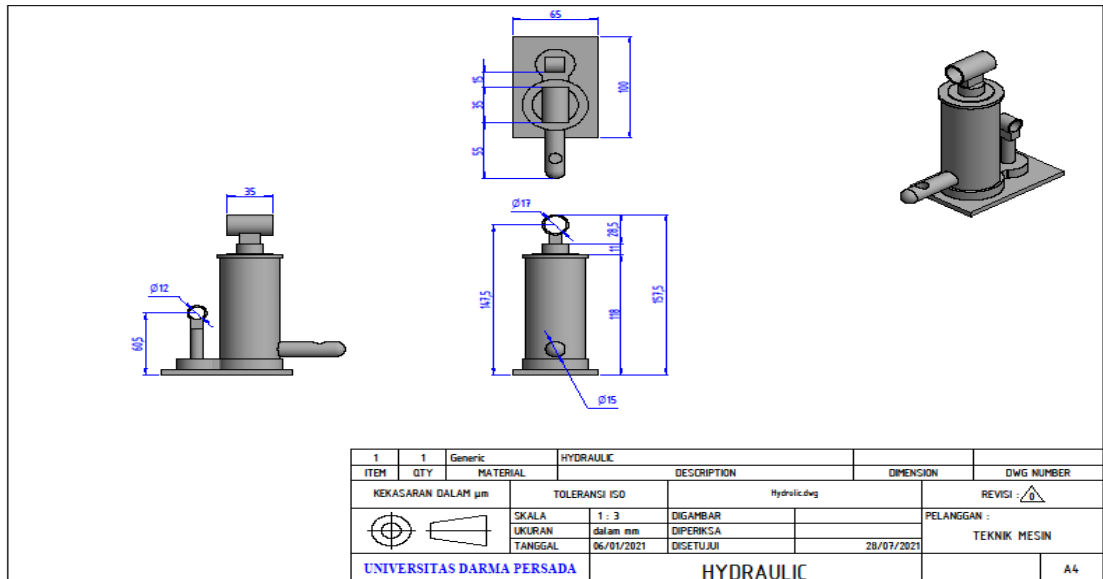
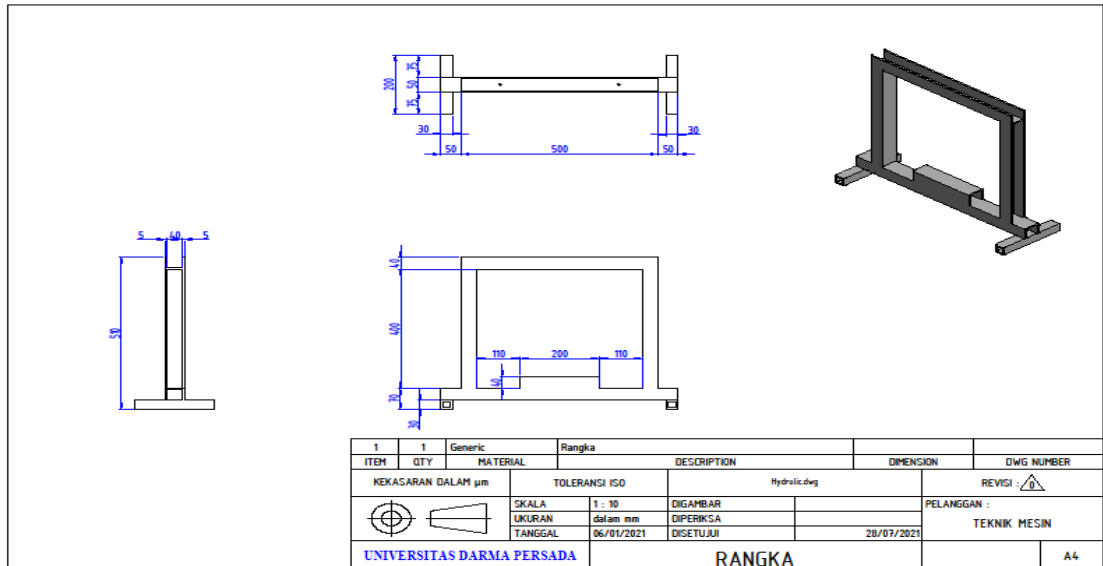
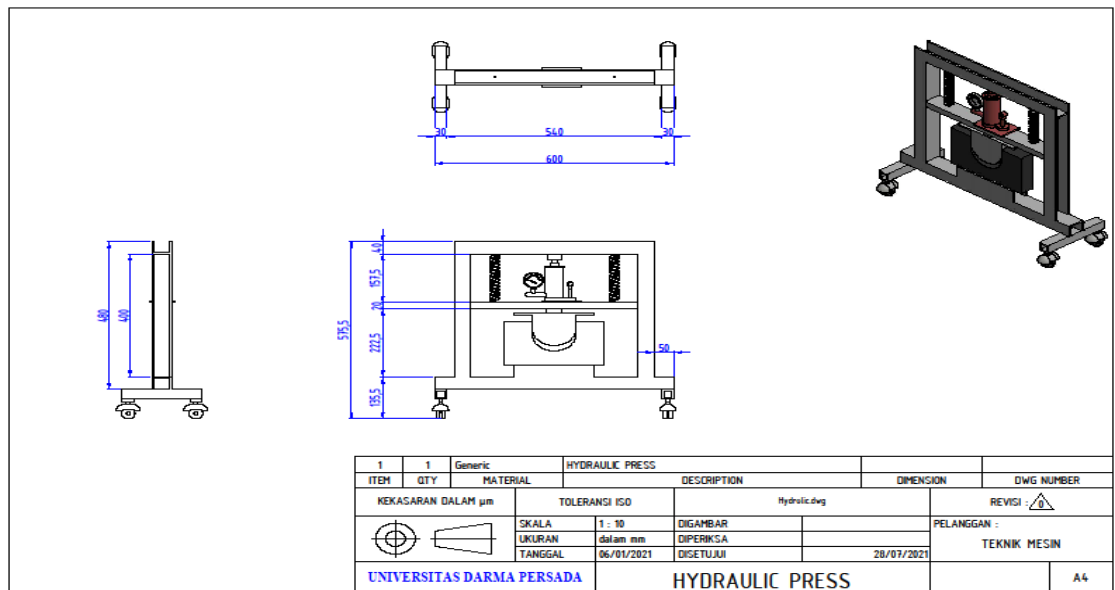
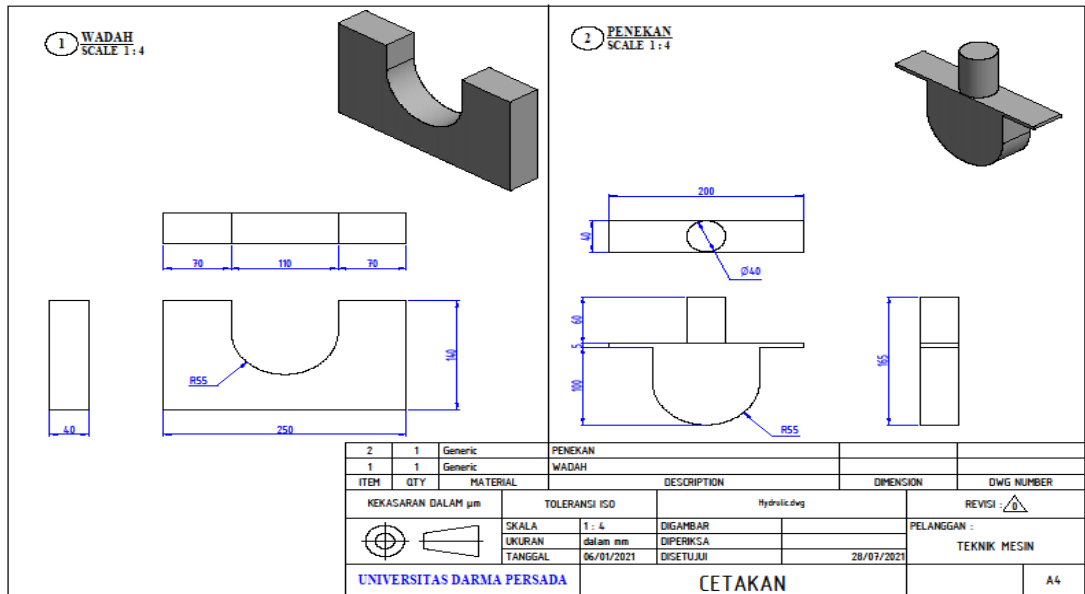


LAMPIRAN





Stress Analysis Report

Analyzed File:	hydrolic press banding klem pipa.iam
Autodesk Inventor Version:	2017 (Build 210142000, 142)
Creation Date:	22/09/2021, 18:35
Study Author:	User pc
Summary:	

▣ Project Info (iProperties)

▣ Summary

Author	User pc
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▣ Project

Part Number	hydrolic press banding klem pipa
Designer	User pc
Cost	Rp0
Date Created	19/04/2021

▣ Status

Design Status	WorkInProgress
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▣ Physical

Mass	2,05365 kg
Area	601061 mm ²
Volume	2053650 mm ³

Center of Gravity	x=261,667 mm y=83,225 mm z=324,379 mm
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Note: Physical values could be different from Physical values used by FEA reported below.

▣ **Static Analysis:1**

General objective and settings:

Design Objective	Single Point
Study Type	Static Analysis
Last Modification Date	22/09/2021, 18:34
Detect and Eliminate Rigid Body Modes	No
Separate Stresses Across Contact Surfaces	No
Motion Loads Analysis	No

Mesh settings:

Avg. Element Size (fraction of model diameter)	0,1
Min. Element Size (fraction of avg. size)	0,2
Grading Factor	1,5
Max. Turn Angle	60 deg
Create Curved Mesh Elements	No
Use part based measure for Assembly mesh	Yes

☐ Material(s)

Name	Steel	
General	Mass Density	7,85 g/cm ³
	Yield Strength	207 MPa
	Ultimate Tensile Strength	345 MPa
Stress	Young's Modulus	210 GPa
	Poisson's Ratio	0,3 ul
	Shear Modulus	80,7692 GPa

Part Name(s)	Cetakan Rangka Pendorong Hydraulic Pahat Press
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☐ Operating conditions

☐ Force:1

Load Type	Force
Magnitude	10,000 N
Vector X	0,000 N
Vector Y	-0,000 N
Vector Z	-10,000 N

☐ **Contacts (Bonded)**

Name	Part Name(s)
Bonded:1	Rangka:1 Pendorong:1
Bonded:2	Rangka:1 Pendorong:1
Bonded:3	Rangka:1 Hydraulic:1
Bonded:4	Cetakan:1 Pahat Press:1
Bonded:5	Cetakan:1 Pahat Press:1
Bonded:6	Cetakan:1 Pahat Press:1
Bonded:7	Cetakan:1 Pahat Press:1
Bonded:8	Cetakan:1 Pahat Press:1
Bonded:9	Cetakan:1 Pahat Press:1
Bonded:10	Cetakan:1 Pahat Press:1
Bonded:11	Cetakan:1 Pahat Press:1
Bonded:12	Cetakan:1 Pahat Press:1
Bonded:13	Cetakan:1 Rangka:1
Bonded:14	Pendorong:1 Hydraulic:1
Bonded:15	Pendorong:1 Pahat Press:1
Bonded:16	Pendorong:1 Pahat Press:1
Bonded:17	Pendorong:1 Pahat Press:1

☐ Results

☐ Reaction Force and Moment on Constraints

Constraint Name	Reaction Force		Reaction Moment	
	Magnitude	Component (X,Y,Z)	Magnitude	Component (X,Y,Z)
Fixed Constraint:1	10 N	0 N	0,00296392 N m	0 N m
		0 N		-0,00296392 N m
		10 N		0 N m

☐ Result Summary

Name	Minimum	Maximum
Volume	2053650 mm ³	
Mass	16,1212 kg	
Von Mises Stress	0,00000172904 MPa	0,143014 MPa
1st Principal Stress	-0,0225858 MPa	0,135781 MPa
3rd Principal Stress	-0,144024 MPa	0,0138037 MPa
Displacement	0 mm	0,000473648 mm
Safety Factor	15 ul	15 ul
Stress XX	-0,143079 MPa	0,108897 MPa
Stress XY	-0,0264727 MPa	0,0302886 MPa
Stress XZ	-0,0277443 MPa	0,0285505 MPa
Stress YY	-0,136859 MPa	0,0559491 MPa
Stress YZ	-0,0490316 MPa	0,0458196 MPa
Stress ZZ	-0,0893203 MPa	0,112405 MPa
X Displacement	-0,0000791914 mm	0,0000480652 mm
Y Displacement	-0,0000124424 mm	0,0000129341 mm
Z Displacement	-0,000473408 mm	0 mm
Equivalent Strain	0,0000000000747093 ul	0,000000604698 ul
1st Principal Strain	-0,00000000513483 ul	0,000000587462 ul
3rd Principal Strain	-0,000000682287 ul	0,0000000000222558 ul
Strain XX	-0,000000676438 ul	0,000000509359 ul
Strain XY	-0,000000163879 ul	0,000000187501 ul
Strain XZ	-0,000000171751 ul	0,000000176741 ul
Strain YY	-0,000000656234 ul	0,000000237571 ul

Strain YZ	-0,000000303529 ul	0,000000283645 ul
Strain ZZ	-0,000000391874 ul	0,000000451383 ul
Contact Pressure	0 MPa	0,0863383 MPa
Contact Pressure X	-0,0668054 MPa	0,0610783 MPa
Contact Pressure Y	-0,0585835 MPa	0,0697275 MPa
Contact Pressure Z	-0,0363407 MPa	0,0173623 MPa