MAURER
Sanfield
A GROUP COMPANY OF MAURER SE

sanfieldindia.in

MAURER SANFIELD INDIA LIMITED

VISION UNITED

ISO 9001:2015, ISO 45001:2018, ISO 14001:2015 & CE CERTIFIED COMPANY

MAURER SANFIELD INDIA LIMITED is the exclusive designer, manufacturer, and installer of a wide range of **HIGH PERFORMANCE AND SPECIALIZED CONSTRUCTION- RELATED PRODUCTS**, manufactured in Technical collaboration with various world-renowned Companies.

MAURER SANFIELD INDIA LIMITED provides a single source responsibility from **DESIGN, MANUFACTURING, TESTING, MATERIAL SUPPLY, INSTALLATION AND POST SALES SERVICES** for its product range.

MAURER SANFIELD INDIA LIMITED is approved by **MORT&H (Ministry of Road Transport and Highways)** for all types of Expansion joints and Structural bearings We also have **RDSO (Research Design and Standards Organization) Ministry of Railways (GOI) Approval for BRIDGE BEARINGS, EXPANSION JOINTS, AND STEEL GIRDER FABRICATION.**

MAURER SANFIELD INDIA LIMITED proudly announces its **Environment, Health & Safety (EHS) certification.** This prestigious recognition underscores our unwavering commitment to maintaining the highest standards in environmental protection, workplace safety, and employee health. We are building a safer, healthier, and more sustainable future. **MAURER SANFIELD INDIA LIMITED** received certificates of **ISO 45001:2018 & ISO 14001:2015.**

ISO 45001 provides an internationally recognized framework for managing occupational health and safety risks. It enables organizations to systematically assess hazards and implement risk control measures, reducing workplace injuries, illnesses, and incidents.

ISO 14001 is the internationally recognized standard for environmental management systems (EMS). It provides a framework for organizations to design and implement an EMS, and continually improve their environmental performance. By adhering to this standard, organizations can ensure they are taking proactive measures to minimize their ecological footprint, comply with relevant legal requirements, and achieve their environmental objectives.

VISION :

To be India's leading single-source solution provider for high-performance construction products, leveraging global expertise to revolutionise infrastructure development. This vision statement incorporates the key strengths of **MAURER SANFIELD INDIA LIMITED:**

- **Global Expertise:** Backed by **MAURER SE** Germany and collaborations with world leaders, the company aims to be at the forefront of construction technology.
- **Single-Source Solution:** From design and manufacturing to installation and after-sales service, the vision emphasizes providing clients with a comprehensive and hassle-free experience.
- **High-Performance Products:** The focus is on delivering top-quality, specialized products that meet the demanding needs of the construction and infrastructure sector.
- **Unmatched Approvals:** Highlighting the approvals from MORT&H and RDSO strengthens the vision of being a trusted and reliable partner for critical infrastructure projects.
- **Revolutionizing Infrastructure:** The vision goes beyond just product offerings, aiming to contribute significantly to the advancement of India's infrastructure landscape.

MAURER SANFIELD INDIA LIMITED is a company driven by innovation, quality, and a commitment to shaping the future of Indian infrastructure

MISSION :

To be a single source provider for the **design, manufacturing, installation, and after-sales service of high-performance construction products** in India. This mission emphasizes **MAURER SANFIELD INDIA LIMITED's** commitment to :

- **Comprehensiveness:** Providing a one-stop shop for all aspects of their product range, from design to after-sales service.
- **Quality:** Leveraging the expertise of their parent company and leading global collaborators to ensure the highest quality products.
- **Expertise:** Offering a wide range of construction products backed by extensive experience and industry approvals.
- **Client Focus:** Ensuring customer satisfaction through comprehensive service through comprehensive service and support.

These key aspects of **MAURER SANFIELD INDIA LIMITED's** value proposition, highlight its commitment to providing a complete and reliable solution for the Indian construction industry.

WE OFFER BELOW PRODUCTS AND SERVICES :

- **Movement Joints** and **Bearings** for application in Bridges and Buildings are :

Bearings

:

1. MSM® Spherical Bearings
2. Fatigue Resistant Anti Uplift Spherical Bearings
3. Sliding Isolation Pendulum (SIP) Bearings.
4. POT/POT-cum-PTFE Bearings
5. Elastomeric and Side Stopper Bearings

Movement Joints:

1. Modular Expansion Joints
2. Architectural Expansion Joint System
3. Compression Seal Joint
4. Strip seal
5. Finger Joint

- Structural Protection Systems (STU/LUD, Dampers, Snubbers, Anti-seismic Devices) for use in Bridges & Buildings.
- Repair and Rehabilitation of Structures, Replacement of failed Joints and Bearings.
- Pre-stressing & Post Tensioning Systems (Bonded & Un-bonded Post-Tensioned Slabs).
- Inclined and Vertical Anchors.
- Mechanical Rebar Splicing Systems (Bar Couplers) & Sonic Tubes for use in Building and other infra projects.
- Fabrication of Steel Girders (approved by Indian Railways / RDSO).
- Advanced Waterproofing Systems.
- Ecobox , FRP Bar, PT Bar.
- Lifting Anchor, Single wire loop box.

EXPANSION JOINTS

Mumbai – Nagpur Expressway, Maharashtra

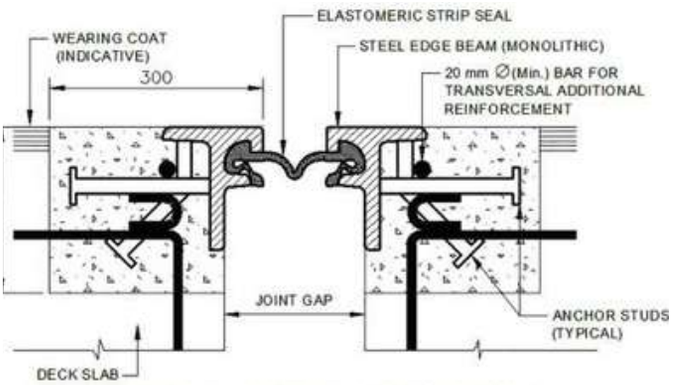
EXPANSION JOINTS

MAURER SANFIELD INDIA LIMITED is engaged in the design and production of Movement Joints since 1992 and has a vast experience of over 25 years in the field.

Our parent Company **MAURER SE** is in the field for over a century. Our joints are used in **Bridges, Flyovers, Expressways, pavements, Buildings, Dams, Jetty's** and variety of other Structures.

STRIP (SINGLE) SEAL JOINTS

MAURER SANFIELD INDIA LIMITED Strip Seal system is a unique concept for effectively sealing expansion joints in bridges and structures with movements **upto 80 mm.**



CROSS-SECTION OF STRIP SEAL EXPANSION JOINT

Single-Seal Expansion Joints are available in different versions for constructive systems exposed to traffic. Our strip seal joint are designed & manufactured in accordance with guidelines of IRCSP-69 (2011), as well as satisfies the lead requirement of AASHTO & IRC-6 .

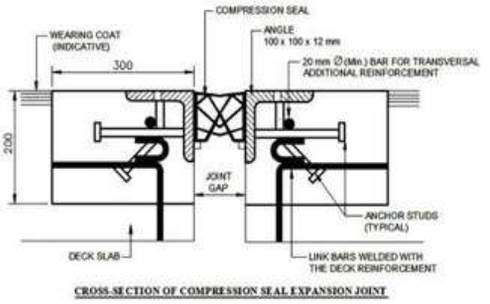
COMPRESSION SEAL JOINTS

Compression Seal Bridge Series seals are elastomeric compression seals which allow you to effectively seal expansion joints. The elastomeric element is highly resis- tant to deterioration from exposure to weather, sunlight, oils and impact.

Compression Seal Bridge Series seals are available in a variety of cross sections and sizes for heavy-duty traffic. Designed for movements **upto 40mm.**

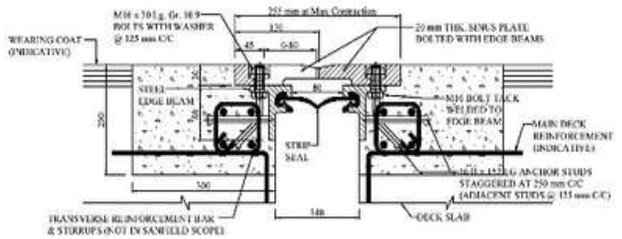
Features :

- Monolithic Extruded edge profile
- Mechanically locked Seal
- Packing & Differential vertical movement Capability
- Watertight



CROSS-SECTION OF COMPRESSION SEAL EXPANSION JOINT

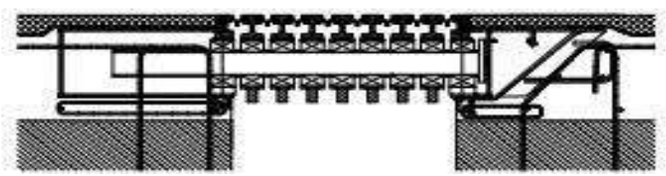
STRIP SEAL TYPE EXPANSION JOINTS WITH NOISE REDUCTION SINUS PLATE



Using "sinus plates" minimizes the noise from over-rolling traffic by covering the straight transverse gap in the carriageway. The wheels of over-rolling vehicles thus maintain constant contact with the expansion joint's surface, eliminating the noise caused by impacts with the gap edge. The sinus plates' unique design allows vehicles to cross the joint safely. Designed for movements **upto 80mm**.

FUSE BOX FOR MODULAR JOINTS

When following this design approach, MAURER Swivel Joist Expansion Joints accommodate all service displacements without damages. For closing movements beyond the service capacity, the MAURER Fuse Box System will be activated. Depending on the fuse design, the joint will move either vertically upwards or horizontally in a designated, defined space. In case of seismic opening movements, the extended support bars protect the expansion joint from falling into the structural gap. After the earthquake, fast and simple repair of the predetermined breaking points within the MAURER Fuse Box System and its road surface is easily and quickly possible.



FINGER JOINTS

Simple yet robust Joint System offering quick a solution to structures with varying structural gaps and for applications in structures having larger Structural gaps but nominal movements. Designed for movements **above 80mm**.

MODULAR EXPANSION JOINTS

Modular Joint is capable of simultaneously allowing movement in the longitudinal, transverse and vertical directions while accommodating the structures service and seismic movements. It is designed to be functional after seismic excitation as well. The design of the modular consists of supporting edge and center beams along with support bars, which span the open joint. Sealing elements are utilized to ensure the integrity of a water-tight system. Designed for movements **above 80mm**.

Features:

- Mechanically Locked Seals.
- Seismic 3-Dimensional Movement Ability.
- Counter Force Control Mechanism/ Unique Swiveling arrangement for equal opening and closing of Gaps.
- Resilient Support Structure.
- Each and every component is replaceable without breaking concrete and removing the entire Joint, thus minimizing the replacement cost and most importantly the downtime.
- Shall be provide Joint in Single Length upto 15 mtr. (Without Splicing)

SWIVEL JOIST EXPANSION JOINTS

Swivel Joist Expansion Joints For Mumbai Trans Harbour Link (MTHL), Maharashtra

Swivel Joint Expansion Joints are particularly suited for large and complex 3 Directional movements.

By controlling each individual lamella separately, service and seismic movements of ±1.5 m or even more can be accommodated to a large extent simultaneously in a longitudinal and lateral direction.

JOINTS WITH LOW NOISE EMISSION

Everyone knows the "**click-clack**" sound when you drive across a roadway transition on a bridge. This pulsating sound is increased by unevenness of the surface diagonal to the driving direction.

Successful noise reduction for our Modular Expansion Joints is achieved by welded **rhombic elements, Downward noise** radiation can be absorbed by closing the gap in the construction by means of a folding construction.

Since both of these systems are suited for **retrofitting,** they can be **installed at any time.**

Designed for movements above 80mm.

RAILWAY JOINTS

Railway bridges are different because the trains that pass bridges bring about different requirements as com- pared to road bridges.

When trains pass, the traffic loads are higher, and in the case of High-Speed Railways, the passing traffic is considerably faster than conventional road traffic.

GUIDED CROSS-TIE BEAM RAILWAY EXPANSION JOINTS

This particular joint is uniquely capable of handling both the structural movement to the tune of **1500-2000 mm** yet offering freedom of the movement in rails supported on it.

Thus provides a single solution for both structural and rail movement requirements saving significantly on cost.

RDSO DESIGNED JOINTS

MAURER SANFIELD INDIA LIMITED is an RDSO approved Expansion Joints manufacturer. We have com--plete knowledge of RDSO testing procedures, drawings and design.

We have a vast experience in the supply of RDSO Designed Expansion Joints. We are always ready to inno- vate and develop new Joints for the Railways.

OUR PROJECTS

High-Speed Rail Corridor (Bullet train)
Mumbai-Ahmedabad

New Pamban Bridge
Tamil Nadu

Shri Ram Janmabhoomi, Ayodhya Project
Uttar Pradesh

Green PVC Project, Mundra
Gujarat

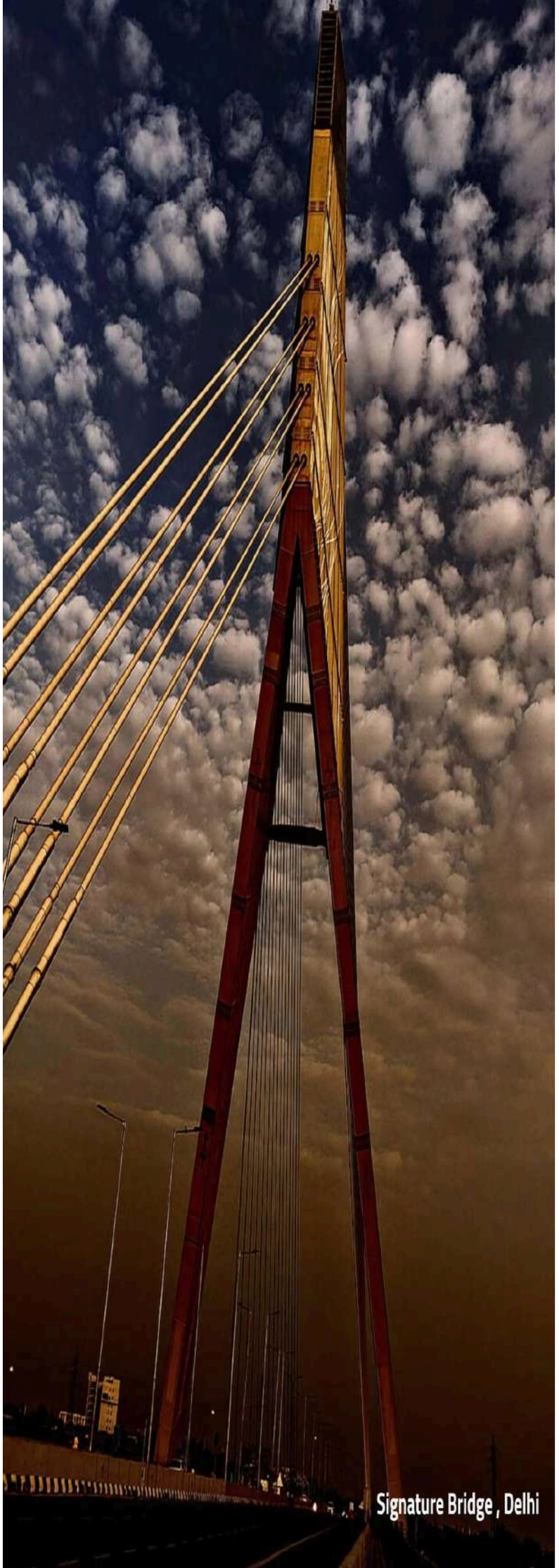
Sudarshan Setu (New Dwarka Bridge)
Gujrat

New Ganga Path Bridge
Bihar

Ganga Expressway Project
Uttar Pradesh

Ahmedabad Metro Rail Project
Gujarat

STRUCTURAL BEARINGS



MAURER SANFIELD INDIA LIMITED initially started its Bearing division with technology transfer from Grantor Rubber and Engineering Pty. Limited Australia, and currently the market leader with its state-of-the-art Spherical Bearings with the MAURER developed **Special Sliding Material (MSM®) Modified UHMWPE.**

MAURER SANFIELD INDIA LIMITED is supplying bearings not only to Projects in India but also success- fully exporting to various prestigious projects world- wide.

MSM® SPHERICAL BEARINGS

The latest **invention** and **developments** in the field of Bridge support and protection system **"MSM® Spherical Bearing"** have been certified to have **longer durability, enhanced service**, and **performance life** when compared with conventional Steel, Elastomeric or even POT Bearings as they have limitation in satisfying higher & repetitive rotation and translation requirements especially required in case of Highways, Rail Bridges, long Span, Continuous, Cable Stay and Suspension Bridges.

MAURER SANFIELD INDIA LIMITED state of the art **production facility** at Bhopal (India), exercises strict quality control, 3rd party supervision, **Factory Production Control (FPC) certification EN 1090**, different Welding qualification as per EN & AWS and above all **CE certification for MSM Spherical Bearings and POT Bearings**

MAURER MSM® is an innovative, high-performance sliding material for structural bearings. In comparison to conventional PTFE, **MAURER MSM®** is characterized by substantially higher durability (at least five times

sliding ability), absorption of twice as high pressure, and therefore compact dimensions as well as lower friction resistances.

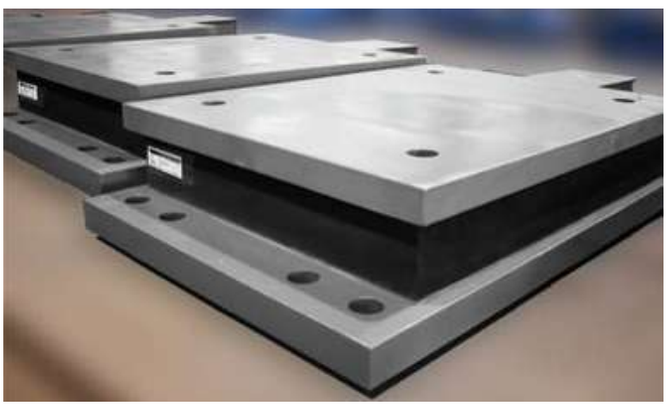
POT PTFE, PIN AND METALLIC GUIDE BEARING

Pot Bearing is a type of structural Bearing used in Bridge construction &building structures to accommodate movements &rotation. It consist of a cylindrical pot , Containing disc. made of clostomer material, such as rubber, A steel piston is then inserted into the pot and

pot and bears against the elastomeric disc. This Assembly allow the rotation of the bridge deck while effectively distributing the load to the substructure for translation of bearings Sliding. Interface is providing between the piston & top plate.The whole assembly of Bearing can Bears/ Transmit vertical load, provides rotation about any axis in the Horizontal plane provides translation in longitudinal & transuerse direction of bridge.

ELASTOMERIC BEARING

Consists of a number of Elastomer Layers sandwiched between steel laminates. Reinforcement of Steel lami- nate in between elastomer layers provides Load bearing ability while Translational and Rotational requirements are fulfilled by internal Elastomer layers deflection.



STEEL BEARINGS

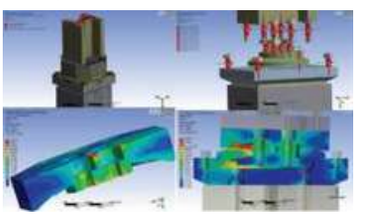
A typical Roller Bearing consists of a base plate, two or more rollers and a top plate. While the Rocker & Roller Bearing is made by providing a saddle and knuckle plate on top of the rollers.

For the Rocker Bearings, the same arrangement except the rollers is provided. While the Rocker & Roller Bearing permits translation as well as rotation, the Rocker Bear- ing permits only rotation. Similarly, the Roller Bearing provides only the translation but no rotation.

Anti Uplift Bearings

The requirement for the design and manufacturing of Anti-uplift Bearings is influenced greatly by the fact whether the Uplift is in Service or Seismic only. Up-Lift Load Bearings enable the transfer and support of vertical compressive and tractive forces in every state of twist and shift.

Due to the use of high-performance sliding materials - even on contact surfaces of uplifting forces - structural deformations can be absorbed repeatedly and without constraints. Up-Lift Load Bearings are particularly suitable for complex roof and bridge constructions with high changing loads and deformations, e.g., cable stay, continuous, railroad bridges, etc.



MAURER SANFIELD INDIA LIMITED is capable of designing and producing fatigue-resistant Uplift Bearings.

STRUCTURAL PROTECTION SYSTEMS

Seismic Control Devices

About 25 years ago, we started protecting constructions from the risk of seismic damage and has advanced development ever since. The business is getting more important every day: settlement in seismic-prone metropolitan areas is getting denser and buildings are rising higher and higher. Seismic control devices efficiently help to avoid damages on bridges, building structures and, especially, sensitive installations such as tanks for liquefied gas storage, nuclear plant waste fuel etc. At the same time, our devices minimize the negative

effects of normal everyday strain. **MAURER SANFIELD INDIA LIMITED** Seismic Control Devices -that means numerous technological and structural engineering in-house developments that effectively protect structural systems by means of isolation and/or dissipation in the interplay of forces and motions.

SHOCK TRANSMISSION UNITS (STU) / LOCK UP DEVICES (LUD)

Shock Transmission Units are hydraulic safety devices that lock at strong impulses, such as earthquake shocks or sudden braking on bridge constructions, and therefore clamp the construction. However, they are designed to move without much resistance if slow movements occur as in day-to-day conditions. **MAURER SANFIEID INDIA LIMITED** Load Limiters are hydraulic-safety devices that limit the reaction force upward by velocity based control of oil flow. By using such elements, construction damage caused by extreme shifting velocities can be efficiently avoided.

MAURER SANFIELD INDIA LIMITED has to its credit the first ever application of STU in Indian Bridges i.e., Bassein Creek Bridge - Mumbai in the year 1999-2000.

HYDRAULIC DAMPERS (MHD)

Hydraulic Dampers dissipate energy by using varying fluid viscosities. These safety devices are therefore different from usual linear-viscous dampers. **MAURER SANFIELD INDIA LIMITED** Hydraulic Dampers enable a reaction force when fast motions occur which is almost entirely independent of velocity. Optimal damping can thus be achieved and limit exceeds be avoided.

ELASTOMERIC DAMPERS

Elastomeric Dampers work with specially developed elastomeric mixtures of different damping properties and are used in building construction and to damp component assemblies. The effect of these safety devices relies on deformation and is characterized by good recentring properties an reduction in constraints.Other than the standard STU and Dampers, **MAURER SANFIELD INDIA LIMITED** range of Structural Protection Systems includes -

- **Rigid Connection Devices.**
- **Predetermined Break-away Force Restraints.**
- **Dissipators.**
- **Recentring Steel-Hysteresis-Dampers (MRSD).**
- **Semi-Active Dampers.**
- **Isolators.**
- **Lead Rubber Bearings.**

SLIDING ISOLATION PENDULUM BEARINGS

MAURER SANFIELD INDIA LIMITED Sliding Isolation Pendulum Bearings combine the outstanding features of spherical bearings with the Recentring effect according to the pendulum principle. This effect is achieved by using a curved main sliding surface. When friction occurs on the sliding surface, energy is directly dissipated in the sliding isolation pendulum bearing. Using the sliding material MSM® - lubricated and unlubricated - designers can choose from a wide range of friction coefficients. MAURER Sliding Isolation Pendulum Bearings meet all requirements on sliding bearings during usage according to the standards.

TEST PRESS MACHINE

MAURER SANFIELD INDIA LIMITED was the first company in India to introduce the test press machine for the testing of bearings, with a capacity of measuring 1000 tons in one go.

With its four test presses, sanfield has one of the largest testing facilities in its sector.

We are capable of carrying out all the necessary vertical load and/or horizontal load tests individually, as per the customer's requirements.

Quality Control:

As per ISO 9001:2015(E) , FPC EN 1090-1 EXC3 (Under TUV Rheinland LGA) and CE Certification (Under MPA University of Stuttgart Germany).

Testing of 2155MT Elastomeric Bearing

TEST PRESS CAPACITY

Test Press	Compressive/Vertical Load Capacity (Stroke)	Pull/Horizontal Load Capacity (Stroke)	Maximum size possible Testing
TP - 1	10,000kN (Stroke=200 mm)	3,000kN (Stroke=250 mm)	L=800, W=800, H=250mm
TP - 2	40,000kN (Stroke=250 mm)	10,000kN (Stroke=825 mm)	L=1400, W=1200, H=1000mm
TP - 3	10,000kN (Stroke=300 mm)	3,000kN (Stroke=400 mm)	L=800, W=800, H=300mm
TP - 4	40,000kN (Stroke=250 mm)	7,500kN (Stroke=825 mm)	L=1400, W=1200, H=1000mm

REPAIRS & REHABILITATION

MAURER SANFIELD INDIA LIMITED with an integrated Design and Project Divisions undertake Repair and Rehabilitation of Bridges and Flyovers of complex nature such as:

Lifting of Bridge Superstructures and Realignment of Spans

The lifting and realignment of the superstructure and spans is done to ensure the safe and reliable operation of a bridge, it is necessary to inspect and assess the com- ponents of the bridge for signs of wear and damage, and then to repair or replace any sections that are not up to the necessary standard.

Replacement of Bearings and Expansion Joints

MAURER SANFIELD INDIA LIMITED policy is to replace bearings and expansion joints that are defective or at risk of seismic failure, in order to prolong the usable life of existing bridges.

BEFORE **AFTER**


BEFORE **AFTER**


Structural Re-strengthening, CFRP (Carbon warp and laminates) applications

Carbon Fiber Wrapping can be applied to a range of structural components to enhance and strengthen their structural integrity, while simultaneously providing protection against uplift, progressive collapse, and spalling.

Jacketing of the Structure

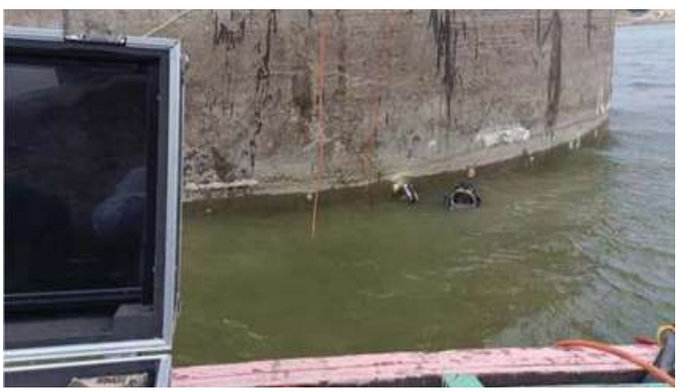
Jacketing is the method by which a portion of an existing structural member is restored to its original dimensions or enlarged by encasing it with the appropriate materials. This increases the load bearing capacity of the structure by modification of structural design.

BEFORE **AFTER**

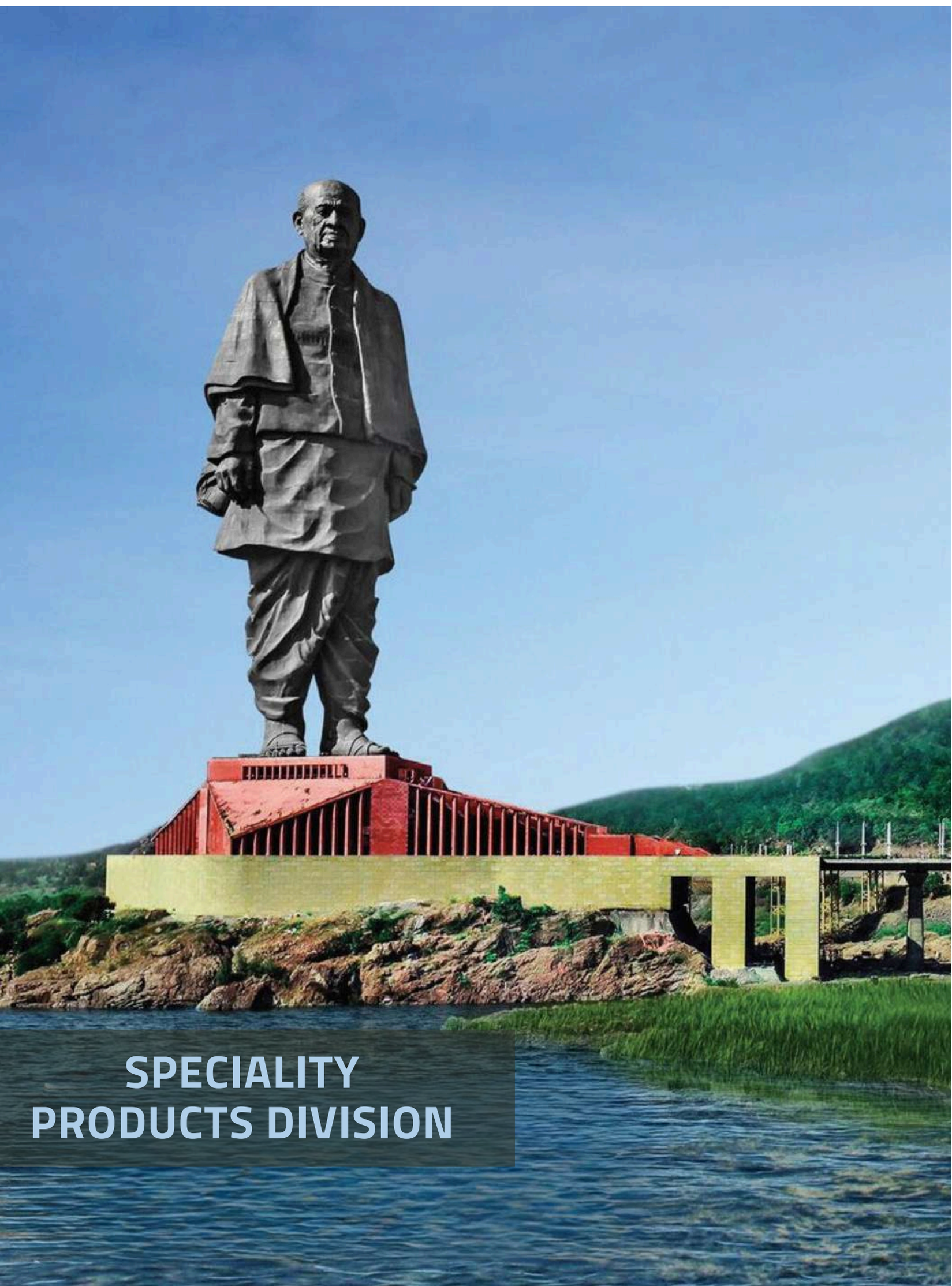

Epoxy Injection Grouting

It is a technique used to repair cracks in concrete structures. It is favoured for cementing because of its quick setting, very low shrinkage, excellent adhesion, high strength, low viscosity, ability to penetrate even hairline cracks, and resistance to most chemicals.

Underwater Structure Strenghtening



We also do Repairs of Leaching, Honeycombing, Spalling and Gunniting, Concrete Protection etc.



SPECIALITY PRODUCTS DIVISION

BARQ® COUPLER

BARQ® Rebar Couplers are designed to join the reinforcement bars. The traditional method of connecting reinforcement bars with lap joints continuity in reinforced concrete need not be always appropriate. The advantage of simplicity and economy in lap splicing is limited to smaller diameter bars. BARQ® Couplers offer the solution for splicing for all diameter bars ranging from 12mm to 40mm.

Technically superior: BARQ® Rebar Couplers perform like continuous reinforcement develop strength mechanically, independent of concrete. Therefore provides ductility in RCC structures independent of the condition of concrete.

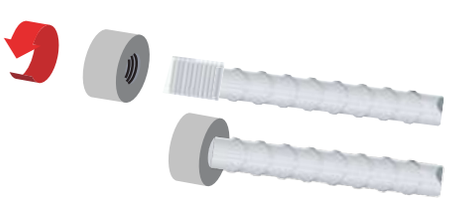
BENEFITS

- Practical and economical alternative to laps.
- Fast cycle time: 30 seconds per thread.
- One standard coupler for all splicing requirements (Standard/Position).
- Easy installation, no torque required.
- Shortens construction cycle times.
- Manufactured under a strict quality assurance plan **ISO 9001**

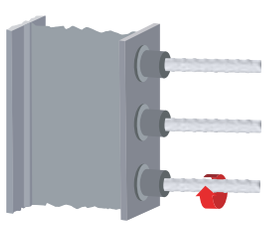
BARQ® RE-BAR Couplers are pre-approved for use in Metro Rail, Thermal and Nuclear Power Projects, etc.

Couplers Specs	MC16	MC20	MC25	MC28	MC32	MC36	MC40
Outer Dia. (mm) - A	30	34	42	45	52	60	63
Length (mm) - B	36	40	50	56	64	74	80
Major Dia. x Pitch - Md x P	M20 x 2.5	M24 x 3.0	M30 x 3.5	M33 x 3.5	M36 x 4.0	M42 x 4.5	M45 x 4.5
Middle Dia. (mm) - D2							
Minor Dia. (mm) - D1							
Chamfering - E	1.5 x 45°	2.0 x 45°	2.5 x 45°	3.0 x 45°	3.0 x 45°	3.0 x 45°	3.0 x 45°

END ANCHORS



WELDABLE COUPLERS



GROUT - IT

GROUTED COUPLERS

MAURER SANFIELD INDIA LIMITED GROUT-IT couplers provide an economical, effective solution for the design of precast elements in construction. Precast concrete construction is gaining popularity worldwide; the same is because of faster turn around time and precise executions. GROUT-IT compliments this need. We are a Leading construction solution provider; we have developed GROUT-IT system to create rebar continuity between precast concrete elements.

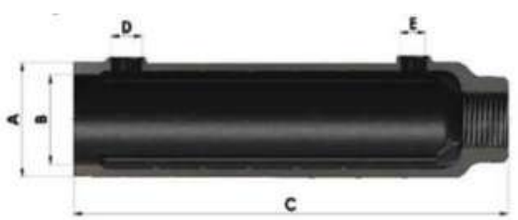
GROUTED COUPLERS BENEFITS

1. Structural Integrity between the precast sections.
2. Load Path Continuity, Reinforcement acts as a continuous bar.
3. Helps overcome misalignment issues.
4. Eliminates field-wielding damage to concrete.
5. Faster execution.
6. Freedom of using mortar best suited to the application.

GROUTED COUPLERS APPLICATIONS

GROUT-IT coupler is designed to connect wall or column precast elements either horizontally and vertically.

GROUTED COUPLERS SPECS



COUPLER DIMENSION (in mm)

Bar size	A	B	C	D	E	Min Rebar Engagement length	Max Rebar Engagement length
12	61	44	150			110	125
16	61	44	182			140	155
20	66	48	192	20	25	162	162
25	70	50	221			182.6	235
32	82	62	291			244.6	245
40	95.3	72	340.4			285.9	290

SONIQ® TUBES

SONIC TUBES

SONIQ® tubes are push-fit type. The tubes are made of thin steel, with an enlarged end in a bell mouth shape.

Specially designed rubber gasket for the bell mount ensures quick installation and perfect sealing to keep the tube integrity. Rubber end caps on the top tube ensures that foreign material does not enter the tube.

Type - 1

Type - 2

ADVANTAGES

1. Fast and easy installation by labours.
2. Push-fit assembly.
3. No welding is required at the job site.
4. No equipment is required.
5. Easy fixing to rebar cage.
6. Push-fit mark to ensure full engagement.

PRODUCT SPECIFICATIONS

Diameter (mm) - Model	Soniq 50	Soniq 150
Wall Thickness (mm)	1	2
OD/ID (mm)	50.8/48.8	154/150
Length (mm)	5800	
Weight (kgs)	7	42
Outer Pressure Rating	50 bars	15 bars

Glass Fiber Reinforced Polymer (GFRP) BAR

Reinforced concrete is a common building material for construction of facilities and structures. While concrete has high compressive strength, it has limited tensile strength. To overcome these tensile limitations, reinforcing bars (rebar) are used in the tension side of concrete structures.

MSIL High Performance GFRP Rebar Series

Product Part No.	Diameter (mm)	Cross section (mm2)	Ultimate tensile strength (MPa)	Weight (g/m)	Modulus of elasticity (GPa)	Ultimate shear strength (MPa)	Elongation at break (%)
08-MSIL	08	47.76	1050	99	55	>181	3.0
10-MSIL	10	74.63	1050	157			
12-MSIL	12	107.46	1050	219			
16-MSIL	16	192.26	1050	390			
18-MSIL	18	244.55	1050	500			
20-MSIL	20	303.11	1050	621			
22-MSIL	22	346	1050	740			
24-MSIL	24	415	1050	890			
25-MSIL	25	452	1050	970			
28-MSIL	28	573	950	1230			
30-MSIL	30	660	950	1420			
32-MSIL	32	755	950	1620			
34-MSIL	34	855	900	1840			
36-MSIL	36	962	900	2070			
38-MSIL	38	1075	900	2320			
40-MSIL	40	1195	850	2570			

Remark: Can be customized with ultimate strength design related products.

ELECTRICAL CONTRACTS DIVISION

Maurer-Sanfield India Limited (MSIL) excels in managing railway-based electrical projects, from tender acquisition to project completion. The company's expertise spans materials supply, service delivery, and project execution across various railway domains, including Traction Distribution (TRD), AT-based projects, Centralized Lighting Systems (CLS), and SCADA systems. MSIL operates across major railway zones, such as Western, Central, North Central, West Central, and Southern Railways, delivering projects with a focus on quality, compliance, and safety.

MILESTONES:

MSIL takes pride in its significant contributions to railway electrical projects across various zones- Madhya Pradesh, Chennai, Kerala, Maharashtra, Gujarat and many more.. Over the years, we have built a strong reputation for excellence and reliability.

Some of our notable projects include:

1. Vadodara CT PT based on the Provision of 132kv'. Current Transformer and Potential Transformer for Energy Meters (ABT) along with auxiliary activities at various traction sub-stations of Vadodara division.

2. Kapadvanj TSS Project Work for Design, Supply, Erection, Testing & Commissioning of 66/27 kV Traction Substation, Feeding Post, Shunt Capacitor Bank with 21.6/30.24 MVA Transformer at Traction Substation at Kapadvanj of Western Railway in the state of Gujarat.

3. Bhopal Ramganj Mandi project The work of Supply, Laying, installation, testing and commissioning for modification of HT-33kV/11kV&LT 440V crossing by laying XLPE underground cable below track and required accessories and modification/ shifting of existing crossings for Western Railways.

4. Vadodara Amrit Bharat Project Scope of work included here is general electrical works under the Amrit Bharat Scheme launched by Central Government.

5. Vadodara AT CLS Project The work includes the Provision of 25KVA and 10 KVA Auxiliary Transformer and cabling activity in Gujarat section of Vadodara division (Western Railways).

6. Chennai AT CLS TRD Project Augmentation of OHE- Auxiliary Transformer (AT) supply arrangements in connection with provision of block optimization system (Automatic block signaling) of Chennai Division (Southern Railways).

7. Trivandrum project –The scope of work includes the improvement of power supply arrangement by replacement of over aged assets under the Southern Railways guidance.

8. IPDS Project- Strengthening of Sub-transmission and Distribution Network in towns of Rajgarh O&M Circle of Bhopal Region of MPMKVVCL, Bhopal under "Integrated Power Development Scheme (IPDS)".

With innovative solutions, skilled teams, and a commitment to excellence, MSIL continues to advance railway infrastructure development, cementing its reputation as a trusted industry leader.

ARCHITECTURAL JOINTS

Our Architectural Expansion Joints systems are designed with considering various technical parameters like floor movements, load, water tightness, etc., for floor, wall, ceiling roof, retaining walls, and podium location.

Design of multiweb seal/air lock provides maximum integrity and ensures adequate structure movement with water tightness.

Advantages

- Serrated design on top surface of aluminium members provides smooth pedestrian traffic.
- Wall series are available in snap lock/turn bar series.
- Elastomeric seals are available in various designs/patterns/colours.

Applications

Walls, ceilings & floors in-

- Parking Decks, Commercial & Institutional Buildings.
- Educational Facilities.
- Hotels.
- Health care and Pharmaceutical Industries.

SAPX- SYSTEM

SDPS - SYSTEM

SFJX - SYSTEM

SDPK - SYSTEM

SLPF - SYSTEM

SNPG - SYSTEM

SA-90 : RIGHT JOINT

AIRSEAL - SYSTEM

PARKING / LANDSCAPE AREA EXPANSION JOINT SYSTEMS

AIRSEAL SYSTEM
COMPRESSION SEAL SYSTEM - WA SERIES
COMPRESSION SEAL SYSTEM - WG SERIES

WALL/COLUMN EXPANSION JOINT SYSTEMS

SLPP SYSTEM
SNPG SYSTEM
SCTR SYSTEM

ROOF EXPANSION JOINT SYSTEMS

SRFL SYSTEM Besides this, a full range of Architectural Expansion Joint Systems are also available for corner locations with the flexibility to adapt directional changes where the transition occurs.

Also, the above categories and classifications are in general and can be modified and combined with other joint models for specific requirements.

Maha Mritunjay Temple, Nagaon, Assam

The **Maha Mritunjay Temple in Nagaon, Assam**, is a spiritual landmark and a marvel of architectural excellence. Dedicated to Lord Shiva, this grand temple attracts thousands of devotees and stands as a testament to India's rich cultural heritage. The temple's striking design and large scale have called for advanced engineering solutions to ensure both aesthetics and structural integrity. One of the key components in maintaining the temple's durability and flexibility is the use of Architectural Expansion Joints supplied by **Maurer Sanfield India Limited**. These joints are vital for accommodating structural movements caused by temperature changes, seismic activity, or other environmental factors. For the **Maha Mritunjay Temple,** over **520 running meters** of these **architectural expansion joints** have been installed.

Maurer Sanfield's expansion joints are designed to seamlessly blend with the temple's architecture, ensuring that the structural elements remain free from damage while maintaining the visual appeal of the temple. These joints also help prevent cracks and other structural issues, contributing to the long-term preservation of the temple's beauty and functionality.

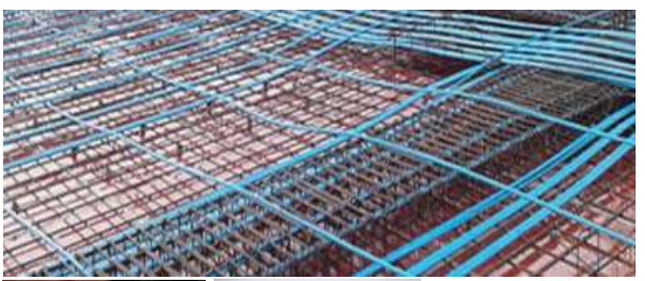
By integrating modern engineering solutions like expansion joints into this religious edifice, the **Maha Mritunjay Temple** successfully merges tradition with technology, ensuring that it will continue to inspire and awe visitors for generations to come.

POST TENSIONED SLAB

Prestressed concrete is basically concrete in which internal stresses of a suitable magnitude and distribute are introduced so that the stresses resulting from external loads are counteracted to a desired degree. In reinforced concrete members, the pre-stress is commonly introduced by tensioning the steel reinforcement." **MAURER SANFIELD INDIA LIMITED** offers the following range of products and services under this vertical.

Bonded Strand System

Un-Bonded Strand System



Advantages of Post Tensioning

- Time & cost-saving construction.
- Provides column less horizontal space for utility.
- Reduced seismic forces and overturning moments
- Provides more height clearance to the structure.
- Some structures are RCC infeasible and can be worked well with PT slabs and beams.

Post-Tensioned Anchor:

Ground Anchors are basically devices used to transmit the forces to the soil by means of Pre-Stressed tendon to anchor the structure to the ground or to retain the slopes from collapsing.

Landmark Projects executed by **MAURER SANFIELD INDIA LIMITED -**

- DLF Commanders Court, Chennai.
- Hotel Horizon Site Mumbai.
- Marathon Mafatlal, Lower Parel, Mumbai.
- Parinee Developers BKC Bandra.
- Gate Airoli.

OUR PROJECTS

Yamuna Expressway
Uttar Pradesh

Bogibeel Bridge
Assam

Patna Metro
Bihar

Bangalore Metro
Karnataka

Vadodara Kim Expressway
Gujrat

Vishwasundari Bridge
Uttar Pradesh (Repair and Rehabilitation)

Mumbai Trans Harbour Link
Maharashtra

Rajiv Gandhi International Airport
Telangana

Hot Rolled Threaded & Cold Rolled Threaded Steel Bar Systems

Pre-stressing Steel Bars–Hot & Cold Rolled Threaded

Pre-stressing Screw Thread Bar is a straight bar having a full thread displaying high strength and high dimensional accuracy. The bar can be used for permanent works like connecting segments of a bridge structure, reinforcement of piers subject to horizontal pre-stressing forces etc. as well as for temporary works like anchoring steel frame supports, stitching bar segments before pre-stressing etc. These steel bars can be anchored at any section point with internal screw thread nuts.

Product Features

The Diameter range from 20 mm to 75 mm

- Steel grades 830/1030, 930/1080 & 1080/1230 N/mm2
- Minimum Elongation 6-8%
- Modulus of elasticity 205,000 N/mm2
- Corrosion protection: cement on site. The bars as un-bonded applications are normally supplied in a HDPE tube injected with grease. Other Fully threaded bars are usually protected by fitting an HDPE pipe over the bar and grouting it with corrosion protections like Epoxy Coating, Galvanization etc. are also available as per customer's specification.

Accessories with Pre-stressing Steel

Why MSIL P T Bars ?

MSIL PT bar range is a preferred choice owing to the following advantages:

- MSIL PT Bars are reusable and can be re-tensioned without any damage.
- Continuous thread makes connection possible at any point.
- Offering customised accessories for specific applications.

Our PT bars can be easily connected, anchored, tensioned safe, have strong adhesion and provide convenient construction. They also save steel there by reducing component size and weight.

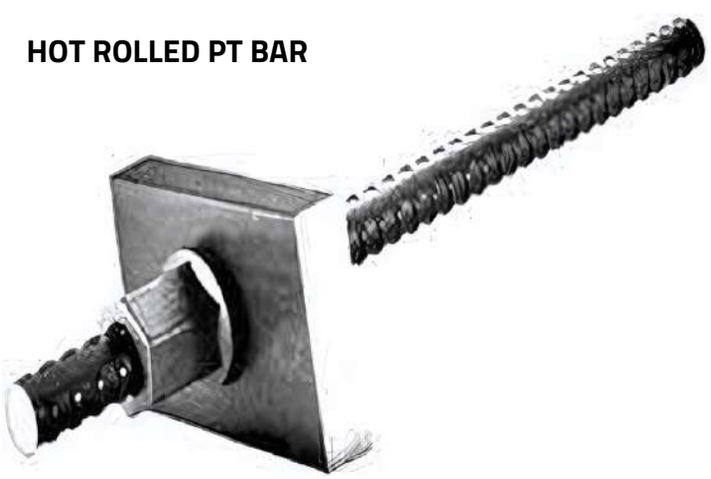
Product Application

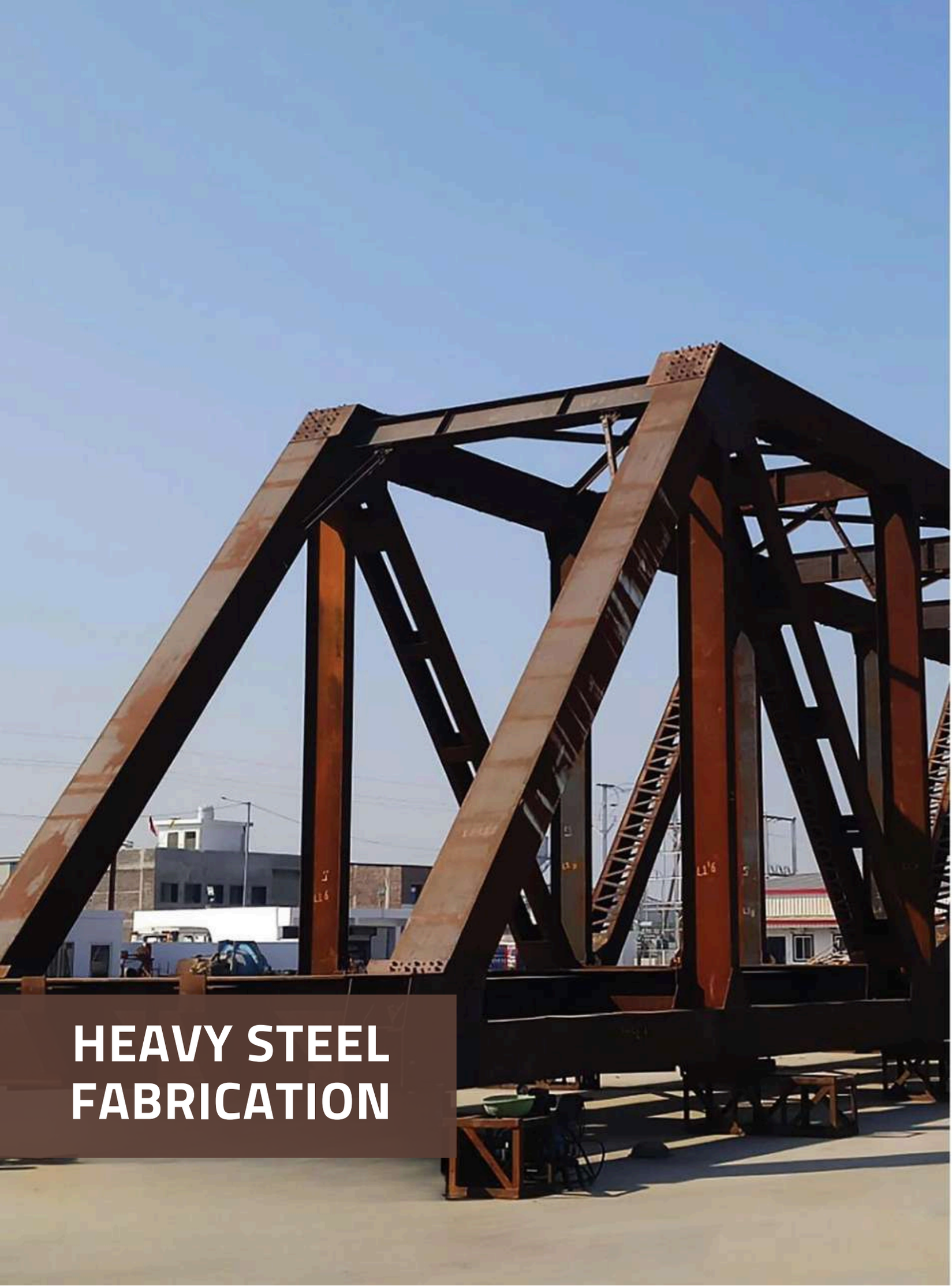
MSIL PT Bars can be widely used in:

- Large-scale water conserving projects, metro projects etc.
- Industrial and civil construction for heavy lifting and seismic protection
- Bridges, Medium sized Cross-bridges and Rail
- Nuclear power plants
- Ground Anchors
- Existing structure strengthening
- Post-tensioning of concrete structures

COLD ROLLED PT BAR

HOT ROLLED PT BAR





HEAVY STEEL FABRICATION

Open Web Girder - 45.7M Span

MAURER SANFIELD INDIA LIMITED having full-fledged Heavy Fabrication facilities, is approved by RDSO for the fabrication of Steel bridge & Composite bridge steel girders.

The workshop is fully equipped, having all the latest equipment and facilities for Girder Fabrication and has completed and supplied **Steel composite girders, Open web through girders & Bow string girders** for number of our valued clients/organizations and many more are under fabrication.

The facilities available with us include the following:

- Workshop measuring more than 12000 sq. meters.
- CNC Plasma cutting machine.
- CNC Auto welding beamline.
- Fully automatic Shot blasting machine.
- E.O.T. Cranes of upto 20 MT- 10 nos.
- Radial drilling machines.
- Nelson stud welding facilities.
- Metalizing facilities. Portable magnetic drilling machines.
- Team of qualified & experienced persons to monitor the fabrication activities & to check the QA/QC.

Composite Girder

Bow String Girder - 60M Span

Advanced In-House Laboratory

We are thrilled to announce the launch of our state-of-the-art in-house advanced testing laboratory, a significant milestone in our commitment to quality assurance and scientific excellence.

Equipped with cutting-edge mechanical and chemical testing capabilities, our laboratory sets new standards for precision, reliability, and quality in all our endeavors.

At our esteemed laboratory, we ensure the highest standards of quality and precision, surpassing industry benchmarks. With our in-house advanced testing facility, we cater to diverse industry needs, offering tailored solutions for mechanical and chemical analysis.

Our commitment to continuous improvement and innovation guarantees excellence and reliability, shaping the future of quality assurance and scientific proficiency.

- **Unmatched Quality**

  Our lab ensures precise results with rigorous quality control.

- **Expert Team**

  Skilled Professionals deliver top-notch services across industries.

- **Cutting-edge facilities**

  Advanced technology meets diverse client needs.

- **Full Spectrum Testing**

  From chemistry to the environment, we offer tailored solutions.

- **Swift Results**

  Timely service without sacrificing accuracy.

MECHANICAL DISCIPLINE

- Digital Rockwell cum Brinell Hardness Tester (Rockwell Hardness Scale)
- Digital Universal Testing Machine (400 KN , Model : KUT- 40)
- Static Shear Modulus (Tensile Testing Machine)
- Digital Impact Machine (Charpy or IZOD)
- Specimen Cutting Machine
- Digital Density Balance CUM Weighing Balance
- Steel Surface Preparation Machine
- Meeting Point Apparatus
- Rubber Tensile Testing Machine
- Compressor Set Test Apparatus

CHEMICAL DISCIPLINE

- Steel Spectrometer
- T.G.A Machine
- F.T.I.R Machine
- Ageing Oven
- Ozone Chamber
- Soxhlet Extraction Unit (Soxhlet Apparatus)

Mechanical & Chemical Disciplines

Rubber Tensile Testing Machine

Digital Universal Testing Machine (400 KN , Model :KUT- 40)

Compressor Set Test Apparatus

T.G.A Machine

Static Shear Modulus (Tensile Testing Machine)

Mechanical & Chemical Disciplines

F.T.I.R Machine

Specimen Cutting Machine

Melting Point Apparatus

Soxhlet Extraction Unit
(Soxhlet Apparatus)

F.T.I.R Machine

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