

# DEEVIN

SEISMIC SYSTEMS PRIVATE LIMITED

(An ISO 9001:2015 Certified Co.)



**Manufacture of**  
***Structural Bridge Bearings***  
***Bridge Expansion Joint***  
***Geo-Composites & Geo-Strap***  
***Pre - stressing & Post Tensioning Systems***



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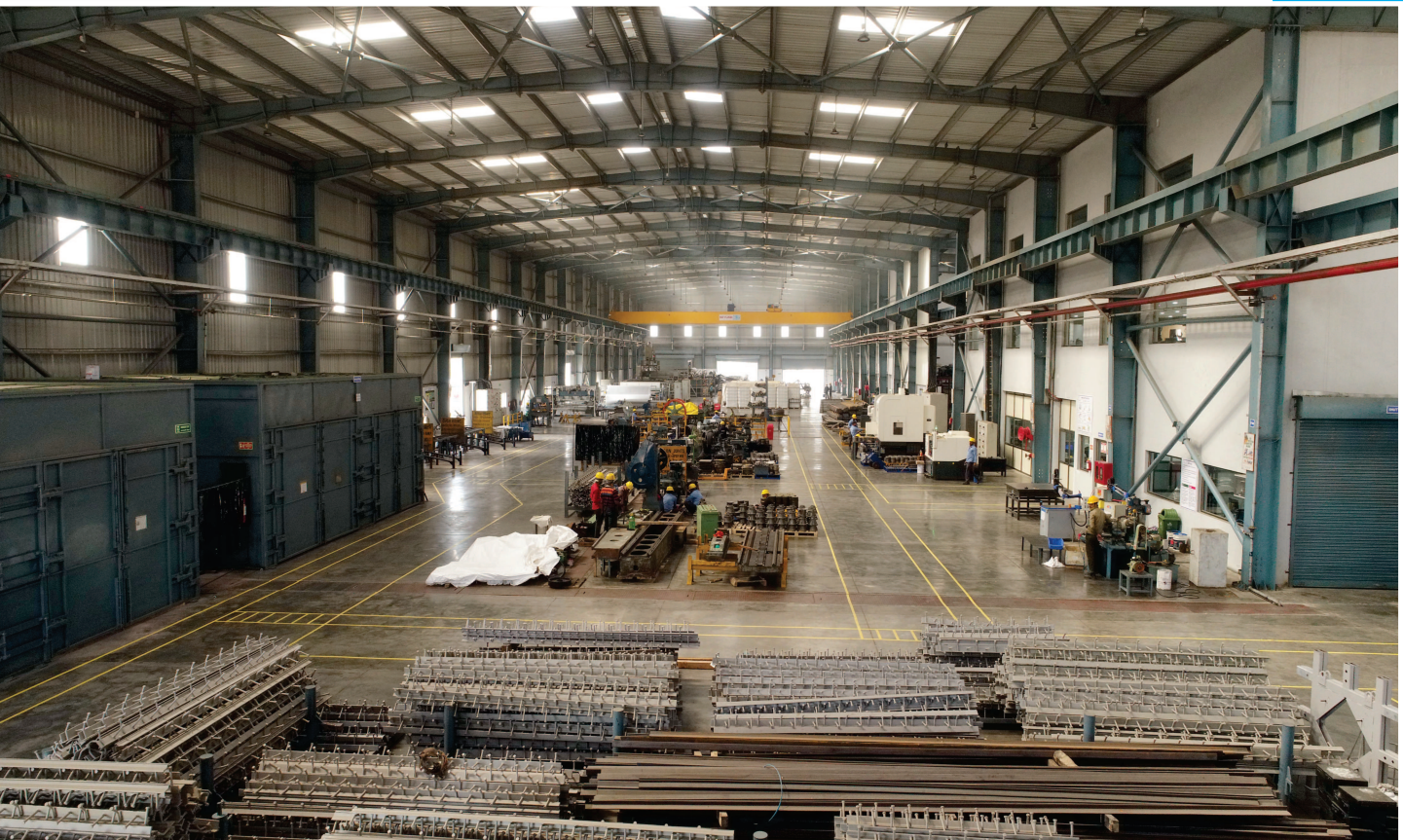
## ABOUT US

**Deevin** is representing many world-renowned companies for construction specialty products in India. we have our own research and development department, who is always willing to help architects/consultants to implement their imagination into reality; these products have been appreciated all over the world for more than a decade and since then performing extremely well.

Today Deevin Seismic Systems, is having more than 170 technical and non-technical staff and state of art corporate office & manufacturing unit of 12,402 sq. mtr. with in-house design & testing laboratory in Mandideep industrial area, which is 25 km away from Bhopal, well connected via road, rail and air.

We, at **Deevin** are committed towards excellence through innovation, conservation and quality execution of the projects. We provide total engineering solutions relating to specialty products, be it design, manufacture, supply, installation of the system, not only with state- of-art technology but also with integrity & professionalism. We are well equipped with all required manpower, materials & tools and plants for regular & specific works, with state-of-the-art laboratory for all in-house testings.

We cater to all your needs of specialty products and will take care of all your requirements and recommend the appropriate systems according to the site conditions and requirement of the project. just call for services to our well qualified, experienced & dedicated **Deevin** team and they shall respond honestly within 24 hours.





## OUR MANUFACTURING PRODUCT RANGE



MOVEMENT JOINTS	STRUCTURAL BEARINGS
 Strip Seal Expansion Joint	 Pot Cum PTFE Bearing
 Compression Seal	 Spherical Bearing
 Modular Expansion Joint	 Metallic Bearing
 Finger Type Expansion Joint	 Metallic guided Bearing
	 Elastomeric Bearing
POST TENSIONING SYSTEMS	GEO PRODUCTS
 Anchor Wedges	 Geo Composite
 Anchor Heads	 Geo Strap
 Anchor Cones	 EPDM pads

## Movement Joints

### Strip Seal Expansion Joint :

**Deevin's Strip Seal joint** consists of an elastomeric sealing gland mechanically locked between two edge beams designed to provide the highest standard of performance. These Joints are designed for use on vehicular bridge structures, support heavy loads and efficiently accommodate multi directional movements including horizontal shear, vertical deflection and rotational movements.



### Modular Expansion Joint:

**Deevin's Modular joint systems** represent the state-of-the-art approach to accommodating the large movements of long-span bridges. By incorporating the results of



recent research activities, each joint system is designed to provide watertight, fatigue resistant, long-term, maintenance-free performance. Modular expansion joint assemblies are subjected to millions of high dynamic stress cycles due to passing vehicle loads. Recognizing the significance of these dynamic loads on the long-term performance of expansion joint systems.

Each modular expansion joint system not only bridges the joint gap but also protects the structure from premature corrosion.





## Finger Type Expansion Joint:

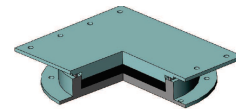
**Deevin's finger joint** consists of multi-directional displacement hinge, sliding finger plate, fixed finger plate, support bracket, anchorage, and drainage system. The multi-directional displacement hinge is the key component of the finger joint, with capacity to accommodate the bridge three-dimensional deformation demands.



## Structural Bearings

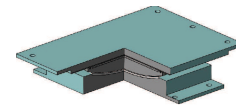
### Pot Cum PTFE Bearing

A **Fixed Pot Bearing** can bear the vertical loads and transfers the horizontal force in any direction. It also allows the rotation about any axis in the horizontal plane.



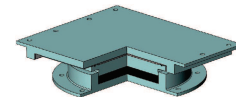
POT Cum PTFE  
Bearing-Fixed Type

A **Free Float Pot Bearing** which can bears and transfers the vertical loads & allows movement in any direction in Horizontal plane and accommodates rotation along any axis in the Horizontal plane.



POT Cum PTFE  
Bearing Free Type

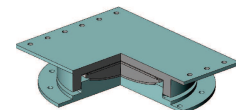
A **Guided Pot Bearing** can bear the vertical loads and transfers the horizontal force in one direction only and allows movement perpendicular to that direction and as well as allowing rotation along any axis in the horizontal plane. Further the same bearing is classified as slide guide longitudinal and a slide guide transverse bearing I as per the Load system.



Pot Cum PTFE  
Bearing Guided Type

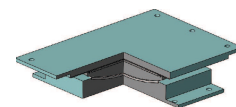
### Spherical Bearing

**Fixed Spherical Bearing** can bear the vertical loads and transfers the horizontal force in any direction. It also allows the rotation about any axis in the horizontal plane.



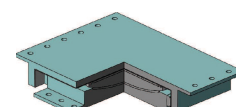
Spherical Bearing  
Fixed Type

A **Free Float Spherical Bearing** which can bears and transfers the Vertical Loads & allows movement in any direction in horizontal plane & accommodates rotation along any axis in the horizontal plane.



Spherical Bearing  
Free Type

A **Guided Spherical Bearing** can bear the vertical loads and transfers the horizontal force in one direction only and allows movement perpendicular to that direction and as well as allowing rotation along any axis in the horizontal plane. Further the same bearing is classified as slide guide longitudinal and a slide guide transverse bearing I as per the Load system.



Spherical Bearing  
Guided Type

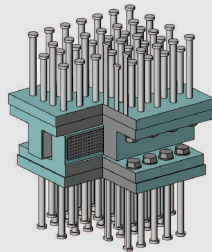


## Elastomeric Bearing

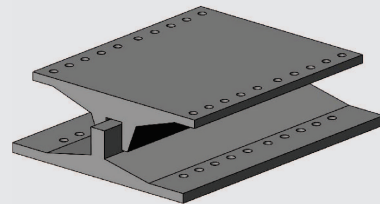
**Elastomeric Bearings** support simultaneous load and deformation in any direction. Horizontal movements up to approximately one half of the rubber thickness and Rotations are allowed by the flexibility of rubber Depends upon the load capacity, Elastomeric bearing divides into two categories Plain Elastomeric and Laminated Elastomeric as shown for your reference. Steel plates are bonded to the rubber through a vulcanization process and have the main scope to increase the resistance of the bearings to vertical loads.



## Metallic Bearing & RDSO Metallic Bearing.



**Metallic Bearing**



**RDSO Metallic Bearing**

## Post Tensioning Systems

**Post-tensioning** can be explained as the method of reinforcing concrete or other materials with high-strength steel strands or bars, typically referred to as tendons. Their applications include commercial buildings, residential buildings, parking structures, slabs-on-ground, bridges, sports stadiums, rock and soil anchors, and water-tanks. Post-tensioning tendons, which are prestressing steel cables inside plastic ducts or sleeves, are positioned in the forms before the concrete is placed. Afterward, once the concrete has gained strength but before the service loads are applied, the cables are pulled tight, or tensioned, and anchored against the outer edges of the concrete.



**Anchor Wedges**



**Anchor Heads**



**Anchor Cones**

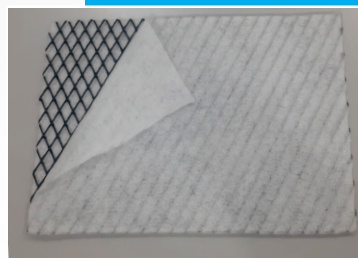




**Geo Components** : A Planner structure substance developed from polymeric materials used in soil, rock, earth or other associated geo technical engineering materials as an integral part of manmade buildings, structures or systems. e.g. Geo-composite and Geo-straps.

## Geo Composite

Geo-composites are usually blending of drainage (and occasionally barrier) material in a multi-layer system with a geo textile filter to avoid soil transfer to the drainage channel. The draining geo synthetics most commonly used are the Geo-composites.



Parameters	Method	Unit	Value
<b>Composite Drain</b>			
Thickness @ 2 kPa	EN 9863-1	mm	≥ 4.5
Mass per unit area	EN ISO 9864	g/m <sup>2</sup>	> 710
Tensile Strength (Avg.)	EN ISO 10319	kN/m	≥ 16
Static Puncher Resistance (Avg.)	EN ISO 12236	N	≥ 3000
In plane flow capacity , MD (Avg. value)	EN ISO 12958		l/(m.s)
	<b>Type of Contact</b>		R/R
	Gradient i-1		
	@ 100 kPa		0.55
	@200 kPa		0.45

### Drainage Core- Geonet

**Raw Material:** High Density Polyethylene, stabilized by carbon black, black color

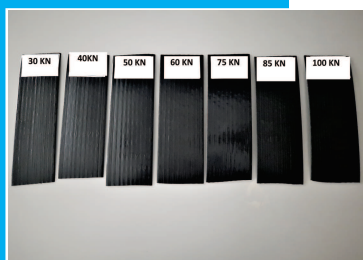
**Structure:** Set of parallel ribs overlaid and integrally connected having a rhomboidal shape

### Filter Fabric- Geotextile

**Material:** Polypropylene

**Structure:** Needle punch or thermally bonded non woven geotextile

Water permittivity (Avg.)	EN ISO 11058 / ASTM D 4491	S <sup>-1</sup>	≥ 0.10
Opening size (Avg.)	EN ISO 12956/ ASTM D 4751	Micron	≤ 220



## Geo Strap

The strips consist of distinct channels of tightly packed high tenacity polyester (PET) yarn encased in polyethylene sheath. The strips are suitable for reinforcement applications in combination with concrete wall facing panels.

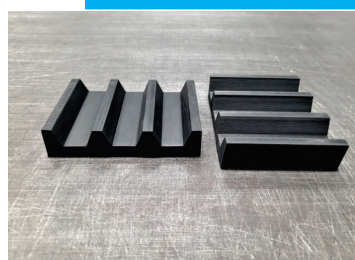
Properties (EN ISO 10319)	Unit	DEEVIN 30	DEEVIN 40	DEEVIN 50	DEEVIN 60	DEEVIN 75	DEEVIN 85	DEEVIN 100
<b>Mechanical</b>								
Ultimate tensile strength(Avg.)	kN	30.2	40.2	50.3	60.3	75.4	85.4	100.4
Long term tensile T <sub>cr</sub> (70% of UTS at 30°C-120 year life design)	kN	21.14	28.14	35.21	42.21	52.78	59.78	70.35
<b>Physical Properties</b>								
Strip Width	mm	83±3	83±3	87±3	90±3	90±3	90±3	90±3

## EPDM pads

RE Wall Pads which is also called as Rubber Pad or EPDM Elastomeric pad is used for the below

- To maintain Gap in RE Wall
- To avoid vibration on the bridge which absorbs the vibration.

This is avoiding cracks in the structure.





**Vertical Milling  
Center Machine**

**CNC Lathe  
Machine**



**Vertical Turning  
Lathe Machine**

**Shot Blast &  
Water less  
Paint Booth**







## **GEO Composite Manufacturing Machine**



## **GEO Strap Manufacturing Machine**



## **Kneader & Mixing Machine**

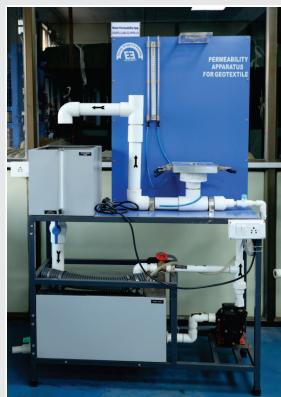


## **Rubber Moulding Hydraulic Press**





# IN-HOUSE LAB TESTING



Permeability apparatus  
for Geo Textile



Moving Die Rheometer



Ozone Chamber (Ektron)



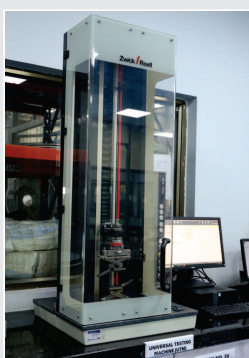
Hydraulic Press 1200 Tons



Seal Pulling Testing Rig.



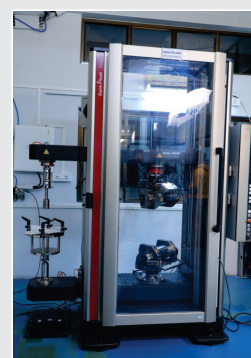
Melt Flow Index Tester



UTM-2.5 KN  
(ZWICKROELL)



Hardness Tester



UTM-250 KN  
(ZWICKROELL)



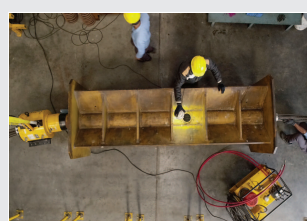
Din Abrader  
Machine



Profile  
Projector



Ft-ir Spectrometer  
(Perkin-Elmer)



Anchorage Efficiency  
Testing Rig



# CREDENTIALS



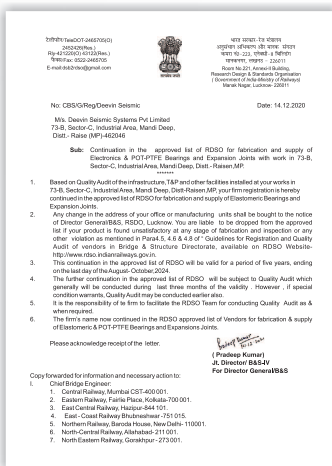
# CERTIFICATE

## An ISO 9001:2015 Certified Co.

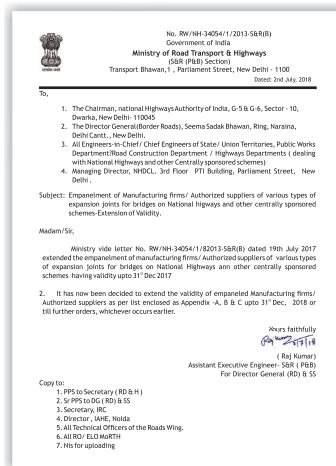
1. In the empanelment from Ministry of Road Transport & Highways, New Delhi (MORT&H)
2. In the approval list of RDSO, Lucknow
3. In the approval list of DMRC.
4. Foreign Associates with D S TECHSTAR, USA.

## SPECIALITY FEATURES:

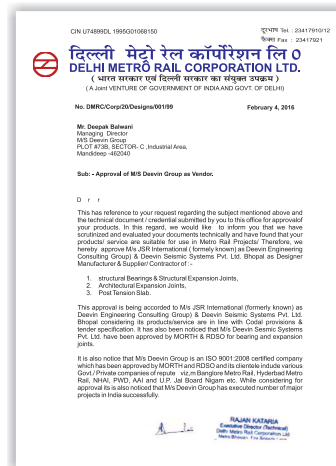
Simple & modern technology for critical issues.  
Fast supply & Services.  
Optimum Prices.  
Customer satisfaction before & after sales



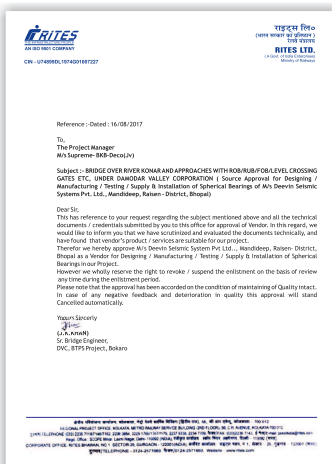
RDSO Approval



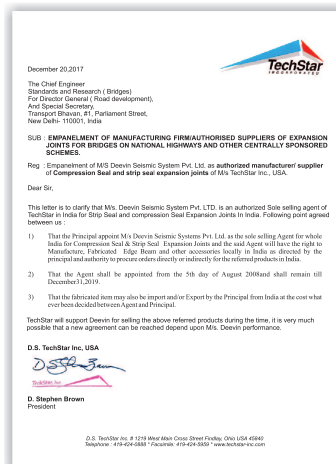
MOR&TH Approval



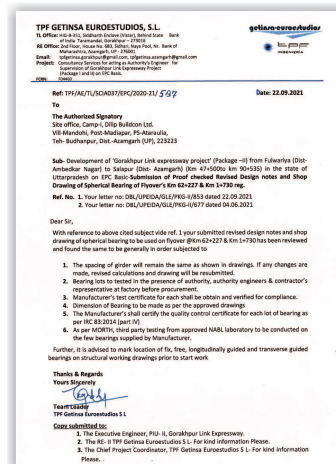
DMRC Approval



RITES Approval



Foreign Associates with  
D S TECHSTAR, USA



Special Bearing Approval



# DEEVIN

SEISMIC SYSTEMS PRIVATE LIMITED



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