtures Pvt. Ltd.
Plot no. 76/1, Mouza, Dongargaon, Wardha Road,
Nagpur, Pin - 441108, Maharashtra, India

MECHANICAL TESTING
Building Materials

**FINAL PHYSICAL TEST REPORT ON ULTRAFINE
GROUND GRANULATED BLAST FURNACE SLAG SAMPLE**

Source of sample : Sample supplied by the customer
Customer's reference : Letter dated 17.10.2020 & Email dated 09.11.2020 & 11.12.2020
UN : 20024061
Sample Name # : Ultrafine GGBS
Brand # : Ultrafine
Period of Test : 30.10.2020 to 28.11.2020
Condition of sample : Satisfactory
Test Method : IS : 1727-1967 (Reaffirmed in 2018) & IS: 4031 (Part 8) - 2019

Sl. No.	Test Conducted	Results	Requirement as per IS: 16715-2018 Amendment No. 1 : 2019
1	Specific Gravity	2.86	Not Specified
2	Slag Activity Index as percent of control sample		
	7 days	90.0	Not less than 85 percent
	28 days	107	Not less than 100 percent

As furnished by the customer

This report supersedes the earlier report of ULR-TC600620000013115F dated 09.11.2020

Note: 1. The results relate only to the items tested.
2. Report shall not be reproduced except in full, without the written approval of the lab.
3. Any corrections invalidate this report.

for **BUREAU VERITAS (INDIA) PRIVATE LIMITED**
Construction Services Laboratory

Praveen Nayak S

15/12/2020

PRAVEEN NAYAK S

Senior Engineer



"Intelligence with Integrity"

ACCREDITED LABORATORY BASED ON ISO/IEC 17025

STRUCTWEL/ NM/ Level/ IV/ Phy/TR/Con.Cube/RCPT/003/1	
Rev. No. 02	Rev. Date: 05/04/2019
Discipline: Mechanical	Group: Building Materials

PAGE 1 OF 1



TEST REPORT NO. & DATE : **R&D/LAB/SAN/2021-22/SAN0024421/0813**

ULR No. : **TC528221000004277F**
22/04/2021

1. Name & Address of Customer : M/s.RDC Concrete
Ramtekdi Industrial Estate, Survey No. 107, Plot No.05, Hissa No. 2B,
Hadapsar, Pune, Maharashtra 411 013.
2. Project / Site : M/s. Gulermak-Tata Projects Ltd. JV Pune Maha Metro Underground Project
3. Customer's Reference : Dtd. 05/04/2021
4. Sample
 - i) Description : **Concrete Core**
 - ii) Quantity : 3 Nos.
 - iii) Date of receipt : 09/04/2021
 - iv) Condition : Acceptable
5. Test method followed, if any : ASTM C1202 -19
6. Date of Testing : 12/04/2021



**TEST REPORT OF ELECTRICAL INDICATION OF CONCRETE'S ABILITY TO
RESIST CHLORIDE ION PENETRATION
(RCPT)**

* Grade of concrete : **M-50** * Date of casting : **30/01/2021**

Observations :

Sr. No.	* ID Mark	Time (min)	Total Charge passed (Coulombs)
1	Ultrafine	360	645
2		360	647
3		360	656

Remarks :

Charge Passed (Coulombs) **Chloride Ion Penetrability**

- | | |
|---------------|-------------|
| 1) > 4000 | :High |
| 2) 2000 -4000 | :Moderate |
| 3) 1000-2000 | :Low |
| 4) 100-1000 | :Very low |
| 5) <100 | :Negligible |

NOTE :

- This test report refers only to the sample submitted for testing.
- This test report is valid at the time of and under the conditions specified herein.
- This test report may not be reproduced in part, without the permission of this laboratory.
- Any correction invalidates this test report.
- *-- Data provided by client.

Suchita/N/LAB/Tech Report/2021-22/Test Report/Turbhe/Nabl/Phy/Con.Cube/RCPT/SAN0024421

*****End of Report*****

Vinayak Samal
Vinayak Samal
Authorized Signatory

Hologram authenticates report • Hologram authenticates report • Hologram authenticates report

FLY ASH



NATIONAL COUNCIL FOR CEMENT AND BUILDING MATERIALS
INDEPENDENT TESTING LABORATORIES, HYDERABAD



TC-7692

Ultrafine
MINERAL
High Strength ■ Durable ■ Sustainable

TEST CERTIFICATE

Sample : Said to be Fly Ash(Ultrafine) Condition of sample : Satisfactory
Customer's Name & Address : M/s. Ultrafine Mineral & Admixtures Pvt. Ltd., Plot No. 32-35, Wada Manor Road,
Village – Posheri, Shingdapada Stop, Taluka-Wada, Dist. – Palghar,
Maharashtra - 421303
Laboratory Mark : TSH-210359 Identification : Yr Ltr dated 23.08.2021
Date of performance of Test : 21.10.2021 to 29.11.2021 Date of Receipt : 18.10.2021
Specification : IS: 3812 (Part-1) – 2013

Sl.No.	Tests Carried Out	Specific Requirements		Results obtained (Percentage by Mass)	Test method
		Siliceous	Calcareous		
1.	Silicon dioxide (SiO ₂) plus aluminium oxide (Al ₂ O ₃) Plus iron oxide. (Fe ₂ O ₃)	70 (min)	50 (min)	87.79	IS:1727-1967 & NCB validated method
2.	Silicon dioxide (SiO ₂)	35 (min)	25 (min)	56.13	IS:1727-1967
3.	Magnesium Oxide (MgO)	5.0 (max)	5.0 (max)	1.11	IS:1727-1967 & NCB validated method
4.	Total Sulphur as sulphur trioxide (SO ₃)	3.0 (max)	3.0 (max)	0.29	IS:1727-1967
5.	Loss on Ignition	5.0 (max)	5.0 (max)	0.75	IS:1727-1967
6.	Chlorides	0.05 (max)	0.05 (max)	0.008	IS:4032-1985

Conditions:

1. Results given above refer only to the sample supplied.
2. This report is being issued on the specific understanding that NCB will not in any way be involved in any action following interpretation of the above results.
3. This report shall not be reproduced except in full without written approval from NCB.
4. Corresponding requirements in accordance with recognised standards are available from NCB On specific request.
5. The balance quantity of the tested sample wherever possible shall be retained only for a period Of **Three months** from the date of issue of the Test Certificate.

--End --

Ravi
(Scientist)

Ravi
V. RAMA
ASST. MANAGER
Authorised Signatory
Centre for Cement Research
and Independent Testing

Date: 02.12.2021



NATIONAL COUNCIL FOR CEMENT AND BUILDING MATERIALS
INDEPENDENT TESTING LABORATORIES, HYDERABAD



TC-7692

TEST CERTIFICATE

Sample : Said to be Fly Ash(Ultrafine) Condition of sample : Satisfactory
Customer's Name & Address : M/s. Ultrafine Mineral & Admixtures Pvt. Ltd., Plot No. 32-35, Wada Manor Road,
Village – Posheri, Shingdapada Stop, Taluka-Wada, Dist. – Palghar,
Maharashtra - 421303
Laboratory Mark : TSH-210360 Identification : Yr Ltr dated 23.08.2021
Date of performance of Test : 25.10.2021 to 22.11.2021 Date of Receipt : 18.10.2021
Tested as per : IS: 1727 - 1967 Specification : IS 3812 (Part-1) - 2013

Sl.No.	Tests Carried Out	Specific Requirements	Results Obtained
1.	Lime reactivity	4.5 (min)	10.7 MPa
2.	Fineness (Blaine)	320 (min)	597 m ² /kg
3.	Compressive strength as percentage of strength of corresponding plain cement mortar cubes	80 (min)	98 Percent

Conditions:

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-- End --

V. Ramani
(Scientist)

Rose
V. RAMA
ASST. MANAGER
Authorised Signatory
Centre for Cement Research
and Independent Testing



Page No.2of 2
No : 21/0584
Date: 02.12.2021

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NATIONAL COUNCIL FOR CEMENT AND BUILDING MATERIALS
INDEPENDENT TESTING LABORATORIES, HYDERABAD

TEST CERTIFICATE

Sample : Said to be Fly Ash(Ultrafine) Condition of sample : Satisfactory
Customer's Name & Address : M/s. Ultrafine Mineral & Admixtures Pvt. Ltd., Plot No. 32-35, Wada Manor Road,
Village – Posheri, Shingdapada Stop, Taluka-Wada, Dist. – Palghar,
Maharashtra - 421303
Laboratory Mark : TSH-210360 Identification : Yr Ltr dated 23.08.2021
Date of performance of Test : 25.10.2021 to 22.11.2021 Date of Receipt : 18.10.2021
Tested as per : IS: 1727 - 1967 Specification : IS 3812 (Part-1) - 2013

Sl.No.	Tests Carried Out	Specific Requirements	Results Obtained
1.	Residue on 45 micron	34 (max)	12.0 Percent

Conditions:

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2. This report is being issued on the specific understanding that NCB will not in any way be involved in any action following interpretation of the above results.
3. This report shall not be reproduced except in full without written approval from NCB.
4. Corresponding requirements in accordance with recognised standards are available from NCB on specific request.
5. The balance quantity of the tested sample wherever possible shall be retained only for a period of **Three months** from the date of issue of the Test Certificate.

-- End --

V. Rama
(SCIENTIST)

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