LONGEST FLYOVER IN INDIA
FIRST MONORAIL PROJECT IN INDIA
NUCLEAR CONTAINMENT STRUCTURE
METRO RAIL PROJECT
POST TENSIONED SLAB BUILDING
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INTRODUCTION

The prestressing technology is emerging to be a fast growing field in construction industry particularly for buildings, bridges, metro rail, flyovers, nuclear power plants, LNG tanks, cement plant etc. Dynamic Prestress a specialist agency in the field of prestressing accredited with an ISO 9001 certification, has state of the art facility for development, production and testing of related products and equipments required for prestressing industry.

This company has been providing tailor made solutions for the construction industry in the field of prestressing since last two decades. It has technically qualified engineers and technical supervisors having vast experience in the prestressing industry. Dynamic has completed several projects in UAE, OMAN, SAUDI ARABIA, MONGOLIA, MAURITIUS and SOUTH EAST ASIA & all over INDIA. The company has also supplied materials and technical expertise for various international projects in many countries.

The company has implemented ERP (Enterprise Resource Planning) programme for the key areas of operations. Various departments like design, development, production, contracts monitoring, procurement, technical services and marketing have periodical interactions based on the feedback from the clients, industry and internal departments of organisation and accordingly the revised policy decision are taken.

**The areas of specialisation include -**

- Execution of prestressing work as specialist subcontractor and providing prestressing materials and equipments.
- Supplier of POT PTFE bearings and Elastomeric bearings for bridges & industrial structures.
- Design and execution of Post-tension slabs and beams for buildings.
- Providing ‘Void Former’ for voided slab construction.
- Installation of Prestressed ‘Rock Anchors’ and conducting pile load test.
- Well sinking using jack down method.
- Supply of Equipments and Accessories for heavy load handling.

Dynamic is associated with many segmental construction works of metro rail and flyovers. The company has executed several prestressing works of structures on National Highways, State Highways, Public Works Departments, Nuclear Power Corporation projects, Cement Plant projects, Irrigation projects etc.

Considering its tie ups with international firms in specific specialized areas, the company is able to improve its exports and provide products and services of international standards to the contractors in India as well.

During last 10 years, the company has registered phenomenal growth in terms of turnover, profitability, production capacity, equipment and client base etc.
INFRASTRUCTURE FACILITY

Dynamic Prestress has excellent manufacturing facility at Nasik, 180 Kms. away from Mumbai (India) and the marketing and technical department at Mumbai along with coordination centres in Ahmedabad, Delhi, Chennai, Bangalore, Meerut, Jhansi, UAE etc.

The sophisticated machineries available at the manufacturing centres for various processes involved in production of products and equipments and for storage and handling, are rated as best in the industry.

Our Production unit of prestressing anchorages, sheathing, Neoprene Bearings, Pot/Ptfe Bearings, equipment like jacks, pumps, grout pump, etc. is appreciated by most of our esteemed clients and consultants.

The anchorage details related to anti-burst reinforcement, recess dimensions, edge distance and anchorages and duct storage and installation & the execution methodology of Pre-stressing and Grouting works are tailor made for specific projects. The Technical department of Dynamic Prestress provides necessary assistance to contractors for PSC sub contract projects.

During the past two decades, Dynamic Prestress has gathered vast experience in the field of Post-tensioning for various types of structures like Bridges, Nuclear containment structures, IT Parks, Malls Silos, Flyover, Aquaduct involving construction techniques like segmental, cantilever, continuous, simply supported, incrementally launched slip form and other methods of constructions.
COMPONENTS OF PRESTRESSING SYSTEM

Prestressing is deliberate creation of known permanent stresses in a member or structure before the full dead and live loads are applied. These stresses are almost always primarily compressive and in the vast majority of cases they are created by means of high-tensile steel tendons, which are tensioned and then anchored (mechanically or by bond) to the member being prestressed.

ANCHORAGE

Anchorage transfers prestressing force in the tendon to the concrete. Post tensioning system for stands/wires, normally comprises of a bearing plate (anchor plate) which has holes for the wedges and tube unit (anchor cone) which connects tendon ducts to anchorage & wedges.

The dimensions, forces & characteristics of each anchorage are given on the technical data sheets or special brochures, which can be provided separately by us.

Dynamic post-tensioning multi-strand anchorage system has been used extensively in India and abroad. The anchorages are suitable for all three types of strands and are available with strand configuration ranging from 3 holes to 55 holes for 12.7 mm (0.5”), 15.2 mm (0.6”) & 15.7 mm (0.62”) strands.

Most of the anchorage systems are tested as per BS 4447 specification & FIP recommendations.

STRANDS/WIRES

The prestressing strands / wires shall confirm to either of the following
(a) Plain hard drawn steel wire (b) Cold drawn indented wire
(c) High tensile steel (d) Uncoated stress relieved strands

Mostly low relaxation strand (LRPC) is used for all types of structures to be prestressed. The technical details of strands can be provided by our Mumbai Office or can be directly obtained from the manufacturer.

SHEATHING (DUCTS)

Sheathing creates the necessary void in the structure in which the prestressing steel is free to move during stressing. The two different types of ducts being used in prestress structures are Metallic and HDPE ducts.

Metallic duct made out of C.R.C.A. strip ranges from 39 mm to 150 mm diameter of various strips thickness from 0.24mm to 0.7mm and is available in Bright Metal/Galvanized / Lead coated finish.

OTHER CONSUMABLES

Rebar Jigs and Fixtures, Grinder and Grinder Wheel, Heat Shrink Tape, Grouting Admixtures etc. required for Stressing and Grouting operations are all used as per our site engineers instruction and are based on the past experience.
PRECAST SEGMENTAL CONSTRUCTION

Precast segmental construction is widely used all over the world and is most appropriate for fast construction. It permits the traffic to flow smoothly in thickly populated areas without much need for traffic diversion. The flexibility in adopting different span configuration is an advantage for the viaducts of metro rail projects and flyovers in congested areas. The structures with sharp curves and variable super elevation can also be accommodated.

Segmental construction permits a reduction of construction time as segments can be produced in the casting yard and the substructure works proceed at the site. This technique is quite versatile and can be used for medium span bridges and flyovers as well as for long span construction.

For any viaduct, the lengths are determined mainly by the site constraints at the ground level for the placement of the foundations and piers. The practicability of transporting pre-cast units of various weight and length to the point of alignment is of vital importance.

Dynamic prestressing system has been used extensively in the last decade for several projects in India and particularly for several packages of Delhi Metro Rail Projects (MRTS viaduct) The span lengths varied from 21.6m. to 46.2m. Dynamic has developed special jacks to carry out prestressing of pre-cast segment spans and cast-in-situ spans particularly for the ones having lesser gap in between the spans. We have developed entire range of anchorage types to incorporate internal bonded tendons as well as external tendons.

Presently Dynamic Prestressing System is being used in Several Metro Rail Projects like Mumbai Metro, Kolkata Metro, Jaipur Metro, Bangalore Metro & Delhi Metro. We are also executing the Prestressing work of Monorail Project for L & T.
CANTILEVER CONSTRUCTION

This method of construction of bridges is generally adopted for long spans structures, where the use of conventional scaffolding is not possible. Specially designed formwork is fabricated which advances symmetrically from the pier segment. Post-tensioning of tendons is carried out before each increment of formwork is advanced.

The cantilever construction is alternative to beam and arch bridges. The cantilever construction is advantageous due to its ability to span wide spaces and be built without the need of expensive falsework. Moreover one gets longer spans as well as wider clearance beneath & hence this construction method is suitable over deep valleys, wide rivers etc.

The prestressing tendons are arranged according to the moment diagram of a cantilever with a high concentration above the pier and lower towards the mid span.

Dynamic has the privilege of post tensioning several cantilever bridges, like the cantilever bridge in India constructed by M/s. S.P. Singla & Co., Bansoi bridge over river Tista in Sikkim (170m span). Apart from this, the bridge on river Rangrang in Sikkim (123 m span), Tattapani bridge in Himachal Pradesh, were also prestressed by our team.

A common way to construct steel truss and prestressed concrete cantilever spans is to counterbalance each cantilever arm with another cantilever arm projecting the opposite direction, forming a balanced cantilever.

The Sitla bridge at Chamba (120 m span) & Parel bridge in Mumbai (45 m span) are classic examples of aesthetically constructed balance cantilever bridges in India. The tallest pier on which a cantilever bridge was constructed on Tawi river in Jammu was also prestressed by our team.
LONG SPAN BRIDGES

Precast prestressed concrete can be a strong, durable, and aesthetically pleasing material for use in long-span bridges. Considering the lower construction and maintenance cost, long span bridges using segmental cantilever construction, cable stayed construction and continuous span construction are extensively used all across the world. In most of the Highway design, “I” sections, box sections & ‘T’ sections are used for the bridges.

Some of the long span bridges constructed in India have used Dynamic Prestressing system such as the 158m span bridge of Bhaiyalal Shukla in Madhya Pradesh & 120m span bridge of Ircon International in Bangalore etc.

Some of the continuous span bridges include the Ravi bridge in Punjab and the Nallagarh bridge on Sirsa river having PSC box girder were constructed using our anchorage system.

INCREMENTAL LAUNCHING METHOD

In this method of construction, the successive deck segments are cast behind the abutment location in ideal conditions & launched by using pushing jacks. A launching nose is installed in front of the span to be launched permitting reduction of cantilever length before its reaching to the adjacent pier.

The incremental launching method is particularly suited for construction of continuous post tensioned multi span bridges.

The sections are cast continuously, one after another, and are then stressed together. The superstructure, growing section by section is launched over temporary sliding bearings on the piers until the bridge is completed.

The fast track incrementally launched bridge was constructed on river Yamuna by L&T for DMRC & was post tensioned using Dynamic prestressing system.

EXTERNAL PRESTRESSING

External prestressing is a method of imparting Stresses to the Concrete by arranging tendons outside the concrete cross-section. This technique provides flexibility for monitoring the Prestressing force and checking the corrosion status of tendons. This method is also suitable for strengthening the existing concrete structures.
PRESTRESS APPLICATIONS IN BUILDINGS

Post-tensioning concept in buildings can economically replace traditional RCC slabs & beam in buildings. The use of post-tensioned slab leads to considerable reduction in dead load as well as reduction in number of columns, thus saving foundation cost. It also reduces cracking & deflection of slab & beams. PT Slab can satisfy the essential requirements of a good structure & hence are commonly used throughout the world. Studies have revealed that required opening could be effectively cut in slab at a later stage without much effect on the structural integrity.

BENEFITS OF DYNAMIC POST-TENSIONED SLAB SYSTEM

Economical Design
Rapid Constructions & Economy of Formwork.
Reduced number of joints with large pour area
Minimized Deflection & Economy in useable area
Longer Spans & Overall flexibility

Dynamic has successfully completed several projects in India and abroad involving design, supply and execution of post-tention slabs and beams. The anchorage system has been successfully tested in an independent lab as well as at our In-house test setup. The structures post-tensioned by us include High rise buildings, Airport building, Commercial complex, IT parks, Hospital buildings, Factory buildings and Office buildings.

Dynamic provides entire range of anchorage types for live and dead end anchorages and strand couplers suitable for 2, 3, 4 & 5 nos. of strands of 12.7mm (0.5’’), 15.2mm (0.6’’) and 15.7mm (0.62) diameter and the suitable mono stressing jacks of even 1100mm stroke length. The grouting equipments and the strand threading machine is arranged to commensurate to the site requirements.

RANGE OF APPLICATIONS

1. Solid Flat Slab
2. Solid Flat Slab with Column Heads
3. Solid Flat Slab with Drop Panel
4. Band Beam and Slab
5. Ribbed Slab
6. Waffle Slab
POST-TENSION GIRDERS

Dynamic Prestress has executed several Projects involving Pre-cast and cast-in-situ types of post tension girders. The various types of shapes and lengths like ‘I’ shape, Inverted ‘T’ Shape, ‘U’ shape etc. were precast in the casting yard & shifted with the help of gantry or trailers and positioned on the top of bearings.

The Post-tensioned Girders ranging from 20m to 70m have been pre-stressed by our team. All types of anchorage systems with 6 to 27 strands of 12.7mm or 15.2mm diameter have been utilized. The performance of our anchorages (particularly wedges) were consistently of required quality norms. The ducts used were mostly of both types - metallic corrugated type (Bright finish / Galvanized coated) and HDPE. Special light weight, smaller stroke jacks along with lifting frames and shifting trolleys were used for speedy execution of pre-cast as well as cast-in-situ girders. Stringent quality control measures are taken for ensuring good quality grouting procedure being adopted under experienced grouting supervisors & expert engineers.

Post-tension pre-cast slabs for Railway bridges were pre-stressed and installed for projects all across India. Post-tension Box Girders with single Cell, two Cell & three Cell were pre-stressed using 4/6 equipments simultaneously for stressing from both ends by multistrand jacks.

The Nellore Bridge project and Yanam Bridge project executed with M/s. Navayuga Engineering Company are excellent examples of speedy works of the pre-cast post-tensioned girders. More than 16 Bridges of twin cell Box Girders were pre-stressed by us on National Highway 5 & 6 for various contractors like, RBM-PATI, Hindustan Construction Company, Bhagheeratha Engineering Company, Krishna Mohan Construction and Radha Krishna Engineering Company etc. ‘I’ Girders & Box Girders post-tensioning work were also carried out for Galfar Engineering (Oman), Hasan Jumma Baker (Oman), Sawhmen Corporation (Mangolia), CCC (Mauritius), CRBC, CHEC & Abdul Monem (Bangladesh) NCCIL (Oman) and other MNC’s.

The pretension girders are pre-cast and pre-tensioned in casting yard usually away from the job site.

Pre-tensioned girders can be made continuous for the maximum practical length, to eliminate expansion joints. The release of the stress at the ends of girders is achieved by utilizing the de-bond strand design. The de-bonding of a strand is accomplished with a plastic tube shielding the strand from contact with the concrete mass.

Dynamic has excellent past record of completing more than 300 girders in a month using long line method of pre-tensioning. We manufacture tailor made single pull jacks of various stroke lengths varying from 200 mm to 1100 mm. Our multi-use barrels & wedges used for locking the prestressing force in the HT Strand are capable for reusage say upto 150-200 operations. We have developed pushing jacks of various capacities to facilitate de-stressing of HT Strands simultaneously thus eliminating eccentric loading on the girder.

The pretensioning technology is adopted for projects involving substantial numbers of girders of similar shape and length to be produced in a casting yard and launched over the piers. Dynamic has the privilege of executing many fast track BOT projects by adopting this technology, such as Belgaum Road Project for Punj Lloyd Ltd., Panipat flyover for L&T, Delhi-Gurgaon Project for D. S. Construction etc. In most of the cases we have been able to execute our scope of work well before the time schedule. The methodology, equipments and manpower are well tuned to carry out various activities simultaneously at site thereby ensuring good quality production and timely execution.

The lifting of the girders from the casting bed to the stacking bed or directly on to the trailer for transportation, is made by the gantry or lifting cranes. Further tailor made gantries are designed and installed for placing the girders on the bearings.
NUCLEAR CONTAINMENT STRUCTURES & CEMENT SILOS

Dynamic has extensive experience in carrying out the post tensioning of silos & nuclear containment structures. Dynamic prestressing system has been effectively used for Nuclear containment structures having cables of following types:

a) ‘J’ shaped cables in the dome,

b) Horizontal cables in the wall,

c) Vertical cables and short cables near openings.

Large unit capacity of cables were used for the Tarapur Atomic Power Project (TAPP 3&4) for the prestressing work of the containment structure as well as for the rock anchors of the raft foundation. The stressing jacks were improved and designed to meet the special needs of the structure. 27T13 re-stressable anchor systems were developed and approved by Nuclear Power Corporation of India and by Stups consultants.

As a normal practice most of the Nuclear power projects and Cement Silo projects follow stringent quality control and quality assurance plans and our systems were approved by all leading consultants.

We have the prestressing materials and equipments for the entire range upto 55T15 anchorage system and thus the designers are at liberty to choose from the wide range of anchorage type for effectively and economically designing the structure.

The grouting methodology and the equipments provide reliable protection to the cables and Dynamic has made many improvements in the grouting materials and techniques. Field trials, tests and training of the grouting team are made mandatory and due care is taken for geometry of cables, air vents, grout vents and nipples for secondary grouting.

Construction of tall structures like Storage Silos, Chimneys, Pressure Shaft is best done by Hydraulic Slip forming resulting in saving time, resources and better quality.

In order to catchup with the speed of construction, Dynamic had installed duct making machines at the project site. Sufficient stressing and grouting equipments alongwith requisite stock of anchorages were deployed and thus most of the works were completed in time.
WELL SINKING USING JACK DOWN METHOD

Well sinking by jack down method is a precise and controlled method of sinking well within the allowable limits of tilt, shift and rotation of every stage of its sinking.

The basic principle of the jack down method is to apply pressure over the staining wall with the help of hydraulic jacks, which are connected to the support outside the well. Prestress anchors are provided as reaction, for pushing the well downwards.

ADVANTAGE OF JACK DOWN WELL SINKING TECHNOLOGY

- Controlled sinking minimizing tilts and shifts.
- Enormous saving of time and cost.
- Speedy operation

In this method specially made jacks and other accessories like gripper rod assembly, reaction beam etc. are used for driving the well to the required depth. This is an effective method used by construction companies throughout the world. The capacity and number of equipments are decided considering driving force, number of feasible anchors, etc. Driving force to be applied on well depends on cutting shoe resistance, float and negative skin friction of surrounding strata.

REPAIRS AND REHABILITATION OF BRIDGES

The experienced team of DYNAMIC constituting of engineers and technicians having vast experience in executing and repair of rehabilitation of bridges and silos and other civil engineering structures have extended their expertise for various prestigious projects in their individual capacities as well as for the organization. Recently Dynamic has completed rehabilitation of a major bridge on NH 4 and the work has been appreciated by the Client and Consultants. We have also extended our technical expertise and equipments for lifting the superstructure and replacement of bearings for various projects to many leading contractors.

PRESTRESS ANCHORS

Rock Anchoring is an effective method which can be used for resisting water thrust in high rise buildings and passive earth pressure acting on diaphragm and retaining walls. Design of rock anchor is done considering, resisting force of strata, bond stress value and permeability value.

Typical rock anchors consist of H. T. Strands, packer to separate fixed and free length, protective shoe, spacers, thrust plate, anchor plate, grouting tube etc.

Dynamic Rock Anchors for raft foundation of nuclear containment structure and buildings with basements, have been used for several prestigious projects.

The R & D Team of Dynamic Prestress has developed special purpose jacks and anchoring devices, which can be used for recoupment of loss of prestress force over a period of time for ungrouted anchors.
EQUIPMENTS FOR PRESTRESSING WORKS

PRESTRESSING JACKS & POWER PACKS

We manufacture multistrand Jacks & Power packs for various diameter of H. T. Strand viz. 12.7mm, 15.2mm & 15.7mm and for capacity ranging from 48 tons to 1500 tons. Also bulbing jack, destressing jack and restressing jacks are manufactured by Dynamic.

GROUTING PUMP AND AGITATOR

The grout pump manufactured by Dynamic is capable of pumping cement grout under pressure. It is used for grouting pre-stressed tendons. This pump can also be effectively used for consolidation grouting of holes in dams for ensuring water-tightness.

DUCT MANUFACTURING MACHINE

Sheathing ducts are manufactured from the steel strip, which are spirally wound, folded and lock seamed on a Duct machine. The Duct manufacturing machine is electrically operated & easy to install. Hence it facilitates the machine to be installed at site for speedy production & avoid transportation of ducts.

STRAND PUSHING MACHINE

The Strand Pushing Machine provides the most efficient way of installing tendons. The strands are pushed individually into the duct directly from the coil, avoiding double handling. The leading edge of each strand has a bullet attached to avoid any damage to ducting while pushing the strand. Long tendons can be specially installed by this method. Depending upon the tendon type and profile, Dynamic Strand Pushing Machine is available and recommended for specific types of strand sizes.
SPECIAL PURPOSE ANCHORAGES & TAILOR MADE EQUIPMENTS

MULTI-STRAND COUPLERS
The use of Multi Strand coupler becomes necessary for continuous bridge deck construction built in several phases to extend prestressing cable as construction proceeds. The internal prestressing cables that are stressed and grouted in previous section can be connected to the next section by couplers. The Multi Strand anchorage couplers are available for 12, 19, 27, 37 & 43 strands configuration.

DEAD END ANCHORAGES & BULBING JACKS
Dead End Anchorages are provided, where one end of the tendon is buried inside the concrete due to its non-accessibility for stressing because of space constraint and the other end is of a normal anchorage type. The bulbing jack is used to create bulbs of individual strand. Alternatively Dead End anchorage plate is used at places where jacks cannot be accommodated.

SINGLE STRAND EXTERNAL ANCHORAGES
Dynamic has designed special ‘X’ type single strand external anchorage to recoup the loss of hoop stress in circular structures such as silos, nuclear containment structures, chimneys, cooling towers etc. The X-type of anchorages has been successfully used at Kaiga Atomic Power Project 1&2, Karnataka.

HEAVY LOAD HANDLING JACKS & TACKLES
Dynamic lifting jacks are manufactured from high quality alloy steel. Lifting jacks are available in the range from 10T to 500T capacity. Strict quality control is maintained from sourcing of raw material to commissioning of the jack. Specially designed lifting jacks & tackles are used for lifting heavy loads by strand lift system. The strand lift technique has been successfully used in India and abroad, for lifting multi-flue cans, steel and concrete girders, etc.

RE-STRESSABLE ANCHORAGES & JACK
Dynamic has developed re-stressable anchorages used for special purpose projects where the loss of pre-stress can be recouped at a later stage. The bearing plate is provided with threads on its perimeter to enable restressing. A special purpose jack is designed and manufactured to carry out re-stressing of tendon.

STRAND LIFT JACKS
The strand lift jacks for lifting heavy machines, pre-cast girders, flue cans, etc. are compatible with various sizes of high tensile strands.

In Strand Lifting system jacks and accessories along with reaction beam are mounted on top of the structure and H. T. Strands of required capacity are attached to the lifting element by desirable brackets and the element is lifted step by step taking into account stroke height of jack & height of element.

Dynamic has the privilege of executing works under the supervision of many leading consultancy firms like ICT, COWI-SPAN, STUPS, PHISKE, SRIKHANDE, SPA, GHERZI EASTERN, ARCH, S. N. BHOBIE, PARSONS, SMEC, MECON, TANDON, RITES, BHAGWATI, SVERDRUP CIVIL INC., LEA-INTERNATIONAL, GILCON, CES, L&T RAMBOLL, NESPAK, SHELADIA ASSOCIATES INC., TECHNOGEM, CONSTRUMA AND MANY OTHERS.
POT & POT CUM PTFE BEARINGS

Dynamic Pot Bearings are the new generation of bridge bearings designed to meet the demands of today’s complex bridge structures. In modern highway Engineering, the advent of longer span & continuous bridges, coupled with compound curves and increased truckloads, have resulted in larger load and movements concentrated on fewer piers, these loads and movements exceed traditional bridge bearing capabilities. The Dynamic Pot Bearings are developed to meet these complex design parameters.

Types of Pot Bearing

1. Fixed Pot Bearing
2. Free sliding POT/PTFE bearing
3. Guided POT/PTFE Bearing
4. Pin Bearing

APPROVALS

The In-house manufacturing and testing facility are approved by MORTH (Ministry of Road, Transport and Highways) & RDSO (Research Design &Standards Organization) as well as by various State Road Development Corporations. In the past several years many clients and consultants had visited the factory and approved the manufacturing setup and the bridge bearings by witnessing the testing.

CAPACITY AND QUANTITY

The manufacturing setup of Pot bearing is equipped with sophisticated machines capable of precise machining and speedy production. Dynamic can produce bearings of 2000 tons capacity and in the recent past high capacity bearing have been installed on many bridge projects. Some of the bigger capacity and large quantity bearings have been supplied to prestigious projects like Pune Satara Road Project (410 Nos.) for SMS Ltd, Bitco Flyover (416 Nos.) for Petron Civil Engineering, Kanpur Project (992 Nos.) for NEC, Belgaum BOT project (688 Nos.) for Punj Lloyd Ltd. and many others.

QUALITY CONTROL

Dynamic POT Bearings are subjected to stringent quality control norms. They are constantly checked at every stage of its manufacturing process on a regular basis with documentation for each and every bearing manufactured. The finished bearings are tested as per the codal specifications.
ELASTOMERIC BEARINGS

Bearings are the vital part of any bridge super structure. The primary function of Bridge Bearings is to accommodate expansion and contraction due to changes in temperature and humidity and to reduce friction caused by the traffic loads on substructure of the bridge.

ADVANTAGE OF NEOPRENE BEARINGS

- Strong
- Hard still flexible
- Weatherproof
- Economical
- Durable
- Maintenance Free

APPROVALS

The Inhouse manufacturing and testing facility are approved by Ministry of Shipping, Road Transport and Highways - (Government of India) as well as by RDSO (Research Designs and Standards Organization Ministry of Railways). During the past three decades, hundreds of clients and consultants have visited the factory and approved the manufacturing setup and the bridge bearings by witnessing the testing.

MAXIMUM SIZES

Various sizes of bearings were manufactured in the past ranging from the smallest pads to mega size bearings like 630X540X128, 1000X500X150 (sizes in mm). These bearings were produced and tested at our factory and subsequently transported and installed at respective bridge sites.

QUANTITY

During last several years more than 1,25,000 Elastomeric bearings have been installed on 3,450 bridges Nationally and Internationally.
VOID FORMER

Void former tubes are embedded to reduce the concrete cross sectional area and are thus useful to save the volume of concrete. The reduction in dead weight is substantial, thereby ensuring economy in design of substructure. Void forming tubes obtain very high radial rigidity by means of special corrugations.

Dynamic group has developed machine for manufacturing void formers for various sizes-diameters ranging from 250mm to 1500mm. Void former machines are portable, which can be installed at site thereby reducing the transportation cost & saving time.

Dynamic Void formers are installed on many prestigious National Highway Projects for contractors like LG-Patel JV for Galaxy Flyover (2000m), Persys-ATL JV for Yamuna Bridge (1000 ID), UPSBCL for Delhi Flyover (600 ID-1200m), LIMAK-SOMAJV (800ID-510m), Unitech Ltd. for Delhi Project (1200 ID) etc.

Void forming tubes meet the requirements of concrete structures for a highly rigid but light sheet metal tube that can withstand concrete pressure without deformation. The seam is highly tight, thus preventing water from entering the tube. The low weight makes tube handling easy and their internal seams and corrugations ensure that the tubes do not catch on each other and facilitate the mounting of female end cones or caps.

BAR SPLICING

In our quest to provide services to construction industry, we have developed Dynamic Mechanical Bar Splicing System that provides reliable and effective solution to the congestion of reinforcement bars found in heavily reinforced concrete.

Dynamic Bar Splicing System is a method of joining deformed reinforcement bars end to end by using specially manufactured steel sleeves, which are hydraulically swaged onto the ribs of the deformed bars by means of hydraulic bar grip jacks operating at high pressures.

Features of Bar Splicing System

- Joints achieve the mechanical strength of bars.
- No wastage of steel
- Less congestion of reinforcement bars.
- Reinforcement laying time drastically reduced.

Dynamic splicing jacks are available for bars upto 45mm diameter. The technical information regarding splicing for bars of 16mm, 20mm, 28mm, 32mm, 36mm, & 45mm can be provided on request.

Dynamic bar splicing system can be extensively used for splicing of reinforcement bars for Beams, Columns, Reservoirs, Tanks, Silos, Tunnels, Shafts, Floor Slabs, Towers & Dams etc.

The Dynamic Bar Splicing System has been developed in accordance with the specifications laid down in ASME Section-III, Division-2. The HYSD bars used in splicing application should be in accordance with IS: 1786.
QUALITY POLICY

Meeting the requirement of quality and agreed delivery schedule, while adhering to the target cost in executing small or large volume orders requiring high degree of skill is the quality policy of our company.

We achieve this through continual improvement in all areas of operations, giving emphasis on process, technology and training by implementing ISO 9001-2000 Quality Management System.

QUALITY OBJECTIVES

- To consistently deliver quality products by adhering to the set specifications, contractual regulations and statutory requirements,
- To achieve enhanced customer satisfaction through cost effective and timely completion,
- To motivate & train the staff for continual improvement of quality standards,
- To update and implement the procedures as per international standards.

QUALITY STANDARDS

In line with the requirement of ISO 9001-2000 Quality Management Systems, all the process of quality checks during production and testing of finished goods are carried out.
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