

REHABILITATION CREDENTIALS

Formerly Known as SCON INFRASTRUCTURE

Head Office: 110-111, R Piazza,
Swastik Regalia Tower,

Kavesar , Waghbil Road, Off. Chodbunder Road,
Thane West -400607.

Tel: 022- 49708782

info@sconinfra.com

TABLE OF CONTENTS

ABOUT	01
Company Profile	
Experienced Trusted Experts	02
Replacement and Resetting of Bridge Bearings Projects	03
Alignment and Reposition of Span Projects	07
Replacement and fixing of Expansion Joints Projects	08
External Pre-stressing Projects	9
Column & Beam Strengthening by Fibre Wrapping. Projects	11
Quality Management system / Health, Safety & Environmental	13
Contact Us	14

ABOUT Company Profile

SCON INFRASTRUCTURE commenced its operation in 2009, with a commitment to provide its services and to share its experience in Business of Infrastructure Sector in India, for its future development.

SCON INFRASTRUCTURE as an expertise company with multi discipline engineering in design and construction technologies comprises of a group of highly technically qualified engineers who are having sound knowledge and experience in the requisite field. The company has acquired an outstanding record in providing innovative skills and techniques to Bridge construction and Building industries with the successful completion of a wide range of projects.

Our executive team shares in over 50 years combined experience and proudly stands at the forefront of Prestressing in the Indian construction industry with proven track record backed by certification of stringent static and fatigue performance tests according to CIP, fib and PTI recommendations from institutions like [IIT BOMBAY, IIT CHENNAI, CTL USA and EMPA SWITZERLAND.

With strong experience in all aspects of design and execution of Post Tensioning, SCON boasts a solid portfolio in bridge as well as in building business. 3 main Domain with which SCON is successful are Design, In-House Production & site execution with technical support.

Today SCON has established and industry benchmark for supplying quality products, excellent and reliable services, an exceptional safety record and is fully supported by a host of professional and experienced staff to meet and conquer the challenges of our clients

Experienced Trusted Experts

Our teams bring significant design and construction experience, with nearly 100 staff across India, and growing, with innovation and horsepower to ensure the time and professional delivery of your project.

Our bridge engineers are experts with 50+ years of combined, focused design experience, recognized and respected nationally and internationally.

Our team has the know-how to optimize design and save clients' money, while reducing project design and construction risk.

Our engineers are active members in provincial, national and international organizations and participate in technical committees in developing of standards and design practices.

Our Equipment for Lifting and shifting of Girder span are of wide ranges suitable to varies type of Bridges base on capacity, height and displacement criteria.

REPLACEMENT & RESETTING OF BRIDGE BEARINGS

Bridge bearings play a crucial role in ensuring the safety and longevity of bridges, yet they are often overlooked and taken for granted as they are hidden from view. Without them, bridges would be vulnerable to significant damage and eventual failure.

Bridge Bearings

The primary purpose of bridge bearings is to provide flexibility and support to bridges, allowing them to adjust to various external factors such as temperature changes, traffic loads, and seismic activity. They transfer the load from the superstructure (deck) to the substructure or piers, while also allowing for the movement and rotation of the bridge deck.

Aspects of Bridge Bearing Maintenance

To ensure longevity and performance, bridge bearings need regular maintenance. The key steps involved in maintaining bridge bearings include:

Technical survey for bridge bearings.

Monitoring: Bearing performance should be monitored regularly to detect changes or problems.

This can be done using various methods, such as

measuring displacement or strain, or observing any unusual movements or vibrations.

Cleaning: Bearing pads should be cleaned to remove any dirt, debris, or other contaminants that may cause damage or reduce their effectiveness.

Replacement: Over time, bridge bearing pads may wear out or become damaged, and they will therefore need to be replaced. Reasons for this include:

Leaking bridge deck joints – allowing corrosive water and debris to reach the bearings

- Inadequate visibility that prevents inspection
- Extreme environmental conditions caused by cold, wet, or industrial pollution
- Improper bearing specification and orientation
- Inadequate multi-directional movement
- Bearing defects caused in production
- Wear and fatigue due to overload

We are having lifting jacks at various capacities & height
(From 100 ton to 300 ton)

Jacks are specially designed with provision at locking.

Additional equipments like manifolds, Hose pipes, rings, powerpack, packing material, measurement devices are well maintained & tested.



PROJECTS

A) NAVI MUMBAI MAHA METRO, KHARGHAR.

CLIENT - CIDCO/ MAHA METRO

No. of Piers : 104 nos.

No. of Bearings : 416 nos.

Type of Bearing : Elastomeric & PTFE Bearing.

Lifting of Superstructure using appropriate capacity jacks in proper sequence so as to ensure no cracks occurred in the components of Superstructure, Allowing time lag for carrying out remedial measure item of work before releasing the jacks sequentially to avoid any cracking & lowering the superstructure back to the designated line and level as & when required including all material, machinery power to complete lifting & lowering operations at appropriate time and location whenever necessary & also to provide additional jacks to act as replacement as mechanical, Hydraulic or similar failure that may occur. Critical lifting of Metro girders in challenging short span of block from Metro department.



B) MUMBRA KAUSA BYPASS BRIDGE.

CLIENT - P.W.D

CONTRACTOR - SMC, Infrastructure Pvt. Ltd.

No. of Piers : 2 nos.

No. of Bearings : 44 nos.

Type of Bearing : Fixed & Slide Guided

Bearing Replacement Girderwise lifting of Superstructure using appropriate capacity jacks in proper sequence so as to ensure no cracks occurred in the components of superstructure. Lifting of curved span with 11 nos. at girders. Having variation in height by more than 700mm gap in pedestal.



PROJECTS

C1 Repair & Rehabilitation work of Bridges in Surat City (Ambedkar Bridge)

CLIENT - P.W.D

CONTRACTOR - Mahendra Realtors & Infrastrucure P. Ltd.

No. of Piers : 104 nos.

No. of Bearings : 724 nos.

Type of Bearing : Elastomeric Bearing.

Bearing Replacement Girderwise lifting of Superstructure using appropriate capacity jacks in proper sequence so as to ensure no cracks occurred in the components of superstructure. Challenging quantum at work in very short duration at time.



DI AJMERA REALTY & INFRA INDIA LIMITED

CLIENT - AJMERA REALTY & INFRA INDIA LIMITED

No. of Piers : 1 no.

No. of Bearings : 2 nos.

Type of Bearing : Elastomeric Bearing

Bearing Replacement Girderwise lifting of Superstructure using appropriate capacity jacks in proper sequence so as to ensure no cracks occurred in the components of superstructure.



PROJECTS

E) Rajiv Gandhi flyover from kalyan naka to ST bus Stand on OLD NH-3 in Bhiwandi Town.

CLIENT - Bhiwandi Nizampur Municipal Council

CONSULTANT - M.S Phiske & Associates Consulting Engineers

CONTRACTOR - SMC, Infrastructure Pvt. Ltd.

No. of Piers : 3 nos.

No. of Bearings : 12 nos.

Type of Bearing : Fixed & Slide Guided Bearing

Very old bridge having no proper support for existing bearings, with damaged soffits. SCON has provided suitable solution & replaced the old bearing with specially designed & manufactured POT PTFE bearing. This Bearing were approved by VJTI technical faculty.



F) AMBET BRIDGE, Mahad.

CLIENT - P.W.D

No. of Piers : 12 nos.

No. of Bearings : 48 nos.

Type of Bearing : Elastomeric Bearing

Lifting of Span by erecting facbiration of launcher on the top of the adjacent span, for repacement of elastomeric bearing. Weight of span approx. 1500 Ton.

No provision for arrangements from bottom due to heavy flow at river water. So lifting of span done from Deckslab.



ALINGMENT AND RE-POSITION OF SPAN

Bridges span are sometimes gets displaced due to thermal movement, increased in the traffic load and failure of bridges bearings and sometimes due to natural disaster.

PROJECTS

Structural Rehabilitation of Flyover RAMP-A on Port Road, Vishakapatnam by using specialized techniques in the state Andhra Pradesh.

CLIENT - PWD

CONTRACTOR- FRP Tech (INDIA) Pvt. Ltd.

Lifting Of Span , Realigning the disturbed spans i.e super structure of Bridge for replacement of bearings and including all higher and running expenses of all plants, Hydraulic jacks, Power Packs, Generator Set, Welding Machines and Equipment, temporary platform and temporary supports, required for keeping the superstructure in lifted position for completing the operation. Lowering of superstructure on new Elastomeric Bearings without causing any approved detrimental effect to any part of the bridge structure Size complete. Surface preparation i.e. leveling of top surface of pedestal and carrying out minor repairs works so as to carry out proper installation of new Elastomeric Bearings for equal distribution of load.

Photographs :



REPLACEMENT AND FIXING OF EXPANSION JOINT

Expansion Joint is the device used to bridge the Gap provided in between the Structural Elements that could either be the two adjacent deck segments or in between the Abutment and the first deck Slab of the Bridge Structure.

Essential Features

- Water Tightness.
- Durable and Maintenance Free.
- Smooth Riding Surface.
- Minimal Resistance to Structure Movement.

Causes of Replacement of Joints:-

- De Bonding of Joint with the Structure
- Age of the Structure.
- Improper working of the Joint System.
- Bumpy riding surface.
- To improve the life of the structure etc.

Procedure for Rehabilitation of Joints:-

- Barricading of half Carriageway
- Dismantling of old expansion Joints
- Preparation of Block-Out for Installation of New expansion Joint System.
- Steel Armour/Extrusion Erection
- Shuttering
- Epoxy coating
- Concrete Casting
- Curing of Concrete
- Work of Second carriageway
- Seal Installation
- Open The Traffic

PROJECTS

A] Structural Rehabilitation of Flyover RAMP-A on Port Road, Vishakapatnam by using specialized techniques in the state Andhra Pradesh.

CLIENT - PWD

CONTRACTOR- FRP Tech (INDIA) Pvt. Ltd.

Type of Joints :

Quantity :

Laying of a strip seal expansion joint catering to maximum horizontal movement upto 80 mm, complete as per approved drawings & standard specifications to be installed by the manufacturer/supplier or their authorised representative ensuring compliance to the manufacturer's instructions for installation.



B] Bridge near Bhiwandi Nizampur City Municipal Corporation

CLIENT - P.W.D

CONTRACTOR - SMC, Infrastructure Pvt. Ltd.

Type of Joints :

Quantity :

Removing the existing expansion joints completely including anchorage, beams, strip seal etc. stacking the same as location directed by Engineer in charge, cleaning the area and refixing the expansion joint as per guideline of manufacturer or as instructed by Engineer in charge.



EXTERNAL PRE-STRESSING

The need of rehabilitation and strengthening of concrete structures has increased considerably the last decade. The causes for repair and/or strengthening can be many, but normally change of use, increased demands on the structure, errors in the design or/and construction phase or accidents are governing. Many methods to repair or/and strengthen concrete structures exists such as concrete overlays, shotcrete, external prestressed cables etc.

ADVANTAGE :

External prestressing is a very effective technique for both Existing and new structures.

Many researchers proven that the external prestressing having following advantages:

Profiles of external tendons are easier to check during and after Installation hence, provide the ease of inspection.

External tendons can be removed and replaced if any type problem found.

It usually allows easy access to anchorages, adjustment and control of tendon forces

DIS-ADVANTAGE :

Tendons are more easily accessible than internal ones and are more vulnerable to corrosion.

Free length should be limited because external tendons are subjected to vibrations

PROJECTS

A] KUMHARI NHAI, RAIPUR

Client - P.W.D

No. of Span - 1 Nos.

No. of Girders - 1 Nos.

As per case 1(Out girder G6):

Out of 3 girders one of the outer girders is stressed 7 cables out of 9 . The 8B cable is partially blocked with grout so that out of 12 strands 5 strands are passing through. So the solution required with the help of external stressing for both 8A and 8B.

As Per Case 2(Inner Girder G2):

It is requested to check the design of 38mtr psc girder with loaded condition only for DL of girder, self weight of slab and Superimposed dead load(crash barrier and wearing course).Slab is comprised of 3no's psc I girders .each girder is having 9 no's cables.

For mid girder out of 9 cables 8 are fully stressed and 8B marked cable is stressed at a pressure of 250kg/cm². Where as required pressure is 350kg/cm².For this pressure shortfall we have design external load on that girder.



B] The External Prestressing of the Pier Cap at Ahmednagar.

Pier Cap- 1 nos.

Projects : "Work Order for the External Prestressing of the Pier Cap of the Bridge on Samruddhi Marg in Ahmednagar."

Client - MSRDC

Contractor- Raj Infrastructure Development private Ltd.

Supply of the PE coated HT strands 12.7 mm dia. Including HDPE Pipe, Bearings Plates & wedges. Supply of Elastomeric Pad to be installed on the Pier Cap ends. Installation of the HT strands on both sides of the Pier in to the MS Framing installed by the client. Stressing as per the design and protecting the cable with providing end cap etc.

Supply and installation of the pre-stressing system of 27-29 strands using 12.7 mm PE coated, grease filled strand and all the end anchorages including stressing using suitable mono-strand jack to give the total load prescribed by the consultant or as per the design etc. complete including Supply and fixing of HDPE Duct of 130/126 mm.



EXTERNAL PRE-STRESSING

T

PROJECTS

C] The External Prestressing of the slab at Tiruchirappalli.

Client - TRICHY TOLLWAY PVT LTD..

Contractor - ASTADHASHA NIRMAN

No. of Slab - 1 Nos.

Work Order for the External Prestressing of the slab of the Bridge on highway at Trichy to Chennai.

Supply of the HT strands 15.2 mm dia. Including HDPE Pipe, Bearings Plates & wedges. Core cutting of the slab to be done so that cables can be passed through it for one end to another. Stressing as per the design and protecting the cable with providing end cap etc. Supply and installation of the pre-stressing system of 5 strands using 15.2 mm strand and all the end anchorages including stressing using suitable mono-strand jack to give the total load prescribed by the consultant or as per the design etc. complete including Supply and fixing of HDPE Duct.



BEAM & COLUMN STRENGTHENING FRP

Carbon Fibre 400 gsm Unidirectional is a high strength, unidirectional carbon fiber fabric equipped with weft fibers that keep the fabric stable. The material is field laminated using Saturant-Adhesive Epoxy to form a carbon fiber reinforced polymer (CFRP) used to strengthen structural concrete elements.

Application :

- Increase load capacity of structural elements (Beams, Slabs, Columns, Walls, Etc.)
- Restore structural integrity of damaged or deteriorated structural elements
- Repair for damaged or missing reinforcing steel/post tensioning
- Improved blast resistance of concrete, masonry, or stone in mining operations
- Additional Reinforcement to repair/withstand seismic events

Where to use:

- Used for shear, confinement or flexural strengthening
- Non-corrosive
- Flexible, can be wrapped around complex geometries
- Alkali Resistant
- High Strength
- Low aesthetic impact
- Light Weight
- Economical

A] Fibre wrapping of Diaphragm at Kumhari NHAI Raipur

CLIENT : ROYAL INFRA

SPAN : 1 nos.

Providing and applying single wrap of 400 GSM carbon fibre wrap over the column and beam junction as per the manufacturer specification including necessary surface preparation, application of primer and saturant and pasting of sand etc. complete.



BEAM & COLUMN STRENGTHNING FRP

B] Fibre wrapping of Pier and Column of at Samruddhi

Marg in Ahmednagar.

Contractor : Raj Infrastructure pvt. Ltd.

No. of piers- 1 Nos.

Single wrap of 400 GSM carbon fibre wrap
over the column and beam junction as per the manufacturer
specification including necessary surface preparation, application
of primer and saturant anf pasting of sand etc. complete.





QUALITY MANAGEMENT SYSTEM

SCON INFRA PRESTRESS LLP maintains a Quality Management System (QMS), certified and registered in accordance with ISO 9001:2015 International Standards (Certificate No. 211QGJ13). We continually review and improve the effectiveness of this system and are committed to ensuring that our deliverables consistently satisfy the needs and requirements of our clients as defined in our contracts and agreements.

Progressive quality check of equipment & machineries In-house.

Calibration of gauges at NABL laboratory.

Jack Efficiency In-House.

HEALTH, SAFETY & ENVIRONMENTAL

The most important aspect of SCON INFRA PRESTRESS LLP business is the health and safety of its employees and the protection of the environment. Health, Safety, and Environmental (HSE) Program has been developed to provide all workers with the knowledge and means to perform all tasks in a safe manner. Through the proactive management of workplace behavior and conditions, injuries, illness and loss can be prevented. The SCON INFRA PRESTRESS LLP program is a dynamic process that evolves through employee and management review. Our objective is to promote continuous improvement in an effort to achieve a 'zero injury' workplace.

CIDCO [MAHA METRO]

Elastomeric Bearing Replacement



CONTACT US



H.O. 110 - 111, RPlazzia, Swastik Regalia
Tower, Kavesar, Wagbil Road, Off Ghodbunder Road, Thane(W) 400607

RO 17, GoraiMatruashish CHS Ltd, Opp. Azara
Bank, Gorai-II, Plot no. SC-5, RSC - 52, Borivali (W) - 400092

Mail Id - info@sconinfra.com
www.sconinfra.com