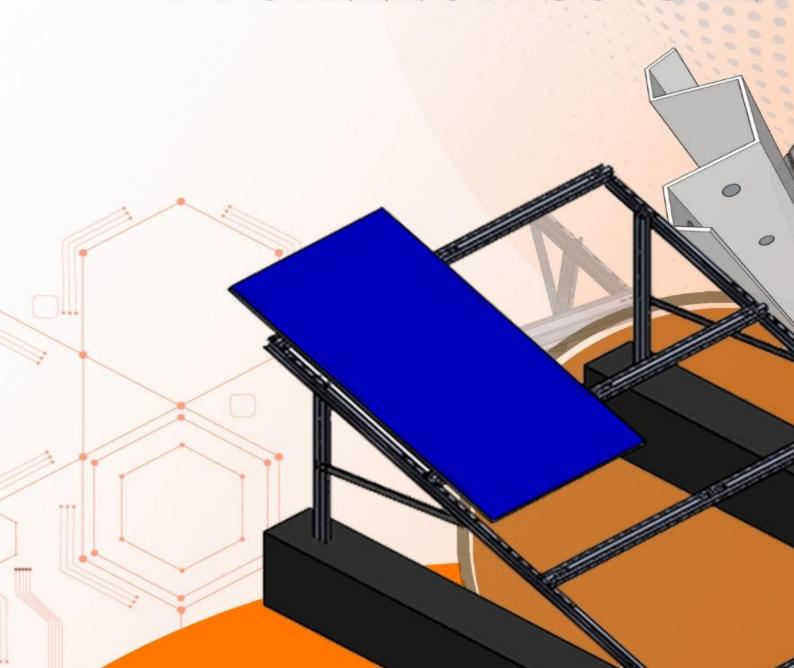




PV STEEL STRUCTURE





G-Steel PV Mounting

> G-Steel manufactures high quality solar steel mounting systems for metal corrugated roof, flat roof and ground open areas variable applications.

Whether for small or large-scale projects, standard models or tailor – made systems. G-Steel wide scope of products provides innovative mounting solutions for any PV solar application including commercial, industrial, government, utility and residential applications.

- Choosing the right kind of solar mounting system is an extremely important part of your solar design process. The condition of your roof and the space you have available also plays a part.
- Within our process, we meet with our clients to help them define their goals, evaluate their options, and make informed and confident decisions to select the optimum steel profiles which fit application requirements.
- The right mounting system will accomplish two main goals; collecting the irradiance directly from the sun. This can be made possible by placing your panels on the correct tilt. The other goal is to reduce or eliminate the amount of shade that prohibits sun from hitting your panels.





Mission & Strategy

- G-Steel is committed to principles of sustainability while exploiting innovative technology to its fullest in order to ensure the satisfaction of consumers' needs in the global market scale.
- This commitment is aimed at enhancing the quality of life for everyone now and for future generations.

Vision

Our vision work as a blueprint to how we would like to build and grow every part of our organization by taking into consideration each vision when conducting business, in order to achieve the highest quality of service and satisfaction both by our customers and employees.

Policies

- > service techniques insure the conformity of its service to the It is our policy in that customer satisfaction, health, safety, environmental considerations, and business objectives are mutually dependent; satisfying all requirements and needs of customers, considering that the internal implemented procedures contracted and agreed customers' requirements.
- > Our policy emphasizes the need for measuring and analyzing performance in order to confirm that planning and problem solving has led to quality improvements. The continuous monitoring of systems performance is essential and performed with the use of the most powerful diagnostic tools.
- Being clear about an organization's intentions and goals is the first step toward effectiveness and results.







Solar PV Mounting Application

- Metal corrugated roof PV mounting systems.
- Flat roof top PV mounting systems.
- Pole PV mounting systems.
- Ground PV mounting systems.
- Carport PV mounting systems.
- Parking PV mounting systems.
- Factor's roof PV mounting systems.
- Refrigerator's roof PV mounting systems.
- Caravan PV mounting systems.

Solar PV Mounting Types

- Fixed PV mounting system..

Technical characteristics of G-Steel

- Galvanized (Z275)
- Nail assembly
- Equipped With Notch
- Commensurate with the middle and end clamp
- Unique structure properties.
- The best suited protection to withstand harsh environments.
- Customized designs to fit your applications.
- Compatible with all types of modules.







G-Steel on various lands

❖ Agricultural land :-



Desert lands:-





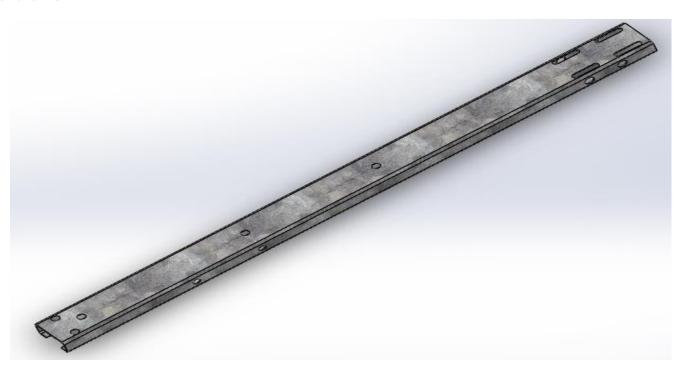
On the surfaces:-





Technical specifications for fixed

> C60 Section:-



item	C60									
Functionality	Fixation									
Material	Carbon Steel St 52									
Surface Treatment	Cold Galvanized With Thickness 275 µ									
Thickness		1.5 mm								
Length	90 Cm	190 Cm	395.6 Cm							
Weight	1.462 Kg	3.087 Kg	6.428 Kg							
Dimensions	6*3*1.5 Cm									









> C70 Section:-



item	С70									
Functionality	Fixation									
Material	C	arbon Steel St	52							
Surface Treatment	Cold Galvanized With Thickness 275 μ									
Thickness	1.5 mm									
Length	90 Cm	190 Cm	395.6 Cm							
Weight	1.568 Kg 3.311 Kg 6.894									
Dimensions	7*3*1.5 Cm									









> C80 Section:-



item	C80									
Functionality		Fixation								
Material	С	arbon Steel St	52							
Surface Treatment	Cold Galvanized With Thickness 275 μ									
Thickness	1.5 mm									
Length	90 Cm	190 Cm	395.6 Cm							
Weight	1.674 Kg	3.535 Kg	7.36 Kg							
Dimensions	8*3*1.5 Cm									









> C90 Section:-



item	C90									
Functionality	Fixation									
Material	С	arbon Steel St	52							
Surface Treatment	Cold Galvanized With Thickness 275 μ									
Thickness	1.5 mm									
Length	90 Cm	190 Cm	395.6 Cm							
Weight	1.992 Kg 4.206 Kg 8.757									
Dimensions	9*4*1.5 Cm									



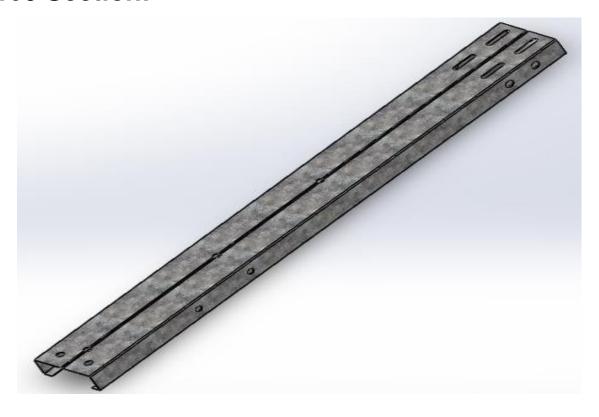








> C100 Section:-



item	C100 With Notch								
Functionality		Fixation							
Material	С	arbon Steel St	52						
Surface Treatment	Cold Galvanized With Thickness 275 μ								
Thickness	1.5 mm								
Length	90 Cm	190 Cm	395.6 Cm						
Weight	2.141 Kg 4.519 Kg 9.41 K								
Dimensions		10*4*1.7 Cm							

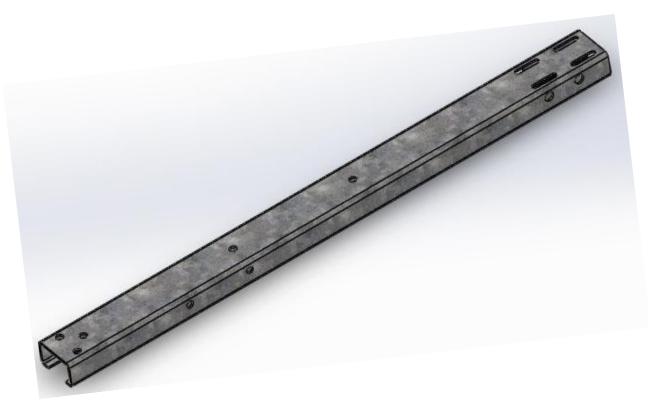








> C70 Section:-



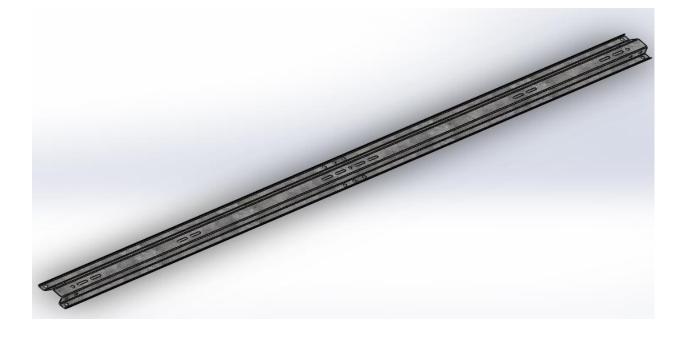
item	C70									
Functionality	Fixation									
Material	C	arbon Steel St	52							
Surface Treatment	Cold Galvanized With Thickness 275 μ									
Thickness	3 mm									
Length	90 Cm	190 Cm	395.6 Cm							
Weight	3.391Kg	7.159 Kg	14.906 Kg							
Dimensions	7*4*1.5 Cm									







➤ Omega Sector:-



item		Ome	ga								
Functionality	Fixation										
Material	Carbon Steel St 52										
Surface Treatment	Cold Ga	Cold Galvanized With Thickness 275 μ									
Thickness	1 mm										
Length	244.1 Cm	285.3 Cm	330 Cm	358.7 Cm							
Weight	3.602 Kg	3.602 Kg 4.21 Kg 4.87 Kg 5.294									
Dimensions	4.4*4.4*2.2*1.7 Cm										





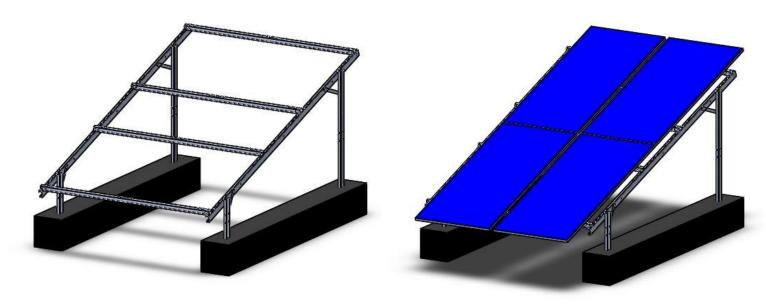






G-Steel Designs

❖ Portrait Design :-



❖ Land Scape Design :-











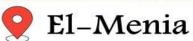
G-Steel Supplies





Alexandria













Wadi Al-Natroon











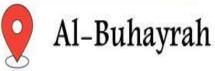














Al-Hammam City



G-Steel Special Order







G-Steel out Side Egypt





SUDAN





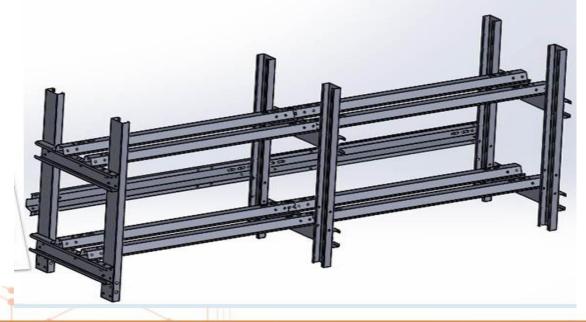




Products from G Steel

Batteries Stand :-















Sandwich Panel Connection:-











Galvanizing certificate

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Description

G STEEL - C100

Date: 05 May 2021

Designer: Eng. Ayman abdelbaset

Study name: Static 1 **Analysis type: Static**

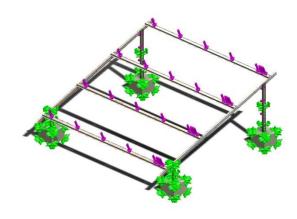
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Assumptions Error! Bookmark not defined
Model Information
Study Properties
Units
Material Properties28
Loads and Fixtures
Connector Definitions. Error! Bookmark not defined
Contact Information30
Mesh information33
Sensor Details Error! Bookmark not defined
Resultant Forces
Beams Error! Bookmark not defined
Study Results
Conclusion Error! Bookmark not defined





Model Information



Model name: Assem1 Current Configuration: Default

Solid Bodies			
Document Name and Reference	Treated As	Volumetric Properties	Document Path/Date Modified
Boss-Extrude1	Solid Body	Mass:147.2 kg Volume:0.064 m^3 Density:2,300 kg/m^3 Weight:1,442.56 N	C:\Users\Ahmed\Desktop\G ESC SECTORS (1)\Concrete.SLDPRT May 5 11:54:05 2021
Boss-Extrude1	Solid Body	Mass:147.2 kg Volume:0.064 m^3 Density:2,300 kg/m^3 Weight:1,442.56 N	C:\Users\Ahmed\Desktop\G ESC SECTORS (1)\Concrete.SLDPRT May 5 11:54:05 2021
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Boss-Extrude1	Solid Body	Mass:147.2 kg Volume:0.064 m^3 Density:2,300 kg/m^3 Weight:1,442.56 N	Users\Ahmed\Desktop\GESC ECTORS (1)\Concrete.SLDPRT May 5 11:54:05 2021











Study Properties

Study name	Static 1
Analysis type	Static
Mesh type	Mixed Mesh
Thermal Effect:	On
Thermal option	Include temperature loads
Zero strain temperature	298 Kelvin
Include fluid pressure effects from SOLIDWORKS Flow Simulation	On
Solver type	FFEPlus
Inplane Effect:	Off
Soft Spring:	Off
Inertial Relief:	Off
Incompatible bonding options	Automatic
Large displacement	Off
Compute free body forces	On
Friction	On
Use Adaptive Method:	Off
Result folder	SOLIDWORKS document (C:\Users\Ahmed\Desktop\GESC SECTORS (1))

Units

Unit system:	SI (MKS)
Length/Displacement	mm
Temperature	Kelvin
Angular velocity	Rad/sec
Pressure/Stress	N/m^2













Material Properties

Properties Model Reference Components



Name: Model type: Default failure criterion:

Elastic modulus: 2e+11 N/m^2 Poisson's ratio: 0.29

Galvanized Steel Linear Elastic Isotropic Max von Mises Stress Yield strength: 2.03943e+08 N/m^2 Tensile strength: 3.56901e+08 N/m^2

Mass density: 7,870 kg/m^3

SolidBody 1(Cut-Extrude2)(3587-

SolidBody 1(Cut-Extrude2)(3587-

SolidBody 1(Cut-Extrude2)(3587-

SolidBody 1(Cut-Extrude2)(3587-

SolidBody 1(Cut-Extrude2)(3956 (Inner 100) Notched-1),

SolidBody 1(Cut-Extrude2)(3956

(Inner 100) Notched-2), SolidBody 1(Cut-

Extrude2)(C190(100) Notched-1),

SolidBody 1(Cut-

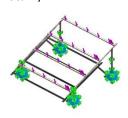
Extrude2)(C190(100) Notched-2), SolidBody 1(Cut-Extrude2)(C90

(100 mm) Notched-1),

SolidBody 1(Cut-Extrude2)(C90

(100 mm) Notched-2)

Curve Data:N/A



Name: Model type:

Default failure criterion: Yield strength: Tensile strength:

Compressive strength: 3e+07 N/m^2

Poisson's ratio: Mass density: Shear modulus: 1e+07 N/m^2

Concrete **Linear Elastic Isotropic**

Unknown 2.4e+07 N/m^2 5e+06 N/m^2

Elastic modulus: 3.5e+10 N/m^2 0.21

2,300 kg/m³

Extrude1)(Concrete-1), SolidBody 1(Boss-Extrude1)(Concrete-2),

SolidBody 1(Boss-

SolidBody 1(Boss-Extrude1)(Concrete-3), SolidBody 1(Boss-Extrude1)(Concrete-4)

Curve Data:N/A







Loads and Fixtures

Fixture name Immovable-1 Fixture Image

Fixture Details

Entities: 24 face(s)

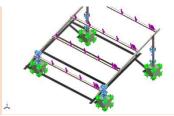
Immovable (No Type:

translation)

Resultant Forces

Components	X	Υ	Z	Resultant	
Reaction force(N)	0	0	0	1e-33	
Reaction Moment(N.m)	0	0	0	1e-33	

Fixed-1



Entities: 16 face(s)

Fixed Geometry

Resultant Forces

Components	X	Υ	Z	Resultant
Reaction force(N)	0.52491	30.2505	10.4227	32
Reaction Moment(N.m)	0.0545625	0.0290453	0.00414554	0.0619507

Load name	Load Image	Load Details
Force-1	*	Entities: 4 face(s) Type: Apply normal force Value: 8 N









Contact Information



Contact Image

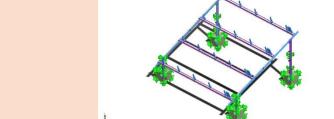
Contact Properties

Type: No Penetration

contact pair

Entities: 20 face(s) Advanced: Surface to

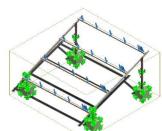
surface



Contact/Friction force

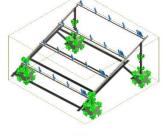
Components	Х	Υ	Z	Resultant
Contact Force(N)	-0.0040406	-2.8057E-07	0.0027318	0.0048774

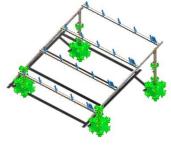
Global Contact



Component Contact-1

1





Type: **Bonded**

Components: 1 component(s)

Options: Compatible

mesh

No penetration Type:

(Surface to

surface)

Components:

component(s),

4 Solid Body (s)









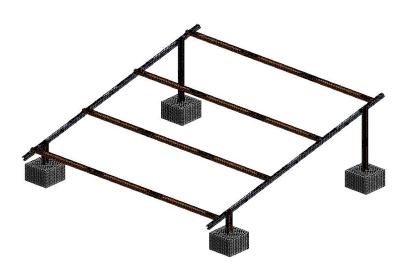
Mesh information

Mesh type	Mixed Mesh
Mesher Used:	Standard mesh
Automatic Transition:	Off
Include Mesh Auto Loops:	Off
Jacobian points	4 Points
Jacobian check for shell	On
Element Size	36.5119 mm
Tolerance	1.82559 mm
Mesh Quality Plot	High
Remesh failed parts with incompatible mesh	Off

Mesh information - Details

Total Nodes	112347
Total Elements	62336
Time to complete mesh(hh;mm;ss):	00:02:06
Computer name:	AYMAN_ABDELBASET

Model name:Assem1 Study name:Static 1(-Default-) Mesh type: Mixed Mesh













Mesh Control Information:

Mesh Control Name	Mesh Control Image	Mesh Control Details
Control-1		Entities: 2 face(s), 2 component(s) Units: mm Size: 19.8434 Ratio: 19.8434
Control-2		Entities: 2 face(s), 1 component(s) Units: mm Size: 17.8591 Ratio: 17.8591

Resultant Forces

Reaction forces

Selection set	Units	Sum X	Sum Y	Sum Z	Resultant
Entire Model	N	0.52491	30.2505	10.4227	32
Reaction Moments					

Selection set	Units	Sum X	Sum Y	Sum Z	Resultant
Entire Model	N.m	0.0545625	0.0290453	0.00414554	0.0619507







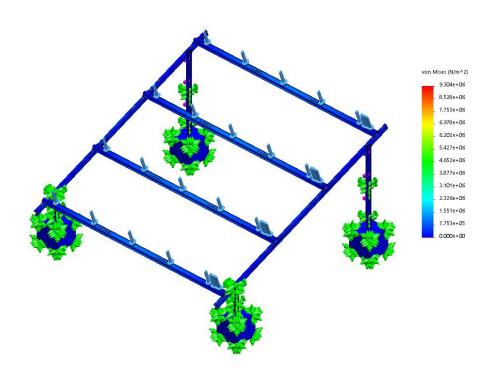


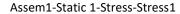


Study Results

Name	Туре	Min	Max
Stress1	VON: von Mises Stress	0.000e+00 N/m^2	9.304e+06 N/m^2
		Node: 1	Node: 85445

Model name:Assem1 Study name:Static 1(-Default-) Plot type: Static nodal stress Stress1 Deformation scale: 1









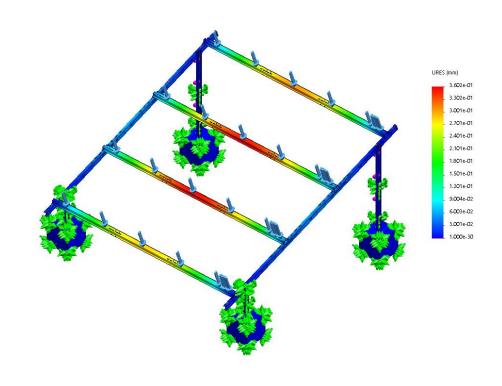






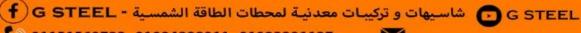
Name	Туре	Min	Max
Displacement1	URES: Resultant Displacement	0.000e+00 mm	3.602e-01 mm
		Node: 1	Node: 57118

Model name:Assem1 Study name:Static 1(-Defa ult-) Plot type: Static displacement Displacement1 Deformation scale: 1



Assem1-Static 1-Displacement-Displacement1





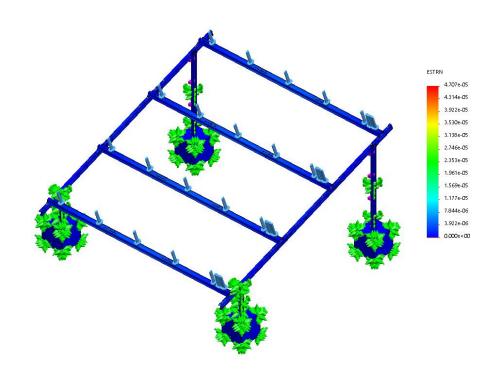






Name Type Min Max Strain1 0.000e+00 4.707e-05 ESTRN: Equivalent Strain Element: 1 Element: 50453

Model name:Assem1 Study name:Static 1[-Default-] Plot type: Static strain Strain1 Deformation scale: 1



Assem1-Static 1-Strain-Strain1











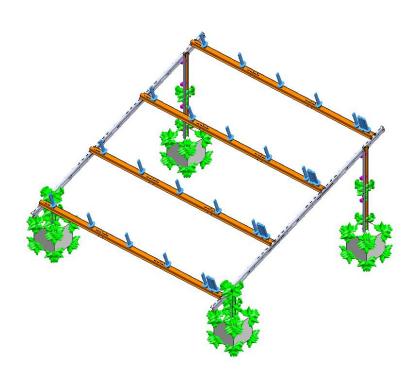
Name

Type

Displacement1{1}

Deformed shape

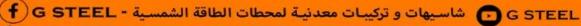
Model name:Assem1 Study name:Static 1(-Default-) Plot type: Deformed shape Displacement1{1} Deformation scale: 1





Assem1-Static 1-Displacement-Displacement1{1}







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G-Steel 1 Gawande Hosny St, From Abou Qier St, Ibrahimia Alexandria Egypt info@gescegy.net

Eng. Ayman Abdelbaset

5/5/2021

Boss-Extrude1	Solid Body	Mass:147.2 kg Volume:0.064 m^3 Density:2,300 kg/m^3 Weight:1,442.56 N	C:\Users\Ahmed\Desktop\ GESC SECTORS (1)\Concrete.SLDPRT May 5 11:54:05 2021
Boss-Extrude1	Solid Body	Mass:147.2 kg Volume:0.064 m^3 Density:2,300 kg/m^3 Weight:1,442.56 N	C:\Users\Ahmed\Desktop\ GESC SECTORS (1)\Concrete.SLDPRT May 5 11:54:05 2021

Study Properties

Study name	Static 1
Analysis type	Static
Mesh type	Mixed Mesh
Thermal Effect:	On
Thermal option	Include temperature loads
Zero strain temperature	298 Kelvin
Include fluid pressure effects from SOLIDWORKS Flow Simulation	On Programme
Solver type	FFEPlus
Inplane Effect:	Off
Soft Spring:	Off
Inertial Relief:	Off
Incompatible bonding options	Automatic
Large displacement	Off
Compute free body forces	On CC
Friction	On
Use Adaptive Method:	علم البادة مسونية البادة من المادة المادة البادة ا
Result folder	SOLIDWORKS document (4)

سجل هندس ۱ ۱۸۹۱

SOLIDWORKS Analyzed with SOLIDWORKS Simulation

Simulation of Assem1

الممسوحة ضوئيا بـ CamScanner









