

ULTRA-HIGH PERFORMANCE FIBER REINFORCED CONCRETE (UHPFRC) BRIDGES



Bridge at Latur
May 2021



VOP @ Chandni Chowk – Pune
May 2023

Introduction

Infrastructure is crucially important sector for the overall development of any country. The role of technology has emerged in current times like never before.

Make in India is a major national programme of the Government of India

To move forward to achieve the Governments Mission and Vision for National growth, initiatives are taken for Innovative construction materials and technologies for building world class Infrastructure for the whole Population.

Introduction of New Concrete- Ultra High Performance Fibre Reinforced Concrete

One of the biggest breakthroughs of 21st century is the invention of **Ultra High Performance Fibre Reinforced Concrete (UHPFRC)** .

In a world constantly on the move, journey towards more sustainable infrastructure is one well worth investment.

LSSPL, have explored the technology of Ultra High-Performance Fibre Reinforced Concrete to support the vision of sustainable construction. Producing high quality UHPFRC precast components with superior durability and prolonged service life which helps in reducing embodied energy and CO2 emissions compared to standard products with low carbon footprint.

Summary

UHPFRC (Ultra-High-Performance Fiber-Reinforced Concrete) is an advanced composite material for sustainable infrastructure.

UHPFRC represents a significant technological leap in construction materials, offering a powerful combination of high strength, durability, and ductility. Long-term economic and performance advantages make it a compelling choice for demanding applications. UHPFRC is set to expand its role in innovative and sustainable construction

UHPFRC offers significant advantages over traditional concrete for demanding engineering applications.

Let's Move Forward to More Sustainable Infrastructures

Proud to introduce as advanced construction material engineered to be extremely Durable and Environmentally friendly and to inspire the creation of innovative construction materials

❖ Quick Facts of UHPFRC Concrete

- Is typically at least 4 times stronger than conventional M40 grade normal strength concrete
- Is 100 times more Durable in terms of impermeability, water and carbon resistance
- Is 100 times higher in fracture energy (Impact resistance & ductility)
- 35 to 35% less weight of structure than conventional structure

Let's Move Forward to More Sustainable Infrastructures

- Is Green material and supports the concept of sustainable development
- Is economical solution for life cycle cost performance
- UHPFRC technology for long span bridge construction is world wide used in other countries since many years
- World wide more than 300 bridge are constructed with this technology.
- In absence of Indian standard codal provisions, technology was not used in India till the time.
- To promote innovations and new materials/techniques for more sustainable solutions Govt has taken strong initiation to accept and adopt the successful technologies which are under implementation in the other countries.

Features of UHPFRC

Parameter	Conventional Concrete	UHPFRC
Compressive Strength	50Mpa	155 Mpa
Tensile Strength	4 Mpa	10 Mpa
Flexural Strength	10 Mpa	30 Mpa

- Eliminates use of Conventional steel reinforcement Bars
- Eliminates use of Coarse Aggregates
- Free Flow and self-compacting

Advantages of UHPFRC

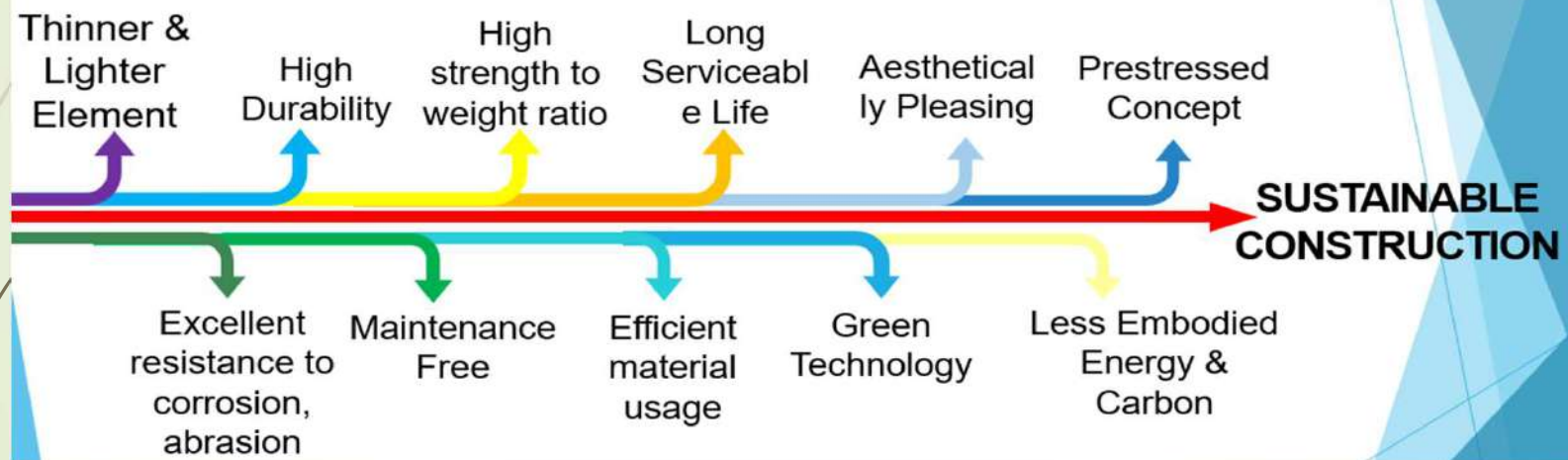
- Replacement of conventional construction
 - UHPFRC bridge Girders with 30 to 35% lighter weights
 - Excellent compressive strength/Tensile strength/flexural strength/increased durability/less creep and shrinkage, enables construction of bridge superstructure up to 100m clear span
 - Higher span lengths (Distance between 2 Piers), reduce number of Foundations and Sub structure
 - Reduces the construction period
 - Ensures high degree of quality since the products are precast and manufactures at specialized casting plant

UHPFRC- ESG Compliance

With lower Carbon foot print, UHPFRC is **ESG** Complying Concrete application

- **E-** Environmental friendly since lower concrete quantities are consumed with longer service life
- **S-** Social benefits since lower project Duration
- **G-** Good Governance since the product is made in factory controlled environment ensuring highest degree of Quality and following best industry practices

Advantages of UHPFRC Technology.



About us

We Long Span Structures India Pvt Ltd (LSSPL) are -

- Innovation and Technology Driven company
- Engaged in Design, Develop Applications, manufacture UHPC specialized components for infrastructure applications
- Equipped with dedicated testing laboratory with R&D team
- Association with a renowned International Design Consultancy HSS Engineering, Malaysia and various prominent design consultants in India.

Technology Partner- DURA Technology Snd Bhd, Malaysia

LSSPL has executed Technology sharing arrangement with Dura Technology for implementation of this patented technology in India and SARC Nations. Also entered into agreement with DURA Technology for Global operations.



Our recent Achievement

The company has a proven track record of completing diverse variety of projects across India

Longspan - Snippets from completed & ongoing projects



Lane extension of 2-lane stretch
Dharampuri



Bridge overlay
Mumbra



Rehabilitation of Bridge
Turbhe



Viaducts
Pune Mumbai Expressway (Missing link)



ROB over canal
Panvel Mahad – Panjim road



Pavement overlay
Mumbai – Pune Expressway



ROB over canal
Samruddhi Expressway



Beams & columns
Nanoli Speed way – Formula 3

About DURA

International Awards and Recognitions

DURA Technology Malaysia's primary recent recognition is the First Place award at the 2024 ACI Excellence in Concrete Construction Awards for their 105-meter span Ultra-High Performance Concrete (UHPC) bridge project in Selangor. This prestigious award from the American Concrete Institute (ACI) highlights DURA's innovative use of UHPC for strength, sustainability, and efficiency in bridge construction.



Proof-of-concept has been established globally with UHPFRC use across various Roadways and Railway projects across Americas, Europa and Asia

Notable UHPFRC projects across the world

Americas



Sherbrooke footbridge
(Canada) - 1997



Mars hill bridge
(USA)-2004



Delaware memorial bridge
deck overlay (USA)- 2023

Europe



Bourg-lès-Valence
bridge (France) - 2002



Celakovice pedestrian bridge
(Czech Republic) - 2014



Republique bridge
(France) - 2017

Asia & Oceania



Legoland bridge
(South Korea) - 2017



Foot bridge of Peace
(South Korea) - 2004



Kelang river crossing
(Malaysia) - 2021



Harbour railway
bridge deck upgrade
(Australia) - 2022

Technology Implementation in India

- Upon receipt of Approvals, Various Indian Authorities such as MoRTH, NHAI, NHIDCL, State PWD's, CIDCO, MMRDA, have started using this technology.
- With UHPFRC production facilities at Pune and Nagpur, LSSPL is addressing the demands of Precast UHPFRC components in the respective Territories. However, to make availability of this concrete technology at every corner of country, multiple specialized UHPFRC production facilities are required.

MoRTH Approval dated 22nd February 2022.

- Use of Ultra High-Performance Fiber Reinforced Concrete (UHPFRC) in Design & Construction of Structures/Bridges of National Highways

CIRCULAR

To,

1. The Chief Secretaries of all the State Governments/ UTs.
2. The Principal Secretaries/ Secretaries of all States/ UTs Public Works Department/ Road Construction Department/ Highways Department (dealing with National Highways and other centrally sponsored schemes).
3. The Chairman, National Highways Authority of India, G-5 & 6, Sector-10, Dwarka, New Delhi-110 075.
4. The Managing Director, NHIDCL, PTI Building, New Delhi-110001.
5. The Director General (Border Roads), Seema Sadak Bhawan, Ring Road, New Delhi- 110 010.
6. All Engineers-in-Chief and Chief Engineers of Public Works Department of States/ UTs/ Road Construction Department/ Highways Departments (dealing with National Highways and other centrally sponsored schemes).
7. All CE-ROs, ROs and ELOs of the Ministry.

Subject: - Use of Ultra High Performance Fiber Reinforced Concrete (UHPFRC) in Design & Construction of Structures/Bridges of National Highways - Regarding

Madam/Sir,

Advanced structural design guidelines IRC: 112-2020 "Code of Practice for Concrete Road Bridges" and analysis software are presently being used in India. These are in tune with the International codes. However, its full exploitation to design the durable cost-effective slender sections are being made in a very limited manner. Therefore, need is felt for adoption of State-of-Art advanced level of bridge technologies for use in National Highway projects so that widespread usages of more cost effective sustainable design solutions and implementation methodologies are encouraged.

2. Concrete up to M50 grade is generally being used for bridges and structures on National Highways in India. Indian Roads Congress (IRC) has published IRC: SP: 70-2016 "Guidelines for the Use of High Performance Concrete in Bridges" which provides for use of High Performance Concrete/Self-Compacted Concrete up to M90 grade. It is, however, observed that use of High Performance Concrete/Self-Compacted Concrete (M60 to M90 grade) is limited to a few long span extra dose/cable stayed bridges only.

Bidur Kant Jha

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3. Properly designed Ultra-high-performance fiber reinforced concrete (UHPFRC) which have following superior characteristics are being used in some developed countries:

- Available up to Grade M150MPa
- Available up to ultimate tensile strength 8MPa and ultimate flexural strength 30MPa.
- At least 4-6 times stronger than normal concrete (in compressive strength)
- Much more durable than conventional concrete
- Longer service life
- Reduced deck height
- Lower carbon footprint

4. Recently UHPFRC girders have been used in Sole River Bridge at Km 42+050 of NH -752K near Latur (2x56m span). Few more bridges/viaducts of span varying from 50-72m have been approved for construction. A bridge over Ganga River parallel to JP Setu in Patna is under planning that envisages use of UHPFRC girders for 100m span.

5. On careful consideration of the advantages of UHPFRC, it is found that UHPFRC girders may be preferred in long span bridges i.e. span length ranging from 50m to 100m in India. In the urban viaduct structures, where generally 30m standard span is used, span length can be increased to 60m with use of UHPFRC. It can also be used for smaller span.

6. To promote use of UHPFRC girders in bridges and structures in India, following has been decided:

6.1. While preparing detailed project report, Consultants shall evaluate both traditional PSC girders and UHPFRC girders for elevated corridors/ viaduct sections and bridges having length 500 m and above and consider the preferred alternative in cost estimate and analysis. Similar exercise shall also be done if aggregate length of bridges having span length greater than 30m and viaduct sections is greater than 2000m in a single project.

6.2. The French design standard and material specification to be referred are NF P18-710- "National addition to Euro code 2 – Design of concrete structures: specific rules for Ultra-High Performance Fibre-Reinforced Concrete (UHPFRC) & NF P18-470- "Concrete - Ultra-High Performance Fiber-Reinforced Concrete - Specifications, Performance, Production and Conformity".

6.3. Concessionaire/Contractor is free to use UHPFRC girders in its design. IE/AE shall review and approve the design without any prejudice.

6.4. Although usage of UHPFRC is expected to result in significant cost savings and reduction in life cycle costs, it is decided at this stage that the cost implications of

Bidur Kant Jha Page 2 / 3

using the technology may be fully absorbed within the Agreement cost of the project until further orders and the Authority (i.e. executing agency) shall neither demand for any share of cost reduction benefits nor pay/compensate for additional expenses incurred by the Concessionaire / EPC Contractors as per the Ministry's policy circulated vide letter No. RW/NH-33044/18/2020-S&R (P&B) dated 14.12.2020 even if the changes are accompanied by reduction in number of foundations and piers.

6.5. Defect liability period of such bridges/structures will be 10 years irrespective of whether defect liability period of the project is 5 years.

6.6 Concessionaire/contractor shall submit a detailed bridge inspection plan on completion of the construction works to the Ministry for approval. Concessionaire/contractor, IE/AE, Authority shall jointly conduct periodic inspection of the structure and will prepare a condition monitoring report. This report shall be prepared and submitted to the Ministry on half-yearly basis till completion of the defect liability period unless otherwise decided by the Ministry.

7. It is requested that the contents of the letter may be brought into the notice of all concerned for needful compliance.

8. This issues with the approval of Competent Authority.

Bidur Kant Jha
Bidur Kant Jha
Ministry of Road Transport & Highways
Transport Bhawan, 1, Parliament Street, New Delhi-110001

Yours faithfully,

Bidur Kant Jha
22-02-2022
(Bidur Kant Jha)
Director
(New Technology for Highway development)
For DG (RD) & SS

Copy to:

1. All CEs in the Ministry of Road Transport & Highways
2. All ROs of the Ministry of Road Transport & Highways
3. The Secretary General, Indian Roads Congress
4. Technical circular file of S&R (P&B) Section
5. NIC-for uploading on Ministry's website under "What's new"

Copy for information and necessary action to:

1. Sr. PPS to Secretary (RT&H)
2. PPS to DG (RD) & SS
3. Sr. PPS/ PPS to Addl. Secretary (Road Safety)/ Addl. Secretary (RT&H & LA)
4. Sr. PPS/ PPS to AS&FA
5. Sr. PPS/ PPS to ADG (SKN) / ADG (RP)/ ADG(DS)
6. Sr. PPS/ PPS to JS (RT&MVL)/ JS (EIC) / JS (Logistics)/ JS (NHIDCL)

RDSO , Ministry of Indian Railways Guidelines for UHPFRC **dated 8th march 2024.**

- Guidelines for Ultra High Performance concrete in Indian Railway Structures

File No.RDSO-BnS0ESTR(CB-1)/5/2020-O/o ED/STRUCTURES/RDSO

वी.के. पाण्डेय
V.K. Pandey
कार्यकारी निदेशक/पुं एवं सं-॥
Executive Director/B&S-II



भारत सरकार-रेल मंत्रालय
अनुसन्धान अभिकल्प और मानक संगठन
लखनऊ-226011
Government of India-Ministry of Railways
Research Designs & Standards Organisation
Lucknow- 226011
Phone/ Fax: 0522-2465704
Email: edbns2rdsso@gmail.com

पत्रांक सं: CBS/PCB

दिनांक: 08.03.2024

Principal Chief Engineers:

- | | |
|--|--|
| 1. Central Railway, Mumbai CST - 400001 | 9. North Western Railway, Jaipur - 302001 |
| 2. Eastern Railway, Fairlie Place, Kolkata - 700001 | 10. Southern Railway, Park Town, Chennai - 600003 |
| 3. East Central Railway, Hazipur - 844101 | 11. South Central Railway, Rail Nilayam, Secunderabad - 500371 |
| 4. East Coast Railway, Bhubaneshwar - 751016 | 12. South East Central Railway, Bilaspur - 495004 |
| 5. Northern Railway, Baroda House, New Delhi - 110001 | 13. South Eastern Railway, Garden Reach, Kolkata - 700043 |
| 6. North Central Railway, Allahabad - 211001 | 14. South West Railway, Hubli - 580023 |
| 7. North Eastern Railway, Gorakhpur - 273001 | 15. Western Railway, Mumbai - 400020 |
| 8. Northeast Frontier Railway, Maligaon, Guwahati - 781061 | 16. West Central Railway, Jabalpur - 482001 |
| | 17. Metro Railway, Jawaharlal Nehru Road, Kolkata - 700071 |

विषय: Guidelines for use of Ultra High Performance Concrete in Railway Structures

- संदर्भ: 1. Railway Board's letter No 2022/19/CE-III/BR/RDSO/1 Dated 19.10.2023.
2. RDSO letter No. CBS/PCB Dated 13.02.2024.

1. Railway Board vide Ref.1 above had entrusted Bridge & Structure Directorate, RDSO to prepare a guideline for use of Ultra High Performance Concrete in Railway Structures.
2. The draft guideline was sent to all Zonal Railways and Railway PSU's for their Feedback/comment vide Ref.2 above. Guideline have been revised based on feedback received.
3. Please find enclosed herewith the "Guidelines for use of Ultra High Performance Concrete in Railway Structures" as BS-136. The copy of the same is enclosed herewith for information & necessary action please. It may also be accessed at Railnet link <http://10.100.2.4/drawing/frmpage.aspx?id=15>

संलग्नक: As above

(विनय कृष्ण पाण्डेय)
(Vinay Krishna Pandey)
कार्यकारी निदेशक/पुं एवं सं-॥
Executive Director/B&S-II

विनय कृष्ण पाण्डेय
Vinay Krishna Pandey
कार्यकारी निदेशक/पुं एवं सं-॥
Executive Director/B&S-II



भारत सरकार-रेल मंत्रालय
अनुसन्धान अभिकल्प और मानक संगठन
लखनऊ-226011
Government of India-Ministry of Railways
Research Designs & Standards Organisation
Lucknow- 226011
Phone/ Fax : 0522-2465704
Email : edbns2rdsso@gmail.com

संख्या: CBS/Codes /A&C

दिनांक: 19.07.2024

Principal Chief Engineers:

- | | |
|--|--|
| 1. Central Railway, Mumbai CST - 400001 | 9. North Western Railway, Jaipur - 302001 |
| 2. Eastern Railway, Fairlie Place, Kolkata - 700001 | 10. Southern Railway, Park Town, Chennai - 600003 |
| 3. East Central Railway, Hazipur - 844101 | 11. South Central Railway, Rail Nilayam, Secunderabad - 500371 |
| 4. East Coast Railway, Bhubaneshwar - 751016 | 12. South East Central Railway, Bilaspur - 495004 |
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| | 17. Metro Railway, Jawaharlal Nehru Road, Kolkata - 700071 |

विषय : Addendum & Corrigendum Slip No. 11 to "Indian Railway Standard Code of Practice for Plain, Reinforced & Prestressed Concrete for General Bridge Construction (Concrete Bridge Code)".

संदर्भ : EDCE/B&S/Railway Board's letter No.2020/15/CE-III/BR/Correction Slips(E-3320152), dated 18.07.2024.

On above subject, Addendum & Corrigendum Slip No. 11 to "Indian Railway Standard Code of Practice for Plain, Reinforced & Prestressed Concrete for General Bridge Construction (Concrete Bridge Code)" regarding addition of new Para 5.8 **Ultra High Performance Concrete**, duly approved by Railway Board vide letter under reference, is enclosed for information and necessary action please.

Receipt of this letter may please be acknowledged.

संलग्नक: As above.

प्रतिलिपि:

- (A) 1. Additional Member (Civil Engg.) Railway Board, Rail Bhawan, New Delhi - 110001

(वी.के. पाण्डेय)
(V. K. Pandey)
कार्यकारी निदेशक/पुं एवं सं-॥
Executive Director/B&S-II

MoRTH Precast Policy Circular dated 8th April 2022.

National Highway Pre-cast Concrete Policy

- Ministry of Road Transport & Highways issued circular stating 25% components of projects shall be factory manufactured Precast components as Mandatory

Dated: 08th April, 2022

CIRCULAR

To

1. The Chief Secretaries of all the State Governments/ UTs.
2. The Principal Secretaries/ Secretaries of all States/ UTs Public Works Department/ Road Construction Department/ Highways Department (dealing with National Highways and other centrally sponsored schemes).
3. The Chairman, National Highways Authority of India, G-5 & 6, Sector-10, Dwarka, New Delhi-110 075.
4. The Managing Director, NHIDCL, PTI Building, New Delhi-110001.
5. The Director General (Border Roads), Seema Sadak Bhawan, Ring Road, New Delhi-110 010.
6. All Engineers-in-Chief and Chief Engineers of Public Works Department of States/ UTs/ Road Construction Department/ Highways Departments (dealing with National Highways and other centrally sponsored schemes).
7. All CE-ROs, ROs and ELOs of the Ministry.

Subject: - National Highway Pre-cast Concrete Policy - Reg

Madam/Sir,

Industrialised Pre-cast Concrete (factory manufactured pre-cast concrete elements) has the benefits of all-weather and fast construction, reliable quality & enhanced performance durability, aesthetics due to uniformity in appearance and minimum user time delay/reduced carbon emission/reduced noise & air pollution due to reduced construction activities at site, etc. To add to that, it will also play an integral role in accelerating the growth of the MSME sector. To harness the benefits of pre-fabrication in construction of National Highways, Expressways & Other Centrally Sponsored Road Projects, following policy decisions have been taken:

2. Contract/Concession agreement document shall include the provision of mandatory use of factory manufactured pre-cast concrete elements in projects within 100 km radius of Pre-cast factory. The minimum mandatory usage should be 25% of total concrete volume other than the foundations & sub-structures of Bridges/Viaduct/RoB. Any relaxation may be granted by Authority only if the contractor/concessionaire is able to demonstrate that the manufacturer(s) is not able to provide such products matching to the works programme of the contractor or the prices demanded by the manufacturer is more than the prices derived for cast-in-situ condition at the rates of SoR prevailing on 28th days before the bid due date.
3. Standardization is the key to promote the use of pre-cast concrete elements to take advantage of volumes and repetitive use of molds. Therefore, It is beneficial to keep the spans/sizes of different structures as uniform as possible.
4. Design and Construction of pre-cast concrete elements will be done as per relevant IRC/BIS standards/guidelines/codes furthermore taking into consideration expected

Bidur Kant Jha. Page 1 / 2

handling/lifting stresses, etc. Any international guidelines such as AASHTO, FHWA (Accelerated Bridge Construction Guidelines), Japan & Euro codes, may be followed in case of any gaps in IRC/BIS standards/ guidelines/codes till such time IRC/BIS guidelines are developed.

5. To start with Quality Council of India (QCI) shall be entrusted to certify pre-cast concrete factory. As the number of factories go on increasing, MoRT&H may entrust certification to other agencies like NCCBM/RDSO/IITs etc. Certification shall not be required for pre-casting being done at Project site.
6. The pre-cast factory shall have minimum facility of fully automatic RMC plant for better quality, arrangement for steam curing, mechanical handling of concrete and pre-cast components, bar bending machines, stacking yard, in-house design team and NABL accredited quality control laboratory, RO plant for water purification etc.
7. It is requested that the contents of the letter may be brought into the notice of all concerned for needful compliance.
7. This issues with the approval of Competent Authority.

Yours sincerely,

Bidur Kant Jha
08.04.2022
(Bidur Kant Jha)
Director
(New Technology for Highway development)
For DG (RD) & SS

Copy to:

1. All CEs in the Ministry of Road Transport & Highways
2. All ROs of the Ministry of Road Transport & Highways
3. The Secretary General, Indian Roads Congress
4. Technical circular file of S&R (P&B) Section
5. NIC-for uploading on Ministry's website under "What's new"

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4. Sr. PPS/ PPS to AS&FA
5. Sr. PPS/ PPS to ADG (SKN) / ADG (RP)/ ADG(DS)
6. Sr. PPS/ PPS to JS (RT&MVL)/ JS (EIC) / JS (Logistics)/ JS (NHIDCL)

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QMS Certifications

Integrated Management System

Certificate No.: 001-23010-Q
Certificate No.: 001-23010-E
Certificate No.: 001-23010-O

Certificate of Approval

This is to certify that the Integrated Management System
at
Long Span Structures Pvt. Ltd.
Sr No 85/5/1, Near Mukai Chowk, Kiwale, Tal. Haveli,
Pune - 412 101, Maharashtra, India.

has been examined by Assessors of QMS International Certifications Pvt. Ltd.
and found to be conforming to the requirements of

ISO 9001:2015, ISO 14001:2015, ISO 45001:2018

In respect of the following activities:

**Design, Manufacture and Supply of Ultra High Performance
Reinforced Concrete for various Infrastructure Development
Application**

Current Issue Date 17/10/2023, Valid till 16/10/2026*
Original Certification 17/10/2023


Sanjay Kumar Kaushik
Managing Director

QMS International Certifications Pvt. Ltd.
APR-1, 5th Floor, 427,
Rajawade Colony, Vashi, Mumbai,
Maharashtra - 400 022, India.
E-mail : qmsindia@gmail.com
Web : www.qms-india.com

QMS International Certifications Pty Ltd
674, Kensington Terrace, Seawing,
Brisbane 4066, Queensland, Australia
E-mail : qmsaustralia@qms.com.au

* Subject to compliance with requirements specified in Service Specification & Agreement
* To check the validity of this certificate please visit www.iso.org/iso/14001


LONGSPAN STRUCTURES PVT. LTD.

IMS POLICY

We at Long Span Structures Pvt. Ltd. provide Design, Manufacture and Supply of pre-casting Girders with UHPFRC technology.

We shall continually Strive to provide Quality Products and Services to our customers and good Environment, Health and Safety to our employees.

We are committed to:

- Enhance customer satisfaction levels.
- Optimum utilization of our resources for productivity and cost effectiveness.
- Comply with all applicable legal requirements and other requirements.
- Consultation & participation of workers.
- Conserve natural resources & Eco-friendly waste disposal management to prevent pollution.
- Prevent injury and ill health by minimizing hazards & risks associated with the activities.
- Continually improve the Integrated Management System performance.
- Provide a framework for establishing and reviewing Integrated Management System objectives.


Satyajit Nimbalkar
CEO

Date: 1.12.2022, Rev No: 0

Current Status

- Many inquiries across the country for UHPFRC products are received
- To address the huge demands, number of production facilities across the country needs to be made operational.
- Ministry of Roads & Highways , Govt of India has accorded Blanket approval for implementation of this concrete technology across the country.
- Govt of India has made mandatory to implement 25% of infra project component as Precast, this has created huge future potential for precast Industry.
- Looking into Current planned infrastructure development in India, more than 25 Nos of UHPFRC production facilities will be required across India to cater the potential demand of UHPFRC components for various projects

Current Projects

- Completed
- In Progress
- In Proposal Stage

M/s LONGSPAN STRUCTURES PVT LTD
M/s UNIQUE UHPC INDIA LLP

LIST OF UHPFRC Project Executed and Under Progress

Bridge No.	Bridge Name	Contractor	Authority	Span Arrangement (m)	Total Length (m)	Total Width (m)	Status	Quantity of Girder (cum)	GIRDER Type
1	Latur Br. SDPL	Shinde Developers Pvt Ltd	MORTH Through MSRDC	2 x 55.5	111	16	Completed	Completed	BBG2400-55.5m
2	Mahad Br. CH161+400 SDPL	Shinde Developers Pvt Ltd	PWD NHAI Division	1 x 33.9	33.9	16	Completed	70.3	BT1500-33.9m
3	Kharwandi CH.18+889 AC Shaikh	AC Shaikh Contractors	PWD NHAI Division	2 x 30	60	16	Completed	124.5	BT1500-30m
4	Samruddhi Br1. CH531+068 LHS Raj Infra	Raj Infrastructures Pvt Ltd	MSRDC	1 x 52	52	35	Completed	210.3	UBG2250-51.8m
5	Samruddhi Br1. CH531+107 RHS Raj Infra	Raj Infrastructures Pvt Ltd	MSRDC	1 x 52	52	35	Completed	210.3	UBG2250-51.8m
6	Samruddhi Br2. CH531+968 Raj Infra	Raj Infrastructures Pvt Ltd	MSRDC	1 x 52	52	35	Completed	420.6	UBG2250-51.8m
7	Taloja Creek Br.-1. Taloja Mumbai	Shinde Developers Pvt Ltd	PWD Maharashtra	2 x 33	66	8.25	Completed	82.2	BT1500 - 32.6 m
8	Dharmapuri- 145+635 Palkhi Mahamarg_RKCIPL	RKC Infrastructure Pvt Ltd	NHAI	1 x 102.6	102.6	16	Completed	578.7	UBG4000-102.6m
9	Dharmapuri- 137+979 Palkhi Mahamarg_RKCIPL	RKC Infrastructure Pvt Ltd	NHAI	1 x 60	60	32	Completed	469.4	UBG3000-57.5M
10	Dharmapuri - 142+465 (MCW) _Palkhi Mahamarg_RKCIPL	RKC Infrastructure Pvt Ltd	NHAI	3 x 35	105	21	Completed	261.5	BT1500-34m
11	Dharmapuri- 142+465 (SR) Palkhi Mahamarg_RKCIPL	RKC Infrastructure Pvt Ltd	NHAI	3 x 35	105	21.6	Completed	261.5	BT1500-34m
12	Dharmapuri- 138+875 Palkhi Mahamarg_RKCIPL	RKC Infrastructure Pvt Ltd	NHAI	1 x 60	60	16	Completed	234.7	UBG3000-57.5M
13	Dharmapuri - 145+902 Palkhi Mahamarg_RKCIPL	RKC Infrastructure Pvt Ltd	NHAI	1 x 34	34	32	Completed	141.1	BT1500-34m
14	Dharmapuri - 124+630 (MCW) _Palkhi Mahamarg_RKCIPL	RKC Infrastructure Pvt Ltd	NHAI	2 x 30	60	21	Completed	149.4	BT1500-30m
15	Dharmapuri - 124+630 (SR) Palkhi Mahamarg_RKCIPL	RKC Infrastructure Pvt Ltd	NHAI	2 x 30	60	21.6	Completed	149.4	BT1500-30m
16	Dharmapuri - 127+538 Palkhi Mahamarg_RKCIPL	RKC Infrastructure Pvt Ltd	NHAI	2 x 29	58	32	Completed	96.3	BT1500-29m
17	Dharmapuri - 129+506 Palkhi Mahamarg_RKCIPL	RKC Infrastructure Pvt Ltd	NHAI	1 x 35	35	32	Completed	145.3	BT1500-35m
18	Dharmapuri - 141+350 RKCIPL	RKC Infrastructure Pvt Ltd	NHAI	2 x 32.5	65	22	Completed	215.8	BT1500-32.5m
19	Dharmapuri - VUP Ch. 119+160 RKCIPL	RKC Infrastructure Pvt Ltd	NHAI	2 x 10.5	22	21.5	Completed	44.9	IB850 - 21.5 m
20	Dharmapuri - VUP Ch. 136+400 RKCIPL	RKC Infrastructure Pvt Ltd	NHAI	2 x 10.5	22	21.5	Completed	44.9	IB850 - 21.5 m
21	Dharmapuri - VUP Ch. 152+700 RKCIPL	RKC Infrastructure Pvt Ltd	NHAI	2 x 10.5	22	21.5	Completed	44.9	IB850 - 21.5 m
22	Dharmapuri - VUP Ch. 131+300 RKCIPL	RKC Infrastructure Pvt Ltd	NHAI	2 x 10.5	22	21.5	Completed	44.9	IB850 - 21.5 m
23	Vehicular Overpass Chandni Chowk (Main span) NCC	NCC Limited	NHAI	1 x 57	57	38.6	Completed	518.6	UBG2250 - 57m
24	Vehicular Overpass Chandni Chowk (Ramp) NCC	NCC Limited	NHAI	6 x 23 - 35m	193	16	Completed	381.9	BT1500 -30m
25	RTO Flyover P8-P9 Nagpur T&T	T and T Projects	PWD NHAI Division	2 x 65	65	17.2	Completed	254.3	UBG3000-65M
26	RTO Flyover P23-P24 Nagpur T&T	T and T Projects	PWD NHAI Division	2 x 65	65	17.2	Completed	254.3	UBG3000-65M
27	Turbhe ROB Vashi-Panvel (Mumbai)-SMC infra	SMC Infra Pvt Ltd	PWD Maharashtra	17 x 30	510	11.6289	Completed	846.6	BT1500 -30m
28	Turbhe ROB Vashi-Thane (Mumbai)-SMC infra	SMC Infra Pvt Ltd	PWD Maharashtra	10 x 30	300	11.6289	Completed	498.0	BT1500 -30m
29	Turbhe ROB Vashi-Juinagar (Mumbai) SMC infra	SMC Infra Pvt Ltd	PWD Maharashtra	11 x 30	330	11.6289	Completed	547.8	BT1500 -30m
30	Pandoh Nerchwok 206+650 KMC	KMC Construction Limited	MoRTH	1 x 32	32	25	Completed	106.2	BT1500 -32m
31	Pandoh Nerchwok 207+270 KMC	KMC Construction Limited	MoRTH	1 x 20	20	25	Completed	66.4	BT1500 -20m
32	Pandoh Nerchwok 209+510 KMC	KMC Construction Limited	MoRTH	1 x 39	39	25	Completed	129.5	BT1500 -39m
33	Raipur, Chhattisgarh 155+340 SEPC	SEPC Limited	MoRTH	2 x 35	70	12.9	Completed	145.3	BT1500 -35m
34	Raipur, Chhattisgarh 147+970 SEPC	SEPC Limited	MoRTH	4 x 35	140	12.9	Completed	290.5	BT1500 -35m
35	Mumbra Bridge overlay PWD	SMC Infra Pvt Ltd	PWD Maharashtra	50 x 30	1500	15	Completed	1200.0	Overlay
36	Indora Flyover_Nagpur_NCC	NCC Limited	NHAI	VARIOUS spans of 60 m, 80m and 90 m with total bridge length of 5950 m			Completed	5916.0	Various
37	Thirunavaya Bridge, Kerala-ULCC	ULCC	RBDCK, Govt of Kerala	13 x 62	806	11	Proposal stage	1329.9	mUBG3000
38	VUP on Solapur Hyderabad Highway (302+050) TMPL	Triveni Mudrai Pvt Ltd	NHAI	2 x 20	40	2 x 16	Completed	161.8	BT1500 - 20m

Bridge No.	Bridge Name	Contractor	Authority	Span Arrangement (m)	Total Length (m)	Total	Status	Quantity of Girder (cum)	GIRDER Type
						Width (m)			
39	Extension to Major Bridge on Solapur Hyderabad Highway (322+450) PBAIL	PBA Infra Limited	NHAI	2 x 32.24	64.48	3.5	Completed	53.5	BT1500-30m
40	Khambalki Viaduct NH-4 Pune-Satara	Gaytri Infrastructures Ltd	NHAI	1X30	30	14.5	Completed	124.5	BT1500-30m
41	UHPFRC Blocks for Testing	DRDO_Pune	DRDO	Various Sizes UHPFRC Blocks			Completed	18	3X3X2 Block
42	Mohal Alandi Section of Palaki Mahamarg Bridge at Ch. 175+075 TIPL	Thakur Infraprojects Pvt Ltd	NHAI	1 x 55	55	2 x 16	Completed	312.7	UBG2250
43	Major Bridges on Kolhapur- Ratnagiri 4 Lane Highway_ J M Mhatre (83+975) JMMIPL	J M Mhatre Infrastructures Pvt Ltd	NHAI	4x37.5	150	25	Completed	311.3	BT1500
44	Major Bridges on Kolhapur- Ratnagiri 4 Lane Highway (84+645) JMMIPL	J M Mhatre Infrastructures Pvt Ltd	NHAI	4x37.5	150	25	Completed	311.3	BT1500
45	Major Bridges on Kolhapur- Ratnagiri 4 Lane Highway 90+453 JMMIPL	J M Mhatre Infrastructures Pvt Ltd	NHAI	4x37.5	150	25	Completed	311.3	BT1500
46	Major Bridges on Kolhapur- Ratnagiri 4 Lane Highway 93+150 JMMIPL	J M Mhatre Infrastructures Pvt Ltd	NHAI	4x37.5	150	25	Completed	311.3	BT1500
47	Major Bridges on Kolhapur- Ratnagiri 4 Lane Highway 81+497 JMMIPL	J M Mhatre Infrastructures Pvt Ltd	NHAI	2x37.5+3x33.3	174.9	25	In Progress	362.9	BT1500
48	Major Bridges on Kolhapur- Ratnagiri 4 Lane Highway 89+380 JMMIPL	J M Mhatre Infrastructures Pvt Ltd	NHAI	4x37.5	150	25	Completed	311.3	BT1500
49	Major Bridges on Kolhapur- Ratnagiri 4 Lane Highway 90+900 JMMIPL	J M Mhatre Infrastructures Pvt Ltd	NHAI	4x37.5	150	25	Completed	311.3	BT1500
50	Major Bridges on Kolhapur- Ratnagiri 4 Lane Highway 91+155 JMMIPL	J M Mhatre Infrastructures Pvt Ltd	NHAI	4x37.5	150	25	In Progress	311.3	BT1500
51	Missing Link Project on Mumbai Pune Expressway_Mumbai Side_Koncretech (Navyuga)	Koncretech-Navyuga Engineering	Navyuga - MSRDC	8 x 25 + 35	235	24.95 x 2	Completed	767.0	BT1500-25m
52	Missing Link Project on Mumbai Pune Expressway_Pune Side_Koncretech (Navyuga)	Koncretech-Navyuga Engineering	Navyuga - MSRDC	8 x 25 + 35	235	24.95 x 2	Completed	767.0	BT1500-25m
53	Taloja Creek Br. (Reconstruction)	Unique UHPC Infra LLP	PWD, Maharashtra	2 x 67.06	134.12	13.55	In Progress	349.8	UBG3000 - 66.06
54	Taloja Creek Br. (Span Replacement)	Unique UHPC Infra LLP	PWD Maharashtra	2 x 33	66	8.25	Completed	80.8	BT1500 - 32.6 m
55	Bhoj Morbe Pkg. 17 Major Bridge CH-69 _Unique RKC	UNIQUE-RKC PROJECTS LLP	NHAI	3X33	99	25	Completed	566.9	BT1500 - 32.6 m
56	Bhoj Morbe Pkg. 17 Major Bridge CH-76 _Unique RKC	UNIQUE-RKC PROJECTS LLP	NHAI	1X33	33	25	Completed	189.0	BT1500 - 32.6 m
57	FORMULA 3 Race track Buildings_Five Star Shiving	FIVE STAR SHIPPING CO	Private	4 Type Of Building with UHPFRC Precast Columns, Beams, Rafters & Slabs			Completed	400	Column & Beams
58	Firodia Bridges Major Bridge_Force Motor	Amar Prerana Trust (Force Motor)	Private	3x15	45	10.5	Completed	37.8	IB850 -
59	Firodia Bridges Entry Bridge_Force Motor	Amar Prerana Trust (Force Motor)	Private	4x15	60	10.5	Completed	50.4	IB850 -
60	Coastal Road Airport Link Road FOB _JMMIPL	J M Mhatre Infrastructures Pvt Ltd	MH-PWD	2X40	80	15	Completed	448	BT 1850
61	Coastal Road Airport Link Road FOB _M _JMMIPL	J M Mhatre Infrastructures Pvt Ltd	MH-PWD	3x38.5	120	15	Completed	495.6	BT 1850
62	Coastal Road Airport Link Road FOB _JMMIPL	J M Mhatre Infrastructures Pvt Ltd	MH-PWD	1x33.0	33	15	Completed	68.475	BT 1500
63	Rewa Bypass Canal Bridge_Udit Infra	Udit Infra Pvt Ltd	NHAI	70x1	70	12.5	Completed	365.12	UBG-3000
64	Port Road Improvement 0+433 Vizag (AP)-AT IPL	Arvind Techo Infra Pvt Ltd	NHAI	1x57	57	11.5	Completed	121.903	UBG-2250
65	Port Road Convent Nagar 2+465/447 Vizag (AP) -AT IPL	Arvind Techo Infra Pvt Ltd	NHAI	2x45	90	11.5	Completed	197.425	UBG-2250
66	Port Road Convent Nagar 0+458 Vizag (AP) -AT IPL	Arvind Techo Infra Pvt Ltd	NHAI	1x67	67	11.5	Completed	184.234	UBG-3000
67	Port Road Convent Nagar 0+683 Vizag (AP) -AT IPL	Arvind Techo Infra Pvt Ltd	NHAI	1x65	65	11.5	Completed	178.8923	UBG-3000
68	Port Road Convent Nagar 1+220 Vizag (AP) -AT IPL	Arvind Techo Infra Pvt Ltd	NHAI	2x70	140	11.5	Completed	387.91912	UBG-3000
69	Jowai-Meghalaya Assam Border MH-44 Bridges Overlay Meghalaya	Unique UHPC Infra LLP	NHAI	2x90	180	10.5	Completed	137.11	Overlay
70	Mamurdi Pavana River Bridge Pune_ARC	AR Construction	PCMC_Pune	2x30+1x20.5+3x30+4x30+1x60	310	15	In Progress	372	IB850 & IB1425
71	Hadpsar-ROB	R & C	PMCNHAI	1X57.2	57	12.5	In Proposal	172.881	UBG-2250

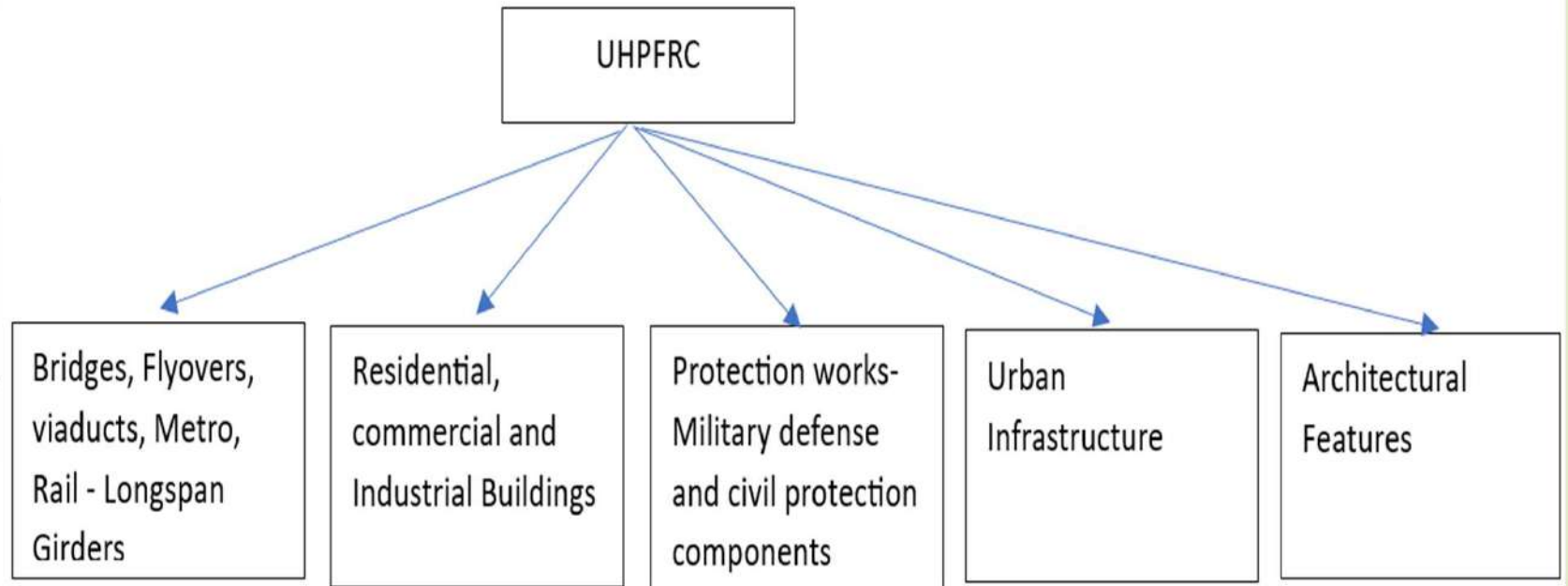
Bridge No.	Bridge Name	Contractor	Authority	Span Arrangement (m)	Total Length (m)	Total Width (m)	Status	Bridge Type	Quantity of Girder (cum)	Work Order Basis Value	GIRDER Type
72	Hanumangarh (Rajasthan) - ROB_R&C	R & C	Rajasthan PWD	1X52	62	13.8	In Proposal	ROB	323.392		UBG-3000
73	Anand Nagar to Saket Projec, Thane Mumbai	J Kumar Infraprojects Ltd	NHAI	2x55	66	26	In Proposal	Flyover	333.63	31,32,98,600	UBG-2250
74	Anand Nagar to Saket Projec, Thane Mumbai	J Kumar Infraprojects Ltd	NHAI	1x85	85	25	In Proposal	Flyover	665.04		UBG-3000
75	Bhatsa River Bridge Kalyan, Man Infra, -Mumbai	Man Infrastructures Pvt Ltd	MH-PWD	4x36	36	12	In Progress	Highway bridge	109.188	2,15,27,600	BT-1500
76	Mhalingi Flyover Nagpur_KCC	KCC Construction Ltd	MH-PWD	1x40+6x26.6+8x30	519.6	17.56	In Progress	Flyover	684.4	8,56,84,350	IB-850, IB-1450
77	Interchange, Multimodal Logistic Part at Nagpur, D.P. JAGTA	D P Jagtap & Co.	NHML	1x65	66	19.8	In Proposal	Interchange Passes	339.04	4,47,95,251	UBG-3000
78	Staircases for Berthing Place, (BB-4)	Unique UHPC Infra LLP	JNPA-Mumbai	Stair Cases			Completed	Jetty Work	6.8	19,37,127	Jetty Precast
79	Metro Station's Girders, DMRC Delhi	YFC Project Ltd, Eklavya	DMRC-Delhi	25x15	375	25	In Proposal	Elevated Metro Stations	675	9,75,65,250	IB-850
80	Indora Flyover Nagpur_NCC (Part-II)	NCC Limited	NHAI	2x90	180	12.5	Completed	Flyover	675.36	5,28,26,185	UBG-4000
81	Eastern railway under Howrah division, ROB connecting kharapur- jaugram town, district- Purba Bardhaman, DFCC	DFCC	Eastern Railway	1x37+8x36+1x25+1x15		11.8	In Proposal	ROB	690.2		IB-850 & BT-1500
82	Mithapur-sipara-mahuli- Punpun in the state of Bihar, AFCON	Afoons Infrastructures Ltd	Bihar State Road Development Corporation	1x64	64	16	Completed	Flyover	388.324	6,81,87,219	UBG-2250
83	Kozhikode Bypass Flyover Bridge, KMC	KMC Construction Limited	NHAI	8x36	288	13.66	In Progress	Flyover	840.432	23,65,01,012	UBG-1500
84	Construction of creek bridge from kasarvadavali (Thane) to kharhav (Bhiwandi) in the state of maharashtra, AFCON	Afoons Infrastructures Ltd	MMROA	15x20	300	18	Proposal stage	Flyover	540	1,09,02,59,100	IB-850
85	Construction of creek bridge from kasarvadavali (Thane) to kharhav (Bhiwandi) in the state of maharashtra, AFCON	Afoons Infrastructures Ltd	MMROA	2 x 60 + 1 x 22 + 1 x 32 + 65 x 37.5 + 28 x 35	3691.5	18	In Proposal	Flyover	830.784		UBG & BT
86	Nagpur Metro two foot over bridges	RVNL	Nagpur Metro	2x56.5	113	8.8	In Proposal	Viaduct	228.486		UBG-2250
87	Vasai Suraksha smart city -40m spa	Kirjal Civilcon LLP	Suraksha Smart City Vasai	1x40	40	12.35	In Proposal	Minor Bridge	168		BT-1850
88	Kalyan Station	Kirjal Civilcon LLP	smart kalyan domibival development corporation ltd.	2x25	50	16.5	Completed	Elevated Metro Stations	108	1,22,69,608	IB-850
89	Khambadi Viaduct NH-4 Pune-Satara End Spans	Unique UHPC Infra LLP	NHAI	2X25	50	12.5	In Progress	Viaduct	82.2	89,67,600	BT-1500
90	Mumbai Pod Taxi Project	BKC Connect Pvt Ltd	MMROA	various	7800	5.47	In Design Stage	Viaduct	5316		UBG-2250
91	Walinganga Bridge, AYNIC	Aynic Pvt Ltd	NHAI	12x50	600	16	In Progress	Major Bridge	1819.8	14,86,97,600	UBG-2250
92	Bridge over Yamuna River - 576 m	Nirmal Buildoon	NHAI	6 x 96	576	13.5	In Progress	Major Bridge	2161.152	33,75,00,000	UBG-4000
93	Talegaon Chakan, Pune	Monte Cano	MOIOC	250 x 40	10000	17.8	In Proposal	Flyover	42000		BT-1850
94	Kolhapur Flyover, Kolhapur	J Kumar Infraprojects Ltd	NHAI	Varies	2600	24.6	In Proposal	Major Bridge	0		UBG
95	Major Bridge on kaveri River @ Ch 124+680 - Bangalore	DY Uppar & Sons, Bangalore	NHAI	2 x 75	150	13.5	In Proposal	Major Bridge	1173.6		UBG-3000
96	RoB's at Nagpur-No.1	RVNL	Railways	1x45	45	13.5	In Proposal	ROB	272.97		UBG-2250
97	RoB's at Nagpur-No.2	RVNL	Railways	1x38	38	13.5	In Proposal	ROB	230.508		UBG-2250
98	RoB's at Nagpur-No.3	RVNL	Railways	1x54	54	13.5	In Proposal	ROB	327.564		UBG-2250
99	Shelti High Level Bridge, ONH	RKC Infrabuild Pvt Ltd	NHAI	100 x1	100	16	In Design Stage	Bridge	600	7,05,61,409	UBG-4000
100	FOB 2 nos	NCC Limited	NHAI				In Proposal				
101	UHPRC Blocks for Testing	DRDO_Delhi	DRDO	Various Sizes UHPRC Blocks			Completed	R & D Test at TBRL Chandigarh	18	1,07,21,764	3X3X2 Block
102	Airoli Ghansoli	J Kumar Infraprojects Ltd	MMROA	55x 1+60 x 1	3300	27.6	In Design Stage	Bridge	600		UBG-3000
103	Thane Coastal	Navuga	MMROA	55 x6	330	27.6	In Design Stage	Bridge	1450		UBG-3000
104	Pune Ring Road W1 (PRR-W1)	Megha Engineering	Pune Ring Road W1 (PRR-W1)	Various Sizes UHPRC Girders			In progress	MNBs & MJBs	27801	1,13,75,62,000	UBG, BT
105	Pune Ring Road E1 (PRR-E1)	Megha Engineering	Pune Ring Road E1 (PRR-E1)	Various Sizes UHPRC Girders			In progress	Flyover & MJB	12000	2,63,22,52,060	UBG, BT
106	Coastal Road Airport Link Road FOB, JMMPL	J M Mhatre Infrastructures Pvt Ltd	MH-PWD	1x26.5	26.5	15	In progress	FOB	44	77,38,236	IB 850

Summary

Total Scope of UHPRC Bridges/FOBs/Buildings/Overlay in India
 Completed UHPRC Bridges/FOBs/Buildings/Overlay
 In Progress of UHPRC Bridges/FOBs/Buildings/Overlay
 In proposal stage

106 Nos
 67 Nos
 17 Nos
 20 Nos

UHPFRC Applications Verticals



Business Potential

With Implementation of this cost saving technology, good quantum of business is planned to be contributed by-

- By bidding projects as EPC Contractor with most competitive bid
- Pre- bid tie ups with other industry players with making their bid more competitive
- Execution of supply of UHPFRC components to existing contracts of other players
- Application developments in marine, defence, power, industrial & residential sectors with quality product and extraordinary skills in UHPFRC product applications, planned to contribute in execution of considerable quantum of business in coming years

Since LSSPL is Sole UHPFRC Company having credential in such technology Implementation in India, LSSPL holds capacity to implement greater business opportunities

Applications of UHPFRC for various Infrastructural Components

1) Precast Long span Girders for bridges, flyovers, viaducts, Metro and Rail Structures.

- Usage of UHPFRC leads to 15-20% cost savings over conventional concrete and 25-30% savings compared to steel superstructures
- Longer span length and reduced requirement of substructures achieved through use of UHPFRC translates to a ~25-30% reduction in construction time
- Longer span length and reduced requirement of substructures achieved through use of UHPFRC translates to a ~25-30% reduction in construction time



60m span UHPFRC girder span over NH4 & 25m span UHPFRC girders for approach spans, Chandani Chowk ,Pune



India's Longest 102m span UHPFRC Canal Bridge at Lonand on NH-965, Maharashtra



35m Approach span UHPFRC Girders on Missing link of Mumbai- Pune Expressway



56m Span UHPFRC Girder Canal Integral Bridge on NH-965 between Diveghat-Lonand



40m span UHPFRC girder bridge on NH-21 Pandoh Bypass Section, Himachal Pradesh



40m Spans UHPFRC girder elevated stretch on Airport Link Road, Navi Mumbai



Worlds Longest UHPFRC Superstructure bridge with 60m & 90m spans between Indora Square to Shitalmata Chowk, Nagpur in the state of Maharashtra.



65m span UHPFRC girder obligatory span at RTO Square at Nagpur



53m span UHPFRC girder bridges on Package 11, Nagpur-Mumbai Super Communication Expressway



India's First 56m span UHPFRC girder bridge at Latur, Maharashtra



UHPFRC Columns, Beams & Rafters on Multiple buildings of Formula-2 Race facility at Nanoli , Pune



72 m Span UHPFRC girders on port connectivity stretch from Convent Junction To Sheela Nagar Junction In The State Of Andhra Pradesh



2) Sheet Piles

CORRUGATED PRESTRESSED
UHPFRC SHEET PILE
(DURA PSP)



- Efficient Alternative to conventional Steel Sheet Piles with Immediate cost saving up to 25%
- Faster Construction
- Applications: - Protection works

3) Warehouse & Industrial Buildings

Structural Steel members of Industrial buildings can be replaced with economical UHPFRC members for immediate cost savings and increased service life.



4) Residential and Commercial Buildings



Aesthetically pleasant & light weight building structures

5) Retaining walls

- Achieves a 73% reduction in concrete volume.
- Exhibits exceptionally low permeability.
- Built from lightweight, thin, precast elements that are easier to handle, transport, and install.



6) Buildings- Facades



Architectural freedom, Slender and lightweight elements, Long-term cost savings, Improved energy performance, Faster and easier installation

7) Heavy Duty Industrial Floorings

- Resurfacing and rehabilitation of existing floors
- Impact resistance
- Thin overlays for weight reduction
- Aggressive environments



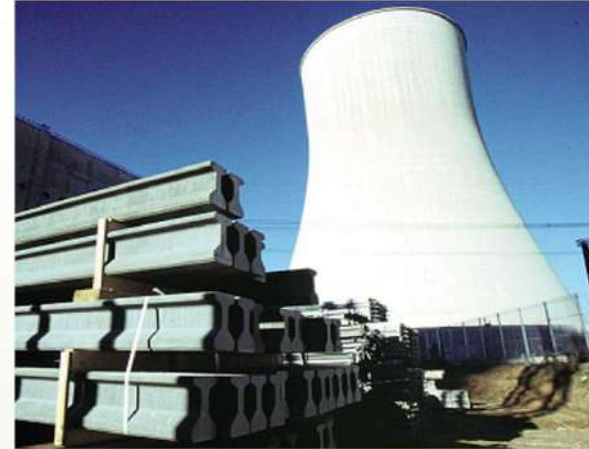
8) Off shore pile Protections



- Exceptional durability
- High impact and abrasion resistance
- Enhanced structural performance
- Reduced maintenance costs

9) Chimneys & Cooling Towers

- Corrosion protection
- Long service life
- High durability
- Resistance to chemical attack
- Minimal cracking
- Enhanced structural integrity



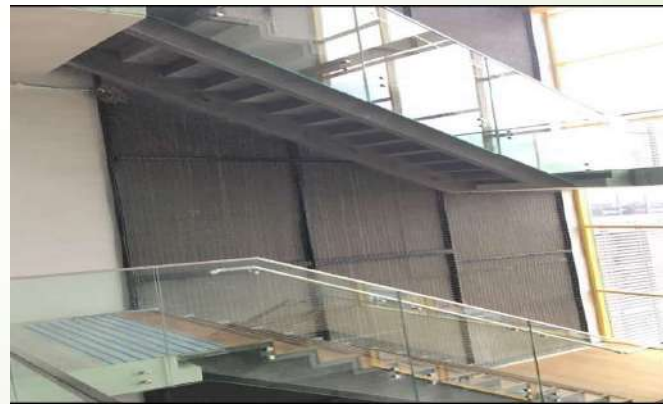
10) Graphic Architecture



- 3D and sculptural elements
- Graphic concrete technology
- Intricate facades and panels
- Custom colours and textures:

11) Stair Cases

- Spiral and winding stairs
- Minimalist and slim design
- Architectural freedom
- Cantilever stairs



12) Wind Mill Towers



- Facilitates greater tower height
- Segmental assembly
- Bottom feeding avoiding big cranes
- Enhanced fatigue resistance

13) Defence Structures

UHPFRC is used for military bunkers, protective walls, and temporary security barriers, command centres, ammunition storage facilities, and communication towers that require enhanced durability and protection from attack



14) Foot over bridges



- Longer, unsupported spans
- Aesthetic versatility
- Sustainable and cost-effective

15) Urban Furniture



16) Cladding



- Aesthetic.
- Ultra-customisable
- Material Finesse
- Invisible Fixation
- Impact Resistance – Fire Resistance
- Ecological – Local Material, and less carbon Emissions

17) Energy Storage Systems

- Compared to the traditional metal shell of the same size, the UHPC shell can reduce around 40 per cent of carbon emissions.
- fire- and explosion-resistant , low thermal conductivity hence, requires lesser cooling to storage system



18) Electric Charging Stations



- Modular construction
- transportation and assembly
- withstand vehicle impact
- vandalism as well as the extreme freeze / thaw weather conditions

19) Concrete Solar Collectors

- Cost advantages through simultaneous use as a cladding element and energy element
- Full replacement of conventional facades
- Contribution to CO2 reduction
- Reduce building operating costs
- Suitable for all constructions.



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UHPFRC – ESG Compliance

With lower Carbon foot print, UHPFRC is ESG Complying Concrete application

E- Environmentally friendly since lower concrete quantities are consumed with longer service life

S- Social benefits since lower project Duration

G- Good Governance since the product is made in factory-controlled environment ensuring highest degree of Quality and following best industry practices

Immediate Potential available for UHPFRC

- About 1.5 lakh Railways superstructure to be changed in next 10 years- RDSO already proposing UHPFRC for this scope of works
- Ministry of Urban Development given mandate to use UHPFRC for Metro Rail works.
- Ministry of Railways started approving the ROB and RUN works using UHPFRC.

“UHPFRC – A pathway to future with Sustainable Infrastructure”



Contact US

- COMPANY NAME
- COMPANY REG. NO.
- DATE OF INCORPORATION
- REGISTERED OFFICE

- CONTACT US
- MAIL ID

LONG SPAN STRUCTURES PRIVATE LIMITED

27AAFCL0089C1ZP

28/04/2022

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