## 30<sup>+</sup> years



## STRENGTHENING THE NATION

#### Chairman's address



Dear Esteemed Readers,

It is with great pleasure and a sense of pride that I extend my warmest greetings to each one of you, as we embark on a journey through the pages of our Organization Introduction Book. For over three decades, our organization has been at the forefront of strengthening the nation through our unwavering commitment to excellence in Structural Repairs, Retrofitting/Re Strengthening and innovative solutions

Our journey has been a testament to the enduring spirit of innovation, resilience, and the pursuit of excellence that defines us. From the foundations of buildings to the intricacies of high rise structures, and the revolutionary use of carbon fiber wrapping, spray applied polymer, we have been consistently setting new standards in the industry.

As we reflect on our history, we cannot ignore the pivotal role played by our talented and dedicated team. Their expertise, commitment, and passion have been the driving force & strength behind our success. We understand that in our line of work, each project is not just a structure; it is a testament to our dedication to building a stronger, safer, and more resilient nation.

I extend my gratitude to our clients, partners, and the entire team for their trust and support over the years. As we celebrate our journey of +30 years, we look forward to many more years of collaboration, growth, and success.



## INTRODUCTION.

- Structural Strengthening/Retrofitting/Repairs/Rehabilitation.
  - Waterproofing
    - Commercial & Office Interiors
      - PEB and Machine Foundations.
        - Protective Coatings

### **Client List of Chemical Sector**













































## **Client List of Energy and Power sector**





























## **Client List of Pharmaceutical Sector**





















### **Client List of Oil & Lubricants**

















### **Client List of FMCG Retail Sector**















### **Client List of Electronic Sector**















## **Client List of Manufacturing Sector**



















## **Client List of Banking & Insurance Sector**

















## **Client List of Institutes & Educational Sector**









































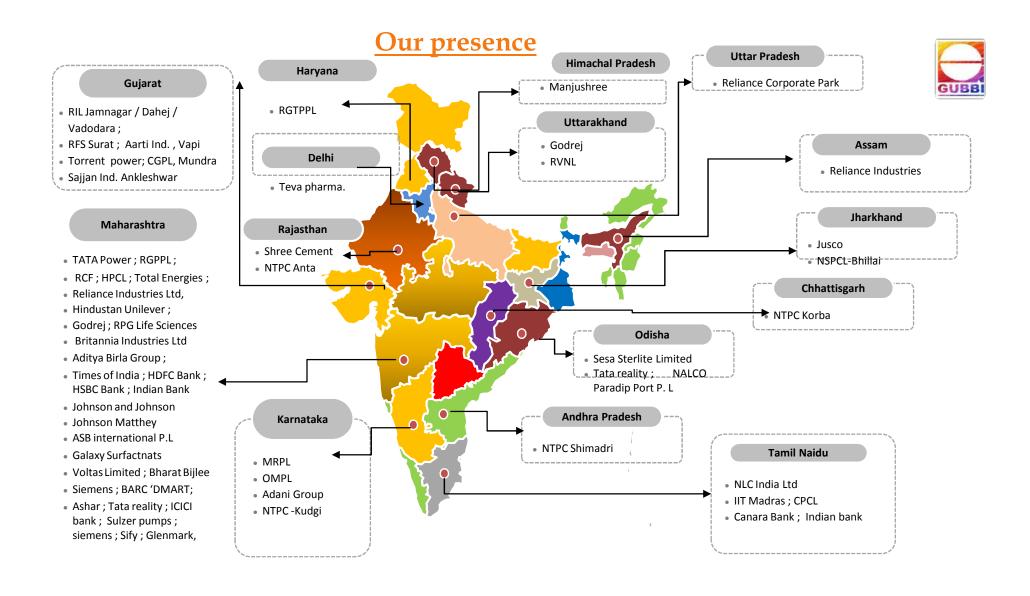












# **Structural Repairs & Retrofitting**



Fiber Wrapping / laminate





**Micro Concrete Jacketing** 





**Spray Applied Polymer** 



# **Structural Repairs & Retrofitting**

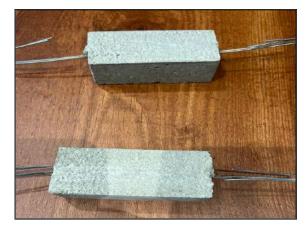


**Epoxy Grouting** 



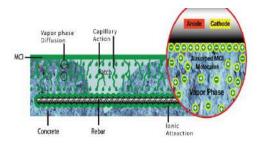


**Sacrificial Anode** 





**Corrosion Inhibitor** 

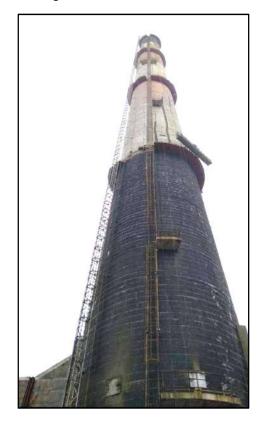


# **Carbon Fiber Wrapping**

GUBBI

Fiber wrapping is the latest strengthening technique for reinforced concrete and masonry structural members.

- Increases load bearing capacity
- prevent seismic damage
- Protects against aggressive environment.
- flexural, shear or confinement strengthening of structural members.
- reduces overall weight on the structure.





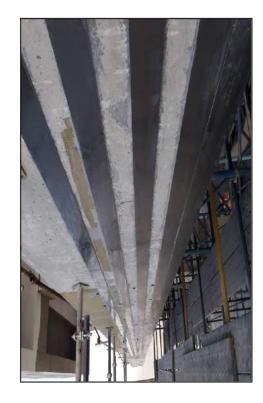


## **Carbon Laminates**



Carbon laminates is oriented strictly in one direction and is uniformly distributed in the polymer in the form of rigid stripes. They are glued directly to the surface of the structure that needs to be reinforced like a canvas.

- has very high tensile strength and is also very lightweight.
- pre-stressed strengthening system
  with CFRP plates forms a unique
  active external strengthening system.
- Fast installation and easy, excellent anchorage with structure.
- shear strength of beams can be increased with plates.







# **Glass Fiber Wrapping**



Glass Fiber Wrapping is an process of wrapping an unidirectional woven glass fiber fabric around the concrete member -where it looses its capacity/design strength due to corrosion change in use and / or the design code demands increases in load carrying capacity.

- Economic application than CFRP.
- Excellent chemical and weathering resistance
- Flexible, fits around any given structural element
- Low in weight





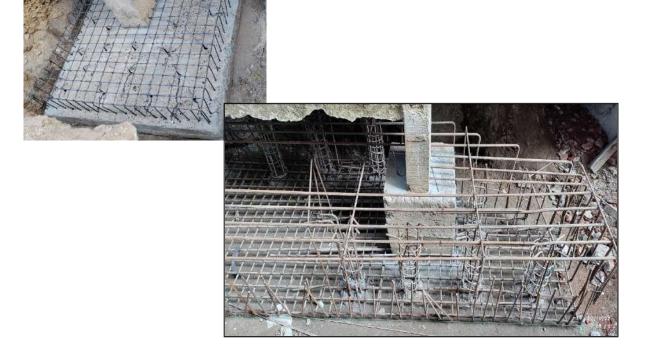
# Foundation/Footing Strengthening



Foundation strengthening refers to the technique or the process of improving the load-bearing capacity and

stability of an existing foundation.

- Improves the load bearing capacity of the footing /foundation, for raising additional floors/loads.
- Improves in reducing uneven settlement of the building.
- Improves the original foundation which may have been built with inferior materials or workmanship



# Micro Concrete: Column Jacketing



Micro Concrete Jacketing is the technique to increase the strength/load carrying capacity of beams, columns by tieing additional reinforcement steel and pouring high strength free flow Micro concrete.

#### Advantages:

- Increase the axial load carrying capacity of the structural member.
- Increases durability.
- Protects the reinforcement steel from further corrosion.
- Shields the concrete against further deterioration and nourishes its strength capacity.







\_

# Micro Concrete: Beam Jacketing

GUBBI

Beam jacketing increase the cross sectional area of the beam by addition of reinforcement steel and pouring

micro concrete in the shuttering

- safeguards the member
  against design errors, concrete
  workmanship
- increases resistance to
  earthquake / environment
  factor
- Stabilize the beam, due to change in utility of the structure.
- enhance the flexural and/or shear capacities.





# **Spray Applied Polymer**



Spray applied polymer technique is a system wherein ready-to-use sprayable repair mortar is pressure applied with spraying machine over the repairable concrete member

- allows for thickness up to
  50mm to 100mm in one go with
  dual shrinkage compensated,
- Fast repair works for marine structures like jetties, tunnels, rcc tanks, Cooling towers and shut down jobs
- achieves high strength,
- reduces rebound,









Epoxy Repair Mortar is a mixture of epoxy resins, solvents, binder, mineral fillers and some additives in defined proportion to give a mortar having very high strength .

- High-strength and high-hardness.
- Good abrasion, impact and chemical resistance.
- Strong moisture impermeability.
- Prolongs the life of the structure
- Excellent adhesion to many different materials.



# **Polymer Modified Mortar**



Polymer modified mortar is a mixture of acrylic polymer, cement ,filler materials and additives to form a homogeneous /Thixotropic material which can be used for concrete structural repairs. The lost of dillapted concrete is replaced with this high strength mortar and gives an alkaline atmosphere on the surface.

- enhance adhesion, flexural or tensile strength,
- resistance to chemicals, and freezing and thawing resistance.
- it improves the adhesion
- Can be applied on any shape of the concrete structure.



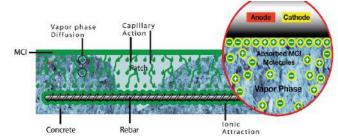


## **Corrosion Inhibitor**



Corrosion Inhibitor when applied/sprayed on RCC surface, penetrates inside the surface and prevents further corrosion of the embedded reinforcement steel.

- it prevents further corrosion of embedded steel rebars.
- controls the cathodic and anodic reactions.
- significantly retards both the onset & the rate of corrosion maintenance.
- CI protects therein for cement by forming a protective film on the steel surface







# **Sacrificial Anode**

GUBBI

Sacrificial Anodes are used in concrete, to prevent further corrosion in reinforcement. Anodes are surrounded by Alkali activated mortar, once installed or fastened to the reinforcement steel, zinc core sacrifices itself and protects the reinforcement steel.

- Provides corrosion protection.
- Easy to install
- It doesn't require external power source.
- Performance can be easily monitored.
- It is long lasting for 10-20 years& reduces the future repairs.







# **Epoxy Grouting**



Epoxy grouting is a method to strengthen the core concrete with base material of epoxy resin and low viscosity hardener. The injection take place using high/low pressure electrical operated epoxy grouting pump. It is also effective in sealing the major non moving cracks in structures.

- epoxy is a stronger material than concrete,
- epoxy has a strong bond,
  durability, versatility, and
  resistance to chemicals
- It is quick to apply and cure.
- epoxy grouting procedure is simple.
- epoxy is suited to repair most common structural elements.





# **Steel Flitching**



Steel flitching is a technique used to improve the load carrying capacity and stiffness of reinforced concrete (RCC) members. It involves sandwiching a steel plate between two concrete members, and then connecting them together using bolts or shear connectors.

- Increased load carrying capacity and stiffness of RCC members
- Reduced section size of RCC members
- Improved ductility and fatigue resistance
- Reduced vibration of RCC members
- Increased fire resistance of RCC members





## WATERPROOFING: LIQUID APPLIED MEMBRANE WATERPROOFING.







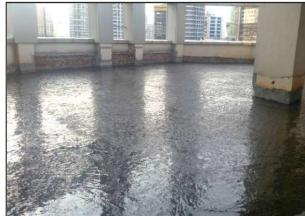
Acrylic coating on brick bats/slab



Polyurethane coating







# **WATERPROOFING** - Sheet applied membrane



**PVC** Membrane





**APP Membrane** 





TPO/HDPE Membrane



### **WATERPROOFING**



PU Coating with Screed





**Brickbat coba with Stamped Concrete** 





Light weight waterproofing



### **Pre Engineering Building**



Pre Engineered Buildings (PEB) are the buildings which are engineered at a factory and assembled at site. Built-up sections are fabricated at the factory to exact size, transported to site and assembled at site with bolted connections.

- Light weight ,Quick and Efficient installation.
- Less Responsibility as single source of responsibility.
- Short Period Delivery
- Simple design, easy to construct.
- -Erection Simplicity -Faster & Cost effective
- Low Price as compare to CSB









## **Machine Foundations**



Machine foundations play a vital role, as the load, vibrations and the stability of the machinery is fully dependent on its strong foundation.





# **GROUTING**

### **PU Foam Grouting**







Grouting



**Epoxy Grouting** 



### PROTECTIVE COATINGS

## **Anti Carbonation Coating**

## **Elastomeric Coating**







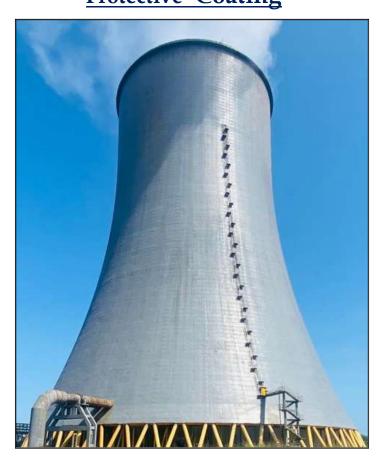


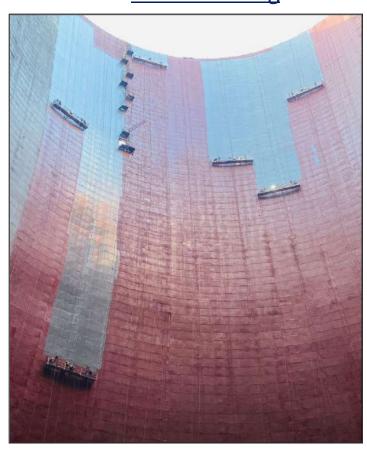


# **PROTECTIVE COATINGS**

# Protective Coating MCU Co







PU Coating



**Epoxy Coating** 







### Waterproof cum waster water protective coating





PolyUrea coating



# Fire Proofing





PU coating



**Coal Tar free coating** 

**Few Prestigious Projects** 







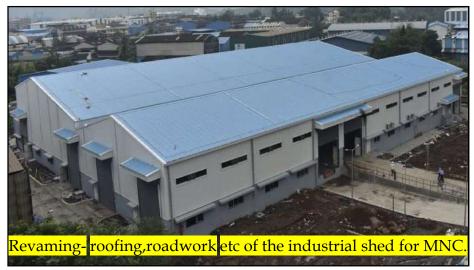


















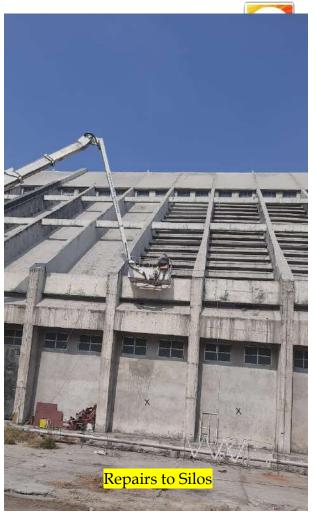


















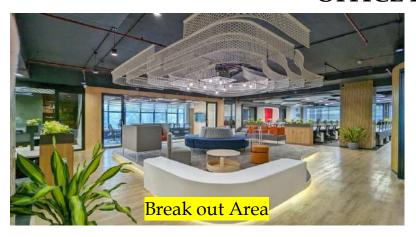








## **OFFICE INTERIORS**



























### **Appreciation certificates**





HOD (Civil)







**THANK YOU** 



#### CELEBRATING 30+ YEARS

#### **GUBBI CIVIL ENGINEERS LTD**

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