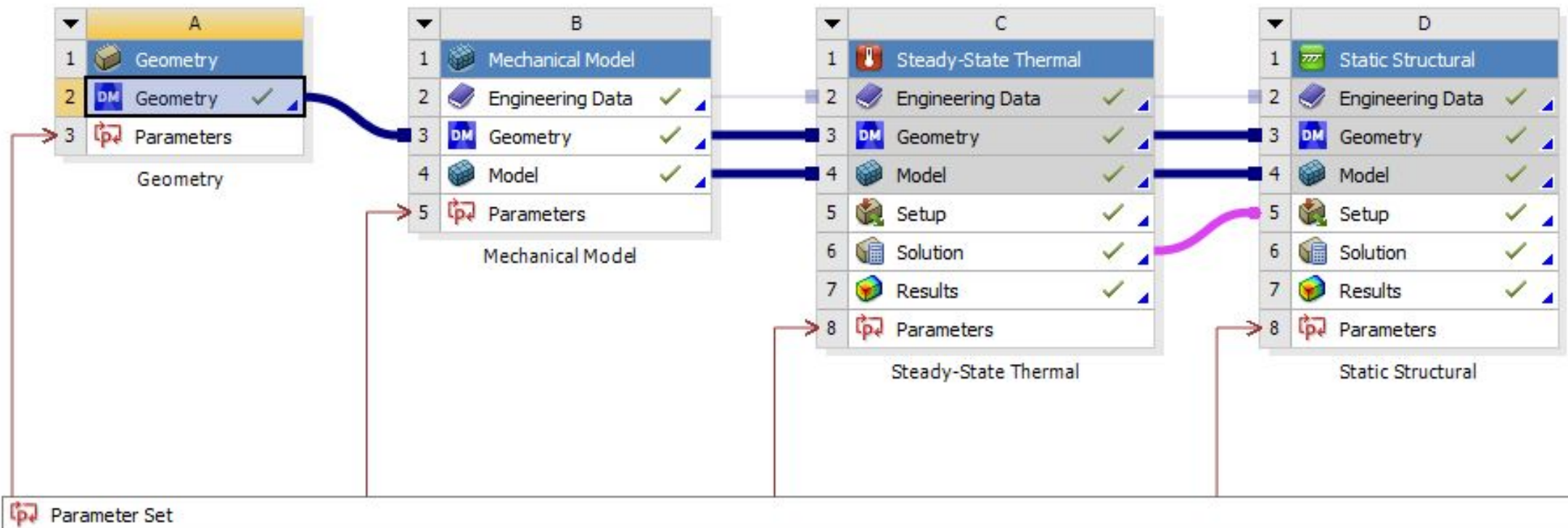


Расчёт напряженно- деформированного состояния лопатки компрессора авиационного двигателя

Выполнил: Сукачевский Владимир
ТП-17-1, 3 курс
ФТФ ДНУ

Цель работы: провести расчет лопатки компрессора с учётом инерционных и газовых сил и температурных воздействий

Project Schematic



Геометрия

The screenshot displays the ANSYS 2019 R2 Academic software interface. The main window shows a 3D model of a mechanical part, which consists of a base with several parallel cylindrical features and a vertical, curved plate attached to the top. The model is rendered in a light gray color against a blue background.

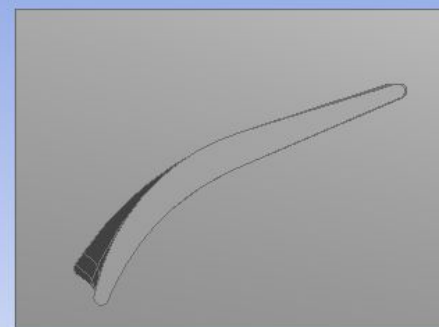
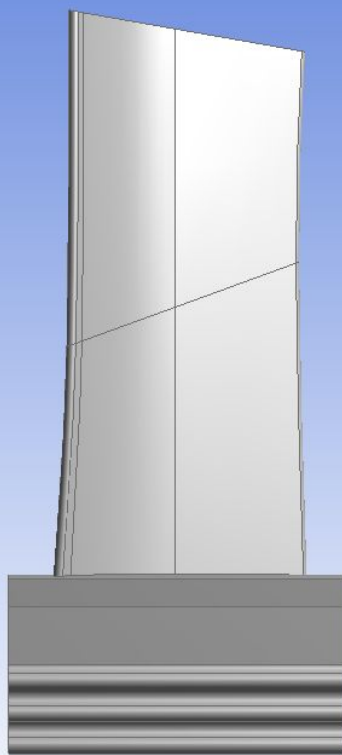
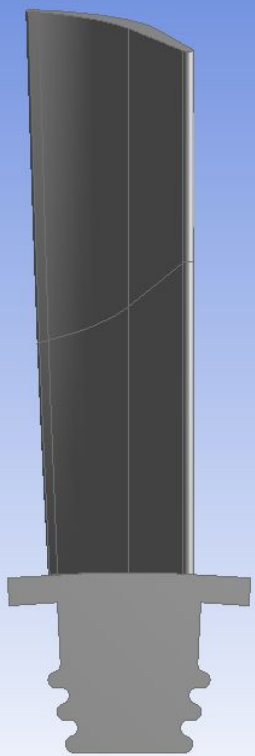
The **Tree Outline** on the left side of the interface shows the following structure:

- A: Geometry
 - XYPlane
 - ZXPlane
 - YZPlane
 - Plane4
 - Sketch2
 - Plane5
 - Sketch3
 - Plane6
 - Sketch5
 - Skin1
 - Sketch2
 - Sketch3
 - Sketch5
 - Extrude1
 - Sketch7
 - 1 Part, 1 Body
 - Solid

The **Details View** at the bottom left shows the following properties:

Details	
Bodies	1
Volume	...
Surface Area	...
Faces	39
Edges	100
Vertices	64

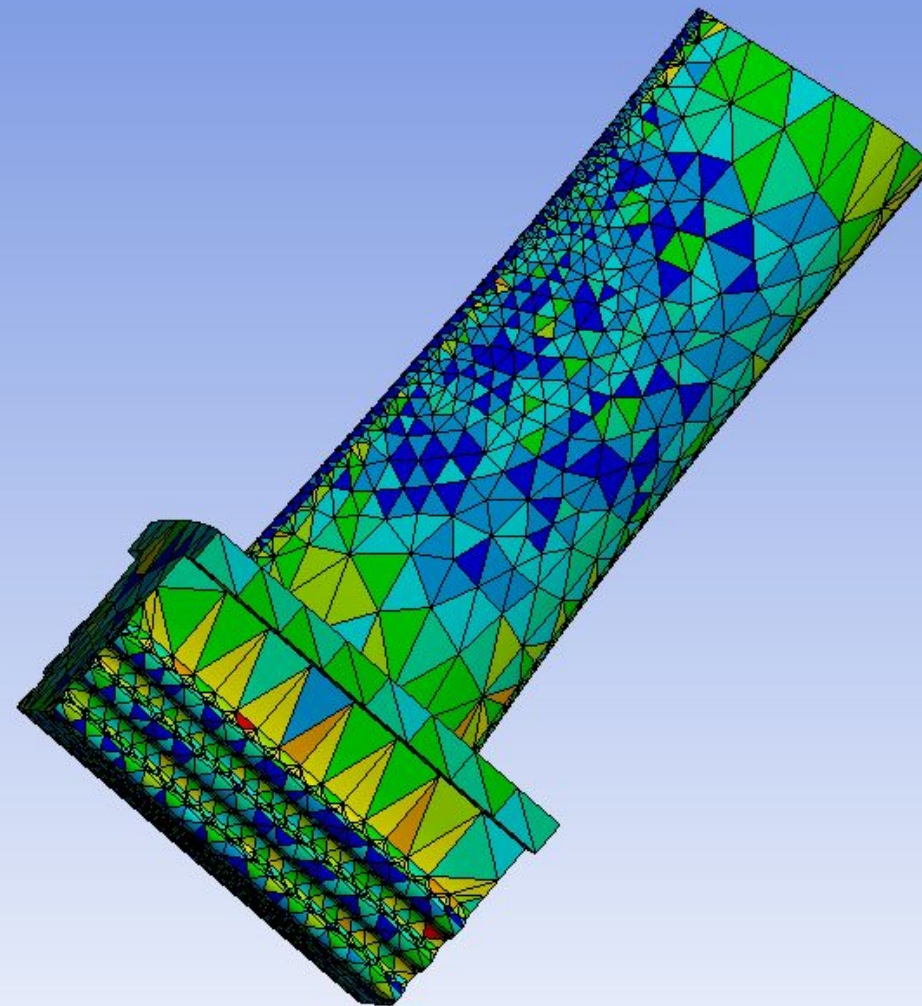
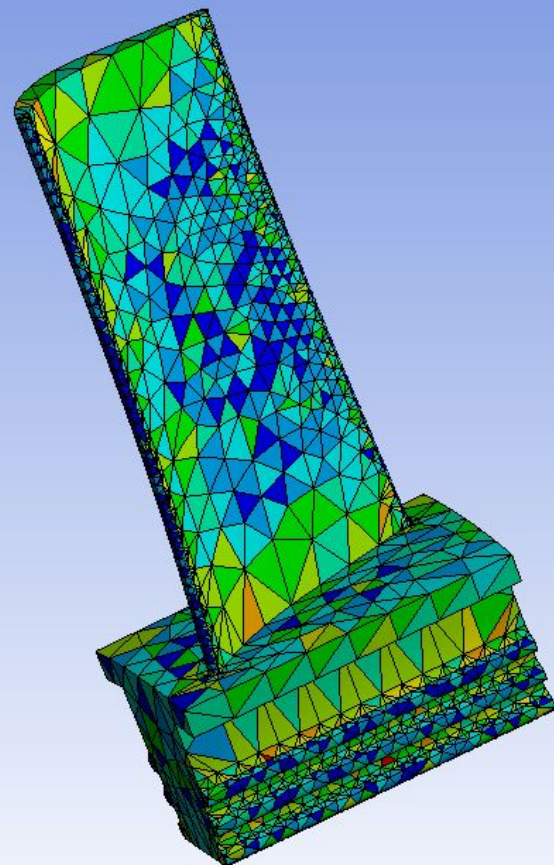
The **Graphics** window on the right shows the 3D model with a coordinate system (X, Y, Z) and a scale bar indicating dimensions in millimeters (0,00 to 100,00 mm). The status bar at the bottom indicates "Ready", "No Selection", and "Millimeter Degree".

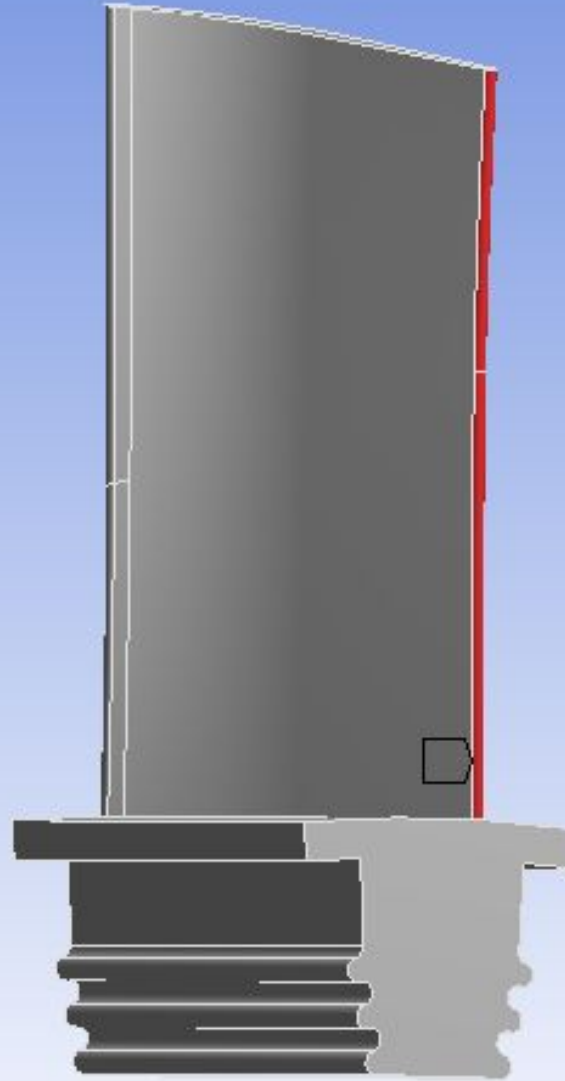


Расчётная сетка

Mesh

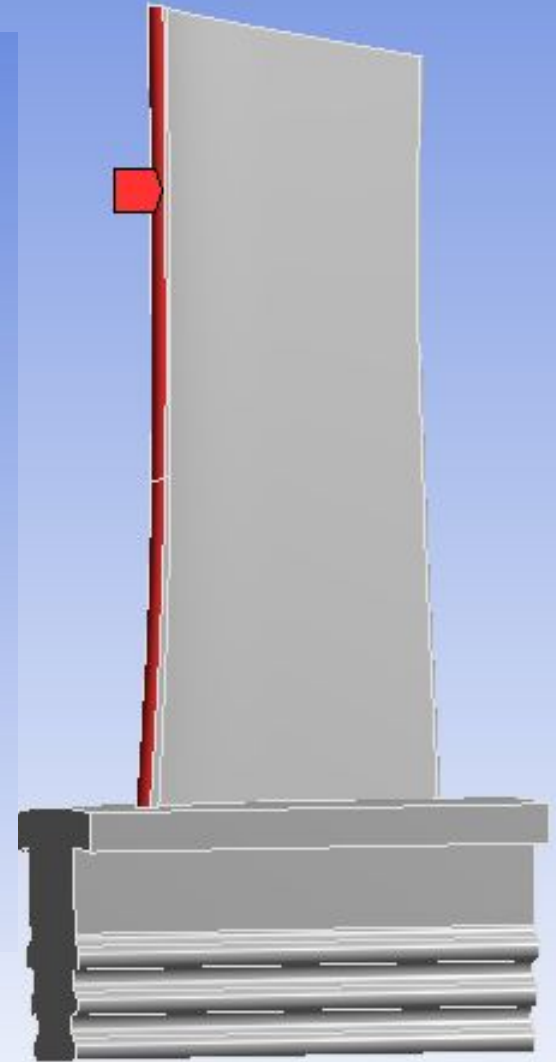
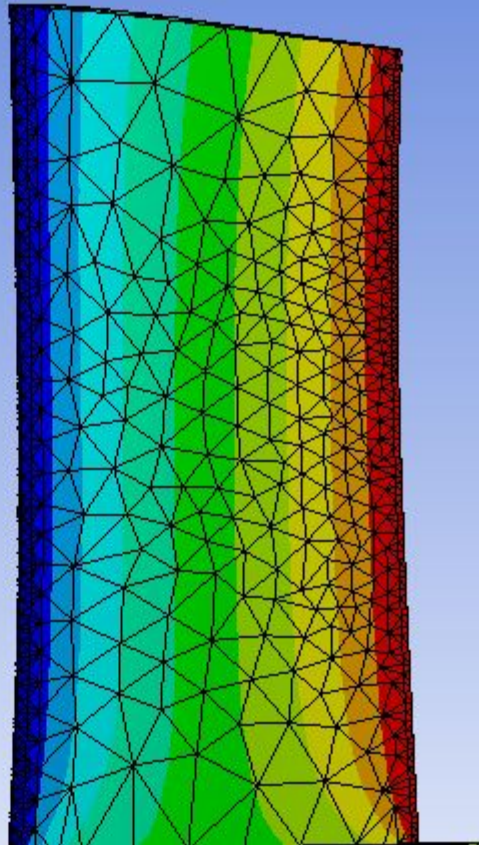
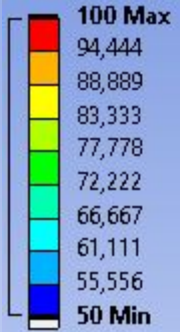
Element Quality
17.05.2020 20:04





C: Steady-State Thermal

Temperature
Type: Temperature
Unit: °C
Time: 1
17.05.2020 20:08



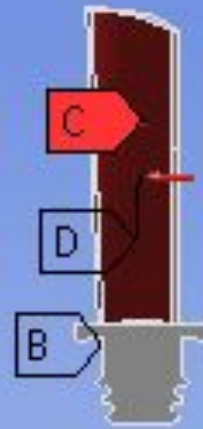
D: Static Structural

Static Structural

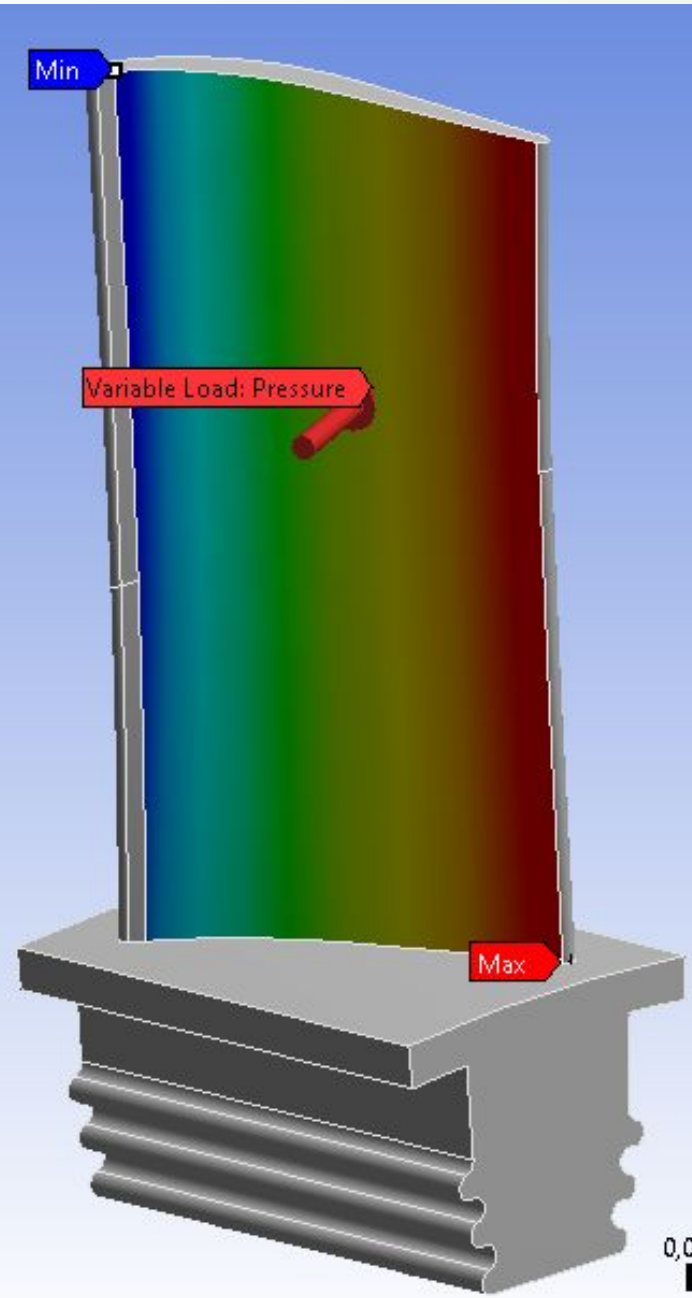
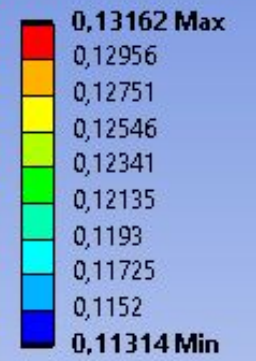
Time: 1, s

17.05.2020 20:10

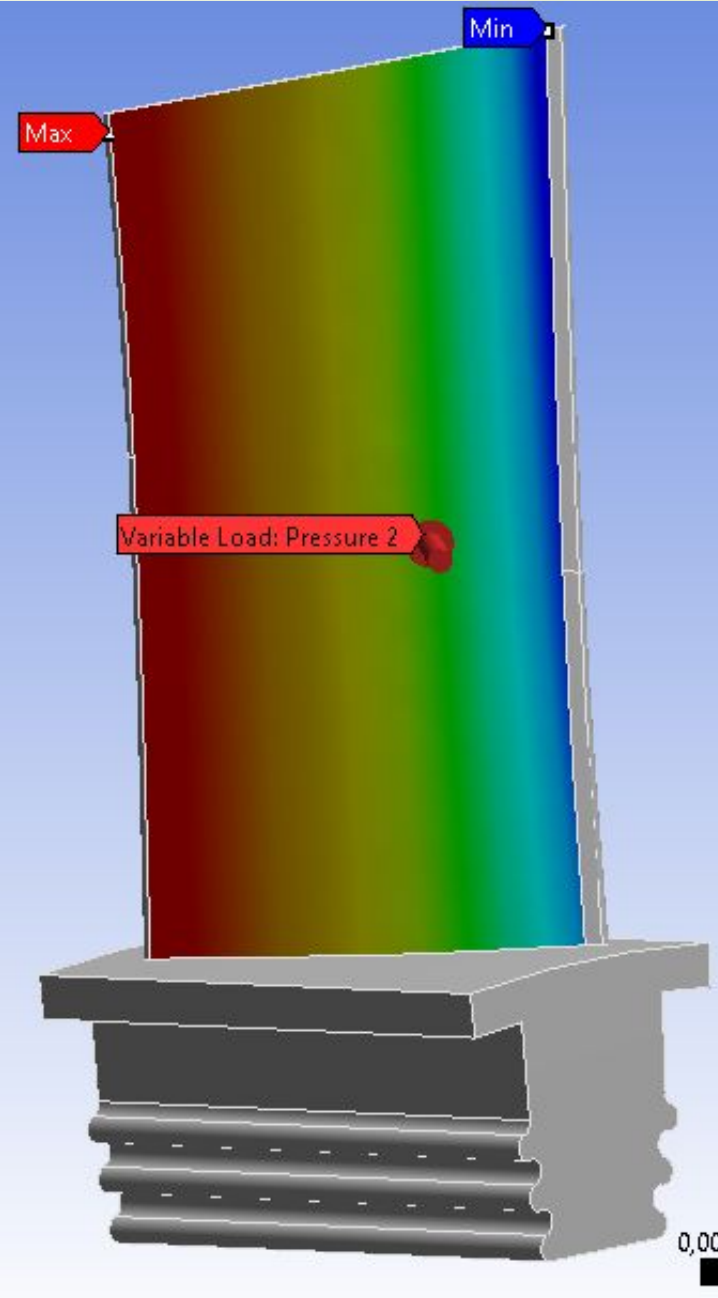
- A** Rotational Velocity:
- B** Fixed Support
- C** Variable Load: Pressure
- D** Variable Load: Pressure 2



D: Static Structural
Pressure
Time: 1, s
Unit: MPa
17.05.2020 20:11



D: Static Structural
Pressure 2
Time: 1, s
Unit: MPa
17.05.2020 20:11



D: Static Structural

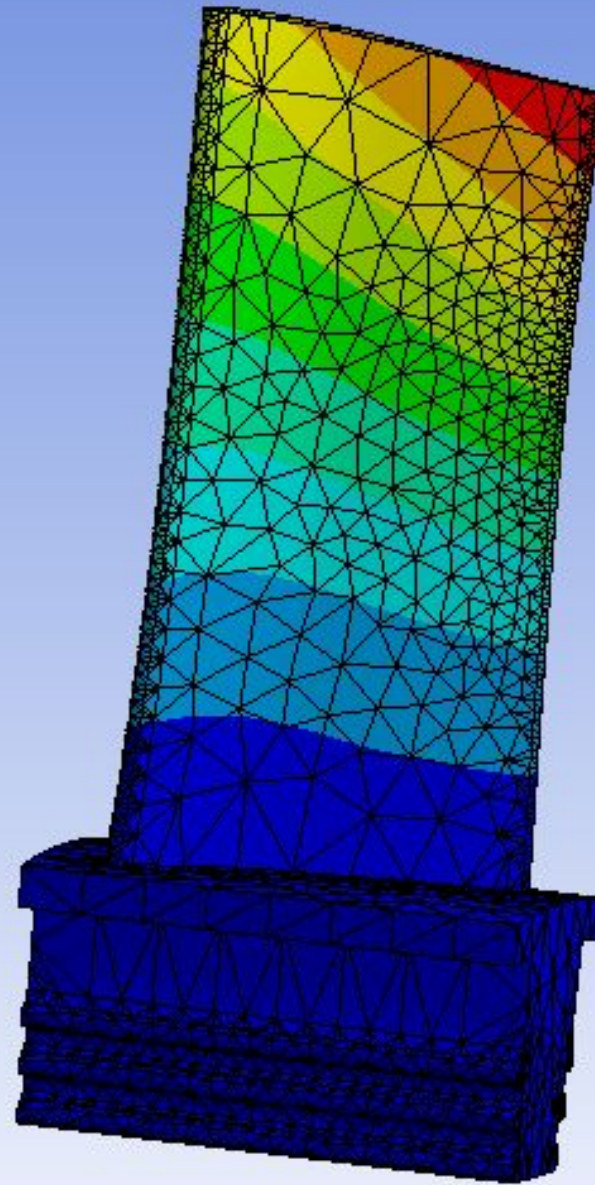
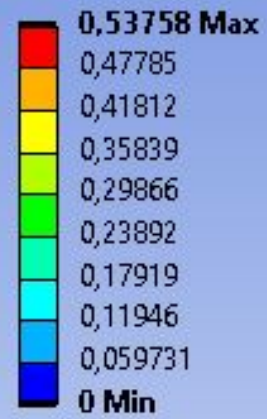
Total Deformation

Type: Total Deformation

Unit: mm

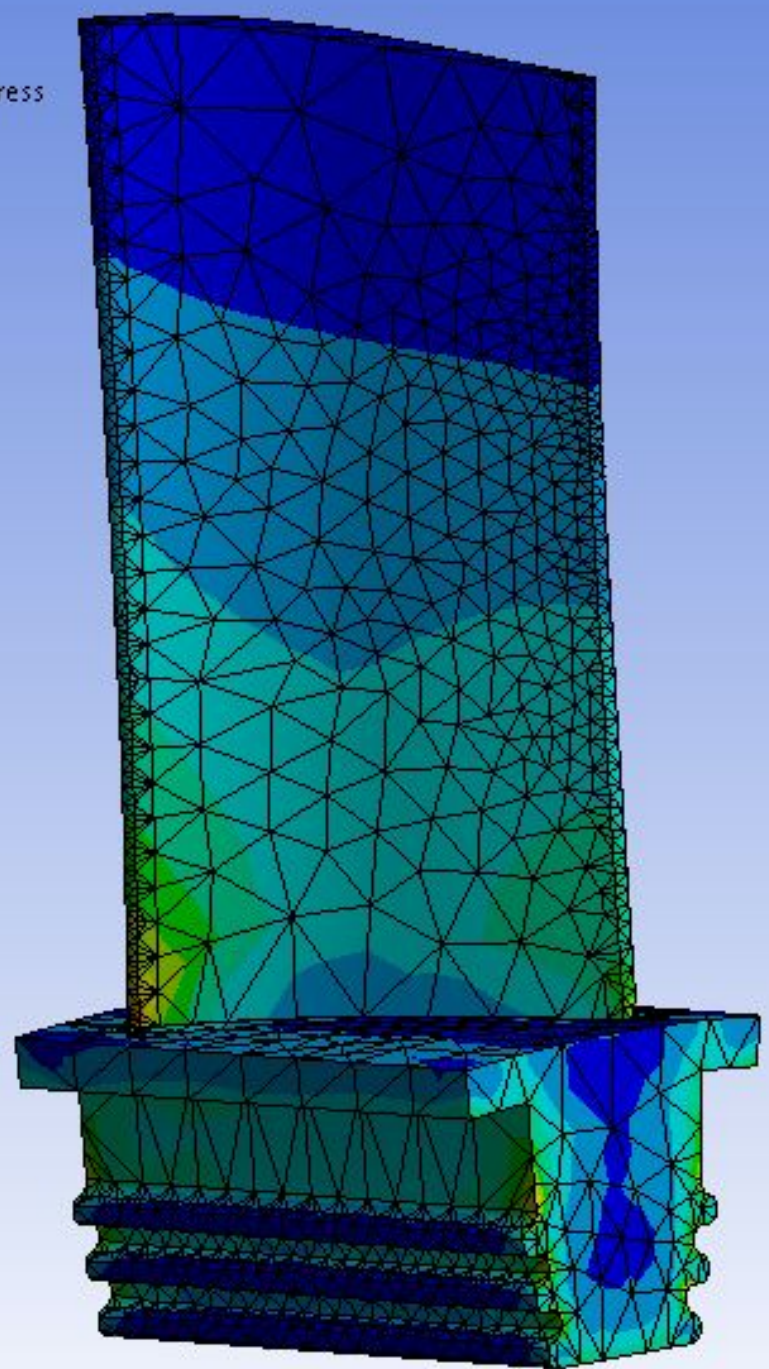
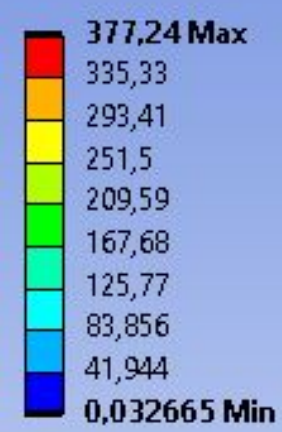
Time: 1

17.05.2020 20:13



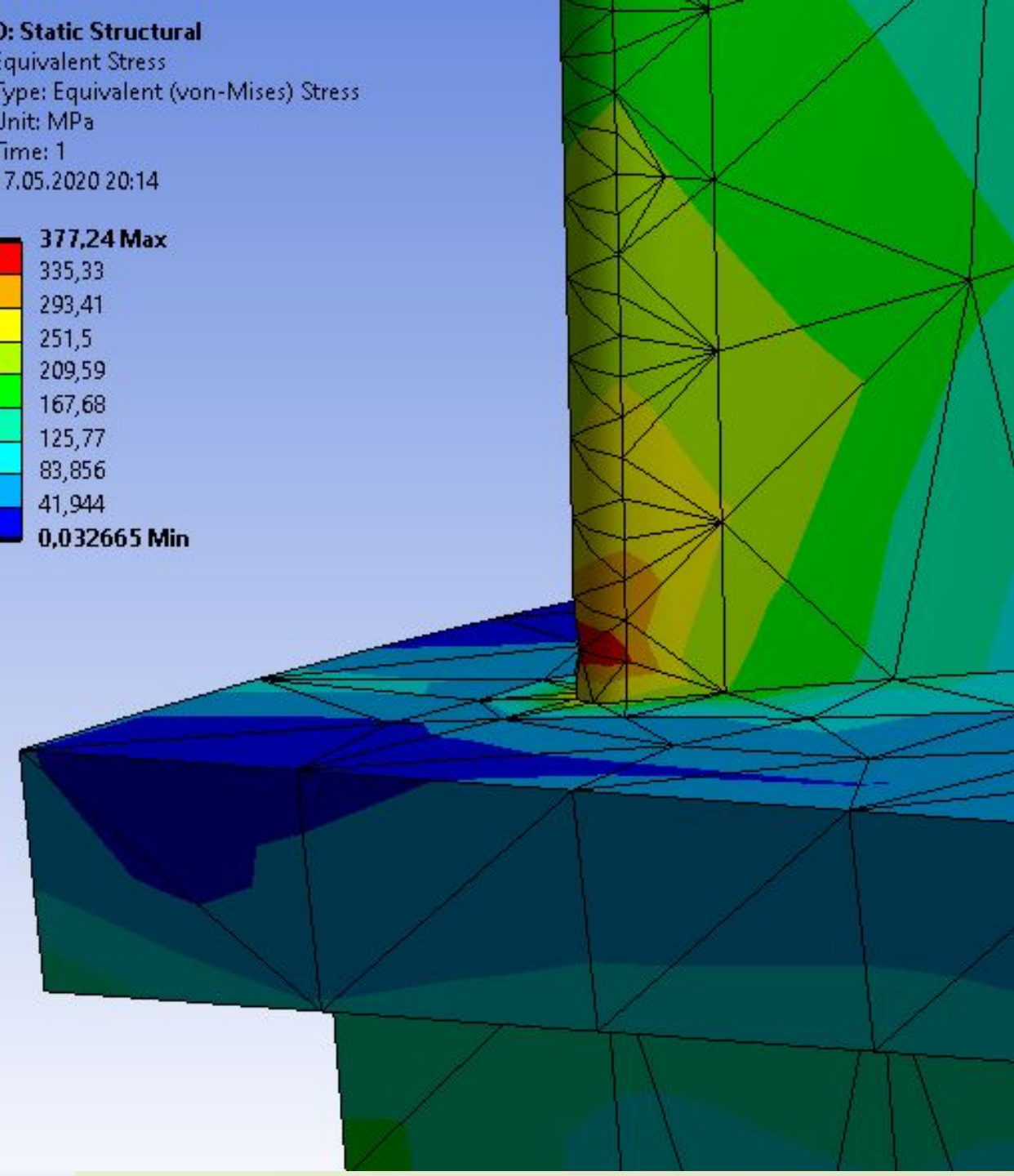
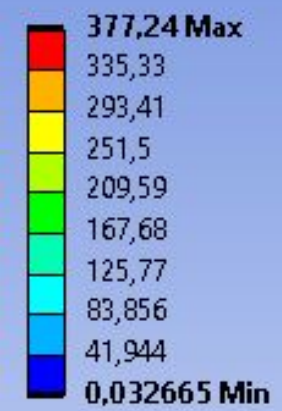
D: Static Structural

Equivalent Stress
Type: Equivalent (von-Mises) Stress
Unit: MPa
Time: 1
17.05.2020 20:14



D: Static Structural

Equivalent Stress
Type: Equivalent (von-Mises) Stress
Unit: MPa
Time: 1
17.05.2020 20:14



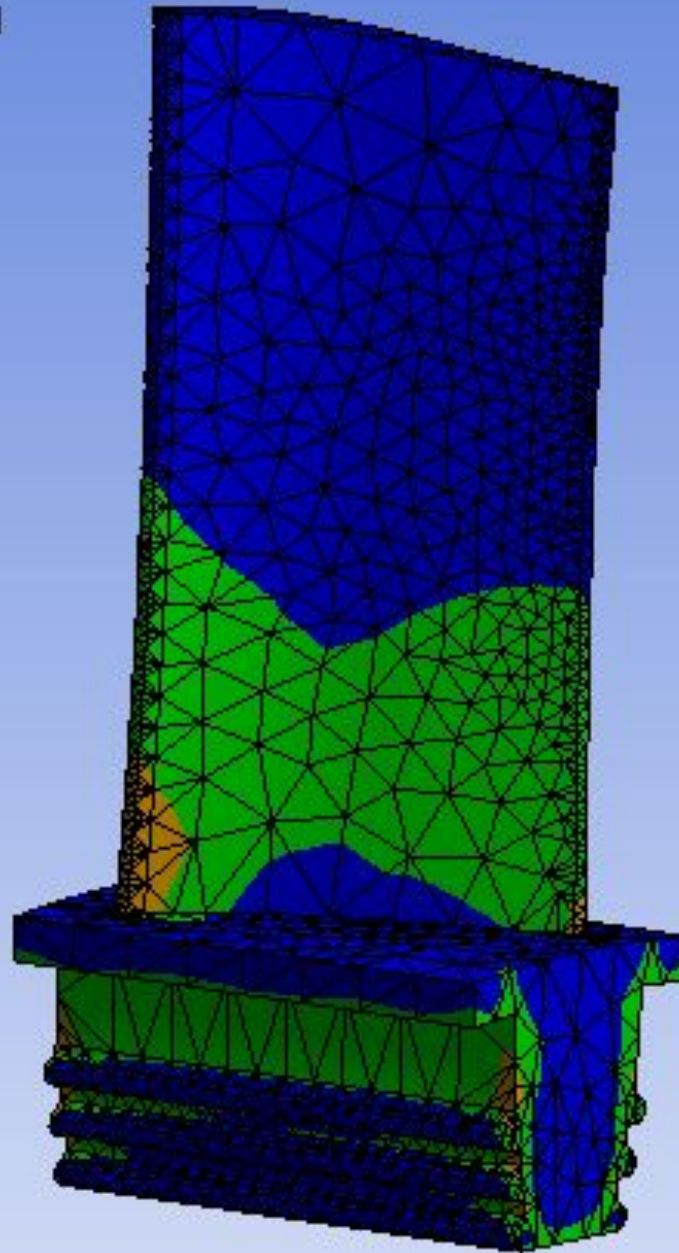
D: Static Structural

Safety Factor

Type: Safety Factor

Time: 1

17.05.2020 20:16



D: Static Structural

Safety Factor

Type: Safety Factor

Time: 1

17.05.2020 20:19

