



peak stress

peak-stress.com

ABOUT PEAK-STRESS

The driving force of our company is a passion for new technologies, finding new solutions for all technical challenges.

Today, this passion drives our company, which has evolved from strength calculations for mechanical engineering to an enterprise currently covering a wide spectrum of engineering categories.

WHY PEAK-STRESS ?

By using a modern "plug and play" business model for engineering competences management we can boast of the highest quality of our services with low maintenance costs for our design office.

That is why our clients pay less for engineering services..

OUR ENGINEERING COMPETENCES

A. MECHANICAL DESIGN

- analysis of factors affecting quality, functionality and price
- machine and product design based on the customer's specifications
- creating new concepts and improving them for new solutions
- optimization of existing solutions
- technical workshop documentation
- developed skills of using currently used in the design industry software in 3D environment. (Siemens NX, Solid Works, Solid Edge, AutoCAD, Space Claim, Catia)

B. ENGINEERING CONSULTING

- defining project assumptions and assessments
- creating product prototypes
- testing, evaluation and preparation of documentation
- vibration measurements

C. STRENGTH CALCULATIONS

We perform strength calculations and dimensioning according to various international standards/norms (EN, ASME, Eurocode) for, among others:

1. Devices, equipment and machine elements
pressure vessels, heat exchangers (EN13445)
joints (bolted, welded)
2. Steel structures
3. Composite structures
4. Pipeline systems
5. Other types of equipment and structures

D. COMPUTER SIMULATIONS CFD/FEA

Static Analyses

- Linear Analysis
- Non-Linear Analysis (all non-linearities types)
- Leakage Analysis (linear gasket, non-linear gasket)
- Buckling Analysis (linear, non-linear)

Thermal-hydraulic Analysis

- Steady state Thermal
- Thermal Coupled, Transient
- Single-phase fluid flow
- Multi-phase fluid flow
- Calculation of stationary and non-stationary temperature distribution

Dynamic Vibration Analysis

- Modal analysis (both natural and forced oscillation)
- Transient Dynamic Analysis
- Multi Body (Rigid) Dynamic Analysis

Fatigue/Durability Analysis

- Stress-Life / Strain Life Approach
- DNV and ASME Standard Fatigue

Optimization

- Shape optimization
- Goal function driven optimization

CAD, CAM SKILLS

MES: (ANSYS APDL, ANSYS WORKBENCH, SIEMENS NX NASTRAN, LS DYNA

CFD: (Ansys Fluent and CFX)

3D Modeling 2D drawings: (Siemens NX, Solid Works, Solid Edge, AutoCAD, Space Claim, Catia)

SCOPE OF ACTIVITY OF OUR BUSINESS PARTNERS

CHEMICAL TECHNOLOGY

WELDING TECHNOLOGY

CONSTRUCTION INDUSTRY

MANUFACTURE OF MACHINES AND PRESSURE EQUIPMENT, INDUSTRIAL INSTALLATIONS, PIPES

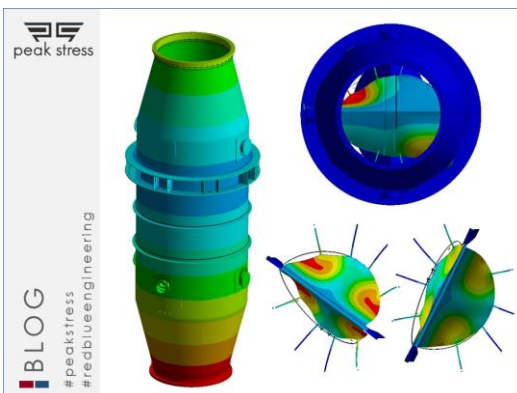
POWER (FLUIDAL BOILERS, WIND TURBINES).

EXAMPLES OF COMPLETED PROJECTS



DIFFUSER WIND TURBINE

Strength assessment of mechanical components by use of FEM including ACP composite analyses.



MIXING UNITS FOR MARINE APPLICATIONS

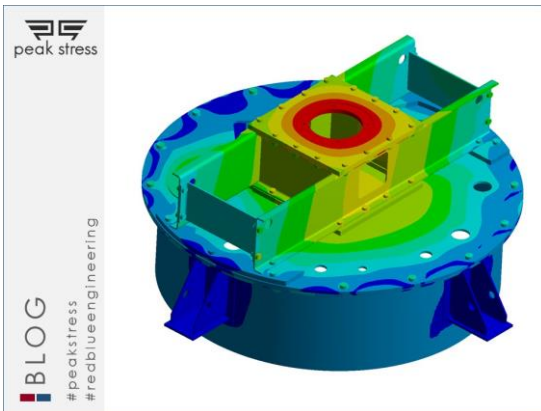
Strength calculations of exhaust gas aftertreatment system for diesel powered ships according to DNV marine standard.

PRZYKŁADY ZREALIZOWANYCH PROJEKTÓW



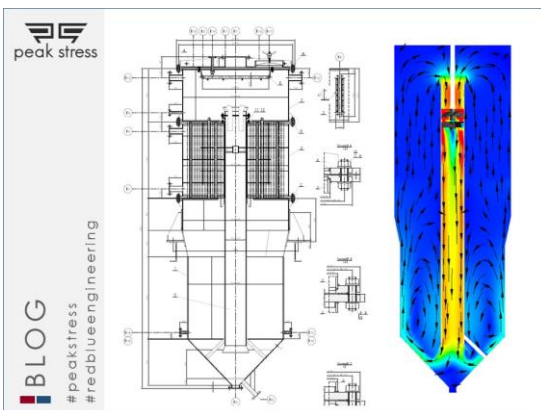
ROOFING DESIGN

Delivery of complete technical documentation for one of the most recognizable building in Cracow called by citizens „Szkieletor”.



STIFFNESS OPTIMISATION

Stiffness optimization of flange and roof plate of pressure vessel subjected internal and external pressure.



CRISTALLIZER

Delivery of technical documentation and strength calculations acc. to EN-13445 standard.

FEA supports calculations and CFD flow simulation.

We cooperated with

CREADIS innovative
engineering

F **FusioProjekt**

MTA
ENGINEERING

 **Sumitomo**

 **NOSEWICZ**



MAN Diesel & Turbo



IWT
Innovate Wind Technology

We invite you to cooperation!


peak stress

PEAK-STRESS

Tel. (PL) +48 604 623 373

E-mail: engineering@peak-stress.com

Adres: ul. Dominikanów 32/6, 31-409 Kraków

NIP: 8722295776