Plant Engineering India

Design & detail Engineering Service

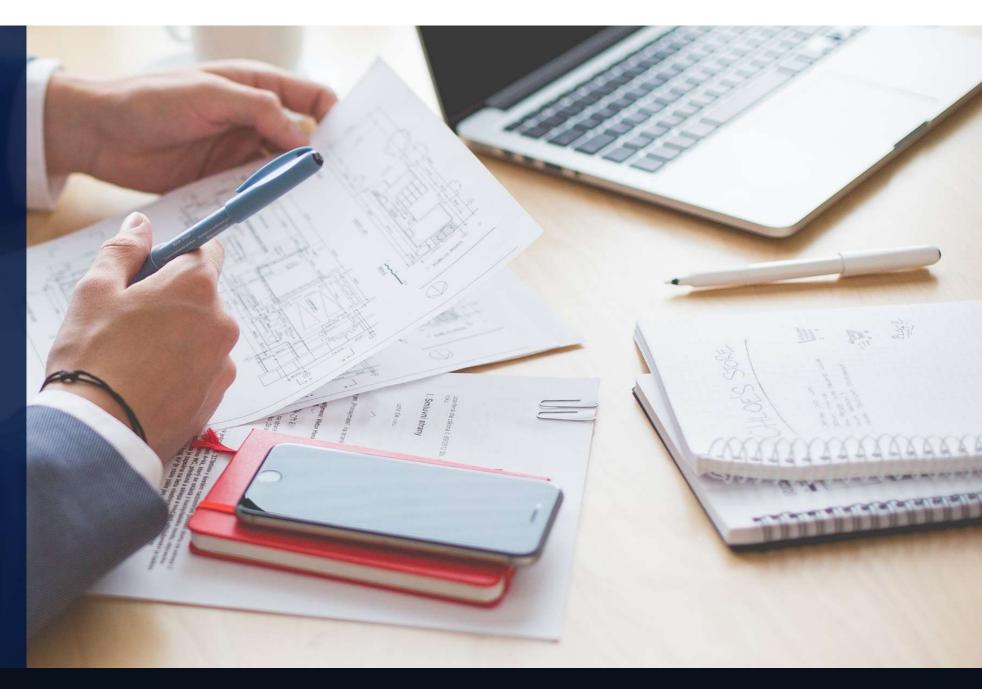


Delivering Engineering Excellency Word Wide



Plant Engineering India

"INNOVATION DISTINGUISHES **BETWEEN A LEADER AND A FOLLOWER.**"



PLANT ENGINEERING INDIA

Ever wonder how big buildings or factories get built? Or how every system fits together so perfectly? That's what we do at Plant Engineering India! Since 2016, we've been helping companies solve tough problems by designing buildings, piping system, steel structure, MEP system, electrical system, BIM modelling and detailed engineering that work just right. We know it can be hard to find engineers who truly understand what you need. That's why we're here—to make sure you get high-quality designs that not only work but make everything easier and faster.

From factories to offices, we use the best tools to create designs that keep things running smoothly and safely. Our team of experts is ready to help you bring your ideas to life with the latest technology and smart solutions. Let us build your future together!





Plant Engineering India

Have a project in mind? Send us a message today to see how we can help!



BUSINESS VERTICALS

- Piping Design & Detail Engineering
- Complete Basic Engineering Packages
- Complete Utility Area Piping Design & Detailing including process
- Steel Structure Design & Detail Engineering
- BIM Modeling & Detail Engineering
- HVAC Design & Detail Engineering
- MEP Design & Detail Engineering
- Civil Structure Design & Detail Engineering
- □ Electrical BIM Modelling CAD Drafting Services
- Autodesk Plant 3D & Revit Admin Support, Library Creations
- As-Built 3D & 2D Services

Plant Engineering India

OUR SUCCESS STORY

WE WILL BE THE DRIVING FORCE TOWARDS YOUR SUCCESS

Executed many India and international Water Treatment Projects, Breweries, food processing plants, projects

So far Plant Engineering India Has supported many India & International companies in executing complex / challenging projects & made it easy for the customer in all design & detailing with the help of domain expatriation and Advanced Autodesk applications along with technical solutions,

Developments towards advanced Autodesk applications

Plant Engineering Inda will always take all the design, tool changes with passion, that is the result we tend to use & develop all Autodesk applications in design & detailing engineering to effectively use our domain experiences to reduce errors and to increase quality of design, detailed engineered documents

Understand the exact requirements & providing solutions

Plant Engineering India has always been passionate about deeply understanding customer's requirements with respect to design, detail engineering deliverables using advanced Autodesk applications towards high quality engineered drawings & documents.

And adopted timings and speaking language efficiency so the we can effectively understand & convince customer about method statements for project planning, resource availability & allocations engineering deliverables, timelines which became the key success for global market attentions



OUR COMPANIES FEATURED

We Can Be The Driving Force Towards Design & Detail Engineering Solutions

Water Treatment Plants design & detailing

We conduct multiple site visits to propose cost effective & high quality design, detail engineering service, since team has depth knowledge of water treatment plants

- We are specialized in piping design & detailing for all industries like breweries industries, pharma industries, oil gas industries, etc using advanced Autodesk 3d applications in order to efficiently deliver high quality engineered 3d, 2d engineered drawings, documents
- We are specialized in **steel structure design & detailing** for all industries using advanced Autodesk 3d applications in order to efficiently deliver high quality engineered 3d, 2d engineered drawings, documents
- We are specialized in civil structure design & detailing for all industries using advanced Autodesk 3d applications in order to efficiently deliver high quality engineered 3d, 2d engineered drawings, documents
- Learning & development culture is always been the best part of the company which helps to improve in delivering high quality, error free engineering documents to customer to ensure faith and to become the driving force.

Adapting to the new engineering challenges with advanced applications always been the passion which becomes the key to succuss

Our Company Mission

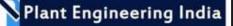
Mission –

Mission is to provide design & detail engineering services solutions with good, engineering Practices, Cost Effective Through Our domain Experiences And Adapting Competitive & Advanced Engineering Software.

Our Company Vision

To be the company of choice for our / clients in global markets for our business driven by entrepreneurial spirit, cutting edge technology and excellence.

Aim for excellence "The best Is yet to "Be the leader of change" Team work "one for all, all for one" service mind "Deliver more than expected"





A R RVT Ν MAN A ADS

We Under Take

- Basic Engineering Design & Detail Engineering
- Utility Area Design & Detail Engineering Package
- All Autodesk Plant 3D Projects
- All Autodesk Revit Projects
- All Autodesk Advance Steel 3D & 2D Projects
- All MEP 3D Modelling Project
- All CIVIL 3D Modelling & Detailing Projects
- All BIM Modelling Projects
- All Civil Structure Modelling & Detailing
- All P&ID Drafting
- All Food & Pharmaceutical projects 3d design &
- 2d detail engineering (ASME BPE)
- All Water treatment Projects 3d design &
- 2d detail engineering
- All Revit Library creations
- All Autodesk Plant 3D Library creations,
- Project Setup Admin work

OUR SERVICES

CATEGORY 1

Specialized in Preparing basic engineering drawings & documents for all kind of projects.

Example: P&ID preparation, proposal, equipment layout preparations, process calculations to the extent of utility area and basic pipeline size, equipment size calculations. Preparing other project related documents.

CATEGORY 2

We are specialized in 3d piping design & detailing, static / storage equipment design & detailing services for all domain industrial plants using advanced Autodesk 3d applications in order to efficiently deliver high quality engineered 3d, 2d engineered drawings, documents

CATEGORY 3

We offer complete design & detail engineering package for all Water treatment plants right from the beginning to end

CATEGORY 3

We are specialized in steel structure design & detailing for all industries using advanced Autodesk 3d applications in order to efficiently deliver high quality engineered 3d, 2d engineered drawings, documents CATEGORY 4

We are specialized in HVAC & MEP Design & Detail Engineering services using Autodesk Revit, Autodesk MEP CAD, Autodesk Plant 3D, Autodesk Advance steel

CATEGORY 5

We are specialized in **BIM Modelling for mechanical, electrical piping &** Detail Engineering services using Autodesk Revit

We do take Fire fighting system design & detail engineering services using Autodesk Revit

As-Built 3D & 2D & general CAD Services







PREPARATION OF BASIC ENGINEERING DRAWINGS & DOCUMENTS`

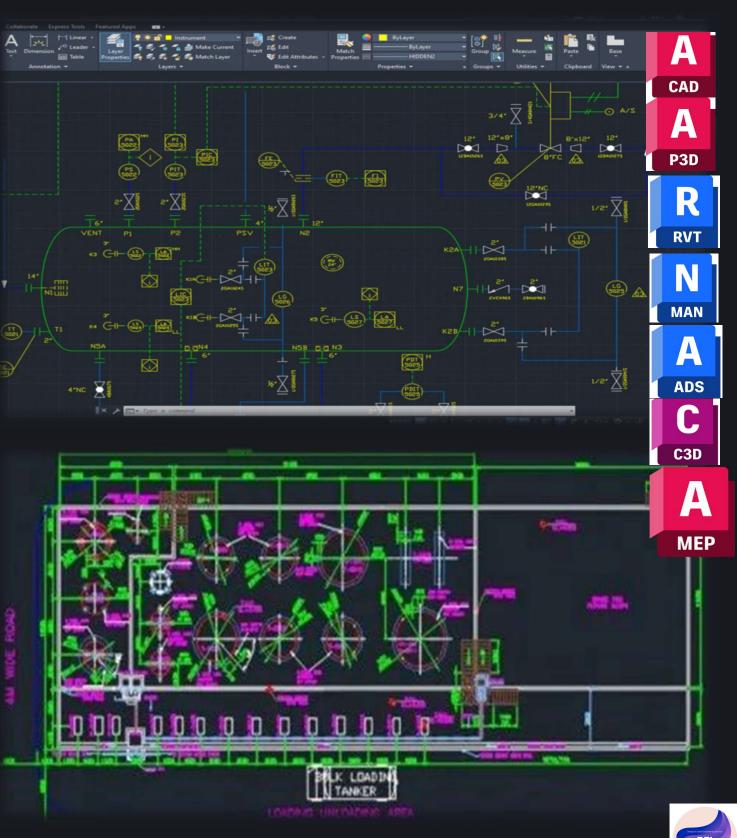
BUSINESS VERTICLS

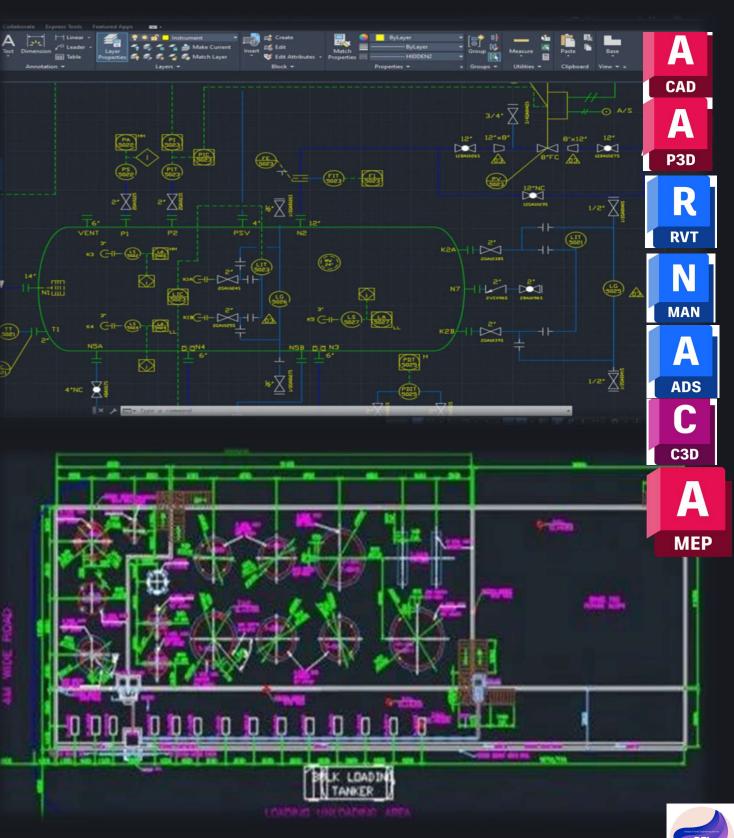
We are specialized in preparing all basic engineering documents for any piping domain plants ex: water, oil, gas cement, breweries, pharmaceutical plats **All Autodesk Application**

Since our team has got all applicable industrial standards, norms & mostly site experience which helps to propose the best arrangement for equipment layout with respect to operations and maintenance of equipment, piping

And off course team has got process industries experience which helps to prepare P&IDs without much efforts with equipment size calculations and pipe line size calculations

Experienced in preparing intelligent P&ID using Autodesk Plant 3d which helps to prepare documents like line list, equipment list, all kind of basic engineering reports.







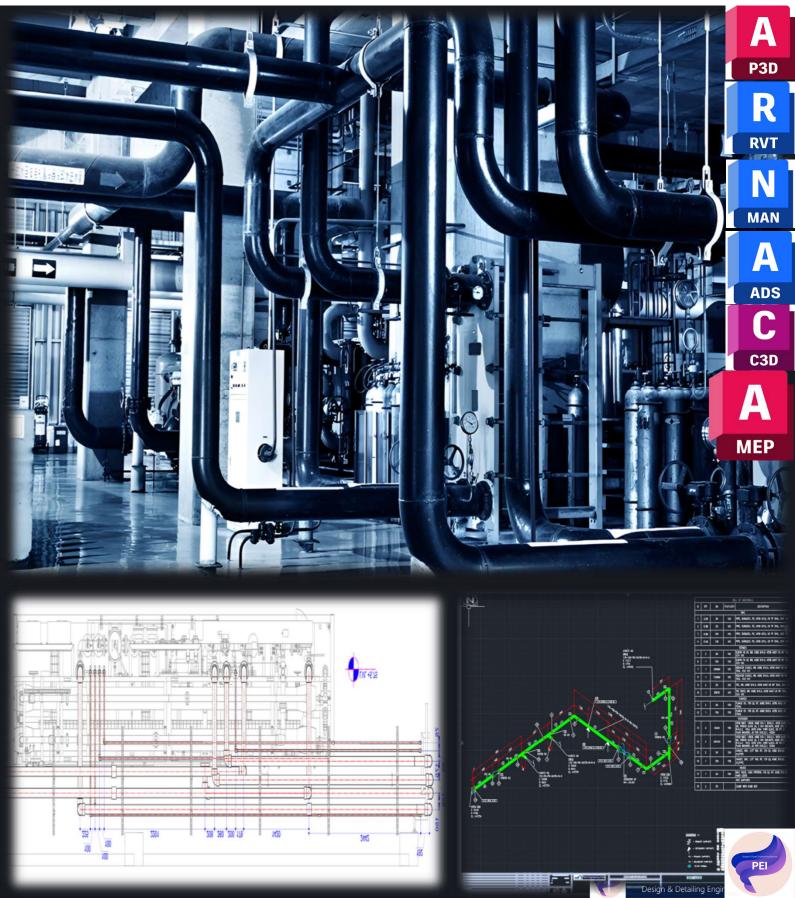
PIPING DESIGN & DETAIL ENGINEERING

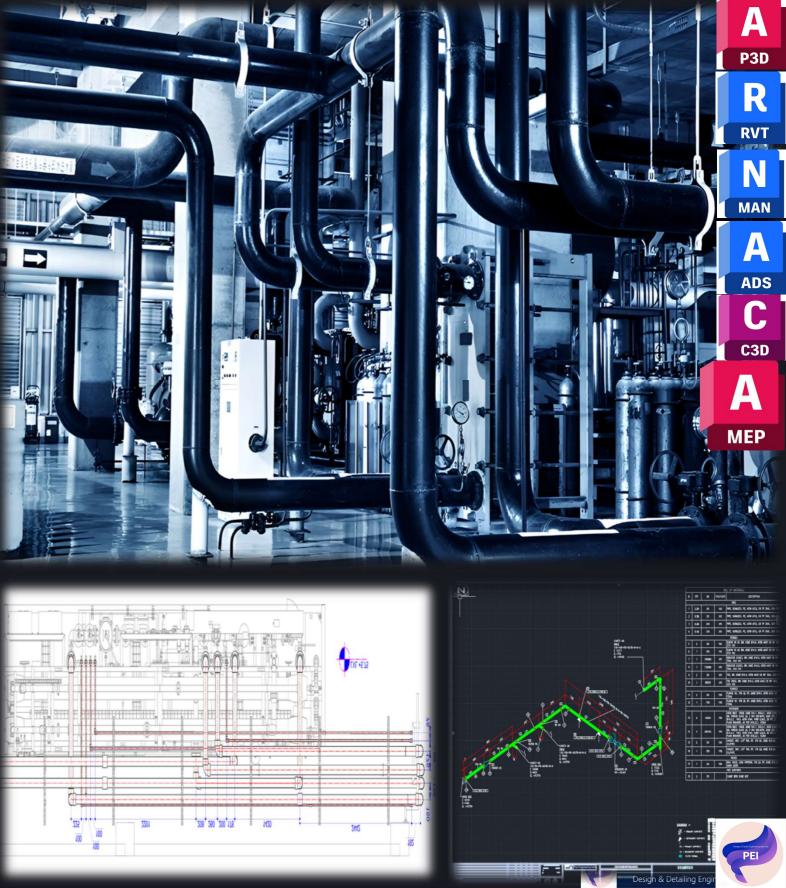
We are specialized in 3d pipe routing design using Autodesk plant 3d Application For piping Design ,Modelling & Detailing

Piping Design is a critical component of engineering projects and process plants. The science of piping engineering involves developing efficient piping processes that safely transport fluids and gases across industrial plants. Optimally designed piping system can enhance the use of space, ease its construction, simplify maintenance and accessibility and improve the overall performance of piping systems

It becomes so easy to us do the piping design & dental engineering Since team has got wide experience in handling all kind of metallic, non metallic piping MOCs like CS, SS, CPVC, UPVC, FRP, HDPE, PP, etic applicable along with application material standards and dimensional standards, norms & mostly site experience which helps to propose the best arrangement for equipment layout with respect to operations and maintenance of equipment, piping

And off course depth of Autodesk plant 3d knowledge to customize to mee the end user requirements like catalogue, specs, complete custom settings







STEEL STRUCTURE DESIGN & DETAIL ENGINEERING

We Offer water treatment plants (STP, ETP) design & desal engineering services

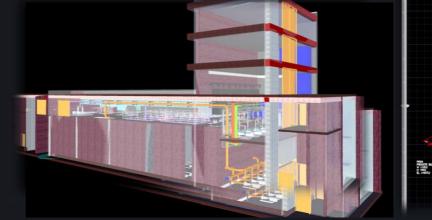
Team has Got Wide Experience In executing water treatment plants for example, STP, ETP, WWTP, WWRP, RO Plants Autodesk Plant 3d, Autodesk Revit, Autodesk Advance steel application

PEI team is expert In understanding water treatment plants requirements with respect to process, equipment, all pipe line material & standards like Stainless steel, Carbon steel, FRP, UPVC, CPVC, HDPE etc and can effetely utilize our water treatment knowledge site execution knowledge in developing error free piping arrangements to ease fabrication & installation, error free bill of materials for all materials

We have a culture of preparing lesson learnt with continuous improvements based on the past experience which leads to effectively review all project related documents and deliver all detail engineering documents such as piping GA, Support GA, Support Fabrication drawings, Bill of materials with proper descriptions, foundation layout, cable tray layout, earthing layout, earthing BOM, cable tray BOM and 3d design & 2d drawings

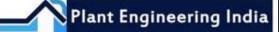
Team has got wide experience In steel structure design, so that for us its easy to design the required pipe rack design and deep tool experience of Autodesk advance steel knowledge will help in presenting all GA Drawings, Fabrication Drawings With Required Details,.

We developed all piping material library, instruments library in Autodesk Plant 3D, Revit utilizing our deep experience at Admin level.









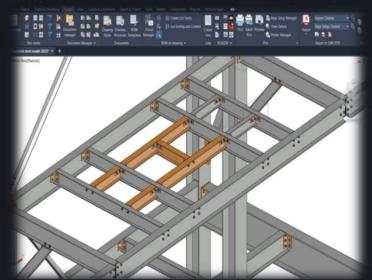
STEEL STRUCTURE DESIGN & DETAIL ENGINEERING

Team has Got Wide Experience In presenting Assembly And Fabrication Drawings, etc.. Because Of That We Can Do The Advance Steel Settings Effectively To Present The Output Drawing As Required. Autodesk advance steel application For steel structure Design ,Modelling & Detailing

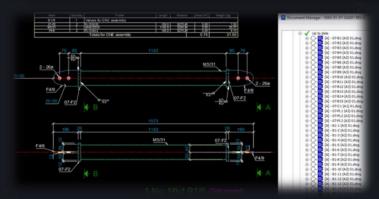
PEI team is expert In understanding stress calculations for steel members configurations and can understand steel connections technically as required (Welded / Bolted) based on conditions and same connections will be modelled In the advance steel with deep settings showing up word wide competence.

Team has got wide experience In steel structure design and presenting GA Drawings, Fabrication Drawings With Required Details, etc.. Because Of That We Can Do The Advance Steel Settings Effectively To Present The Output Drawing as Required.









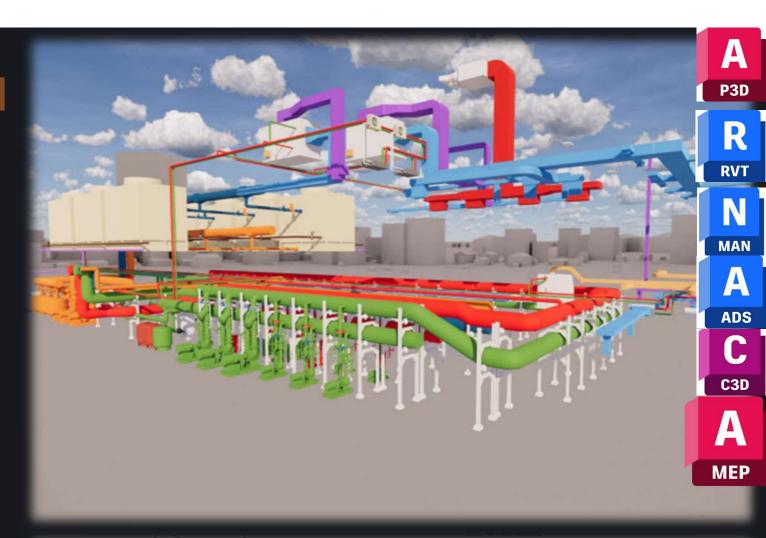


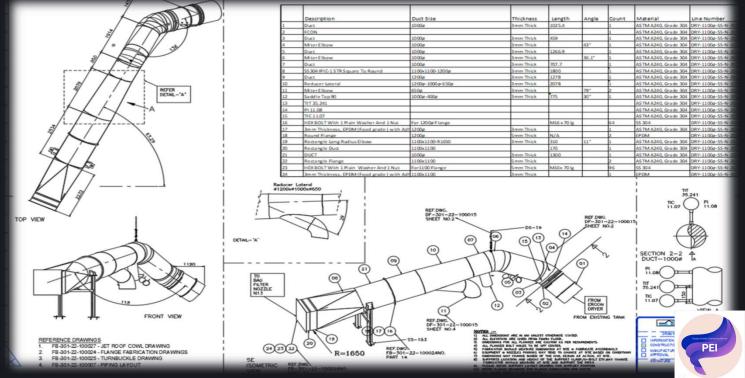
HVAC, MEP DESIGN & DETAIL ENGINEERING

HVAC, MEP design, routing using Autodesk Revit, MEP CAD Application For piping Design ,Modelling & Detailing

We are a leading MEP 3D modeling services provider from India delivering 3D CAD models for MEP layouts and clash free BIM models using Revit® and Navisworks® to construction firms, MEP contractors and engineers. Our MEP modeling services includes creation of 3D rendered MEP layout and Revit family creation for MEPF as well as plant room equipment along with 2D MEP coordination drawings.

What we offer under MEP 3D modelling services: •2D Detailed engineering drawings for MEP components •3D models with rendering characteristics •Piping diagrams for plumbing and electrical fittings •BIM objects for plumbing, mechanical and electrical fixtures •BIM 360® implementation for end to end project solutions •Clash detection and resolutions services for soft and hard clashes







	Duct Size	Thickness	Length	Angle	Count	Material	Line Number
	1000¢	3mm Thick	1025.4		1	ASTM A240, Grade 304	DRY-1100g-SS-N-
					1	ASTM A240, Grade 304	DRV-1100g-55-N
	1000#	3mm Thick	459		1	ASTM A240, Grade 304	DRY-1100#-55-N
	1000#	3mm Thick		43*	1	ASTM A240, Grade 304	DRY-1100#-55-N
	1000#	3mm Thick	1266.9		1	ASTM A240, Grade 304	DRY-1100g-SS-N
	1000#	3mm Thick		36.1*	1	ASTM A240, Grade 304	DRY-1100#-55-N
	10:00#	3mm Thick	707.7		1	ASTM A240, Grade 304	DRY-1100#-55-N
e To Round	1100×1100-1200#	3mm Thick	1900		1	ASTM A240, Grade 304	DRY-1100#-55-N
	1200¢	3mm Thick	1278		1	ASTM A240, Grade 304	DRY-1100#-55-N
	1200a-1000a-650a	3mm Thick	2078		1	ASTM A240, Grade 304	DRY-1100#-55-N
	65.0#	3mm Thick		79*	2	ASTM A240, Grade 304	DRY-1100g-55-N
	1000g-400g	3mm Thick	775	30*	1	ASTM A240, Grade 304	DRY-1100#-55-N
						ASTM A240, Grade 304	DRY-1100#-55-N
						ASTM A240, Grade 304	DRY-1100#-55-N
						ASTM A240, Grade 304	DRY-1100#-55-N
Washer And 1 Nut	For 1200# Flange		M16 x 70 lg		64	55 304	DRY-1100#-55-N
(Food grade) with Adr	1200#	3mm Thick			1	ASTM A240, Grade 304	ORY-1100#-55-N
	1200#	Smm Thick	N/A		2	(PDM	DRY-1100g-55-N
Elbow	1100×1100-R1650	3mm Thick	310	11-	1	ASTM A240, Grade 304	DRY-1100#-55-N
	1100×1100		170		1	ASTM A240, Grade 304	DRY-1100#-55-N
	1000#	3mm Thick	1300		1	ASTM A240, Grade 304	DRY-1100#-55-N
	1100×1100	Smm Thick			2	ASTM A240, Grade 304	DRY-1100#-55-N
Washer And 1 Nut	For1100 Flange	Smm Thick	M10x 70 lg		96	\$\$ 304	DRY-1100#-55-N
(Food grade) with Adr	1100+1100	3mm Thick			1	EPDM	DRY-1100#-55-N

BOM 3D MODELLIG & DETAILING SERVICES

BIM is used for

creating and managing data during the design, construction, and operations process.

BIM integrates multi-disciplinary data to create detailed digital representations.

Using BIM gives you greater visibility, better decision-making, more sustainable options, and cost-savings on architecture, engineering, and construction

The Process Of BIM

The process of BIM supports the creation of intelligent data Benefits Of BIM Modelling

- A Greater Coordination and Collaboration.
- **BIM Is Effective For Cost Estimations** B
- C BIM Is Effective For Complex Systems Design Like Mechanical, Electrical, Plumbing, Structural Steel, Structural, HVAC, Piping Systems.
- D Calculates accurate quantities for cost savings



We Offer BIM Services

- 1. BIM modelling of piping with customized COBie data
- 2. BIM modelling of mechanical equipment with customized COBie data
- 3. BIM modelling of electrical equipment with customized COBie data
- 5. Clash Detection for integrated project which is extremely helpful for avoiding any mistakes during construction phase
- 6. BIM Revit library creation for all systems
- 7. We can be the part COBie implementation for the working project
- 8. BIM modelling for LOD 100, LOD 200, LOD 300, LOD 400, LOD 500



BOM 3D MODELLIG & DETAILING SERVICES

BIM Revit Model Process Involves LOD 100,

Which is the pre-design stage, the model consists of 2D symbols and the masses to signify an element's existence

LOD 200,

The elements are partially defined by outlining their approximate quantity, size, shape, and location

LOD 300, & 350,

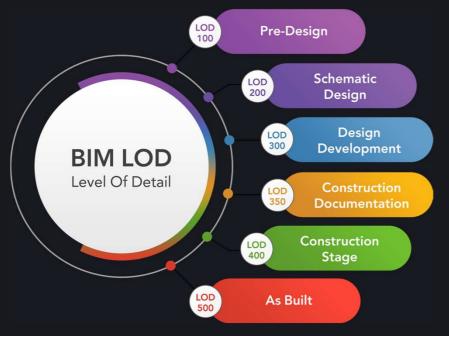
Which is the pre-design stage, the model consists of 2D symbols and the masses to signify an element's existence

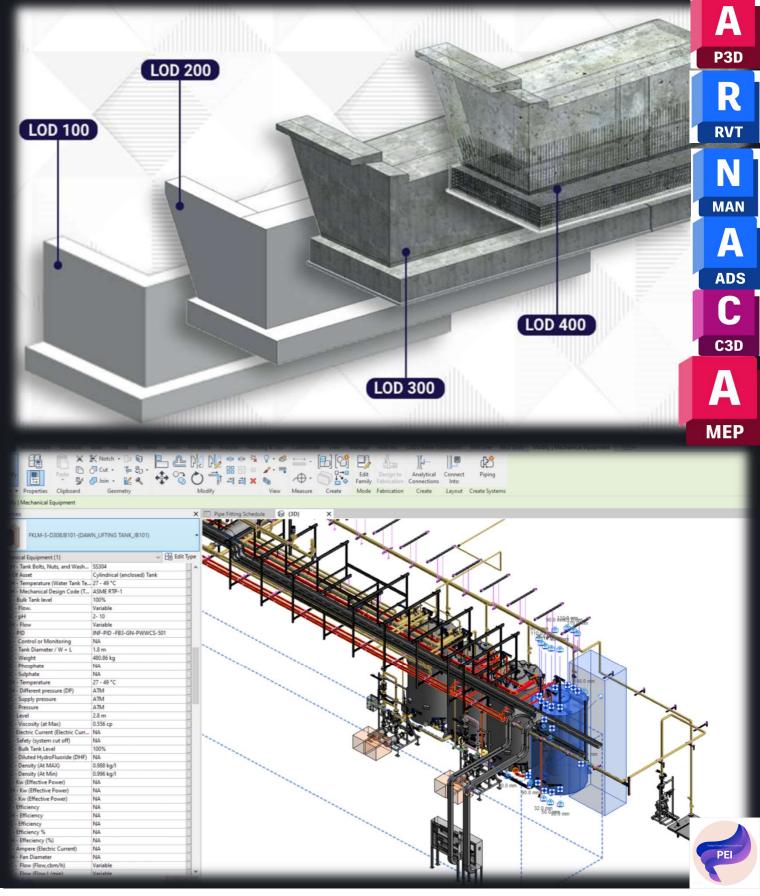
LOD 400.

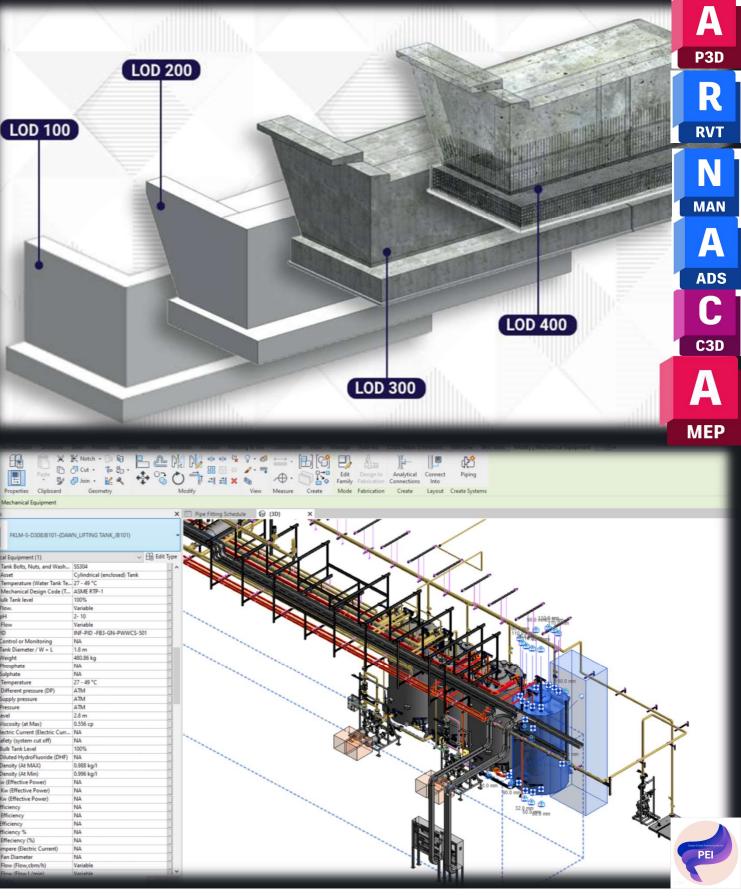
level outlines the basic information about the construction of various elements

LOD 500,

The model begins representing the real-life functions of elements in a real building. Here are all the levels of development with their definitions in detail.









BIM 3D MODELLIG & DETAILING SERVICES FOR ELECTRICAL SYSTEMS

Our team can prepare all electrical related drawings and documents

Experts In Revit BIM 3d Electrical Modelling Using Autodesk Revit to the extent of realistic look for 3d components using Autodesk Revit and adding COBie data to all the BIM m3d models and exporting schedules from Revit

We offer

- Cable tray layouts,
- 3D Model drawings for complete electrical system.
- Layout Drawings of Panel Room, Site Electrical development
- Earthing layout drawings
- Lighting layouts
- Calculating cable tray sizes based on cable schedules
- Cable Tray BOM
- Earthing BOM





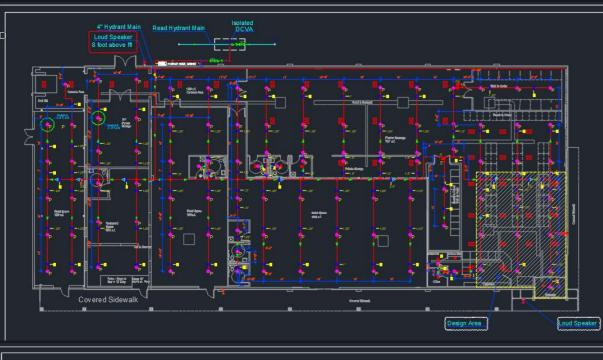


FIRE FIGHTING SYSTEM DESIGN & DETAILING SERVICES

Project Brief for Design & Detail Engineering For Fire Sprinkler And Alarm System

Location USA

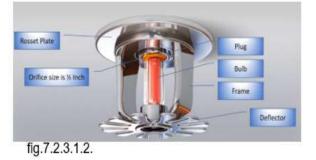
The proposed to type II B, Noncombustible unit area 15835 S. F. as per approved document, the total height of Building is 23 ft. from ground floor level. Building is near to read hydrant (Which is near to the building) - corner of 10th & 6th Ave elevation - 751.31 and flow hydrant - corner of 10th & 3rd Ave - elevation - 738.18.





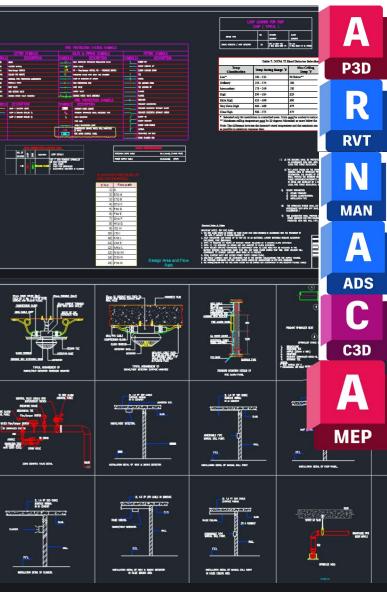
Conditions	Hazard Classification			
Conditions	Light Hazard	Ordinary Hazard	Extra Hazard	
Maximum Sprinkler Spacing (m)	4.6	4.6	3.7	
Sprinkler/nozzle K-Factor (gpm/psi1/2)	5.6	5.6	5,6	
Sprinkler Rated Temperature (°C)	68	79	79	
Water Supply Density (mm/min)	4.1	6.1	10.2	
Hose Stream Allowance, gpm	100	250	500	
Storage Duration Time, min	30-60	60 - 90	90 - 120	

- 2. Selection of sprinklers (STD Pendent)
- 3. Design calculation for Sprinkler
- 4. Pipe sizing
- 5. Design Calculation
- 6. Fire alarm spacing
- 7. Riser size consideration will be as per the input document
- 8. All pipes and fittings applicable as per ANSI STD.
- 9. Sprinkler water distribution will be as per NFPA area density curve



Detailed drawings for sprinkler system arrangements and alarm system arrangements will be provided as well as with wiring connections. Wiring of equipment showing the route of conduit / cable will be submitted. All the equipment and materials legends will be provided. Plant Engineering 7]Page

		-		
SR.N O.	NFP A	TITL E		
1	Table 6.2.3.1	Sprinkler Discharge Characteristics Identification		
2	Table 23.4.4.7.1	Hazen Williams C Values		
3	Figure 7.2.3.1.2	Area/density curve		
4	Table 8.6.2.2.1(a)	Protection area and maximum sprinkler spacing 10.2.4.2.1B		
5	Table 23.4.3.1.1	Equivalent schedule 40 steel pipe length chart		
6	Table 7.2.4.1	Temperature ratings, classifications, & color coding		
7	Chapter 9.5.2.1.2	Coverage area of calculations		
8	Figure.7.2.3.1.2	For Area density curve		
9	NFPA 72	National Fire Alarm and Signalir		



2.0 NFPA Codes, Standards Applicable

AS-BUILT 3D & 2D & GENERAL CAD DESIGN & DETAILING SERVICES

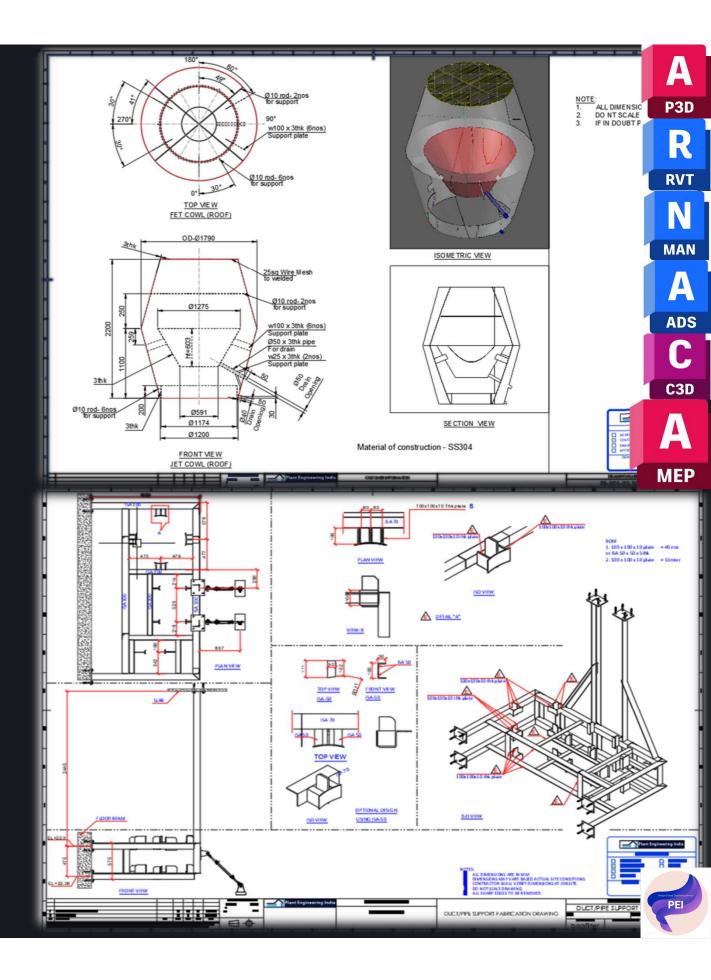
BUSINESS VERTICLS WITH EXAMPLES

HVAC, MEP design, routing using Autodesk Revit, MEP CAD Application For piping Design ,Modelling & Detailing

A quick glance at our CAD services: 2D CAD drafts for building designs 3D drawings for architectural and structural plan 2D CAD part drawings industrial component 2D and 3D drawings of multicomponent assemblies 3D CAD modeling with PMI BOMs, Advanced BOMs, and API functionalities 3D rendering and scaling of building models CAD conversion from paper to CAD and 2D to 3D We remain strategic partner and maintain long-term relationship with our clients across the globe in USA, UK, Australia, Singapore, Malysia and many more with our exceptional skills of project management and quality deliverables. We deliver CAD design and drafting services at low and affordable fees and our onshore/offshore CAD drafters are at your ready assistance for constant support and expert advice during the project tenure.

Benefits of outsourcing CAD services to us:

Excellence in all leading CAD software Adherence to SI, ASME, BS, AIA etc. design standards Time and cost effective CAD modeling solutions Dedicated resource allocation for important projects 20+ years of experience in the industry



Network Plant Engineering India

We Generally Offer Services

MOC: STIANLESSLESS STEEL, CARBON STEEL, UPVC, CPVC, FRP, HDPE, DI etc.



Plant 3D Piping Design & Detail Engineering Services



MEP Design Detail Engineering



Piping Skid Design & Detailing Engineering



Civil 3D Design & 2D **Detail Engineering Services**



RO Plants etc.





Water Treatment Plants Design & Detailing Services STP, ETP, WWTP,

Steel Structure 3D Design & 2D Detail Engineering Services



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ADS

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C3D

A

MEP

We Generally Offer Services

Piping Design For Plant Skid Based Piping System

- **Basic engineering** Drawings / Documents
- Process and ii. instrumentation diagrams development.
- iii. Preparation process / Utility calculations, ex: pipe line sizing, calculations for pumps etc.
- iv. Preparation of proposal lavouts
- Preparation plot plant ۷. Preparation of all vi.
- mechanical, civil equipment and layout drawings
- vii. Preparation of detailed fabrication drawings.
- viii. Preparation of
- ix. Preparation of line list, valve list, document list etc.
- **Preparation Piping Material** Х. Specifications.
- Complete AHU, Ventilation xi. 3d duct routing modelling using REVIT and CAD MEP and detail engineering

Mechanical Design

- Equipment general arrangement & fabrication drawings.
- Preparation of ii. equipment data sheets.
- iii. Preparation of equipment Fabrication Drawings.
- iv. Applicable Codes are ASME, API, IS...
- Pipe Rack Design ν.
- All types of pipe vi. supports
- vii. design and detailing.

ASME ATS, ASME BPE STD, API 650, ASME Sec IIIV, DIN etc.

Civil/ Steel Structural

- Design of RCC & steel structures for industrial & residential
- Design of preii. engineering building (PEB)
- iii. Design of structural evaluation of existing building with NDT tests, feasibility study reports and BOQ
- iv. Retrofit projects for strengthening of existing buildina.
- Inspection & evaluation ٧. of existing building / factory
- vi. Civil & steel design calculations.
- vii. New design dimensions / fit / functional applied to product metrics
- viii. General building layout drawings.
- Drain layout drawings. ix.
- Plot plan, equipment Х. layout, foundation layouts.
- xi. Validation existing building / drain layout
- xii. Complete design & analysis of buildings
- xiii. Includes concrete & steel structures
- xiv. Revamp engineering
- xv. design

Industrial Steel and RCC St

- ii. **Connection Designs**
- Lattice Structures iii.
- All Types Foundation Desig iv.
- Earth Retaining Structure D ۷.
- Blast resistant structure vi.

As-built 2D / 3D

- All cad based As-built piping drawings 2d and 3d services for
- ii. Implementing Scan To BIM using Clear edge software)

BIM Modelling

- BIM modelling of piping Ι.
- II. BIM modelling of mech customized COBie data
- III. BIM modelling of electrical equipment with customized **COBie data**
- IV. BIM modelling of all piping components & instruments with customized
- V. COBie data
- helpful for
- VII. avoiding any mistakes during construction phase
- VIII. BIM Revit library creation for all systems
- IX. We can be the part COBie implementation for the working project
- 400, LOD 500



tructures	E	lectrical
in besign i i	ii. C iii. C iv. 3 v. L vi. L	Electrical Load list Cable tray layouts Cable tray BOM D modeling and 2d etailing ighting Calculations ighting Layouts Eating Layouts
-		ized COBie data nent with

VI. Clash Detection for integrated project which is extremely

X. BIM modelling for LOD 100, LOD 200, LOD 300, LOD



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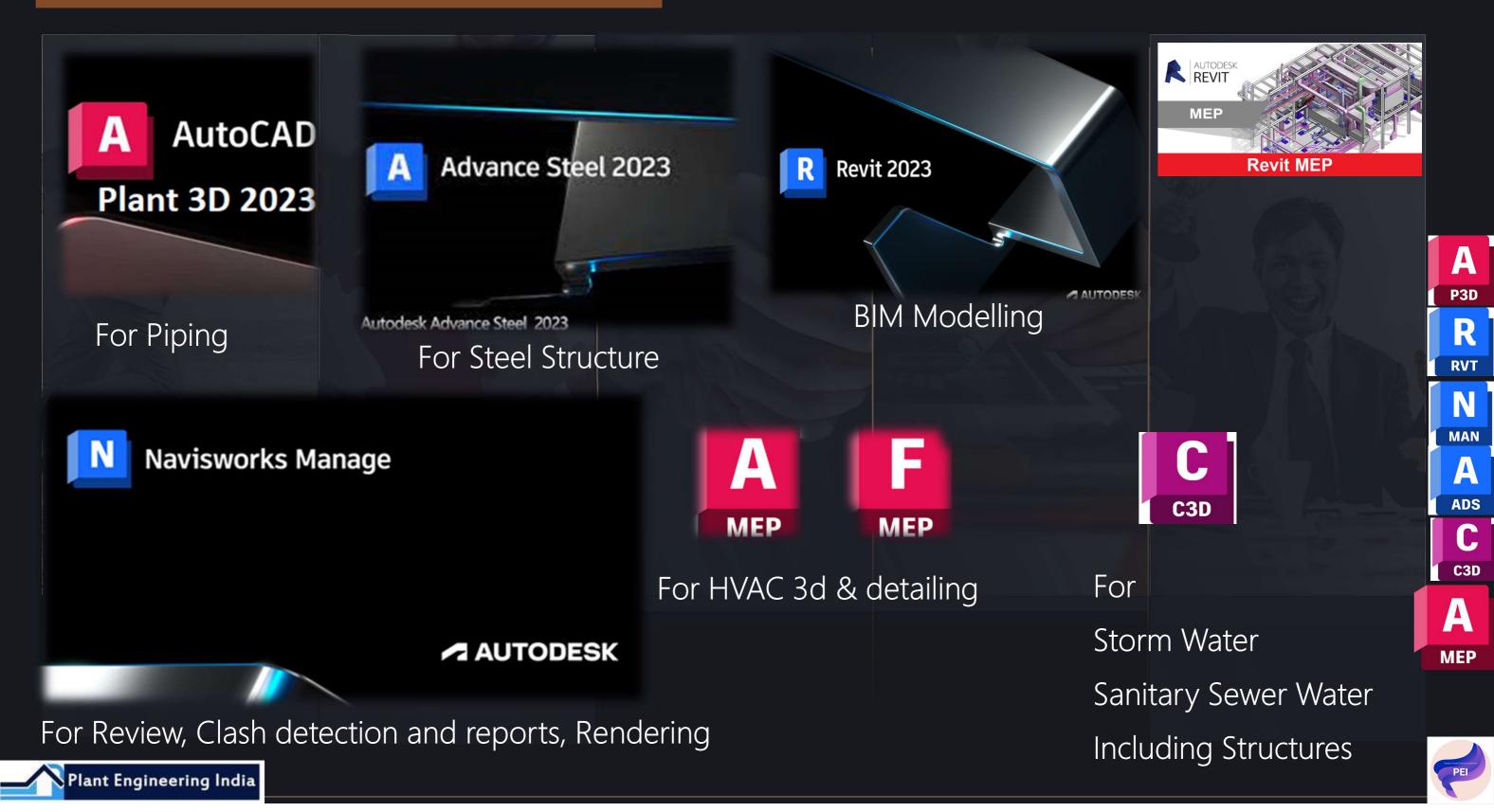
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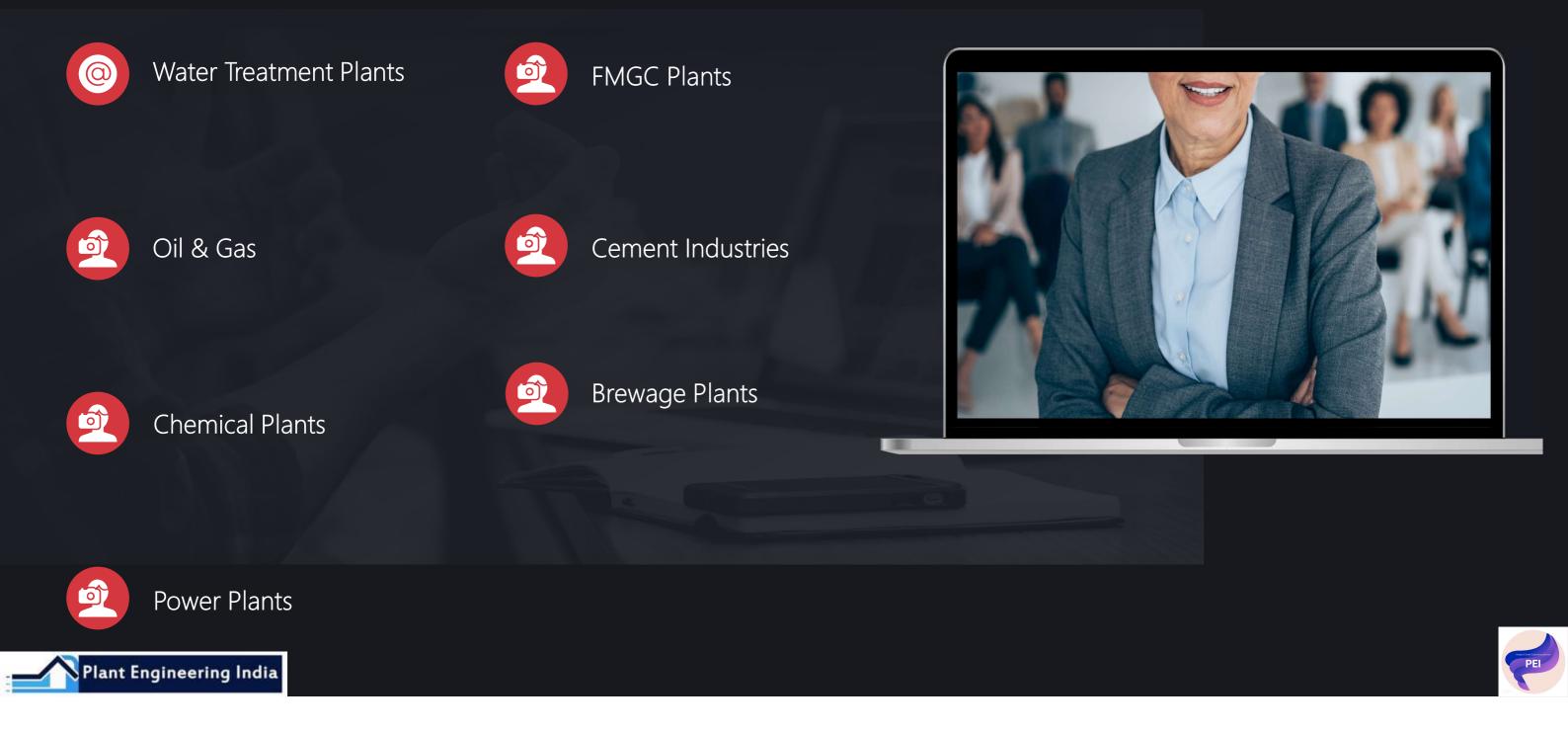
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MEP

Specialized in In Autodesk Design Applications



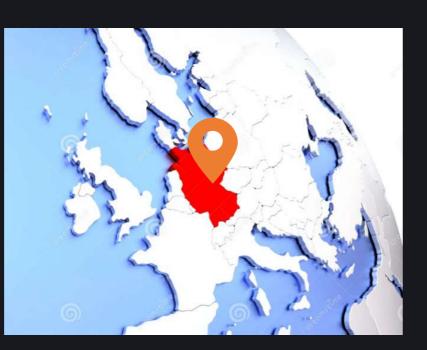
Industries We Serve



CONTACT US







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https://www.plantengineeringindia.org/ *

Linked in https://www.linkedin.com/company/104462325/admin/dashboard/

Social Media



Email: sales@plantengineeringindia.com

You https://www.youtube.com/watch?v=lxwBONBkcU8 Tube https://www.youtube.com/watch?v=pF8MjwXogx4

