

LAMPIRAN

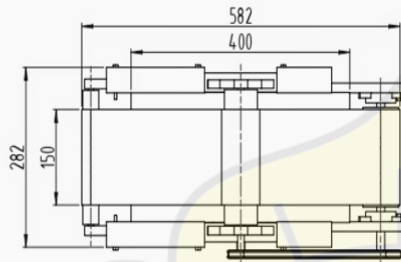
REVISION HISTORY				
REV	BY.	DATE	DESCRIPTION	
0	MAF	14/07/22	DIKELUARKAN PERTAMA KALI UNTUK MANUFAKTUR	

TAMPAK ISOMETRIS

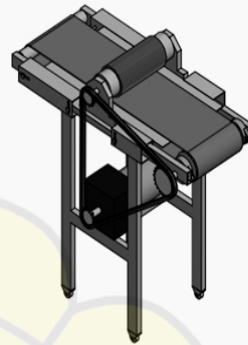
14	4	Steel Mild	RODA	FIXED CASTER 20 mm	
13	1	Steel Mild	SPROCKET MOTOR LISTRIK	RS 35 - 12 T	
12	1	Steel Mild	SPROCKET CONVEYOR	RS 35 - 22 T	
11	1	Steel Mild	RANTAI	RS 35	
10	1	Steel Mild	SPROCKET SCOTCH BRITE	RS 35 - 13 T	
9	4	Steel Mild	BAUT PENYETEL KETINGGIAN ROLLER SCOTCH BRITE	M5x0,8 2 LH L:50 mm	
8	2	Steel Mild	BAUT PENYETEL BELT CONVEYOR	M5x0,8 2 LH L:50 mm	
7	1	Polyester Fiber	SCOTCH BRITE	230 mm x 150 mm x 10 mm	
6	1	PVC	BELT CONVEYOR	PVC BELT	
5	1	Steel Mild	MOTOR LISTRIK	90 W, 1500 RPM, 3 PHASE	
4	1	Steel Mild	TAIL PULLEY	D = 30 mm	UDP-22-MSB-04
3	1	Steel Mild	PULLEY SCOTCH BRITE	D = 60 mm	UDP-22-MSB-03
2	1	Steel Mild	PULLEY DRIVE CONVEYOR	D = 65 mm	UDP-22-MSB-02
1	1	Steel Mild	RANGKA MESIN	BESI HOLLOW 40X40 mm, 15x30 mm	UDP-22-MSB-01

ITEM	QTY	MATERIAL	DESCRIPTION	DIMENSION	DWG NUMBER
KEKASARAN DALAM μm		TOLERANSI ISO		MESIN SCOTCH BRITE (ISOMETRIS).dwg	REVISI : $\frac{\Delta}{0}$
		SKALA	1 : 7	DIGAMBAR	MAF
		UKURAN	dalam mm	DIPERIKSA	HS
		TANGGAL	7/14/2022	DISETUJUI	HS
UNIVERSITAS DARMA PERSADA		MESIN SCOTCH BRITE ASSEMBLY DRAWING			UDP-22-MSB-00 A4

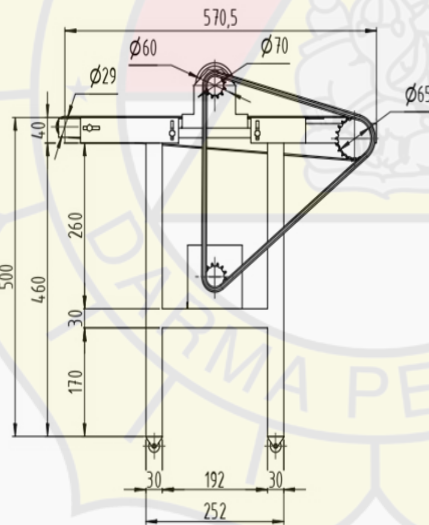
REVISION HISTORY			
REV	BY.	DATE	DESCRIPTION
0	MAF	12/08/2022	DIKELUARKAN PERTAMA KALI UNTUK MANUFAKTUR



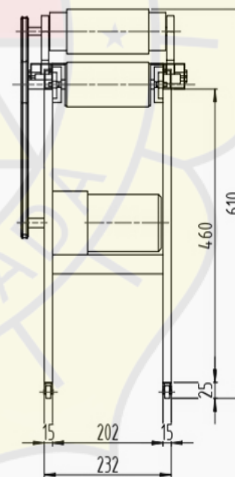
TAMPAK ATAS



TAMPAK ISOMETRIS

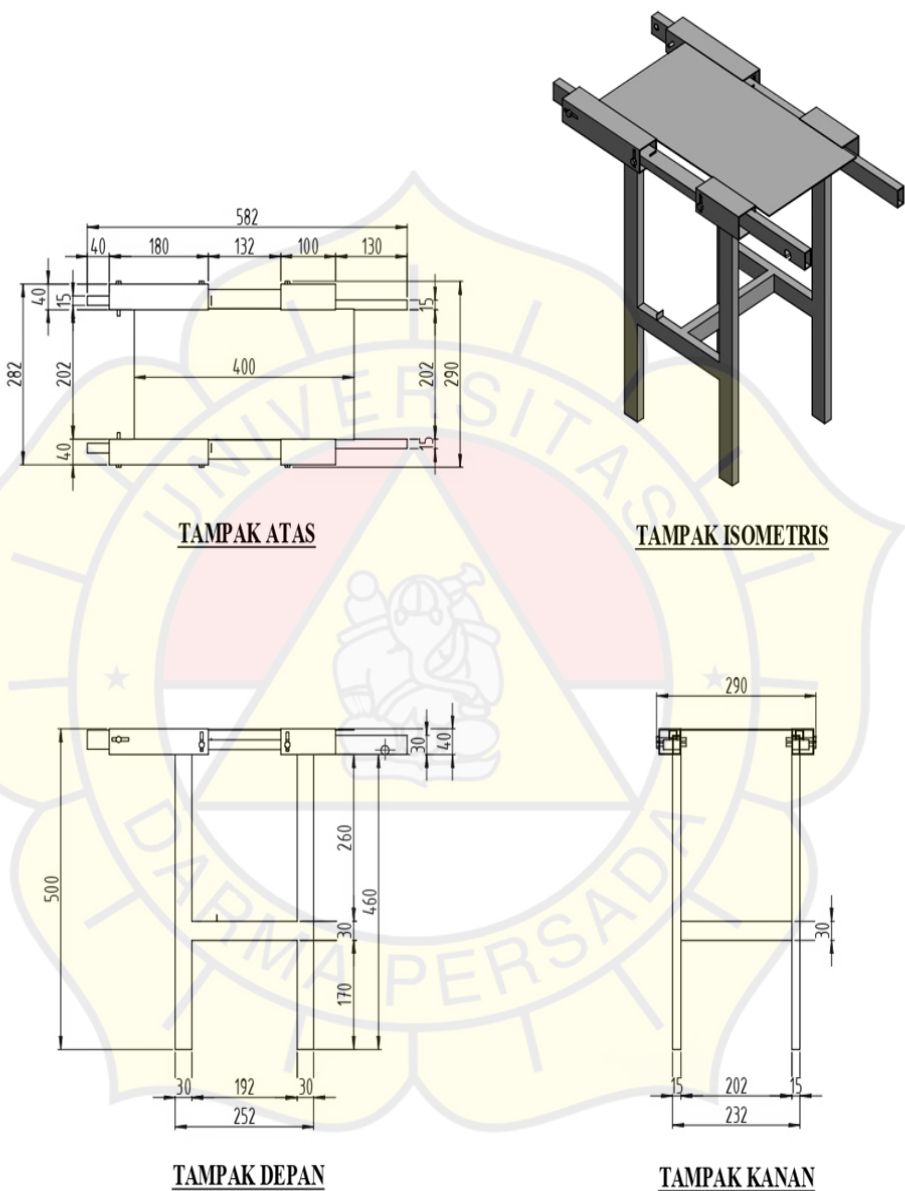
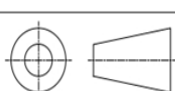


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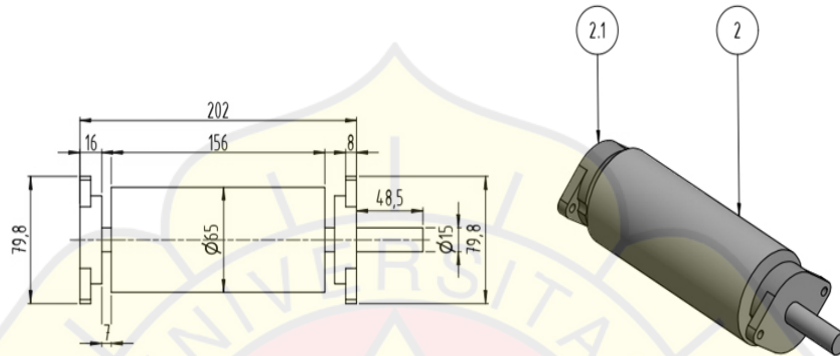


TAMPAK KANAN

KEKASARAN DALAM μm	TOLERANSI ISO		MESIN SCOTCH BRITE (PROYEKSI).dwg		REVISI : \triangle
	SKALA	1 : 10	DIGAMBAR	MAF	PELANGGAN : TEKNIK MESIN
	UKURAN	dalam mm	DIPERIKSA	HS	
	TANGGAL	8/12/2022	DISETUJUI	HS	
UNIVERSITAS DARMA PERSADA		MESIN SCOTCH BRITE (PROYEKSI) ASSEMBLY DRAWING			UDP-22-MSB-00.1 A4

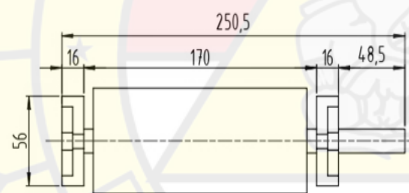
REVISION HISTORY						
REV	BY.	DATE	DESCRIPTION			
0	MAF	12/08/2022	DIKELUARKAN PERTAMA KALI UNTUK MANUFAKTUR			
						
1	1	STEEL MILD	RANGKA MESIN	BESI HOLLOW 40X40 mm, 15X30 mm	UDP-22-MSB-01	
ITEM	QTY	MATERIAL	DESCRIPTION	DIMENSION	DWG NUMBER	
KEKASARAN DALAM μm		TOLERANSI ISO		MAIN FRAME.dwg	REVISI : \triangle	
	SKALA	1 : 10	DIGAMBAR	MAF	PELANGGAN : TEKNIK MESIN	
	UKURAN	dalam mm	DIPERIKSA	HS		
	TANGGAL	8/12/2022	DISETUJUI	HS		
UNIVERSITAS DARMA PERSADA			RANGKA MESIN DETAIL DRAWING		UDP-22-MSB-01	A4

REVISION HISTORY			
REV	BY.	DATE	DESCRIPTION
0	MAF	12/08/2022	DIKELUARKAN PERTAMA KALI UNTUK MANUFAKTUR

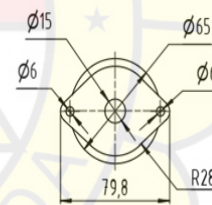


TAMPAK ATAS

TAMPAK ISOMETRIS



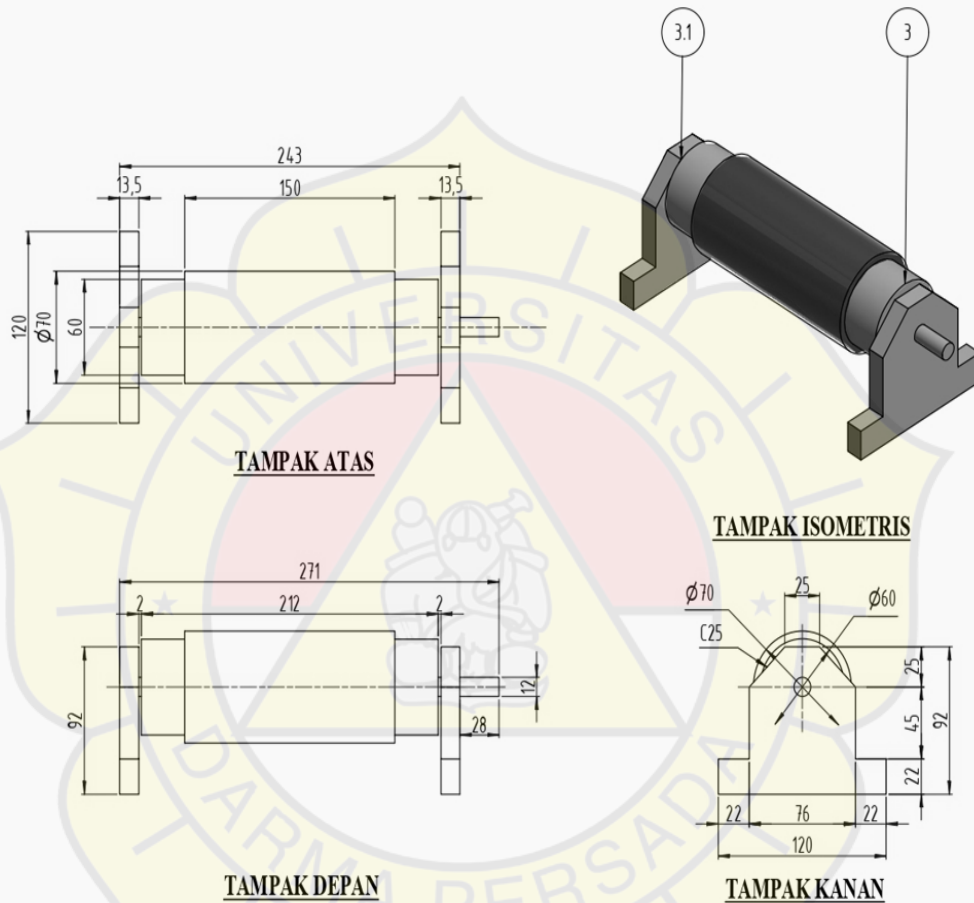
TAMPAK DEPAN



TAMPAK KANAN

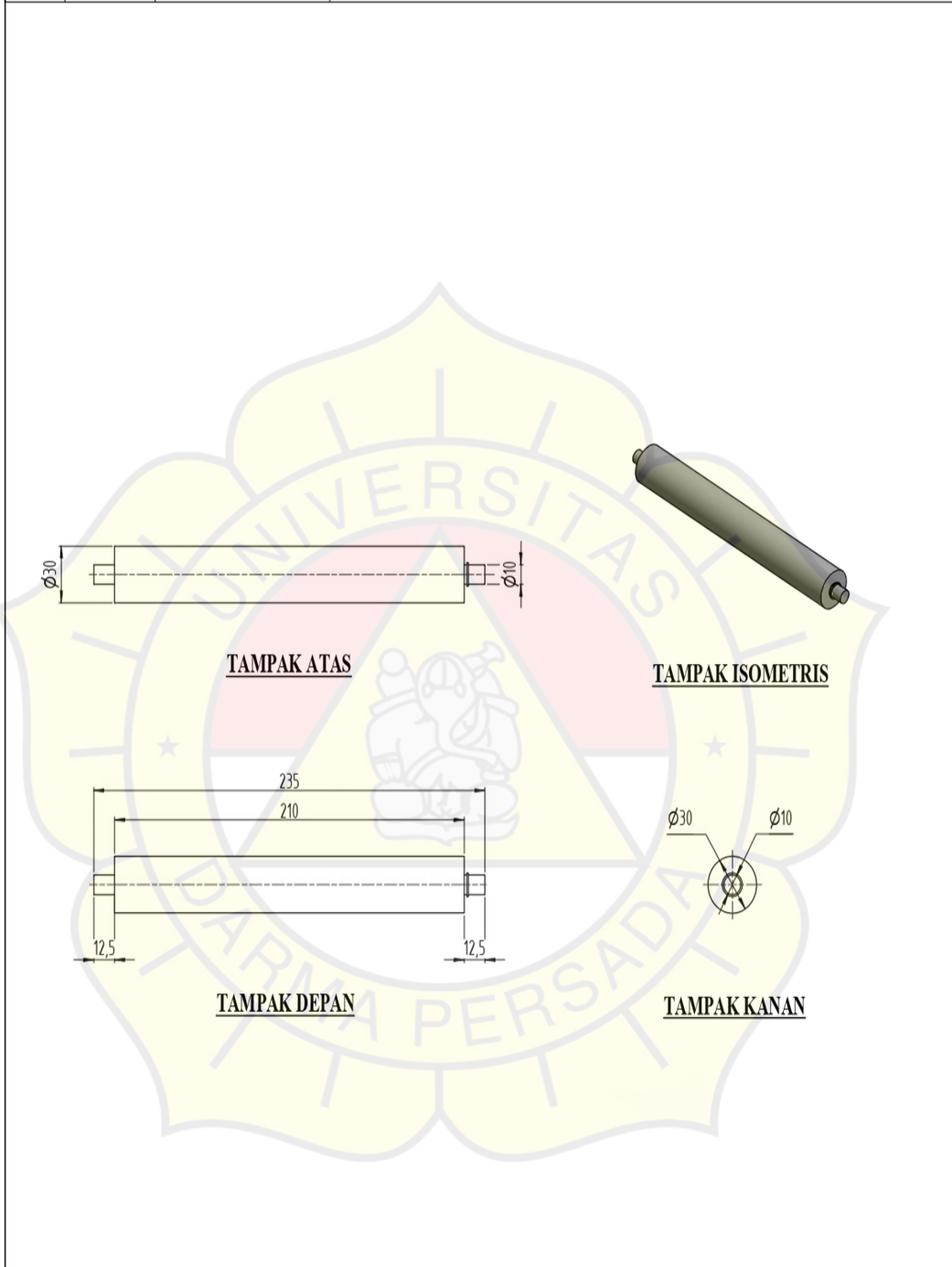
2.1	2	STEEL MILD	BEARING ROLLEER CONVEYOR		UDP-22-MSB-02.1
2	1	STEEL MILD	PULLEY DRIVE CONVEYOR	D = 65 mm	UDP-22-MSB-02
ITEM	QTY	MATERIAL	DESCRIPTION	DIMENSION	DWG NUMBER
KEKASARAN DALAM μm		TOLERANSI ISO		ROLLER CONVEYOR.dwg	REVISI : \triangle
		SKALA	1 : 4	DIGAMBAR	MAF
		UKURAN	dalam mm	DIPERIKSA	HS
		TANGGAL	8/12/2022	DISETUJUI	HS
UNIVERSITAS DARMA PERSADA			PULLEY DRIVE CONVEYOR DETAIL DRAWING		UDP-22-MSB-02 A4

REVISION HISTORY			
REV	BY.	DATE	DESCRIPTION
0	MAF	12/08/2022	DIKELUARKAN PERTAMA KALI UNTUK MANUFAKTUR



3.1	2	STEEL MILD	BEARING ROLLER SCOTH BRITE		UDP-22-MSB-03.1
3	1	STEEL MILD	PULLEY SCOTH BRITE	D= 60 mm	UDP-22-MSB-03
ITEM	QTY	MATERIAL	DESCRIPTION	DIMENSION	DWG NUMBER
KEKASARAN DALAM μm		TOLERANSI ISO		ROLLER SCOTH BRITE.dwg	REVISI : $\triangle/0$
		SKALA	1 : 4	DIGAMBAR	MAF
		UKURAN	dalam mm	DIPERIKSA	HS
		TANGGAL	8/12/2022	DISETUJUI	HS
UNIVERSITAS DARMA PERSADA			PULLEY SCOTH BRITE DETAIL DRAWING		UDP-22-MSB-03 A4

REVISION HISTORY			
REV	BY.	DATE	DESCRIPTION
0	MAF	12/08/2022	DIKELUARKAN PERTAMA KALI UNTUK MANUFATUR



4	1	STEEL MILD	TAIL PULLEY	D= 30 mm	UDP-22-MSB-04
ITEM	QTY	MATERIAL	DESCRIPTION	DIMENSION	DWG NUMBER
KEKASARAN DALAM μm		TOLERANSI ISO		ROLLER GRAVITY.dwg	REVISI : \triangle
		SKALA	1 : 3	DIGAMBAR	MAF
		UKURAN	dalam mm	DIPERIKSA	HS
		TANGGAL	8/12/2022	DISETUJUI	HS
UNIVERSITAS DARMA PERSADA			TAIL PULLEY DETAIL DRAWING		UDP-22-MSB-04 A4

Stress Analysis Report



Analyzed File:	MESIN SCOTCH BRITE (KALKULASI).iam
Autodesk Inventor Version:	2021 (Build 250183000, 183)
Creation Date:	18/07/2022, 17:00
Study Author:	LAB-MD-21
Summary:	

Project Info (iProperties)

Summary

Author	ALDY FADILAH
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Project

Part Number	MESIN SCOTCH BRITE (KALKULASI)
Designer	ALDY FADILAH
Cost	Rp0
Date Created	13/07/2022

Status

Design Status	WorkInProgress
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Physical

Mass	5,62173 kg
Area	1372860 mm ²
Volume	5432230 mm ³

Center of Gravity	x=21,5453 mm y=115,573 mm z=14,8409 mm
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Note: Physical values could be different from Physical values used by FEA reported below.

ANALISIS MESIN SCOTCH BRITE

General objective and settings:

Design Objective	Single Point
Study Type	Static Analysis
Last Modification Date	18/07/2022, 16:56
Detect and Eliminate Rigid Body Modes	Yes
Separate Stresses Across Contact Surfaces	Yes
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	30 deg
Create Curved Mesh Elements	No
Use part based measure for Assembly mesh	Yes

Material(s)

Name	Steel, Mild	
General	Mass Density	7,85 g/cm ³

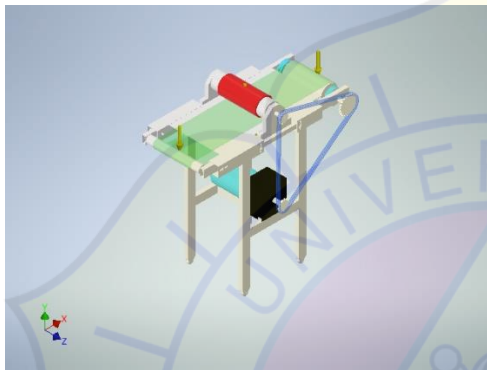
	Yield Strength	207 MPa
	Ultimate Tensile Strength	345 MPa
Stress	Young's Modulus	220 GPa
	Poisson's Ratio	0,275 ul
	Shear Modulus	86,2745 GPa
Part Name(s)	MAIN FRAME.ipt ROLLER DRIVE CONVEYOR & BEARING.ipt ROLLER GRAVITY.ipt ROLLER SCOTCH BRITE & BEARING.ipt MOTOR LISTRIK.ipt BAUT.ipt BAUT.ipt RODA.ipt RODA.ipt RODA.ipt RODA.ipt	
Name	Steel, Alloy	
General	Mass Density	7,73 g/cm ³
	Yield Strength	250 MPa
	Ultimate Tensile Strength	400 MPa
Stress	Young's Modulus	205 GPa
	Poisson's Ratio	0,3 ul
	Shear Modulus	78,8462 GPa
Part Name(s)	Roller Chain Roller Chain Sprocket1 Roller Chain Sprocket2 Roller Chain Sprocket3	

Operating conditions

Gravity

Load Type	Gravity
Magnitude	9810,000 mm/s ²
Vector X	0,000 mm/s ²
Vector Y	-9810,000 mm/s ²
Vector Z	0,000 mm/s ²

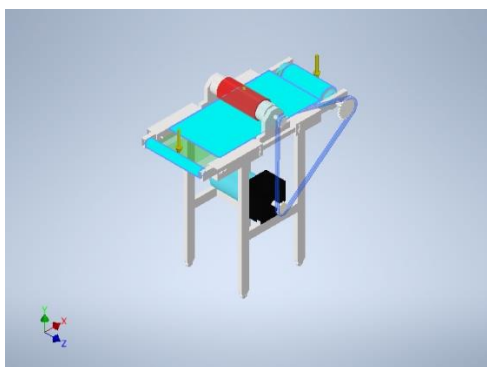
Selected Face(s)



Force:1

Load Type	Force
Magnitude	36,000 N
Vector X	0,000 N
Vector Y	-36,000 N
Vector Z	0,000 N

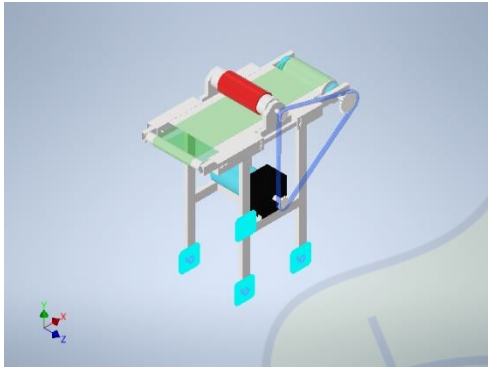
Selected Face(s)



Fixed Constraint:1

Constraint Type	Fixed Constraint
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Selected Face(s)



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	423,63 N	0 N	11,3136 N m	-4,27594 N m
		423,63 N		0,0571045 N m
		0 N		10,4743 N m

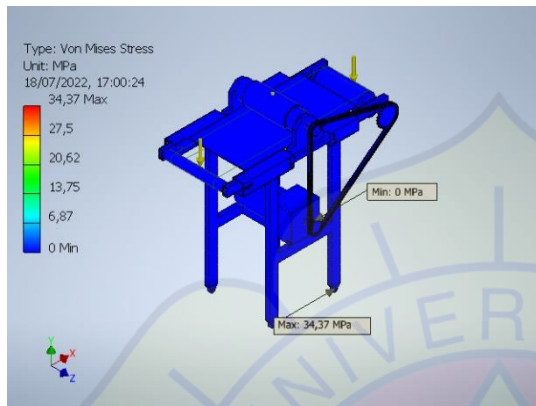
Result Summary

Name	Minimum	Maximum
Volume	5078230 mm ³	
Mass	39,8501 kg	
Von Mises Stress	0,000071094 MPa	34,3699 MPa
1st Principal Stress	-11,4176 MPa	37,036 MPa
3rd Principal Stress	-33,5267 MPa	12,8037 MPa

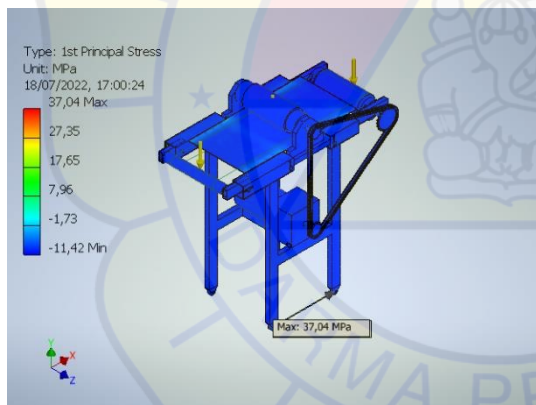
Displacement	0 mm	0,0353501 mm
Safety Factor	6,02271 ul	15 ul

Figures

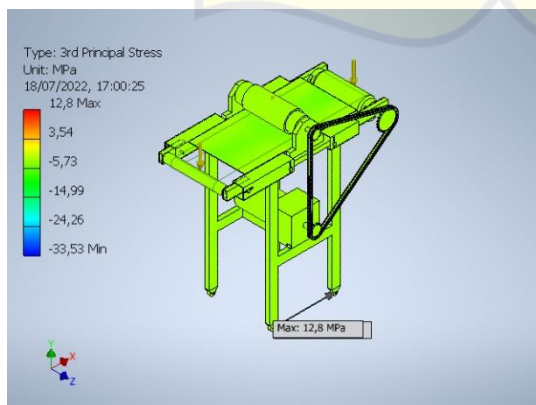
Von Mises Stress



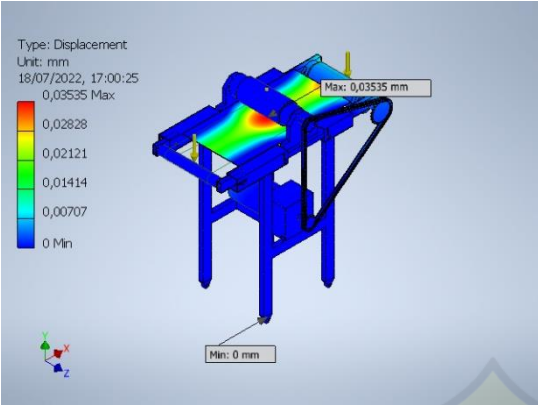
1st Principal Stress



3rd Principal Stress



Displacement



Safety Factor

