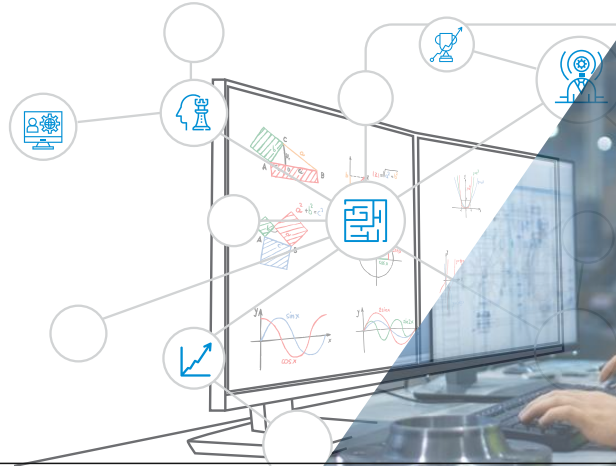


JUST GO!
GREEN

ASME-BPVC

Pressure Vessel Consulting Services Case Study 2020



Detail Design calculation , FEA Stress Analysis and Detail fabrication Drawing for Surface condenser along with vacuum units

THE CLIENT

A Europe-based client offering an array of customized solutions to chemical ,pharmaceutical, petrochemical, oil refinery, power generation and waste treatment.

THE BUSINESS NEED

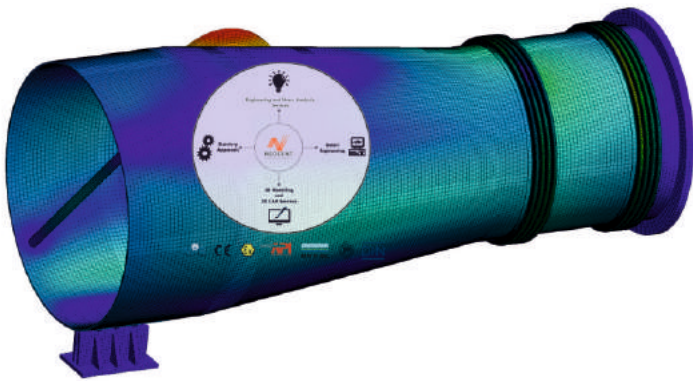
Our client was seeking engineering design assistance for a equipments (ASME U-stamp)design along with interconnecting piping routing. Client wanted Stress simulation on Equipments for TUV Nord certification approval process along with piping stress analysis.

NEOCENT SOLUTION & DELIVERABLE

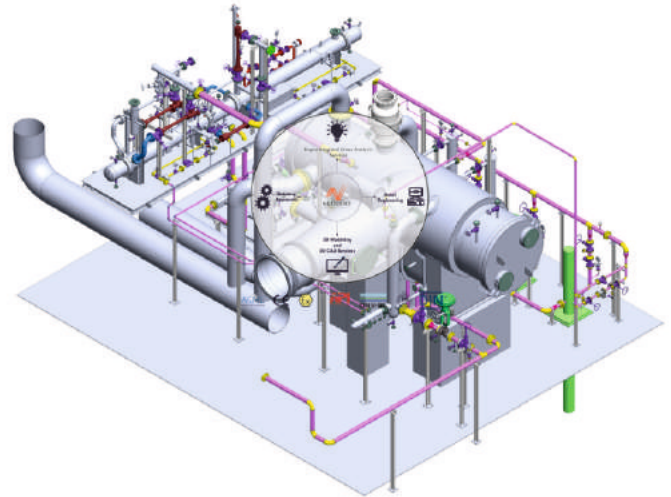
Detail Engineering : Mechanical and thermal detail design on Condenser and vessel, Pipe stress analysis for pipe Support, Pipe Support Design, Foundation load calculation etc.

CAD Detailing : G.A. Drawing , Details fabrication drawing ,3D plant Modeling, Pipe Isometric drawing , Piping Support fabrication Drawing, Lifting and Erection Drawing.

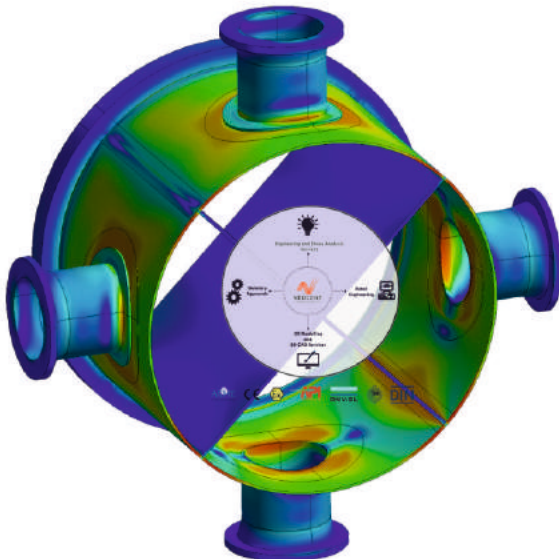
Analysis : Piping Stress Analysis , Vessel Stress analysis (Code: ASME Sec VIII Div 2) ,Skid Structure Stress Analysis with IBC-2015, ASCE 7-10.



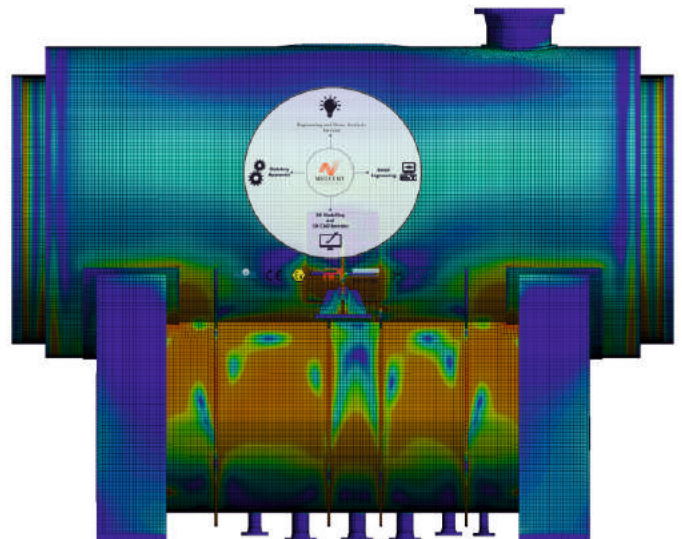
Thermal Stress Simulation on Turbine - Condenser Duct along with Expansion bellows.



3D detail Modeling along with Inter-connecting pipe routing



Thermal Stress Simulation Tube side Condenser



Thermal Stress Simulation Shell side Condenser

Detail Design calculation , FEA Stress Analysis and Detail fabrication Drawing for Surface condenser along with vacuum units

THE CLIENT

A US-based client offering an array of customized solutions to chemical ,pharmaceutical, petrochemical, oil refinery, power generation and waste treatment.

THE BUSINESS NEED

Our client was seeking engineering design assistance for a equipments (ASME U-stamp)design along with interconnecting piping routing. Client wanted Stress simulation on Equipments for TUV Nord certification approval process along with piping stress analysis.

NEOCENT SOLUTION & DELIVERABLE

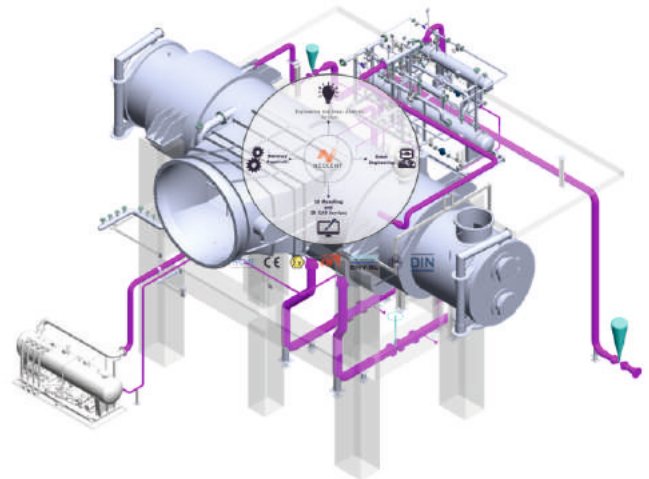
Detail Engineering : Mechanical and thermal detail design on Condenser and vessel, Pipe stress analysis for pipe Support, Pipe Support Design, Foundation load calculation etc.

CAD Detailing : G.A. Drawing , Details fabrication drawing ,3D plant Modeling, Pipe Isometric drawing , Piping Support fabrication Drawing, Lifting and Erection Drawing.

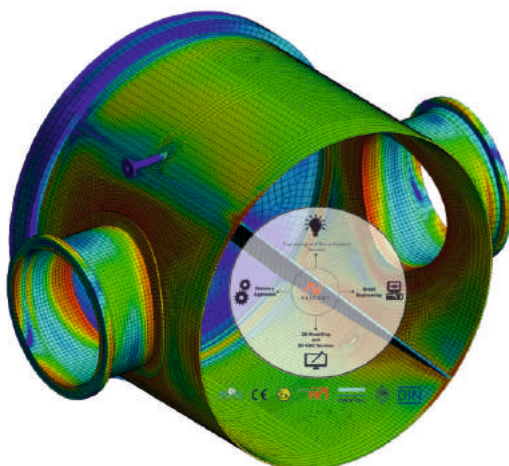
Analysis : Piping Stress Analysis , Vessel Stress analysis (Code: ASME Sec VIII Div 2) ,Skid Structure Stress Analysis with IBC-2015, ASCE 7-10.



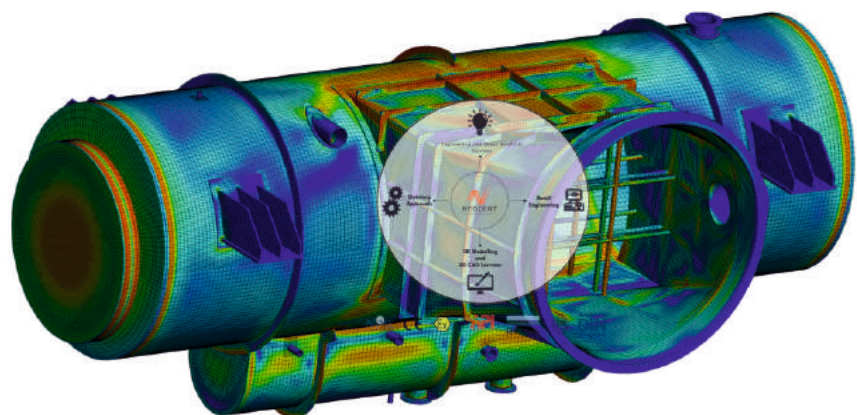
Condenser fabrication at Shop-Floor



3D detail Modeling along with Inter-connecting pipe routing



Thermal Stress Simulation Tube side Condenser



Thermal Stress Simulation Shell side Condenser

Detail Design calculation , FEA Stress Analysis and Detail fabrication Drawing for Oil gas Separator (U Stamp & ABS Certified)

THE CLIENT

A UK-based client offering an array of customized solutions for Oil gas separator, Vacuum Degasser, Choke control system, liquid seal monitoring, Vent tower for MGS and Flow meter skid suitable for offshore, landing and shale gas drilling operations.

THE BUSINESS NEED

Our client was seeking engineering design assistance for a Mud gas Separator (ASME U-stamp and ABS certified Standards) design. Client wanted Stress simulation on MGS for ABS (third party) certification approval process.

NEOCENT SOLUTION & DELIVERABLE

Detail Engineering : Mechanical and Process detail design on MGS and Spool pipe, Pipe stress analysis for pipe Support, Pipe Support Design, Foundation load calculation etc.

CAD Detailing : G.A. Drawing , Details fabrication drawing ,3D plant Modeling, Pipe Isometric drawing , Piping Support fabrication Drawing, Lifting and Erection Drawing.

Analysis : Piping Stress Analysis , MGS Stress analysis (Code: ASME Sec VIII Div 2).

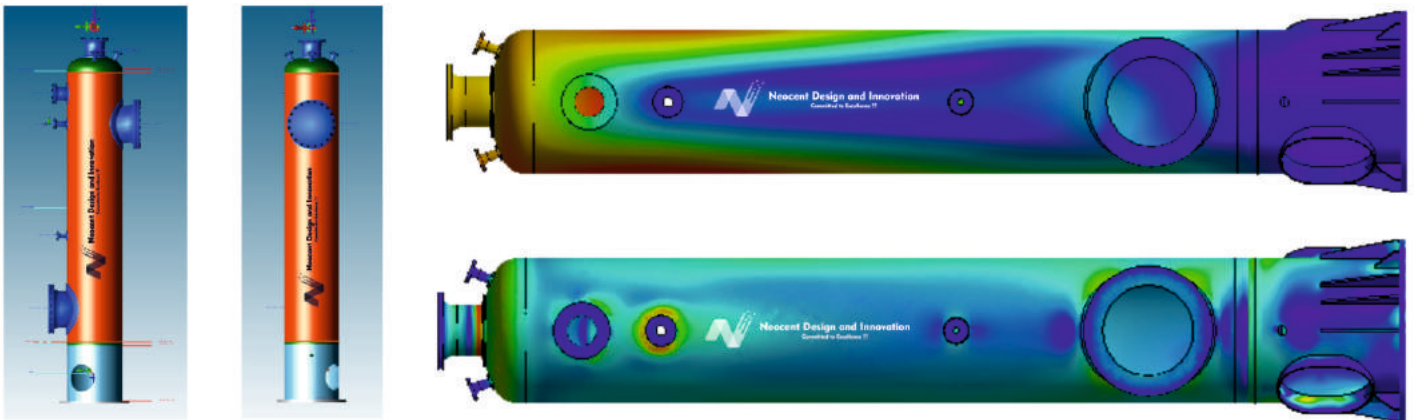


Figure : Design & FEA Stress Analysis post processing_ Stress_Deflection

Detail Design calculation , FEA Thermal Stress Analysis and Detail fabrication Drawing for Turbine - Condenser Duct

THE CLIENT

A US-based client offering an array of customized solutions to chemical ,pharmaceutical, petrochemical, oil refinery, power generation and waste treatment.

THE BUSINESS NEED

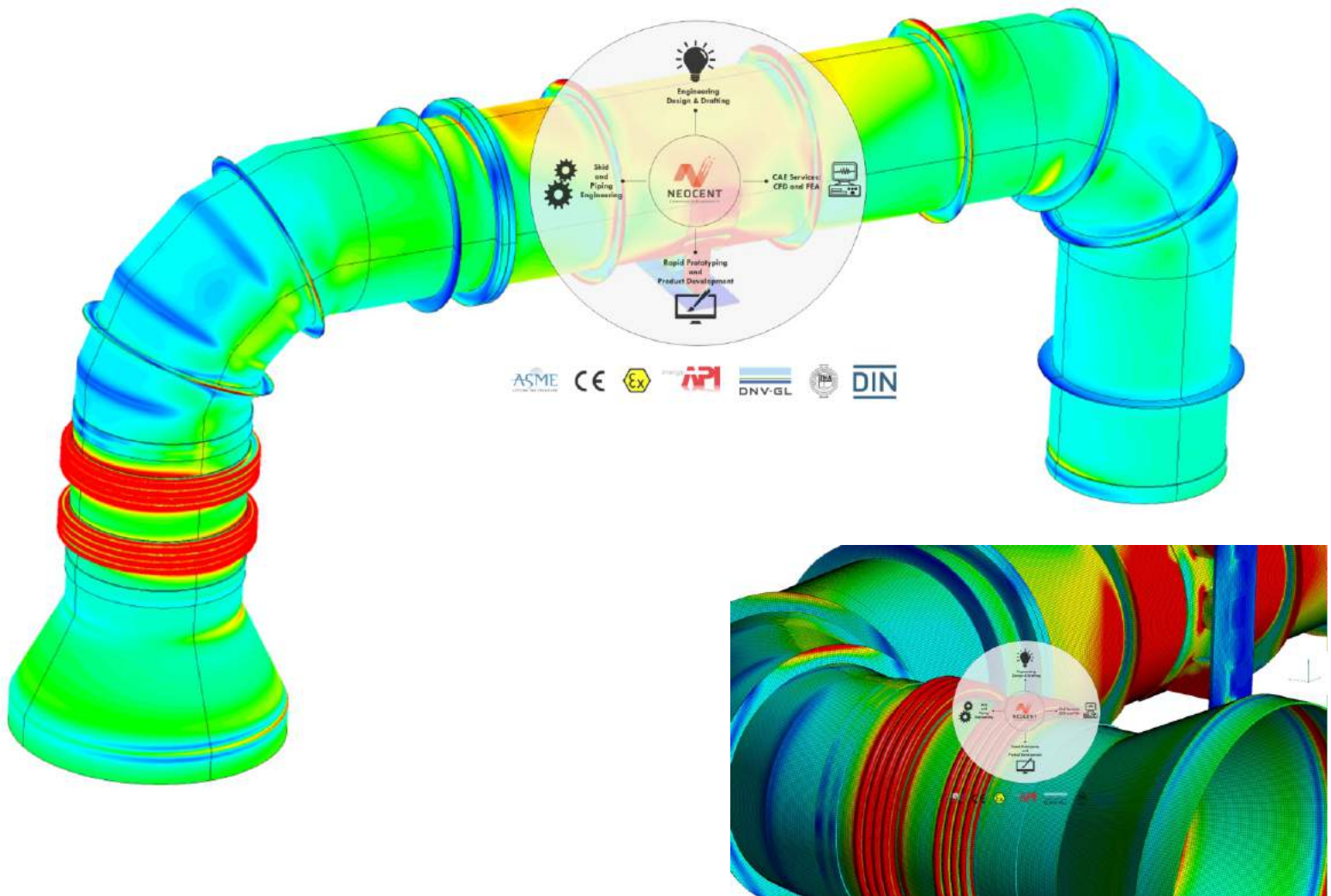
Our client was seeking engineering design assistance for a Condenser - Turbine Duct pipe arrangements (ASME U-stamp) design. Client wanted Thermal Stress simulation on duct along with expansion bellow.

NEOCENT SOLUTION & DELIVERABLE

Detail Engineering : Mechanical detail design on turbine-condenser duct, Duct Spring Support Design and Specifications, Expansion bellows Design and Specifications.

CAD Detailing : G.A. Drawing , Details fabrication drawing ,3D plant Modeling, Pipe Isometric drawing , Piping Support fabrication Drawing, Lifting and Erection Drawing.

Analysis : Piping Stress Analysis, Expansion below FEA as per EJMA (Code: ASME Sec VIII Div 2).



Thermal Stress FEA Simulation Duct Pipe along with Expansion Bellow

Detail Design calculation , FEA Thermal Stress Analysis and Detail fabrication Drawing for Vapor Separator (Oslo Type)

THE CLIENT

A India-based client offering an array of customized solutions to chemical ,pharmaceutical, petrochemical, oil refinery, power generation and waste treatment.

THE BUSINESS NEED

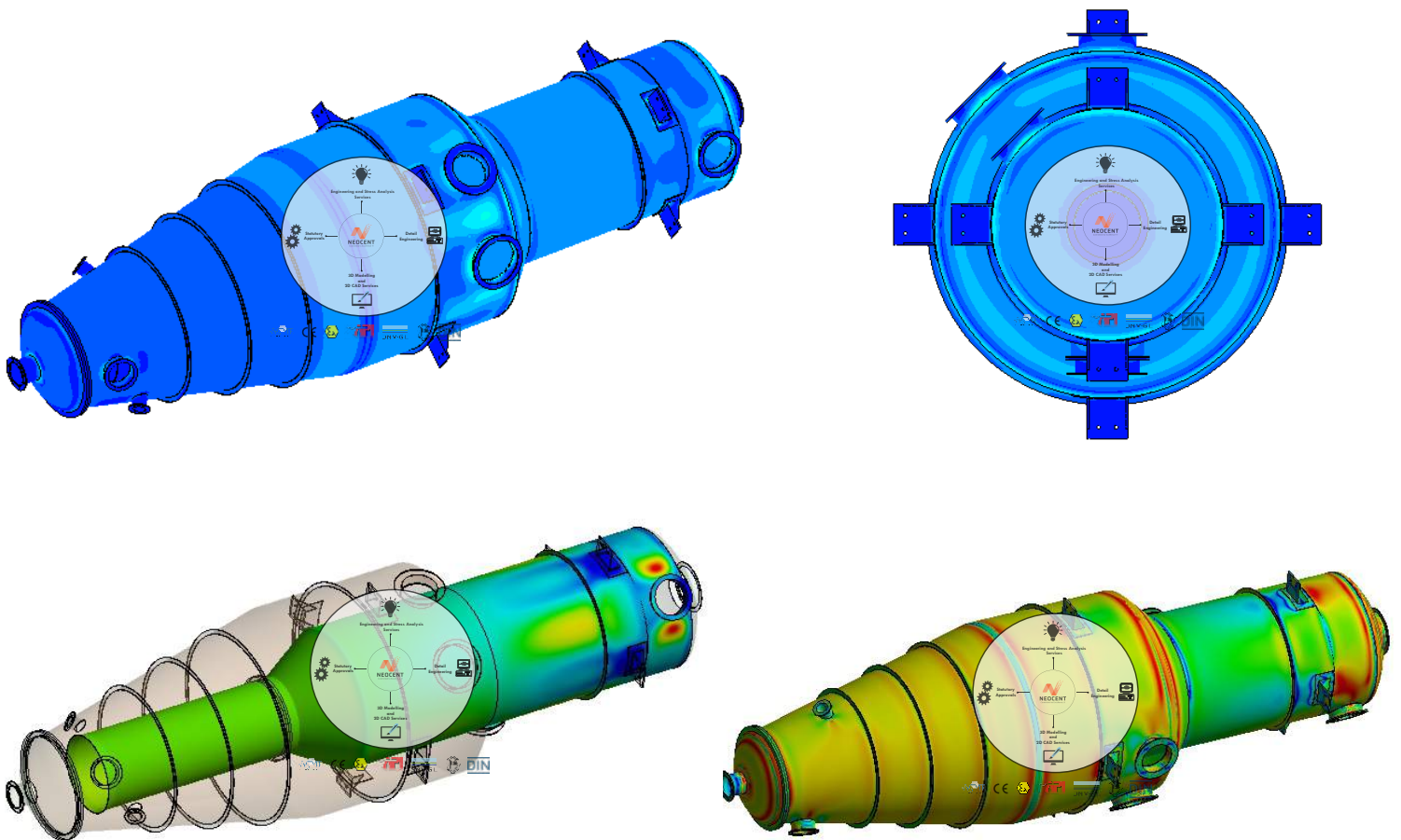
Our client was seeking engineering design assistance for a Vapor Separator (ASME U-stamp) design. Client wanted Thermal Stress simulation on vapor separator along with Lifting and Operating Support Lug Stress verification.

NEOCENT SOLUTION & DELIVERABLE

Detail Engineering : Mechanical detail design on Vapor separator, Lifting Lug Mechanical design calculation, Support Lug and Foundation Anchor design and calculation.

CAD Detailing : G.A. Drawing , Details fabrication drawing ,3D Vessel Modeling, Lifting and Erection Drawing.

Analysis : Vessel thermal stress analysis, Lifting Simulation to check buckling(Code: ASME Sec VIII Div 2).



FEA Stress Analysis post processing under ASME Div 2.

Neocent Engineering Services is a multi-discipline engineering services company. Established in 2015, we offer high-quality engineering support solutions to global EPC organizations across some of the industries listed: Automotive, Aerospace, Turbo machinery, Heavy engineering, HVAC, Oil & Gas, Material handling and Process industry.

Neocent provides detailed engineering services to EPC, EPCM, OEM, and PMC as long-term turnkey projects. Our EPCM services include Project Management, Feasibility Studies, Conceptual & Basic Engineering, Detailed Design, Procurement, Construction Management, Commissioning & Start-up, and Operations & Maintenance.

Neocent Engineering's service offering, include;

- Engineering and Stress Analysis Services
- Details Engineering
- 3D Modelling and 2D CAD Services
- Statutory Approvals

Neocent Engineering specializes in "design-by-analysis" pressure vessel work following ASME Section VIII, Div. 2 (BPVC).

We also offer the ability to perform standard ASME Section VIII, Division 1 Rules for the Construction of Pressure Vessels.

Our FEA BPVC consultants have completed a broad range of analysis work on hundreds of pressure vessels. Within this body of work, we have applied the following codes

- ASME BPVC Section VIII, Division 2 (Alternative Rules or "Design-by-Analysis")
- ASME BPVC Section VIII, Division 1 (Rules for the Construction of Pressure Vessels)
- ASME Pressure Vessels for Human Occupancy (PVHO)
- ASCE 4-98 and ASCE 7-02

These FEA pressure vessel consulting projects cover a wide variety of analyses, from differential thermal-stress analysis of heat exchangers utilizing mixed materials, to stress and fatigue analysis of large-diameter vessels, to analyses of vessels with complex internal structures subjected to sloshing, seismic and added-mass effects or lifting and transportation analyses and transient thermal-fatigue of thick-walled tanks.

In brief, clients come to us when they need high-quality work executed and documented to withstand the most rigorous reviews.

ASME BPVC Pressure Vessel Consulting Services



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