RESISTOFLEX

SINCE 1947

Vibration Shock Seismic Control

LEADING THROUGH EXCELLENCE

in

- **SHOCK & VIBRATION MOUNTINGS**
- **EXPANSION JOINTS**
- **BASE ISOLATION SYSTEMS**
- **AIR SPRINGS & SUSPENSION SYSTEMS**
- **SEISMIC BASE ISOLATION SYSTEMS**

for

HVAC INDUSTRY

COMPANY PROFILE

RESISTOFLEX was founded in 1947 by Late Mr. R.K. Jain after graduating in Electrical & Mechanical Engineering from BHU, India. He was joined by Mr. Ratish Jain, B.Tech & Silver medallist from IIT Delhi. He forged several alliances with globally acclaimed companies in related fields. Further RESISTOFLEX was co-opted to the Mechanical Vibration and Shock Sectional Committee of Bureau of Indian Standards.

RESISTOFLEX offers a most comprehensive range of products comprising of :

- Application Engineering
- Shock, Vibration & Seismic Engineering
- Flexible Piping Systems
  for
  Industrial Equipments
  Machine Tools & Forging Hammers
  Heavy Machines
  Army Vehicles, Tanks, Shelters
  Naval Ships & Submarines
  Aerospace
- Air Spring Systems
- Automatic Door Systems
  for
  Railways
- Base Isolation Systems
  for
  Building & Bridges

RESISTOFLEX offers complete engineering services which includes : Diagnostic Investigation, Technical Analysis, System Design, Supervision of Installation, Performance Evaluation & Post Monitoring.

RESISTOFLEX has advanced computer programs and decades of experience to design and recommend the most efficient and economical isolation system for applications as diversified as passive insulation of Delicate Instruments and active isolation of massive Forging Hammers.

Nearly one million products are made on floor area of over 150000 sq. ft. in 4 modern plants equipped with latest manufacturing and dynamic test facilities.

Many products are regularly exported to U.S.A., U.K., France, Germany, Middle East, Taiwan, Korea, etc

CORPORATE OFFICE AND PLANTS

CORPORATE HEADQUARTERS
AT NOIDA

India's first Earthquake Isolated Corporate Building-on-Bearings

NOIDA OFFICE AND PLANT

NOIDA PLANT II

GREATER NOIDA PLANT

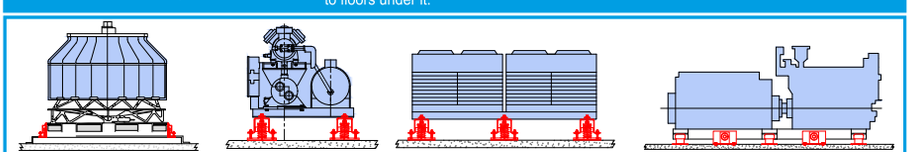
VIBRATION - SHOCK - SEISMIC ISOLATION
AIR SPRINGS & SUSPENSION SYSTEMS

APPLICATION

VIBRATION & SEISMIC ISOLATION OF BUILDING & EQUIPMENTS

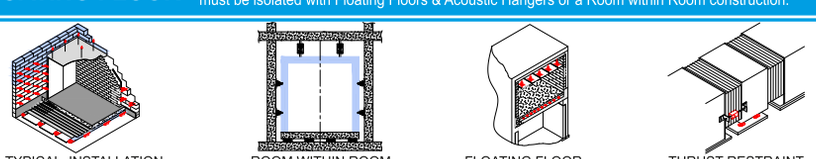
ROOF TOP EQUIPMENTS

Spring Isolators and Flexible Connectors prevent transmission of vibration & noise to floors under it.



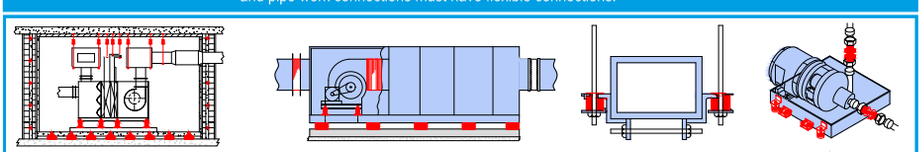
FLOATING FLOOR

For Suite, Conference & Computer Rooms. Vibration & Noise coming from the mechanical equipments must be isolated with Floating Floors & Acoustic Hangers or a Room within Room construction.

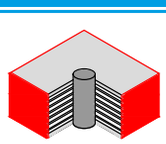


SERVICE FLOOR

AHU, Blowers, Pumps require Inertia Pouring Frames with integral Vibration Isolators. All duct work and pipe work connections must have flexible connections.

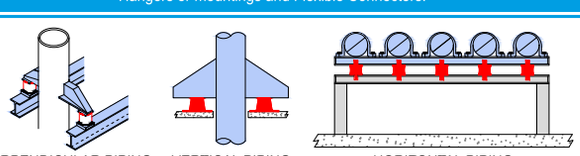


BASE ISOLATION



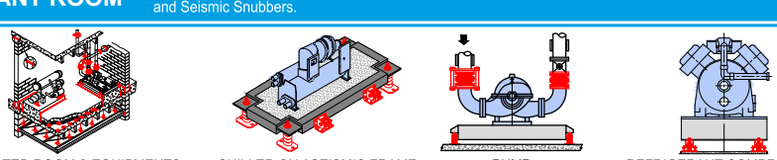
PIPELINE

Should be isolated from the building structure with Spring / Rubber Hangers or mountings and Flexible Connectors.



PLANT ROOM

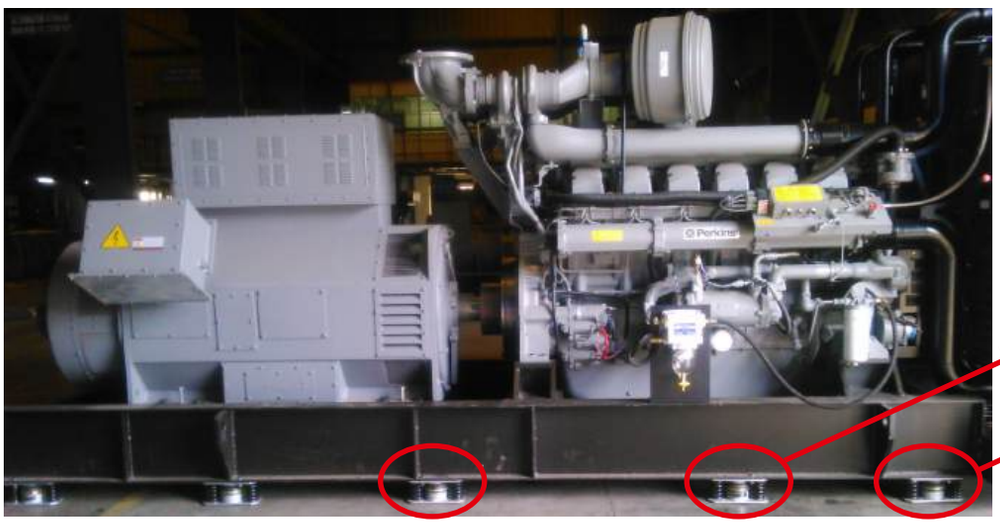
Equipments should be installed on Aseismic Inertia Pouring Frame with integral Vibration Isolators and Seismic Snubbers.



INSTALLATIONS

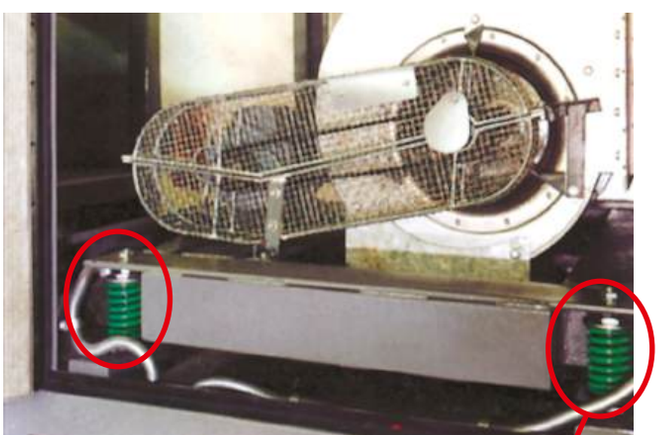
Fan Coil Unit suspended from ceiling using Spring Hangers

MEJ isolate vibration in Pumps of Honda car Factory



Spring Viscous Damper Systems isolate 1MW DG Set

Rubber Expansion Joints at Metro Stations



Open Spring Mounts isolate vibration in Fans

ITEMS FOR METRO RAIL

SH

CFX

STB 84

FM 500S

SRSA

RMEJ

IPF

Flexible Pipe Connectors

RUBBER

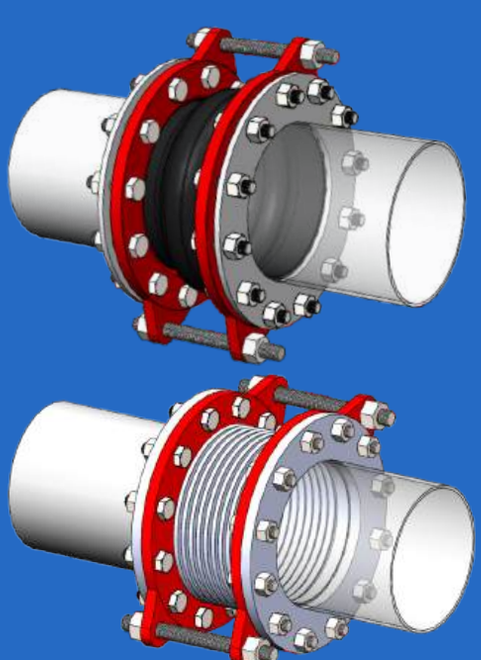
METAL

BRAIDED

FABRIC

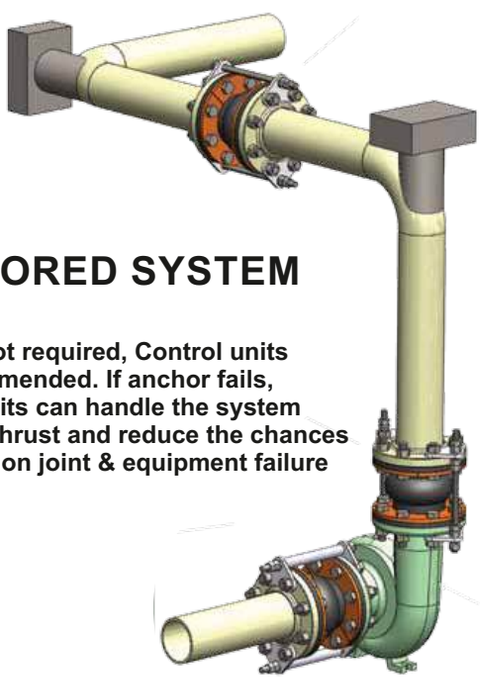
for

BIG RELIEF from STRESSES



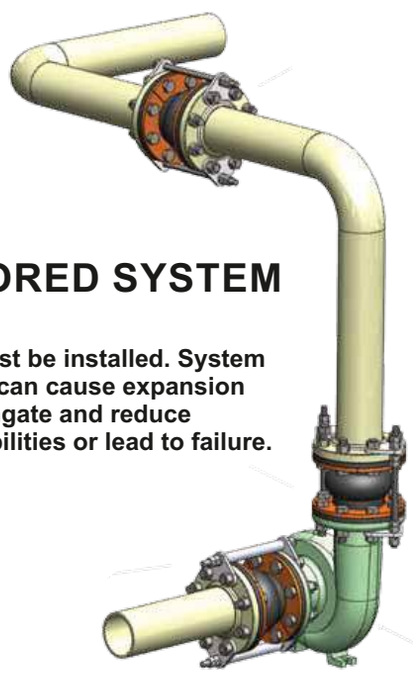
* HVAC
* WATER & SEWERAGE
* POWER GENERATION
* EXHAUST
* OIL & PETROLEUM
* CHEMICAL
* PAPER & PULP
* STEEL
* DEFENCE & SPACE
* URBAN DEVELOPMENT

EXPANSION JOINTS WITH CONTROL UNITS



ANCHORED SYSTEM

Though not required, Control units are recommended. If anchor fails, control units can handle the system pressure thrust and reduce the chances of expansion joint & equipment failure



UNANCHORED SYSTEM

Control units must be installed. System pressure thrust can cause expansion joint to over-elongate and reduce movement capabilities or lead to failure.

CONTROL UNITS are the addtional safety factor preventing damage to expansion joint and associated equipment. They absorb reaction force (thrust) developed by system pressure during test or normal operation *(Warning: They are not a replacement for proper system anchors, guides and supports)*

MUST BE USED FOR :

1. ANCHORED SYSTEMS if maximum pressure , temperature and piping movement can exceed rated limits or as safety against anchor / guide support / equipment failure

2. All UN-ANCHORED SYSTEMS

3. SPRING-MOUNTED EQUIPMENTS

4. LATERAL MOVEMENT higher than rated limits

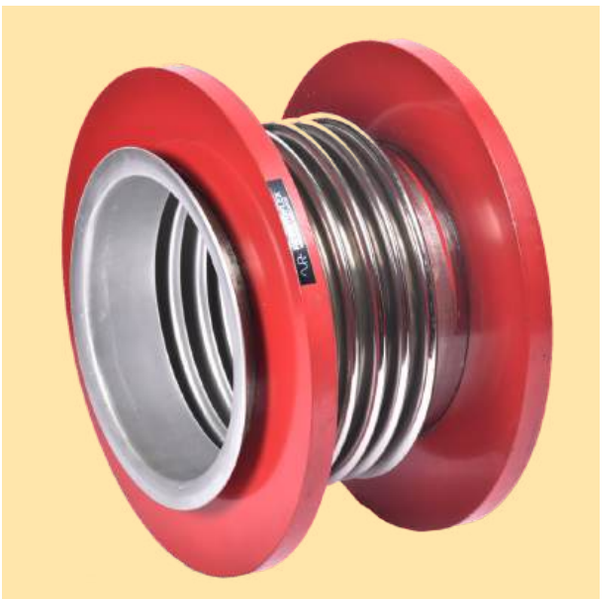
5. VACUUM LINES

METAL EXPANSION JOINT

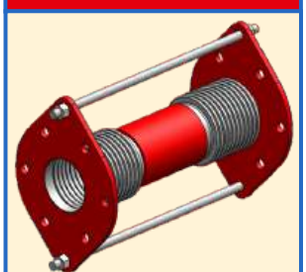
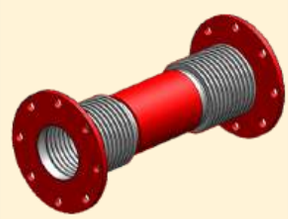
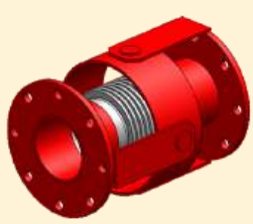
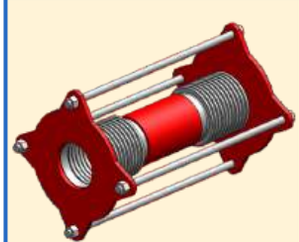
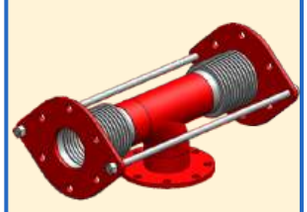
METAL Hydroformed

Bellows Forming Technique

Resistoflex	Conventional
Hydro Forming	Roller Forming
Lower Stresses	Higher Stresses
Lower Thinning	Higher Thinning
LONGER LIFE	SHORTER LIFE



- **Fixed & Floating Flanges**
- **Compensates for length variations and lateral shifts in pipe systems**
- **Corrosion Resistant**
  Outstanding hot/cold water, steam, petrol, fuel, hot gases, chemical, Weathering & Heat resistance
- **Cover Wide Temperature Ranges**

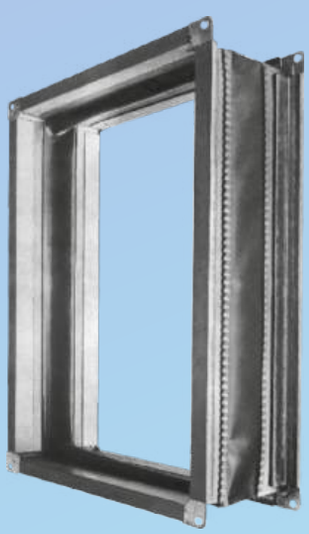
AXIAL	ANGULAR	LATERAL	UNIVERSAL
			
PIPE ENDS	HINGED	TWO TIE-BARS	ONE/TWO BELLOWS
			
FLANGED ENDS	GIMBAL	SEVERAL TIE-BARS	PRESSURE-BALANCED

● SS 304 / 316 / 321 Bellows to PN 10 / 16 / 25 ● Carbon / Stainless Steel Flanges drilled to BS / ANSI / ASME / ISO / IS Standards

Designed to EJMA standards

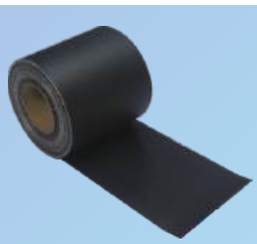
FABRIC

FLAME RESISTANT FLEXIBLE DUCT CONNECTORS



Flanged

Fabric with Metal

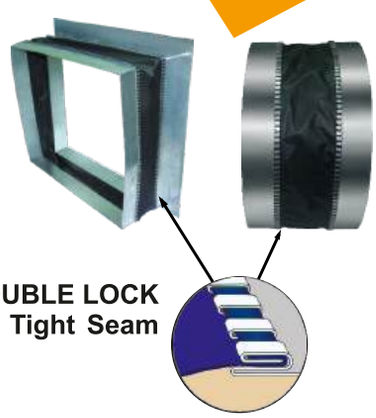


Fabric Rolls

Fire Rating

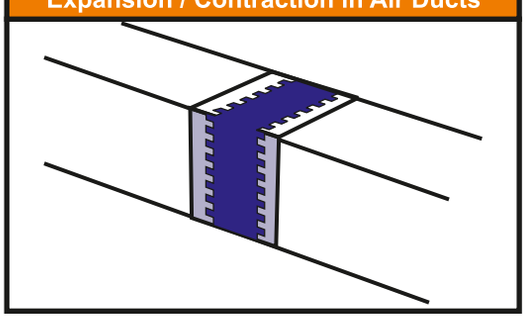
ASTM E-84
NFPA 701
BS 476
EN 532

Any Size
Any Shape
Any Time
Any Where



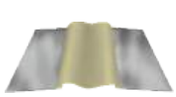
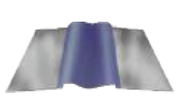
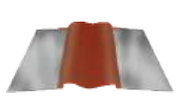
DOUBLE LOCK
Air Tight Seam

Compensates for Misalignments / Expansion / Contraction in Air Ducts

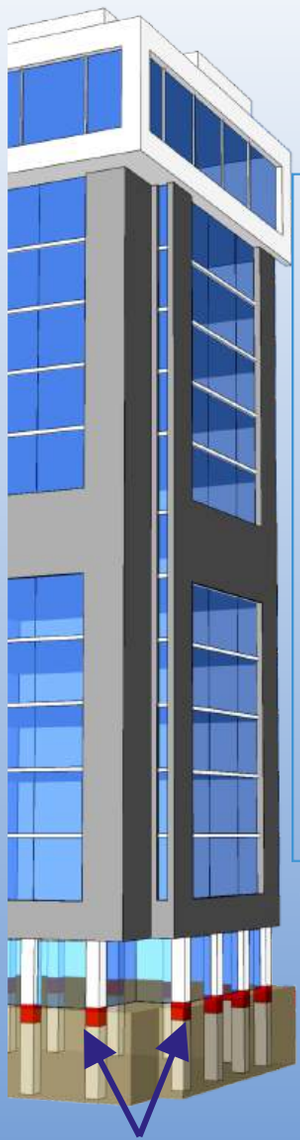


Advantages:

- Quick and Economical
- Mechanically Resistant
- Mildew Resistant Water Proof
- Good for Moisture Laden Air
- Unmatched Durability and Strength
- Width 100 to 1500 mm & Length upto 50 M

COATED Canvas	VINYL Polyester Fabric	POLYURETHANE Glass Fabric	NEOPRENE Glass Fabric	SILICONE Glass Fabric	SOUND Insulated
- 30°C~80°C	- 30°C~120°C	- 30°C~150°C	- 30°C~160°C	- 30°C~250°C	- 30°C~120°C
					

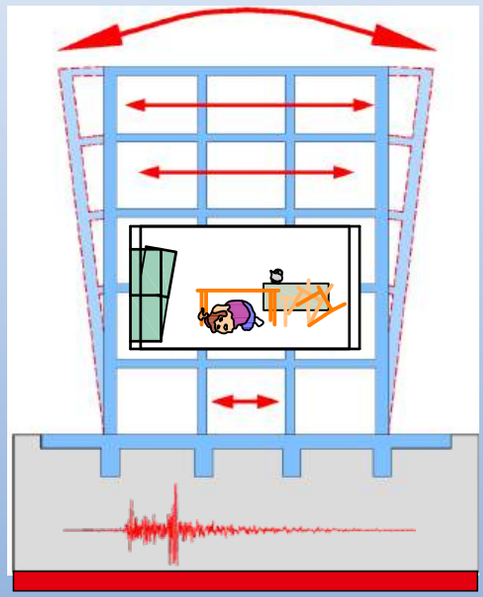
SEISMIC BASE ISOLATION BUILDINGS



SEISMIC BEARING
Decouples the buildings from the ground and absorbs the earthquake energy

Earthquake RESISTANT Building

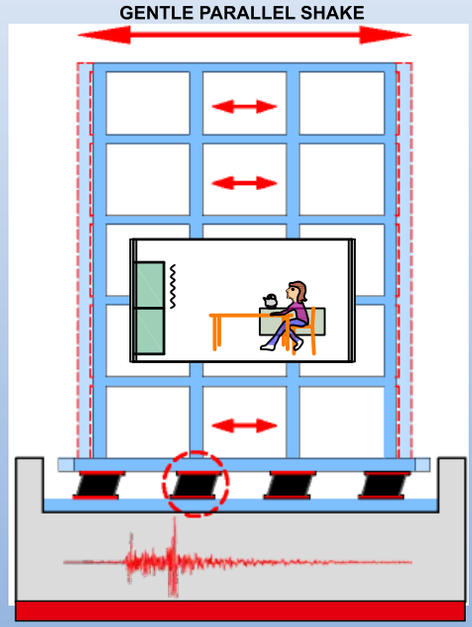
VIOLENT SHAKE



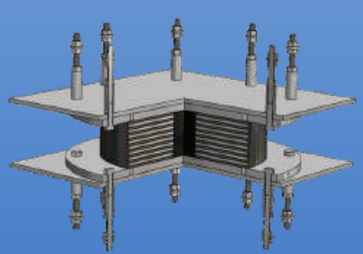
- Building is jolted. The violent shaking of floors increases in the ascending floors.
- Earthquake energy is absorbed by damage of columns or beams.
- Violent shakes felt inside the building result in ***injury*** to PEOPLE and ***damage*** to PROPERTY.....

Earthquake ISOLATED Building

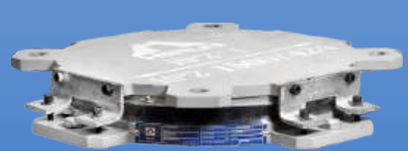
GENTLE PARALLEL SHAKE



- Building superstructure decoupled from the foundation.
- Earthquake energy is absorbed by **BEARINGS**.
- Building shakes gently and slowly ***protecting*** occupants & property.



Lead Rubber Bearing



Sliding Pendulum Bearing

BASE ISOLATED SHOWCASE BUILDING

Fig : Fully Functional

Staircase Isolation for uninterrupted staircase usage during and after an earthquake

Special Pendulum Isolators with Fuse for over travel protection

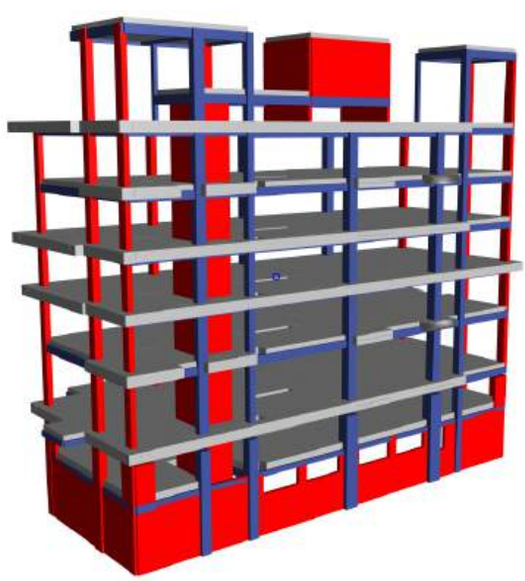
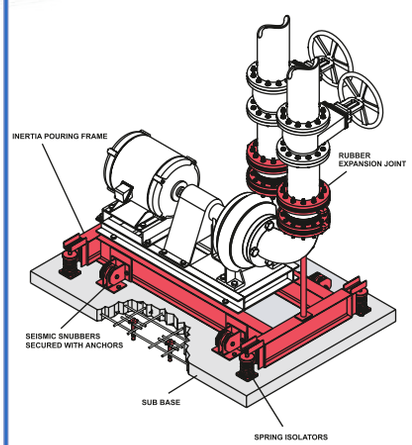


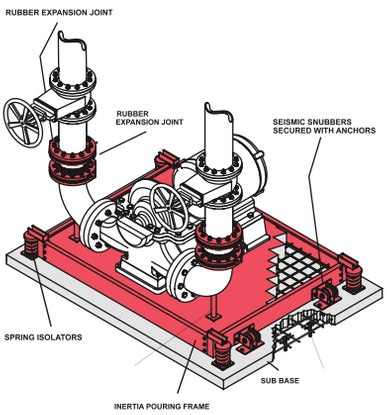
Fig : ETABS model of the structure

SEISMIC RESTRAINTS FOR EQUIPMENTS

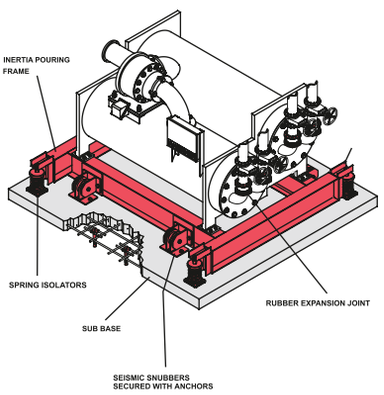
END SUCTION PUMP
on Spring Isolators, IPF, Seismic Snubbers & REJ



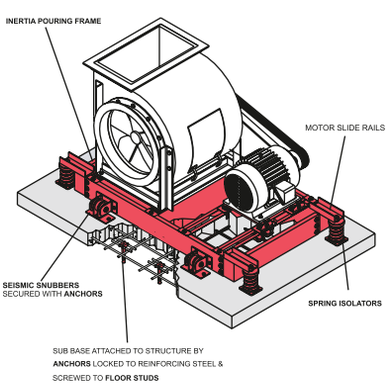
DOUBLE SUCTION PUMP
on Spring Isolators, IPF, Seismic Snubbers & REJ



CENTRIFUGAL CHILLER
on Spring Isolators, IPF, Seismic Snubbers & REJ

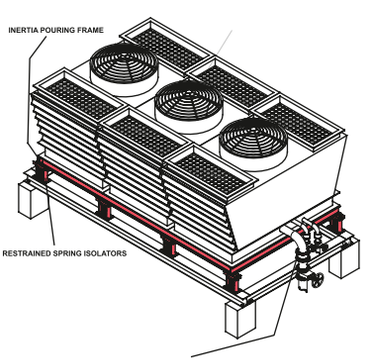


CENTRIFUGAL BLOWER
on Spring Isolators, IPF & Seismic Snubbers

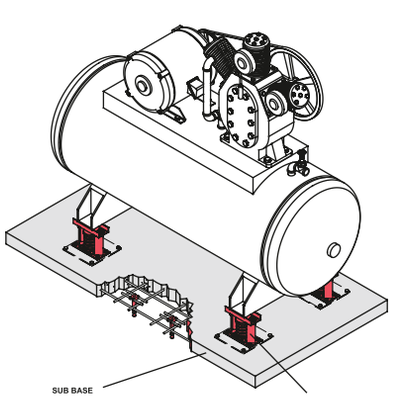


DEVICES
for Seismic Protection

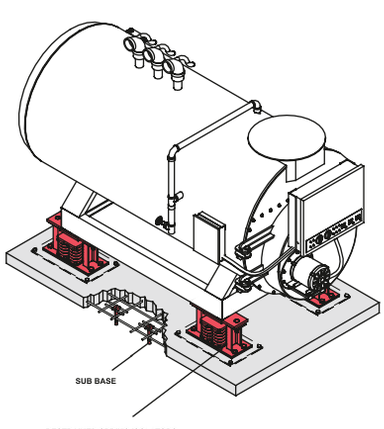
COOLING TOWER
on Restrained Spring Isolators and REJ



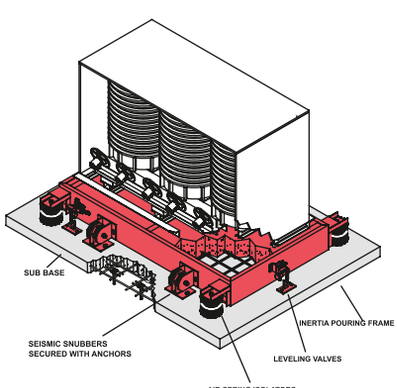
COMPRESSOR
on Restrained Spring Isolators and Anchors



STEAM GENERATOR
on Restrained Spring Isolators and Anchors



TRANSFORMER
on Air Spring Isolators, IPF & Seismic Snubbers



MANUFACTURING - TESTING - RESEARCH

MANUFACTURING


DEEP DRAW PRESSES


MIXING


CNC PLASMA CUTTING


INJECTION MOULDING


WELD AIR TIGHT TEST


LEVELLER


VERTICAL MACHINING CENTER


VERTICAL TURRET LATHE

TESTING


LEAKAGE TESTING


TENSILE TESTING

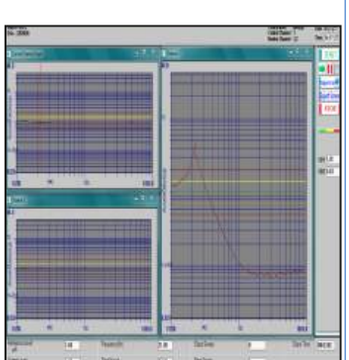
MULTI AXIS TESTING


DYNAMIC TESTING

ANTI-CORROSION TESTING

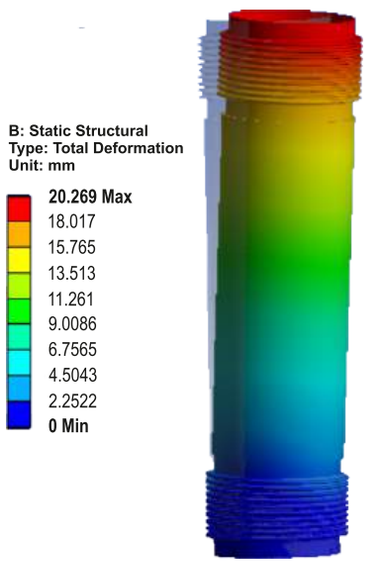

UNIVERSAL TESTING MACHINE

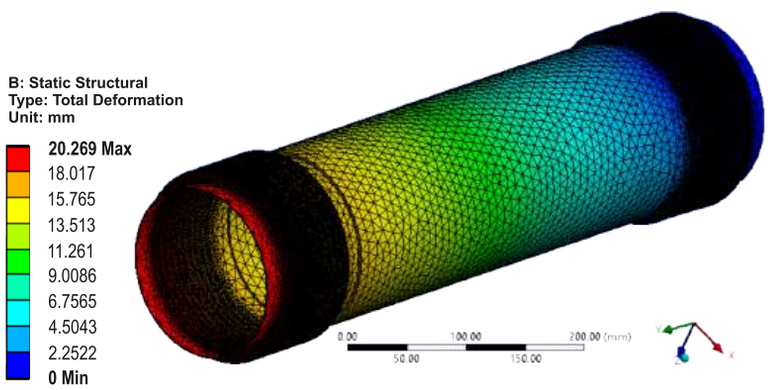

VIBRATION OR FREQUENCY TESTING



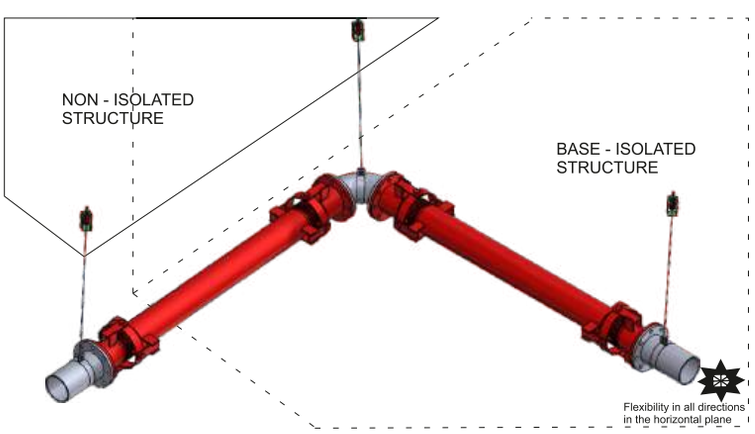
IN-HOUSE DESIGN CAPABILITY

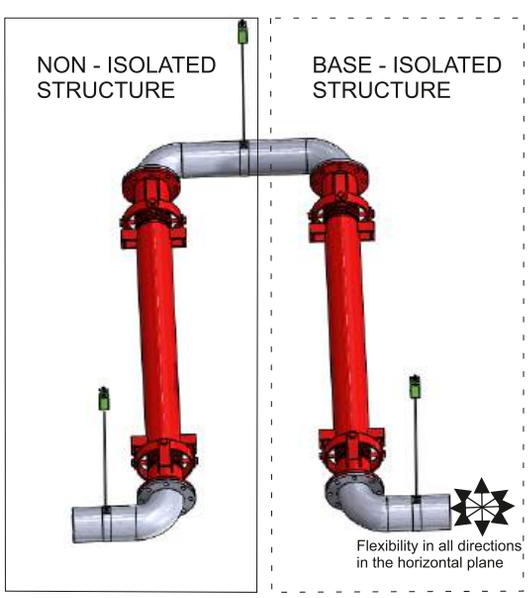
STRESS & DEFORMATION ANALYSIS OF A PRESSURIZED PIPELINE

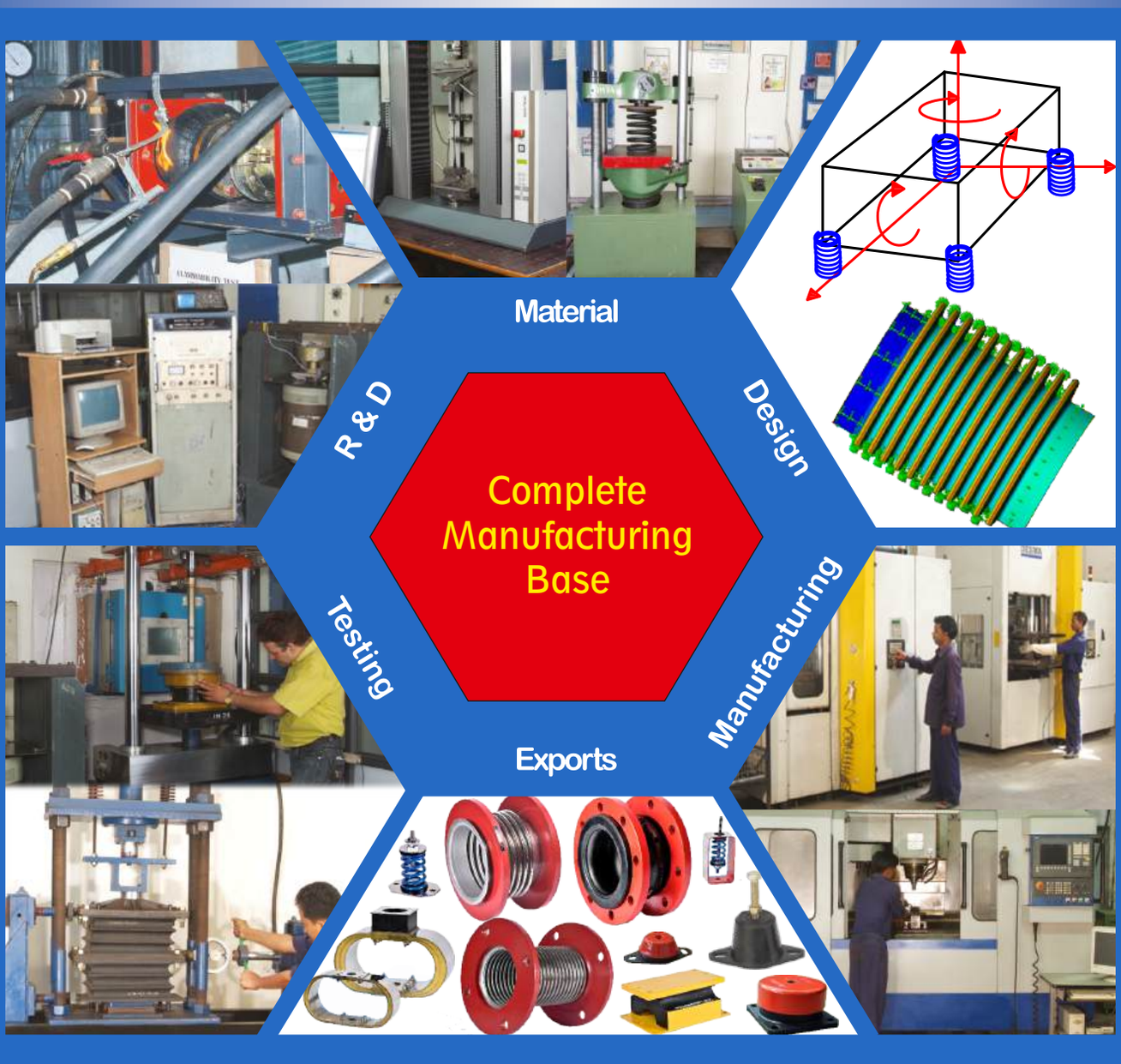




L-TYPE AND LOOP FLEXIBLE PIPE JOINT DESIGNED FOR HIGH LATERAL MOVEMENTS IN BASE ISOLATED BUILDING







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