

Mechanical and MEP Design & Drafting Services

Mechanical Design and CAD Engineering Staffing Solutions Onsite & Remote

MEP Design, Design Optimization & Installations Supervision

3D Solid Modeling for Products, Assemblies, Prototypes, Jigs and Fixtures, Moulds & Tools

Drawings: Products, Assemblies, Shop, PIDs, Jigs & Fixtures, Moulds & Tools

Dimensioning & Tolerancing etc

Complete Designing for Products, Assemblies, Tools & 3D Animations

Finite Element Services: Stress Analysis both Static & Dynamic, Contact Analysis, Impact Analysis, Fatigue Analysis for Pressure Vessels, Storage Tanks & equipments and Fluid Flow Analysis etc

Our Promise

We are the right people for your CAD engineering jobs and tasks because we have the ability to communicate with you anytime anywhere through our very experienced and degree holders mostly B.E. and M.S. degrees with good professional ethics available round the clock from Middle East to USA. Therefore, if you are thinking about outsourcing your CAD tasks and projects then look no further, we are here to serve you at very competitive rates. Our engineers are available to visit your offices anywhere in USA if required and can provide you inhouse services too at no extra charges but travelling, boarding and lodging expenses

We can do projects with lum sum total logical man hours rates required to complete the tasks and projects and would not ask for extra charges if project goes beyond the estimated man hours

You would find precision, speed and quality in our 3D models and designs and also accurate, precise and logical FEA analysis and their outputs to trust and design based on the results. You would find best solutions to all of your Mechanical Designing and Analysis issues here in our consultancy company

Who Are US

I am a CAD and FEA consultancy service provider and have a rich suite of engineers and CAD professionals, draftsmen and related expertise and also a very qualified project manager with Masters degree from Chicago, USA. I have experience in Autocad, Revit, Creo, Ansys, Catia, Abacus, Unigraphics, HAP 4.5, Procore etc with thousands of hours

Sanafafe is in the field of Computer Aided Designing and Analysis since 1995. This consultancy has been since then delivering perfect and highly robust and parametric 3D models with associative drawings, accurate FEA analysis of products and assemblies to predict behaviour of products, assemblies, equipments and system under certain operating conditions such as Static, Impact, Contact, Cyclic Loadings etc. We have also done Fatigue Analysis for Pressure Vessels and Storage Tanks for Oil and Petroleum Industries such as Aramco etc

Sanafafe has provided design consultancy services to many small and large companies as well as companies of international status such as Aramco, EILC, Telenor, Huawei, GM, GE, Motorola, Avery, NCB, NDC, Mobilink, Siemens, Honda, Toyota, Olayan and countless other smaller companies

Services

- * Simple Conversion of Old Drawings into Parametric 3D Solid Models & Creation of Associative Drawings
- * Conversion of Conceptual Sketches into 3D Solid Models of Parts and Assemblies
- * Part Scanning, Extraction of Point Cloud Data, Surface Development, 3D Conversion
- * Product Designing and related Workshop Drawings with Dimensioning & Tolerancing
- * Sheetmetal Product Designing including Bending Allowances and Flat Patterns
- * Creation of Large and Complex 3D Assemblies with related Assembly Drawings
- * FEA Analysis of Products, Sub-Assemblies, Assemblies and Systems and Equipments
- * Prototype Development from Concept to 3D Solid Models to FE Analysis and Drawings
- * Simulation of Parts and Assemblies for Performance Evaluation
- * Reverse Engineering of Parts, Assemblies & Systems with all related CAD Services
- * Re-Engineering of Parts, Assemblies and Systems, with all related CAD Services
- * Complete MEP Solutions including Designing & Installation of HVAC, Plumbing & Fire Prevention and Fire Fighting
- * Pressure Vessels and Storage Tanks Designing and Performance Evaluation such as Fatigue Analysis with FEA Tools such as Ansys

Clients

Sanafafe has provided consultancy and staffing services to numerous national and international companies as follows:

- * General Motors
- * Motorola
- * Shure Brothers
- * Aramco
- * Honda
- * Huawei
- * Ulbritchs
- * Telenor
- * Brothers Engineering
- * S&D Engineering
- * Pak Arab Refinery
- * Nokia
- * Flextronics
- * Epic
- * General Electric
- * Caterpillar
- * Proctor & Gamble
- * EIIC
- * Toyota Indus
- * Avery
- * Faraz Industries
- * Siemens
- * Aiolos
- * Auvitronics
- * NED University of Engg & Tech
- * Suparco
- * Karachi Shipyard
- * Primesite
- * Orientals
- * NEXT
- * NESCOM
- * Infratech
- * Tradesman Intl
- * Olayan
- * Taha Industries
- * Dollar Industries
- * Yamaha
- * Tradesman Intl
- * NCB
- * NDC
- * WorldCall
- * Mobilink

And countless other small companies, Industries and enterprises

CAD Tools

Creo

Catia

Inventor

AutoCad

Revit

Unigraphics upto NX 12

Ansys

Pro-Mechanica

LS Dyna

HAP 4.5

Procore 2024

Projects

General Motors	* Designing of Braking System for a 6000 HP Locomotive for NYC Transit System * Designing of Locomotive Engine Casing
Caterpillar	* Re-Engineering, Research and Development of Machines using FEA Contact & Impact Analysis of mechanical components such as Front-Assembly of Motor-Grader-10 for better performance etc
General Electric	* Re-Engineering of Energy Saver 2000 Refrigeration system to improve efficiency; Designing of Production Tools for plastic components; Draftings etc
Motorola	* Designing of Plastic Structures of Vader, Timeport and Vulcan Cellular Phones
Lasmo	* FE Structural Analysis of an Oil Rig
Karachi Shipyard	* Designing of Gear Box for a 5 Axis Milling Machine
Agro tools	* FEA Analysis and Design Modification of a Biogas Dome
Infocad	* Design Automation of Door and Windows
Epec	* Designing of Storage Tanks (5 Pieces) * Shell Dia= 6.9M, Shell Height= 8M

Olayan

- * Designing of Storage Tanks
 - * Shell Dia= 5.5M, Shell Height= 6.7M
 - * Shell Dia= 3.7M, Shell Height= 6.7M
 - * Shell Dia= 8M, Shell Height= 9.4M
 - * Shell Dia= 7.5M, Shell Height= 7.4M

Olayan

- * Designing of Pressure Vessels
 - * Vessel Dia= 1.3M, Vessel Length= 6.5M, Internal Pressure= 558 Kpag
 - * Vessel Dia= 2.44M, Vessel Length= 3.988M, Internal Pressure= 215 Kpag
 - * Vessel Dia= 4.9M, Vessel Length= 17.8M, Internal Pressure= 458 Kpag
 - * Vessel Dia= 1.8M, Vessel Length= 23.9M, Internal Pressure= 383 Kpag and

- * FEA Fatigue Analysis of Pressure Vessels

- | | | |
|-----------|-----------|-----------|
| * 13501-A | * 13501-B | * 13502-A |
| * 13502-B | * 13503-A | * 13503-B |
| * 41D01-A | * 41D01-B | * 41D02-A |
| * 41D02-B | * 41D05-A | * 41D05-B |

Prime Site

- * Designing of Billboard Structures
 - * 15'X45' 3 Nos
 - * 30'*60' 4 Nos
 - * 30'*90' 5 Nos

Siemens

- * Designing of Transformer Protection Canopy

Proctor & Gamble

- * Designing of the Inventory Racks

Avery

- * Designing of Weigh Bridge 3M*18M, 6 Nos of various loading capacities

Aiolos

- * Research, Development and Re-Engineering tasks related to the Designing of mechanical and structural metal components of Super Sonic Cryogenic Wind Tunnel such as the follows:
 - * Liquid Nitrogen Injection Chamber
 - * Pressure Moderator
 - * Heat Exchanger and Compressor for Cryogenic Wind Tunnel operating at -183C, 5 Bars of internal pressure and at Sub and Super Sonic wind velocities

Orientalis

Designing and fabrication projects related to BMUs. These include Monorail with Bracket and Davit combination; Rail Track with Jib or Telescopic Machine combination; Complete designing supervision of Jib machine upto 5 meters reach and Telescopic Machine upto 10 m reach; Internal and external Life-Line System designing etc, Wall Curtains, High Rise Building facades etc for the following Projects:

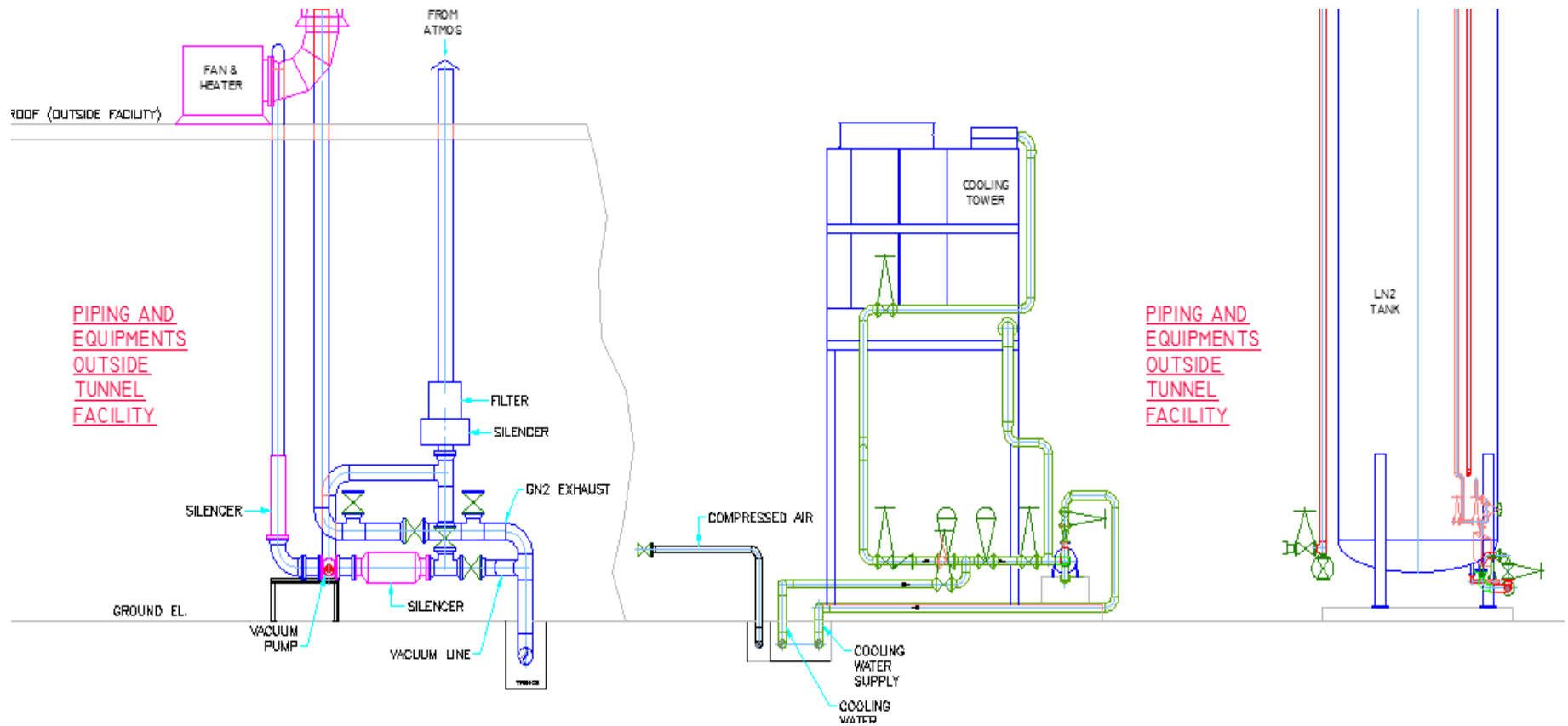
- * Qatar Foundation Education City, Qatar
- * Al-Makhtoum Airport Signage, Dubai
- * Bakheet Commercial and Residential Towers, Abu Dhabi; Ali Thani Al Khalfan
- * Al Ghawi G+6P+44, Sharjah
- * Al Hughayat Towers, KSA
- * King Abdullah Financial District, Riyadh, KSA
- * Al Abdul Wahab Gholum Hotel and Residential Towers, 2B+G+38, Doha, Qatar
- * Oasis Mall, Qatar; Al-Mabaar Hotel and Residential Towers, Amman, Jordan
- * Al-Barsa, B+G+8, Dubai
- * King Abdullah Foundation Project, KSA
- * Centro Hotel, Riyadh, KSA
- * Abdul Hadi Al Hugayat Towers, Al Khobar, KSA
- * First Trade Center, 4B+G+53, Dubai
- * Residential Building, B+G+6F+R, International City, Phase 3, Dubai

- * Evan Towers, Dubai
- * Ruwais Housing Complex Extension Phase 3, ADNOC, Abu Dhabi
- * Car Parking Project, Abu Dhabi International Airport, Abu Dhabi
- * Dragon Mat Hotel, Dubai
- * King Abdul Aziz Road Hotel, Riyadh
- * Louver Museum, Dubai
- * Remraam Housing Project, Dubailand, Dubai
- * Al-Safwa Towers, KSA
- * King Abdullah International Foundation, KSA
- * Waadi Towers, G+36, City of Arabia, Dubailand, Dubai
- * Mishal Saleh Alardi B+G+14, Dubai
- * University of Dammam, Dammam, KSA
- * The Waterfront, Shatti, Qurum, Muscat, Oman
- * Westin Hotel and Resorts, Diera, Dubai
- * Towers Project, Juliana, Benghazi
- * Ajman Pearl Towers, 10 Buildings, Ajman, U.A.E
- * CEC D-109 Dubai Police Head Quarters, Plot No. 800-2061, Al Awir, Dubai
- * R1017-Dubai City Hotel & Residence Building - Podium Skylights, Dubai
- * R1017-Dubai City Hotel & Residence Building - Entrance & Atrium, Dubai
- * Housing Bank HQ, Amman, Jordan
- * 3 Residential Towers 3B+G+24 on Plot BT-A001,002, 003, Dubai
- * Ewan Ajman Suites Hotel, G+3P+M+12, Ajman, UAE
- * TECOM Investment FZ-LLC Plot No. C003-008, Dubai, U.A.E.
- * Sulaiman Ahmad Bin Sulainman Plot No. 645-8056, Wadi Al Safa-3, Dubai,
- * Saraya's West Amman Hotel & Tower Project, Amman, Jordan
- * Luxury Oasis & Spine Skylight - Mall of Qatar, Doha, Qatar
- * CMA Towers, Dubai, UAE

Shure Brothers	* Designing and detailing of mechanical components related to audio equipments. Complete detailed drawings including, tolerances, assembly drawings, shop drawings etc
Infratech	* Designing and development of P&IDs; fabrication and installation drawings for piping, supports and valves etc for a glass wool factory with EIIC
Dollar Industries	* Reverse Engineering of various plastic components used in motorcycles and automotives. Designing of related Moulds and accessories
NCB (Pvt) Ltd	* Reverse-Engineering, FEA Analysis, Re-Engineering and Prototype Testing to Manufacturing of a Japanese brand Circular Knitting Machines
FCE Engineering	* Reverse Engineering of Plastic Components for Honda
Yamaha Motors	* Setup of Advanced CAD/ CAM Centre and Training of Engineers & Professionals
Brothers Engineering:	* Setup of Advanced CAD/ CAM Centre and Training of Engineers & Professionals
Tradesman Intl	* Setup of Advanced CAD/ CAM Centre and Training of Engineers & Professionals
Alandick	* Designing for approximately 85 Telecommunication sites which included Tower, BTS and Genset Foundations, Structural, Architectural, Air-Conditioning Electrical, Earthing and Plumbing tasks

Mobilink	* Designing for approximately 12 Telecommunication sites which included Tower, BTS and Genset Foundations, Structural, Architectural, Air-Conditioning, Electrical, Earthing and Plumbing tasks etc
Leblanc	* Supervision of 5 Telecommunication sites which included Construction of Tower, BTS and Genset Foundations, Structural, Architectural, Air-Conditioning, Electrical, Earthing and Plumbing tasks etc
Worldcall	* Designing for more than 50 Telecommunication sites which included Tower, BTS and Genset Foundations, Structural, Architectural, Air-Conditioning, Electrical, Earthing and Plumbing tasks etc
Huawei	* Designing for more than 1100 Telecommunication sites which included Tower, BTS and Genset Foundations, Structural, Architectural, Air-Conditioning Electrical, Earthing and Plumbing tasks etc
NEXT	* Complete MEP Designing and Installation supervision for following MEP projects: * Sultan Khalifa Al-Habtour, Plot 128-801 * Al Khabaisi, Dubai, G+M+2 * Dubailand, The Villas G+1, RJ-122, RC-075, RD-171 and others * Hotel Abdullah Abdul Aziz Muhammed Al-Zarooni and Jafar Al-Zarooni * Al-Raas, Dubai G+M+4+Gym * Factory IPCL, Jabel Ali, G+M * Al-Ajmani, Plot 245-787 * Al-Momuhaisnah, Dubai, G+M+9+Gym * Kelle, Al-Khawaneej, Dubai G+6 * Alawir, Dubai, Villa G+1 and other projects

- S & D Engineering
- * Project Management of civil construction and maintenance works including HVAC and MEP for the following projects:
 - * Greenbriar Condominium, 2677-2679, South Ocean Blvd, G+11, Boca Raton, FL
 - * Skyline on Brickell Condo Association, 2101, Brickell Avenue, G+16, Miami, FL
 - * DNS Perfume Inc., 4081, SW 47 Avenue, G+M, Davie, FL
 - * 8266, NW 124, G+1, FL 33073
- Auvitronics:
- * Designing and fabrication of EMI doors, components and equipments
 - * Designing of Nuclear Waste Radioactive containers
 - * Designing and production of Plastic Components for automobiles etc
 - * Production Optimization of EPS Components for Automobiles
 - * Designing of Electrical 3 Wheeler Automobile
 - * Design optimization of Plastic Products for local industries
- AAA Partnerships:
- * Complete Envelope, Curtain Walls and Cladding designing, MEP designing and installation supervision as consultant of AAA Partnership Pvt Ltd including Fire Detection, Prevention and Fighting Systems, HVAC and Plumbing etc, for the following projects:
 - * Silicon Village Capital Smart City Islamabad, buildings B-5 and B-7
 - * Jade Tower, One Capital, Lahore
 - * 28 storeys Multiuse building, HMR Waterfront Plot 6, Phase 8, DHA, Karachi near Emaar
 - * 5 Storey Amenity Building, Gulshan-e-Maymar, Karachi
 - * Completed construction and supervised MEP for many community bungalows etc
 - * Industrial sheds and buildings in S.I.T.E such as Tapal etc



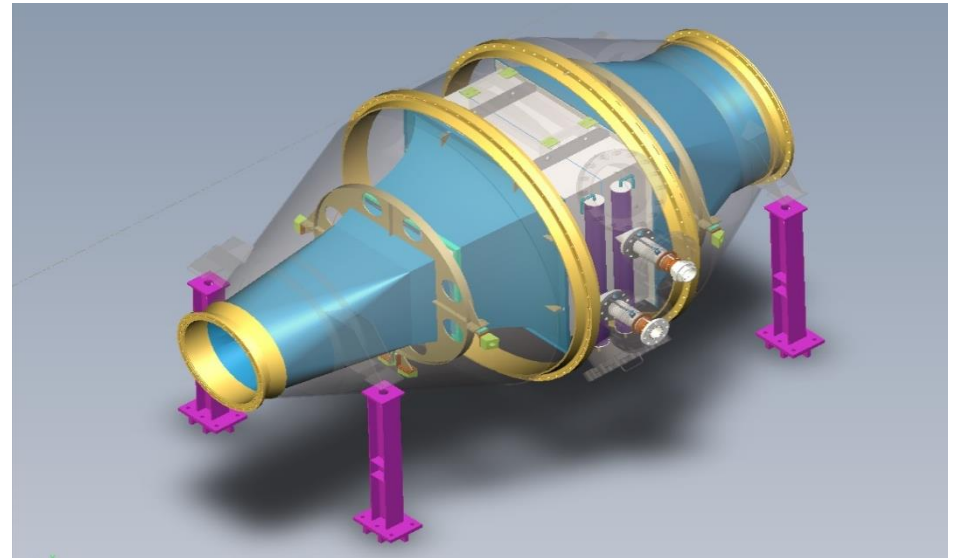
Pipings and Supports Installation Drawing



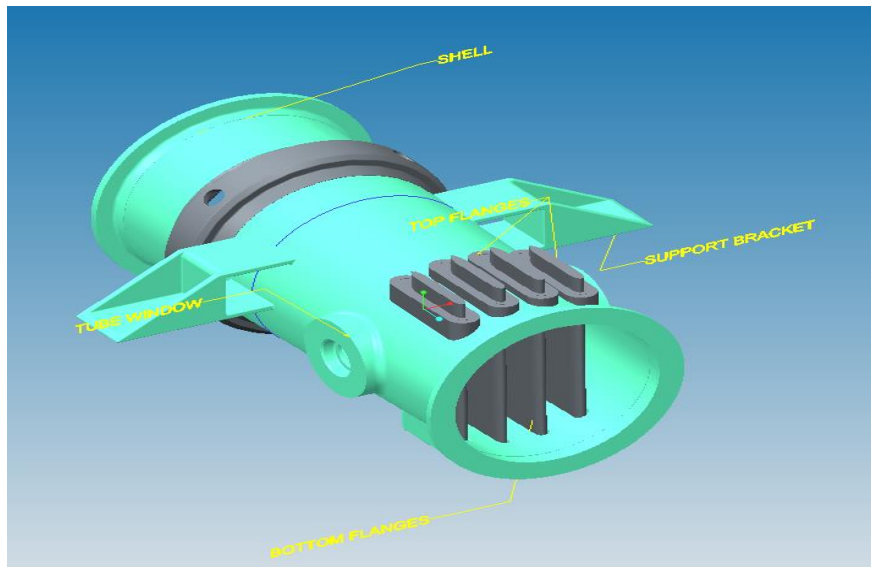
Wind Tunnel



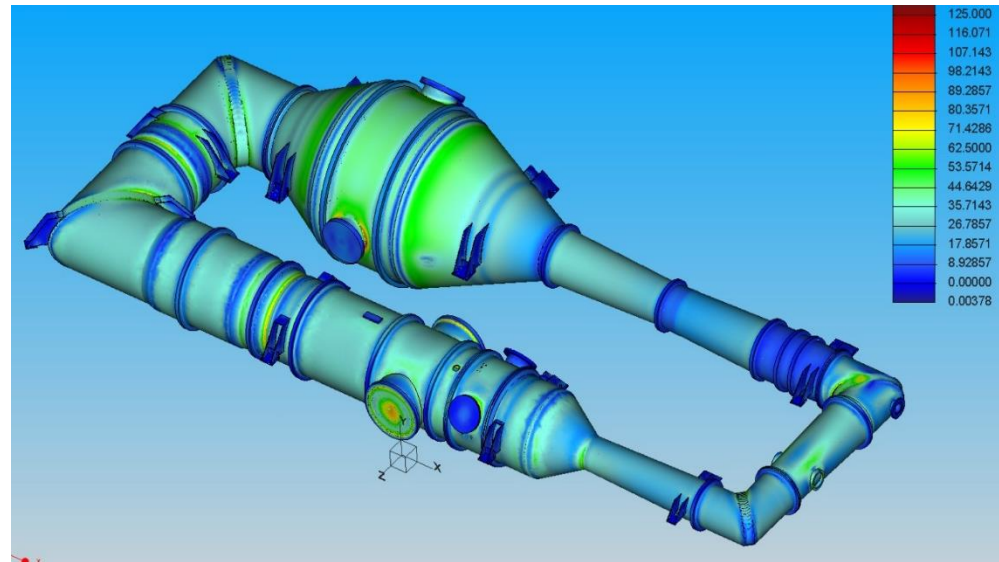
Wind Tunnel Component



3D CAD Assembly

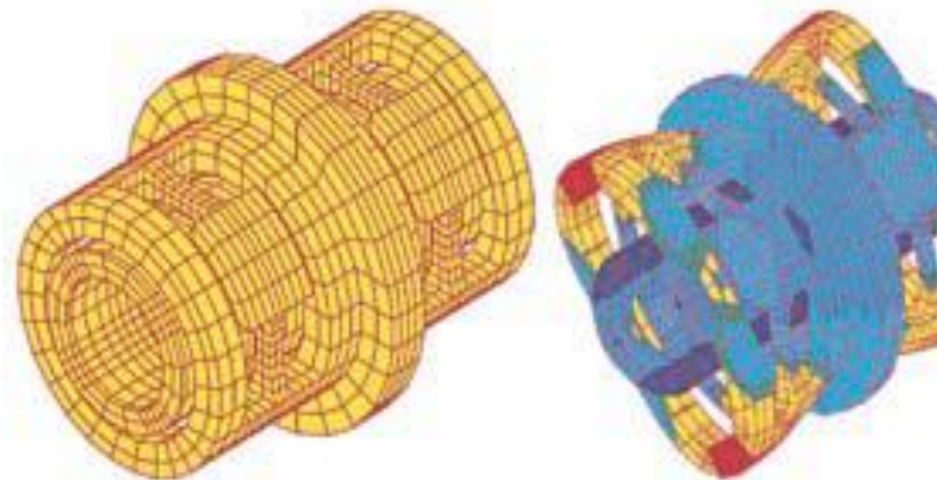
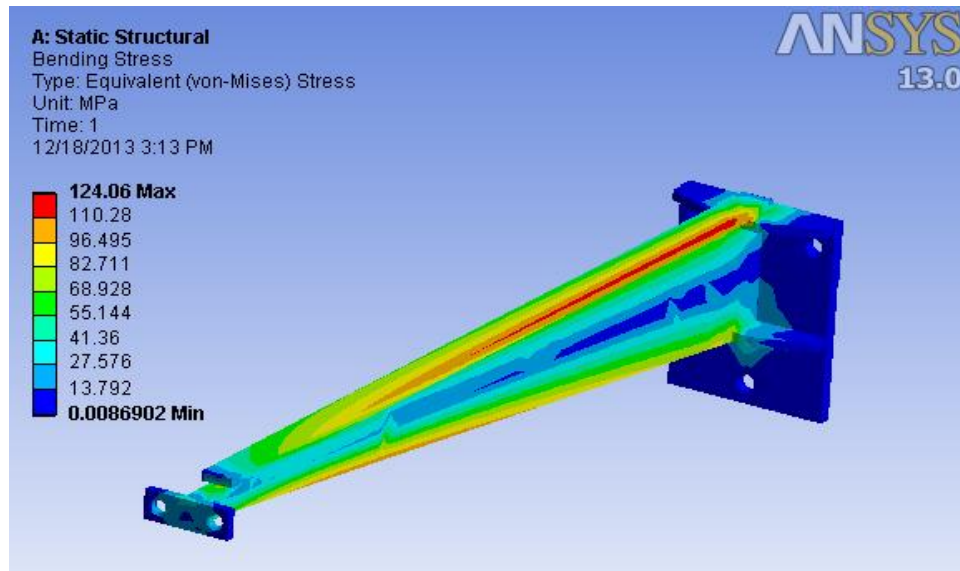


3D CAD Model'



FEA Stress Analysis

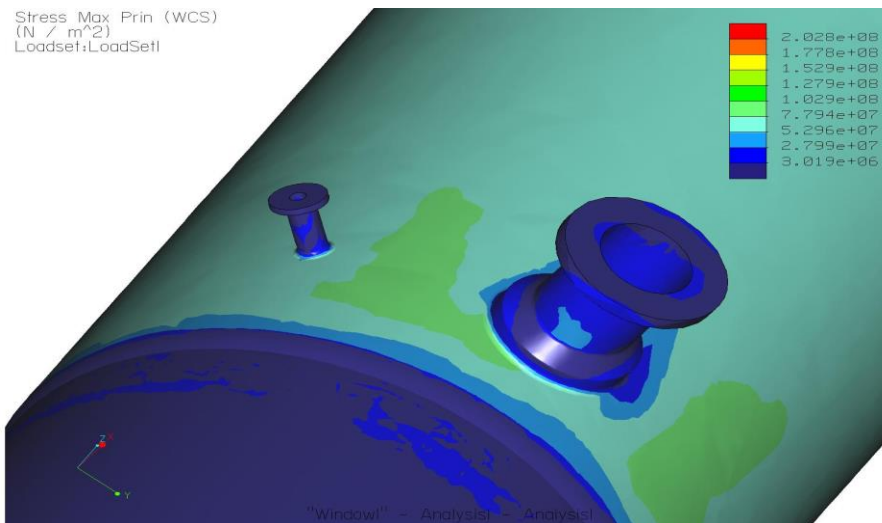
Bracket Under Static Loading



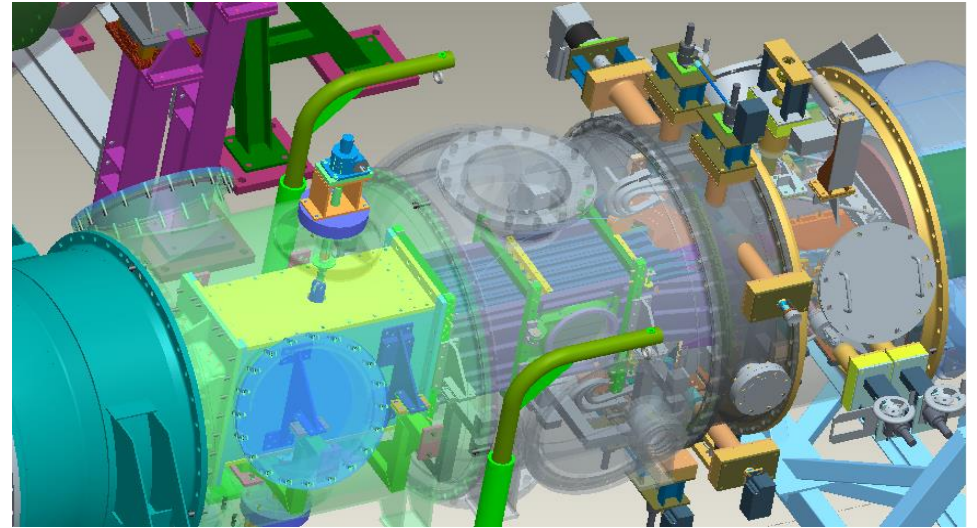
FEA Analysis



Pressure Vessel 3D CAD Model



FEA Analysis for Pressure Vessel



A Complex 3D CAD Assembly



A Prototype of Circular Knitting Machine



Sanafafe is an experienced
Computer Aided Design
Consultancy Company

CAD Designers & Engineers

3D CAD Modeling

2D Associative Drawings

Product Design

Sheetmetal Design

Assemblies

Prototype Design

Reverse Engineering

RE-Engineering

FEA and Design Optimization

Pressure Vessels and Storage Tanks

Complete MEP Solutions

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