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|  | |  | | --- | | **Simulation of khung**  **Date: Saturday, January 4, 2025 Designer: Solidworks**  **Study name: Static 1**  **Analysis type: Static** | | Table of Contents  [Description 1](#_Toc186926527)  [Assumptions 2](#_Toc186926528)  [Model Information 3](#_Toc186926529)  [Study Properties 14](#_Toc186926530)  [Units 14](#_Toc186926531)  [Material Properties 15](#_Toc186926532)  [Loads and Fixtures 20](#_Toc186926533)  [Connector Definitions 21](#_Toc186926534)  [Contact Information 21](#_Toc186926535)  [Mesh information 22](#_Toc186926536)  [Sensor Details 22](#_Toc186926537)  [Resultant Forces 22](#_Toc186926538)  [Beams 23](#_Toc186926539)  [Study Results 38](#_Toc186926540)  [Conclusion 40](#_Toc186926541) | |
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| Assumptions |

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| Model Information  |  |  |  |  |  | | --- | --- | --- | --- | --- | | |  | | --- | |  |   ****Model name:** khung**  ****Current Configuration:** Default<As Machined>** | | | | | ****Beam Bodies:**** | | | | | ****Document Name and Reference**** | ****Formulation**** | ****Properties**** | ****Document Path/Date Modified**** | | **SolidBody 1( C:\THUVIENSOLIDWORKS\ALUMINUM FRAMES25102020\SERI 5 (20,40)\20X20S5 - IS MISSING(1)[26])** | **Beam – Uniform C/S** | ****Section Standard-Aluminum Frames25102020/SERI 5 (20,40)/20x20S5****  ****Section Area: 0.000172186m^2****  ****Length:780mm****  ****Volume:0.000134305m^3****  ****Mass Density:2,700kg/m^3****  ****Mass:0.362623kg****  ****Weight:3.55371N**** | ****C:\Users\Asus\Desktop\chuongga\chuongga\khung.SLDPRT****  **Jan 4 21:18:41 2025** | | **SolidBody 2( C:\THUVIENSOLIDWORKS\ALUMINUM FRAMES25102020\SERI 5 (20,40)\20X20S5 - IS MISSING(1)[44])** | **Beam – Uniform C/S** | ****Section Standard-Aluminum Frames25102020/SERI 5 (20,40)/20x20S5****  ****Section Area: 0.000172186m^2****  ****Length:40mm****  ****Volume:6.88744e-06m^3****  ****Mass Density:2,700kg/m^3****  ****Mass:0.0185961kg****  ****Weight:0.182242N**** | ****C:\Users\Asus\Desktop\chuongga\chuongga\khung.SLDPRT****  **Jan 4 21:18:41 2025** | | **SolidBody 3( C:\THUVIENSOLIDWORKS\ALUMINUM FRAMES25102020\SERI 5 (20,40)\20X20S5 - IS MISSING(1)[7])** | **Beam – Uniform C/S** | ****Section Standard-Aluminum Frames25102020/SERI 5 (20,40)/20x20S5****  ****Section Area: 0.000172186m^2****  ****Length:1,220.8mm****  ****Volume:0.000210203m^3****  ****Mass Density:2,700kg/m^3****  ****Mass:0.567547kg****  ****Weight:5.56196N**** | ****C:\Users\Asus\Desktop\chuongga\chuongga\khung.SLDPRT****  **Jan 4 21:18:41 2025** | | **SolidBody 4( C:\THUVIENSOLIDWORKS\ALUMINUM FRAMES25102020\SERI 5 (20,40)\20X20S5 - IS MISSING(1)[31])** | **Beam – Uniform C/S** | ****Section Standard-Aluminum Frames25102020/SERI 5 (20,40)/20x20S5****  ****Section Area: 0.000172186m^2****  ****Length:46.4mm****  ****Volume:7.98943e-06m^3****  ****Mass Density:2,700kg/m^3****  ****Mass:0.0215714kg****  ****Weight:0.2114N**** | ****C:\Users\Asus\Desktop\chuongga\chuongga\khung.SLDPRT****  **Jan 4 21:18:41 2025** | | **SolidBody 5( C:\THUVIENSOLIDWORKS\ALUMINUM FRAMES25102020\SERI 5 (20,40)\20X20S5 - IS MISSING(1)[10])** | **Beam – Uniform C/S** | ****Section Standard-Aluminum Frames25102020/SERI 5 (20,40)/20x20S5****  ****Section Area: 0.000172186m^2****  ****Length:1,220.8mm****  ****Volume:0.000210205m^3****  ****Mass Density:2,700kg/m^3****  ****Mass:0.567552kg****  ****Weight:5.56201N**** | ****C:\Users\Asus\Desktop\chuongga\chuongga\khung.SLDPRT****  **Jan 4 21:18:41 2025** | | **SolidBody 6( C:\THUVIENSOLIDWORKS\ALUMINUM FRAMES25102020\SERI 5 (20,40)\20X20S5 - IS MISSING(1)[23])** | **Beam – Uniform C/S** | ****Section Standard-Aluminum Frames25102020/SERI 5 (20,40)/20x20S5****  ****Section Area: 0.000172186m^2****  ****Length:430.8mm****  ****Volume:7.41777e-05m^3****  ****Mass Density:2,700kg/m^3****  ****Mass:0.20028kg****  ****Weight:1.96274N**** | ****C:\Users\Asus\Desktop\chuongga\chuongga\khung.SLDPRT****  **Jan 4 21:18:41 2025** | | **SolidBody 7( C:\THUVIENSOLIDWORKS\ALUMINUM FRAMES25102020\SERI 5 (20,40)\20X20S5 - IS MISSING(1)[40])** | **Beam – Uniform C/S** | ****Section Standard-Aluminum Frames25102020/SERI 5 (20,40)/20x20S5****  ****Section Area: 0.000172186m^2****  ****Length:40mm****  ****Volume:6.88744e-06m^3****  ****Mass Density:2,700kg/m^3****  ****Mass:0.0185961kg****  ****Weight:0.182242N**** | ****C:\Users\Asus\Desktop\chuongga\chuongga\khung.SLDPRT****  **Jan 4 21:18:41 2025** | | **SolidBody 8( C:\THUVIENSOLIDWORKS\ALUMINUM FRAMES25102020\SERI 5 (20,40)\20X20S5 - IS MISSING(1)[6])** | **Beam – Uniform C/S** | ****Section Standard-Aluminum Frames25102020/SERI 5 (20,40)/20x20S5****  ****Section Area: 0.000172186m^2****  ****Length:780mm****  ****Volume:0.000134512m^3****  ****Mass Density:2,700kg/m^3****  ****Mass:0.363182kg****  ****Weight:3.55919N**** | ****C:\Users\Asus\Desktop\chuongga\chuongga\khung.SLDPRT****  **Jan 4 21:18:41 2025** | | **SolidBody 9( C:\THUVIENSOLIDWORKS\ALUMINUM FRAMES25102020\SERI 5 (20,40)\20X20S5 - IS MISSING(1)[8])** | **Beam – Uniform C/S** | ****Section Standard-Aluminum Frames25102020/SERI 5 (20,40)/20x20S5****  ****Section Area: 0.000172186m^2****  ****Length:780mm****  ****Volume:0.000134512m^3****  ****Mass Density:2,700kg/m^3****  ****Mass:0.363182kg****  ****Weight:3.55919N**** | ****C:\Users\Asus\Desktop\chuongga\chuongga\khung.SLDPRT****  **Jan 4 21:18:41 2025** | | **SolidBody 10( C:\THUVIENSOLIDWORKS\ALUMINUM FRAMES25102020\SERI 5 (20,40)\20X20S5 - IS MISSING(1)[22])** | **Beam – Uniform C/S** | ****Section Standard-Aluminum Frames25102020/SERI 5 (20,40)/20x20S5****  ****Section Area: 0.000172186m^2****  ****Length:430.8mm****  ****Volume:7.41777e-05m^3****  ****Mass Density:2,700kg/m^3****  ****Mass:0.20028kg****  ****Weight:1.96274N**** | ****C:\Users\Asus\Desktop\chuongga\chuongga\khung.SLDPRT****  **Jan 4 21:18:41 2025** | | **SolidBody 11( C:\THUVIENSOLIDWORKS\ALUMINUM FRAMES25102020\SERI 5 (20,40)\20X20S5 - IS MISSING(1)[46])** | **Beam – Uniform C/S** | ****Section Standard-Aluminum Frames25102020/SERI 5 (20,40)/20x20S5****  ****Section Area: 0.000172186m^2****  ****Length:40mm****  ****Volume:6.88744e-06m^3****  ****Mass Density:2,700kg/m^3****  ****Mass:0.0185961kg****  ****Weight:0.182242N**** | ****C:\Users\Asus\Desktop\chuongga\chuongga\khung.SLDPRT****  **Jan 4 21:18:41 2025** | | **SolidBody 12( C:\THUVIENSOLIDWORKS\ALUMINUM FRAMES25102020\SERI 5 (20,40)\20X20S5 - IS MISSING(1)[2])** | **Beam – Uniform C/S** | ****Section Standard-Aluminum Frames25102020/SERI 5 (20,40)/20x20S5****  ****Section Area: 0.000172186m^2****  ****Length:1,240mm****  ****Volume:0.00021351m^3****  ****Mass Density:2,700kg/m^3****  ****Mass:0.576478kg****  ****Weight:5.64949N**** | ****C:\Users\Asus\Desktop\chuongga\chuongga\khung.SLDPRT****  **Jan 4 21:18:41 2025** | | **SolidBody 13( C:\THUVIENSOLIDWORKS\ALUMINUM FRAMES25102020\SERI 5 (20,40)\20X20S5 - IS MISSING(1)[11])** | **Beam – Uniform C/S** | ****Section Standard-Aluminum Frames25102020/SERI 5 (20,40)/20x20S5****  ****Section Area: 0.000172186m^2****  ****Length:1,220.8mm****  ****Volume:0.000210205m^3****  ****Mass Density:2,700kg/m^3****  ****Mass:0.567552kg****  ****Weight:5.56201N**** | ****C:\Users\Asus\Desktop\chuongga\chuongga\khung.SLDPRT****  **Jan 4 21:18:41 2025** | | **SolidBody 14( C:\THUVIENSOLIDWORKS\ALUMINUM FRAMES25102020\SERI 5 (20,40)\20X20S5 - IS MISSING(1)[21])** | **Beam – Uniform C/S** | ****Section Standard-Aluminum Frames25102020/SERI 5 (20,40)/20x20S5****  ****Section Area: 0.000172186m^2****  ****Length:430.8mm****  ****Volume:7.41777e-05m^3****  ****Mass Density:2,700kg/m^3****  ****Mass:0.20028kg****  ****Weight:1.96274N**** | ****C:\Users\Asus\Desktop\chuongga\chuongga\khung.SLDPRT****  **Jan 4 21:18:41 2025** | | **SolidBody 15( C:\THUVIENSOLIDWORKS\ALUMINUM FRAMES25102020\SERI 5 (20,40)\20X20S5 - IS MISSING(1)[5])** | **Beam – Uniform C/S** | ****Section Standard-Aluminum Frames25102020/SERI 5 (20,40)/20x20S5****  ****Section Area: 0.000172186m^2****  ****Length:1,220.8mm****  ****Volume:0.000210203m^3****  ****Mass Density:2,700kg/m^3****  ****Mass:0.567547kg****  ****Weight:5.56196N**** | ****C:\Users\Asus\Desktop\chuongga\chuongga\khung.SLDPRT****  **Jan 4 21:18:41 2025** | | **SolidBody 16( C:\THUVIENSOLIDWORKS\ALUMINUM FRAMES25102020\SERI 5 (20,40)\20X20S5 - IS MISSING(1)[16])** | **Beam – Uniform C/S** | ****Section Standard-Aluminum Frames25102020/SERI 5 (20,40)/20x20S5****  ****Section Area: 0.000172186m^2****  ****Length:190.4mm****  ****Volume:3.27842e-05m^3****  ****Mass Density:2,700kg/m^3****  ****Mass:0.0885173kg****  ****Weight:0.86747N**** | ****C:\Users\Asus\Desktop\chuongga\chuongga\khung.SLDPRT****  **Jan 4 21:18:41 2025** | | **SolidBody 17( C:\THUVIENSOLIDWORKS\ALUMINUM FRAMES25102020\SERI 5 (20,40)\20X20S5 - IS MISSING(1)[42])** | **Beam – Uniform C/S** | ****Section Standard-Aluminum Frames25102020/SERI 5 (20,40)/20x20S5****  ****Section Area: 0.000172186m^2****  ****Length:40mm****  ****Volume:6.88744e-06m^3****  ****Mass Density:2,700kg/m^3****  ****Mass:0.0185961kg****  ****Weight:0.182242N**** | ****C:\Users\Asus\Desktop\chuongga\chuongga\khung.SLDPRT****  **Jan 4 21:18:41 2025** | | **SolidBody 18( C:\THUVIENSOLIDWORKS\ALUMINUM FRAMES25102020\SERI 5 (20,40)\20X20S5 - IS MISSING(1)[47])** | **Beam – Uniform C/S** | ****Section Standard-Aluminum Frames25102020/SERI 5 (20,40)/20x20S5****  ****Section Area: 0.000172186m^2****  ****Length:40mm****  ****Volume:6.88744e-06m^3****  ****Mass Density:2,700kg/m^3****  ****Mass:0.0185961kg****  ****Weight:0.182242N**** | ****C:\Users\Asus\Desktop\chuongga\chuongga\khung.SLDPRT****  **Jan 4 21:18:41 2025** | | **SolidBody 19( C:\THUVIENSOLIDWORKS\ALUMINUM FRAMES25102020\SERI 5 (20,40)\20X20S5 - IS MISSING(1)[48])** | **Beam – Uniform C/S** | ****Section Standard-Aluminum Frames25102020/SERI 5 (20,40)/20x20S5****  ****Section Area: 0.000172186m^2****  ****Length:40mm****  ****Volume:6.88744e-06m^3****  ****Mass Density:2,700kg/m^3****  ****Mass:0.0185961kg****  ****Weight:0.182242N**** | ****C:\Users\Asus\Desktop\chuongga\chuongga\khung.SLDPRT****  **Jan 4 21:18:41 2025** | | **SolidBody 20( C:\THUVIENSOLIDWORKS\ALUMINUM FRAMES25102020\SERI 5 (20,40)\20X20S5 - IS MISSING(1)[49])** | **Beam – Uniform C/S** | ****Section Standard-Aluminum Frames25102020/SERI 5 (20,40)/20x20S5****  ****Section Area: 0.000172186m^2****  ****Length:40mm****  ****Volume:6.88744e-06m^3****  ****Mass Density:2,700kg/m^3****  ****Mass:0.0185961kg****  ****Weight:0.182242N**** | ****C:\Users\Asus\Desktop\chuongga\chuongga\khung.SLDPRT****  **Jan 4 21:18:41 2025** | | **SolidBody 21( C:\THUVIENSOLIDWORKS\ALUMINUM FRAMES25102020\SERI 5 (20,40)\20X20S5 - IS MISSING(1)[12])** | **Beam – Uniform C/S** | ****Section Standard-Aluminum Frames25102020/SERI 5 (20,40)/20x20S5****  ****Section Area: 0.000172186m^2****  ****Length:1,220.8mm****  ****Volume:0.000210205m^3****  ****Mass Density:2,700kg/m^3****  ****Mass:0.567552kg****  ****Weight:5.56201N**** | ****C:\Users\Asus\Desktop\chuongga\chuongga\khung.SLDPRT****  **Jan 4 21:18:41 2025** | | **SolidBody 22( C:\THUVIENSOLIDWORKS\ALUMINUM FRAMES25102020\SERI 5 (20,40)\20X20S5 - IS MISSING(1)[36])** | **Beam – Uniform C/S** | ****Section Standard-Aluminum Frames25102020/SERI 5 (20,40)/20x20S5****  ****Section Area: 0.000172186m^2****  ****Length:40mm****  ****Volume:6.88744e-06m^3****  ****Mass Density:2,700kg/m^3****  ****Mass:0.0185961kg****  ****Weight:0.182242N**** | ****C:\Users\Asus\Desktop\chuongga\chuongga\khung.SLDPRT****  **Jan 4 21:18:41 2025** | | **SolidBody 23( C:\THUVIENSOLIDWORKS\ALUMINUM FRAMES25102020\SERI 5 (20,40)\20X20S5 - IS MISSING(1)[50])** | **Beam – Uniform C/S** | ****Section Standard-Aluminum Frames25102020/SERI 5 (20,40)/20x20S5****  ****Section Area: 0.000172186m^2****  ****Length:40mm****  ****Volume:6.88744e-06m^3****  ****Mass Density:2,700kg/m^3****  ****Mass:0.0185961kg****  ****Weight:0.182242N**** | ****C:\Users\Asus\Desktop\chuongga\chuongga\khung.SLDPRT****  **Jan 4 21:18:41 2025** | | **SolidBody 24( C:\THUVIENSOLIDWORKS\ALUMINUM FRAMES25102020\SERI 5 (20,40)\20X20S5 - IS MISSING(1)[3])** | **Beam – Uniform C/S** | ****Section Standard-Aluminum Frames25102020/SERI 5 (20,40)/20x20S5****  ****Section Area: 0.000172186m^2****  ****Length:1,240mm****  ****Volume:0.00021351m^3****  ****Mass Density:2,700kg/m^3****  ****Mass:0.576478kg****  ****Weight:5.64949N**** | ****C:\Users\Asus\Desktop\chuongga\chuongga\khung.SLDPRT****  **Jan 4 21:18:41 2025** | | **SolidBody 25( C:\THUVIENSOLIDWORKS\ALUMINUM FRAMES25102020\SERI 5 (20,40)\20X20S5 - IS MISSING(1)[37])** | **Beam – Uniform C/S** | ****Section Standard-Aluminum Frames25102020/SERI 5 (20,40)/20x20S5****  ****Section Area: 0.000172186m^2****  ****Length:40mm****  ****Volume:6.88744e-06m^3****  ****Mass Density:2,700kg/m^3****  ****Mass:0.0185961kg****  ****Weight:0.182242N**** | ****C:\Users\Asus\Desktop\chuongga\chuongga\khung.SLDPRT****  **Jan 4 21:18:41 2025** | | **SolidBody 26( C:\THUVIENSOLIDWORKS\ALUMINUM FRAMES25102020\SERI 5 (20,40)\20X20S5 - IS MISSING(1)[43])** | **Beam – Uniform C/S** | ****Section Standard-Aluminum Frames25102020/SERI 5 (20,40)/20x20S5****  ****Section Area: 0.000172186m^2****  ****Length:40mm****  ****Volume:6.88744e-06m^3****  ****Mass Density:2,700kg/m^3****  ****Mass:0.0185961kg****  ****Weight:0.182242N**** | ****C:\Users\Asus\Desktop\chuongga\chuongga\khung.SLDPRT****  **Jan 4 21:18:41 2025** | | **SolidBody 27( C:\THUVIENSOLIDWORKS\ALUMINUM FRAMES25102020\SERI 5 (20,40)\20X20S5 - IS MISSING(1)[25])** | **Beam – Uniform C/S** | ****Section Standard-Aluminum Frames25102020/SERI 5 (20,40)/20x20S5****  ****Section Area: 0.000172186m^2****  ****Length:780mm****  ****Volume:0.000134305m^3****  ****Mass Density:2,700kg/m^3****  ****Mass:0.362623kg****  ****Weight:3.55371N**** | ****C:\Users\Asus\Desktop\chuongga\chuongga\khung.SLDPRT****  **Jan 4 21:18:41 2025** | | **SolidBody 28( C:\THUVIENSOLIDWORKS\ALUMINUM FRAMES25102020\SERI 5 (20,40)\20X20S5 - IS MISSING(1)[28])** | **Beam – Uniform C/S** | ****Section Standard-Aluminum Frames25102020/SERI 5 (20,40)/20x20S5****  ****Section Area: 0.000172186m^2****  ****Length:60.4mm****  ****Volume:1.04e-05m^3****  ****Mass Density:2,700kg/m^3****  ****Mass:0.0280801kg****  ****Weight:0.275185N**** | ****C:\Users\Asus\Desktop\chuongga\chuongga\khung.SLDPRT****  **Jan 4 21:18:41 2025** | | **SolidBody 29( C:\THUVIENSOLIDWORKS\ALUMINUM FRAMES25102020\SERI 5 (20,40)\20X20S5 - IS MISSING(1)[9])** | **Beam – Uniform C/S** | ****Section Standard-Aluminum Frames25102020/SERI 5 (20,40)/20x20S5****  ****Section Area: 0.000172186m^2****  ****Length:1,220.8mm****  ****Volume:0.000210205m^3****  ****Mass Density:2,700kg/m^3****  ****Mass:0.567552kg****  ****Weight:5.56201N**** | ****C:\Users\Asus\Desktop\chuongga\chuongga\khung.SLDPRT****  **Jan 4 21:18:41 2025** | | **SolidBody 30( C:\THUVIENSOLIDWORKS\ALUMINUM FRAMES25102020\SERI 5 (20,40)\20X20S5 - IS MISSING(1)[27])** | **Beam – Uniform C/S** | ****Section Standard-Aluminum Frames25102020/SERI 5 (20,40)/20x20S5****  ****Section Area: 0.000172186m^2****  ****Length:60.4mm****  ****Volume:1.04e-05m^3****  ****Mass Density:2,700kg/m^3****  ****Mass:0.0280801kg****  ****Weight:0.275185N**** | ****C:\Users\Asus\Desktop\chuongga\chuongga\khung.SLDPRT****  **Jan 4 21:18:41 2025** | | **SolidBody 31( C:\THUVIENSOLIDWORKS\ALUMINUM FRAMES25102020\SERI 5 (20,40)\20X20S5 - IS MISSING(1)[38])** | **Beam – Uniform C/S** | ****Section Standard-Aluminum Frames25102020/SERI 5 (20,40)/20x20S5****  ****Section Area: 0.000172186m^2****  ****Length:40mm****  ****Volume:6.88744e-06m^3****  ****Mass Density:2,700kg/m^3****  ****Mass:0.0185961kg****  ****Weight:0.182242N**** | ****C:\Users\Asus\Desktop\chuongga\chuongga\khung.SLDPRT****  **Jan 4 21:18:41 2025** | | **SolidBody 32( C:\THUVIENSOLIDWORKS\ALUMINUM FRAMES25102020\SERI 5 (20,40)\20X20S5 - IS MISSING(1)[19])** | **Beam – Uniform C/S** | ****Section Standard-Aluminum Frames25102020/SERI 5 (20,40)/20x20S5****  ****Section Area: 0.000172186m^2****  ****Length:780mm****  ****Volume:0.000134305m^3****  ****Mass Density:2,700kg/m^3****  ****Mass:0.362623kg****  ****Weight:3.55371N**** | ****C:\Users\Asus\Desktop\chuongga\chuongga\khung.SLDPRT****  **Jan 4 21:18:41 2025** | | **SolidBody 33( C:\THUVIENSOLIDWORKS\ALUMINUM FRAMES25102020\SERI 5 (20,40)\20X20S5 - IS MISSING(1)[32])** | **Beam – Uniform C/S** | ****Section Standard-Aluminum Frames25102020/SERI 5 (20,40)/20x20S5****  ****Section Area: 0.000172186m^2****  ****Length:46.4mm****  ****Volume:7.98943e-06m^3****  ****Mass Density:2,700kg/m^3****  ****Mass:0.0215714kg****  ****Weight:0.2114N**** | ****C:\Users\Asus\Desktop\chuongga\chuongga\khung.SLDPRT****  **Jan 4 21:18:41 2025** | | **SolidBody 34( C:\THUVIENSOLIDWORKS\ALUMINUM FRAMES25102020\SERI 5 (20,40)\20X20S5 - IS MISSING(1)[45])** | **Beam – Uniform C/S** | ****Section Standard-Aluminum Frames25102020/SERI 5 (20,40)/20x20S5****  ****Section Area: 0.000172186m^2****  ****Length:40mm****  ****Volume:6.88744e-06m^3****  ****Mass Density:2,700kg/m^3****  ****Mass:0.0185961kg****  ****Weight:0.182242N**** | ****C:\Users\Asus\Desktop\chuongga\chuongga\khung.SLDPRT****  **Jan 4 21:18:41 2025** | | **SolidBody 35( C:\THUVIENSOLIDWORKS\ALUMINUM FRAMES25102020\SERI 5 (20,40)\20X20S5 - IS MISSING(1)[24])** | **Beam – Uniform C/S** | ****Section Standard-Aluminum Frames25102020/SERI 5 (20,40)/20x20S5****  ****Section Area: 0.000172186m^2****  ****Length:430.8mm****  ****Volume:7.41777e-05m^3****  ****Mass Density:2,700kg/m^3****  ****Mass:0.20028kg****  ****Weight:1.96274N**** | ****C:\Users\Asus\Desktop\chuongga\chuongga\khung.SLDPRT****  **Jan 4 21:18:41 2025** | | **SolidBody 36( C:\THUVIENSOLIDWORKS\ALUMINUM FRAMES25102020\SERI 5 (20,40)\20X20S5 - IS MISSING(1)[35])** | **Beam – Uniform C/S** | ****Section Standard-Aluminum Frames25102020/SERI 5 (20,40)/20x20S5****  ****Section Area: 0.000172186m^2****  ****Length:40mm****  ****Volume:6.88744e-06m^3****  ****Mass Density:2,700kg/m^3****  ****Mass:0.0185961kg****  ****Weight:0.182242N**** | ****C:\Users\Asus\Desktop\chuongga\chuongga\khung.SLDPRT****  **Jan 4 21:18:41 2025** | | **SolidBody 37( C:\THUVIENSOLIDWORKS\ALUMINUM FRAMES25102020\SERI 5 (20,40)\20X20S5 - IS MISSING(1)[17])** | **Beam – Uniform C/S** | ****Section Standard-Aluminum Frames25102020/SERI 5 (20,40)/20x20S5****  ****Section Area: 0.000172186m^2****  ****Length:780mm****  ****Volume:0.000134305m^3****  ****Mass Density:2,700kg/m^3****  ****Mass:0.362623kg****  ****Weight:3.55371N**** | ****C:\Users\Asus\Desktop\chuongga\chuongga\khung.SLDPRT****  **Jan 4 21:18:41 2025** | | **SolidBody 38( C:\THUVIENSOLIDWORKS\ALUMINUM FRAMES25102020\SERI 5 (20,40)\20X20S5 - IS MISSING(1)[34])** | **Beam – Uniform C/S** | ****Section Standard-Aluminum Frames25102020/SERI 5 (20,40)/20x20S5****  ****Section Area: 0.000172186m^2****  ****Length:46.4mm****  ****Volume:7.98943e-06m^3****  ****Mass Density:2,700kg/m^3****  ****Mass:0.0215714kg****  ****Weight:0.2114N**** | ****C:\Users\Asus\Desktop\chuongga\chuongga\khung.SLDPRT****  **Jan 4 21:18:41 2025** | | **SolidBody 39( C:\THUVIENSOLIDWORKS\ALUMINUM FRAMES25102020\SERI 5 (20,40)\20X20S5 - IS MISSING(1)[41])** | **Beam – Uniform C/S** | ****Section Standard-Aluminum Frames25102020/SERI 5 (20,40)/20x20S5****  ****Section Area: 0.000172186m^2****  ****Length:40mm****  ****Volume:6.88744e-06m^3****  ****Mass Density:2,700kg/m^3****  ****Mass:0.0185961kg****  ****Weight:0.182242N**** | ****C:\Users\Asus\Desktop\chuongga\chuongga\khung.SLDPRT****  **Jan 4 21:18:41 2025** | | **SolidBody 40( C:\THUVIENSOLIDWORKS\ALUMINUM FRAMES25102020\SERI 5 (20,40)\20X20S5 - IS MISSING(1)[4])** | **Beam – Uniform C/S** | ****Section Standard-Aluminum Frames25102020/SERI 5 (20,40)/20x20S5****  ****Section Area: 0.000172186m^2****  ****Length:1,240mm****  ****Volume:0.00021351m^3****  ****Mass Density:2,700kg/m^3****  ****Mass:0.576478kg****  ****Weight:5.64949N**** | ****C:\Users\Asus\Desktop\chuongga\chuongga\khung.SLDPRT****  **Jan 4 21:18:41 2025** | | **SolidBody 41( C:\THUVIENSOLIDWORKS\ALUMINUM FRAMES25102020\SERI 5 (20,40)\20X20S5 - IS MISSING(1)[13])** | **Beam – Uniform C/S** | ****Section Standard-Aluminum Frames25102020/SERI 5 (20,40)/20x20S5****  ****Section Area: 0.000172186m^2****  ****Length:190.4mm****  ****Volume:3.27842e-05m^3****  ****Mass Density:2,700kg/m^3****  ****Mass:0.0885173kg****  ****Weight:0.86747N**** | ****C:\Users\Asus\Desktop\chuongga\chuongga\khung.SLDPRT****  **Jan 4 21:18:41 2025** | | **SolidBody 42( C:\THUVIENSOLIDWORKS\ALUMINUM FRAMES25102020\SERI 5 (20,40)\20X20S5 - IS MISSING(1)[30])** | **Beam – Uniform C/S** | ****Section Standard-Aluminum Frames25102020/SERI 5 (20,40)/20x20S5****  ****Section Area: 0.000172186m^2****  ****Length:60.4mm****  ****Volume:1.04e-05m^3****  ****Mass Density:2,700kg/m^3****  ****Mass:0.0280801kg****  ****Weight:0.275185N**** | ****C:\Users\Asus\Desktop\chuongga\chuongga\khung.SLDPRT****  **Jan 4 21:18:41 2025** | | **SolidBody 43( C:\THUVIENSOLIDWORKS\ALUMINUM FRAMES25102020\SERI 5 (20,40)\20X20S5 - IS MISSING(1)[33])** | **Beam – Uniform C/S** | ****Section Standard-Aluminum Frames25102020/SERI 5 (20,40)/20x20S5****  ****Section Area: 0.000172186m^2****  ****Length:46.4mm****  ****Volume:7.98943e-06m^3****  ****Mass Density:2,700kg/m^3****  ****Mass:0.0215714kg****  ****Weight:0.2114N**** | ****C:\Users\Asus\Desktop\chuongga\chuongga\khung.SLDPRT****  **Jan 4 21:18:41 2025** | | **SolidBody 44( C:\THUVIENSOLIDWORKS\ALUMINUM FRAMES25102020\SERI 5 (20,40)\20X20S5 - IS MISSING(1)[18])** | **Beam – Uniform C/S** | ****Section Standard-Aluminum Frames25102020/SERI 5 (20,40)/20x20S5****  ****Section Area: 0.000172186m^2****  ****Length:780mm****  ****Volume:0.000134305m^3****  ****Mass Density:2,700kg/m^3****  ****Mass:0.362623kg****  ****Weight:3.55371N**** | ****C:\Users\Asus\Desktop\chuongga\chuongga\khung.SLDPRT****  **Jan 4 21:18:41 2025** | | **SolidBody 45( C:\THUVIENSOLIDWORKS\ALUMINUM FRAMES25102020\SERI 5 (20,40)\20X20S5 - IS MISSING(1)[20])** | **Beam – Uniform C/S** | ****Section Standard-Aluminum Frames25102020/SERI 5 (20,40)/20x20S5****  ****Section Area: 0.000172186m^2****  ****Length:780mm****  ****Volume:0.000134305m^3****  ****Mass Density:2,700kg/m^3****  ****Mass:0.362623kg****  ****Weight:3.55371N**** | ****C:\Users\Asus\Desktop\chuongga\chuongga\khung.SLDPRT****  **Jan 4 21:18:41 2025** | | **SolidBody 46( C:\THUVIENSOLIDWORKS\ALUMINUM FRAMES25102020\SERI 5 (20,40)\20X20S5 - IS MISSING(1)[29])** | **Beam – Uniform C/S** | ****Section Standard-Aluminum Frames25102020/SERI 5 (20,40)/20x20S5****  ****Section Area: 0.000172186m^2****  ****Length:60.4mm****  ****Volume:1.04e-05m^3****  ****Mass Density:2,700kg/m^3****  ****Mass:0.0280801kg****  ****Weight:0.275185N**** | ****C:\Users\Asus\Desktop\chuongga\chuongga\khung.SLDPRT****  **Jan 4 21:18:41 2025** | | **SolidBody 47( C:\THUVIENSOLIDWORKS\ALUMINUM FRAMES25102020\SERI 5 (20,40)\20X20S5 - IS MISSING(1)[14])** | **Beam – Uniform C/S** | ****Section Standard-Aluminum Frames25102020/SERI 5 (20,40)/20x20S5****  ****Section Area: 0.000172186m^2****  ****Length:190.4mm****  ****Volume:3.27842e-05m^3****  ****Mass Density:2,700kg/m^3****  ****Mass:0.0885173kg****  ****Weight:0.86747N**** | ****C:\Users\Asus\Desktop\chuongga\chuongga\khung.SLDPRT****  **Jan 4 21:18:41 2025** | | **SolidBody 48( C:\THUVIENSOLIDWORKS\ALUMINUM FRAMES25102020\SERI 5 (20,40)\20X20S5 - IS MISSING(1)[39])** | **Beam – Uniform C/S** | ****Section Standard-Aluminum Frames25102020/SERI 5 (20,40)/20x20S5****  ****Section Area: 0.000172186m^2****  ****Length:40mm****  ****Volume:6.88744e-06m^3****  ****Mass Density:2,700kg/m^3****  ****Mass:0.0185961kg****  ****Weight:0.182242N**** | ****C:\Users\Asus\Desktop\chuongga\chuongga\khung.SLDPRT****  **Jan 4 21:18:41 2025** | | **SolidBody 49( C:\THUVIENSOLIDWORKS\ALUMINUM FRAMES25102020\SERI 5 (20,40)\20X20S5 - IS MISSING(1)[15])** | **Beam – Uniform C/S** | ****Section Standard-Aluminum Frames25102020/SERI 5 (20,40)/20x20S5****  ****Section Area: 0.000172186m^2****  ****Length:190.4mm****  ****Volume:3.27842e-05m^3****  ****Mass Density:2,700kg/m^3****  ****Mass:0.0885173kg****  ****Weight:0.86747N**** | ****C:\Users\Asus\Desktop\chuongga\chuongga\khung.SLDPRT****  **Jan 4 21:18:41 2025** | | **SolidBody 50( C:\THUVIENSOLIDWORKS\ALUMINUM FRAMES25102020\SERI 5 (20,40)\20X20S5 - IS MISSING(1)[1])** | **Beam – Uniform C/S** | ****Section Standard-Aluminum Frames25102020/SERI 5 (20,40)/20x20S5****  ****Section Area: 0.000172186m^2****  ****Length:1,240mm****  ****Volume:0.00021351m^3****  ****Mass Density:2,700kg/m^3****  ****Mass:0.576478kg****  ****Weight:5.64949N**** | ****C:\Users\Asus\Desktop\chuongga\chuongga\khung.SLDPRT****  **Jan 4 21:18:41 2025** | | **SolidBody 51( C:\THUVIENSOLIDWORKS\ALUMINUM FRAMES25102020\SERI 5 (20,40)\20X20S5 - IS MISSING(1)[51])** | **Beam – Uniform C/S** | ****Section Standard-Aluminum Frames25102020/SERI 5 (20,40)/20x20S5****  ****Section Area: 0.000172186m^2****  ****Length:780mm****  ****Volume:0.000134305m^3****  ****Mass Density:2,700kg/m^3****  ****Mass:0.362623kg****  ****Weight:3.55371N**** | ****C:\Users\Asus\Desktop\chuongga\chuongga\khung.SLDPRT****  **Jan 4 21:18:41 2025** | |

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| Study Properties  |  |  | | --- | --- | | Study name | Static 1 | | Analysis type | Static | | Mesh type | Beam Mesh | | Solver type | Automatic | | Inplane Effect: | Off | | Soft Spring: | Off | | Inertial Relief: | Off | | Incompatible bonding options | Automatic | | Large displacement | Off | | Compute free body forces | On | | Result folder | SOLIDWORKS document (C:\Users\Asus\Desktop\chuongga\chuongga) | |

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

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| Material Properties  |  |  |  | | --- | --- | --- | | ****Model Reference**** | ****Properties**** | ****Components**** | |  | |  |  | | --- | --- | | ****Name:**** | **6061 Alloy** | | ****Model type:**** | **Linear Elastic Isotropic** | | ****Default failure criterion:**** | **Unknown** | | ****Yield strength:**** | **5.51485e+07 N/m^2** | | ****Tensile strength:**** | **1.24084e+08 N/m^2** | | ****Elastic modulus:**** | **6.9e+10 N/m^2** | | ****Poisson's ratio:**** | **0.33** | | ****Mass density:**** | **2,700 kg/m^3** | | ****Shear modulus:**** | **2.6e+10 N/m^2** | | ****Thermal expansion coefficient:**** | **2.4e-05 /Kelvin** | | **SolidBody 1( C:\THUVIENSOLIDWORKS\ALUMINUM FRAMES25102020\SERI 5 (20,40)\20X20S5 - IS MISSING(1)[26])(khung),**  **SolidBody 2( C:\THUVIENSOLIDWORKS\ALUMINUM FRAMES25102020\SERI 5 (20,40)\20X20S5 - IS MISSING(1)[44])(khung),**  **SolidBody 3( C:\THUVIENSOLIDWORKS\ALUMINUM FRAMES25102020\SERI 5 (20,40)\20X20S5 - IS MISSING(1)[7])(khung),**  **SolidBody 4( C:\THUVIENSOLIDWORKS\ALUMINUM FRAMES25102020\SERI 5 (20,40)\20X20S5 - IS MISSING(1)[31])(khung),**  **SolidBody 5( C:\THUVIENSOLIDWORKS\ALUMINUM FRAMES25102020\SERI 5 (20,40)\20X20S5 - IS MISSING(1)[10])(khung),**  **SolidBody 6( C:\THUVIENSOLIDWORKS\ALUMINUM FRAMES25102020\SERI 5 (20,40)\20X20S5 - IS MISSING(1)[23])(khung),**  **SolidBody 7( C:\THUVIENSOLIDWORKS\ALUMINUM FRAMES25102020\SERI 5 (20,40)\20X20S5 - IS MISSING(1)[40])(khung),**  **SolidBody 8( C:\THUVIENSOLIDWORKS\ALUMINUM FRAMES25102020\SERI 5 (20,40)\20X20S5 - IS MISSING(1)[6])(khung),**  **SolidBody 9( C:\THUVIENSOLIDWORKS\ALUMINUM FRAMES25102020\SERI 5 (20,40)\20X20S5 - IS MISSING(1)[8])(khung),**  **SolidBody 10( C:\THUVIENSOLIDWORKS\ALUMINUM FRAMES25102020\SERI 5 (20,40)\20X20S5 - IS MISSING(1)[22])(khung),**  **SolidBody 11( C:\THUVIENSOLIDWORKS\ALUMINUM FRAMES25102020\SERI 5 (20,40)\20X20S5 - IS MISSING(1)[46])(khung),**  **SolidBody 12( C:\THUVIENSOLIDWORKS\ALUMINUM FRAMES25102020\SERI 5 (20,40)\20X20S5 - IS MISSING(1)[2])(khung),**  **SolidBody 13( C:\THUVIENSOLIDWORKS\ALUMINUM FRAMES25102020\SERI 5 (20,40)\20X20S5 - IS MISSING(1)[11])(khung),**  **SolidBody 14( C:\THUVIENSOLIDWORKS\ALUMINUM FRAMES25102020\SERI 5 (20,40)\20X20S5 - IS MISSING(1)[21])(khung),**  **SolidBody 15( C:\THUVIENSOLIDWORKS\ALUMINUM FRAMES25102020\SERI 5 (20,40)\20X20S5 - IS MISSING(1)[5])(khung),**  **SolidBody 16( C:\THUVIENSOLIDWORKS\ALUMINUM FRAMES25102020\SERI 5 (20,40)\20X20S5 - IS MISSING(1)[16])(khung),**  **SolidBody 17( C:\THUVIENSOLIDWORKS\ALUMINUM FRAMES25102020\SERI 5 (20,40)\20X20S5 - IS MISSING(1)[42])(khung),**  **SolidBody 18( C:\THUVIENSOLIDWORKS\ALUMINUM FRAMES25102020\SERI 5 (20,40)\20X20S5 - IS MISSING(1)[47])(khung),**  **SolidBody 19( C:\THUVIENSOLIDWORKS\ALUMINUM FRAMES25102020\SERI 5 (20,40)\20X20S5 - IS MISSING(1)[48])(khung),**  **SolidBody 20( C:\THUVIENSOLIDWORKS\ALUMINUM FRAMES25102020\SERI 5 (20,40)\20X20S5 - IS MISSING(1)[49])(khung),**  **SolidBody 21( C:\THUVIENSOLIDWORKS\ALUMINUM FRAMES25102020\SERI 5 (20,40)\20X20S5 - IS MISSING(1)[12])(khung),**  **SolidBody 22( C:\THUVIENSOLIDWORKS\ALUMINUM FRAMES25102020\SERI 5 (20,40)\20X20S5 - IS MISSING(1)[36])(khung),**  **SolidBody 23( C:\THUVIENSOLIDWORKS\ALUMINUM FRAMES25102020\SERI 5 (20,40)\20X20S5 - IS MISSING(1)[50])(khung),**  **SolidBody 24( C:\THUVIENSOLIDWORKS\ALUMINUM FRAMES25102020\SERI 5 (20,40)\20X20S5 - IS MISSING(1)[3])(khung),**  **SolidBody 25( C:\THUVIENSOLIDWORKS\ALUMINUM FRAMES25102020\SERI 5 (20,40)\20X20S5 - IS MISSING(1)[37])(khung),**  **SolidBody 26( C:\THUVIENSOLIDWORKS\ALUMINUM FRAMES25102020\SERI 5 (20,40)\20X20S5 - IS MISSING(1)[43])(khung),**  **SolidBody 27( C:\THUVIENSOLIDWORKS\ALUMINUM FRAMES25102020\SERI 5 (20,40)\20X20S5 - IS MISSING(1)[25])(khung),**  **SolidBody 28( C:\THUVIENSOLIDWORKS\ALUMINUM FRAMES25102020\SERI 5 (20,40)\20X20S5 - IS MISSING(1)[28])(khung),**  **SolidBody 29( C:\THUVIENSOLIDWORKS\ALUMINUM FRAMES25102020\SERI 5 (20,40)\20X20S5 - IS MISSING(1)[9])(khung),**  **SolidBody 30( C:\THUVIENSOLIDWORKS\ALUMINUM FRAMES25102020\SERI 5 (20,40)\20X20S5 - IS MISSING(1)[27])(khung),**  **SolidBody 31( C:\THUVIENSOLIDWORKS\ALUMINUM FRAMES25102020\SERI 5 (20,40)\20X20S5 - IS MISSING(1)[38])(khung),**  **SolidBody 32( C:\THUVIENSOLIDWORKS\ALUMINUM FRAMES25102020\SERI 5 (20,40)\20X20S5 - IS MISSING(1)[19])(khung),**  **SolidBody 33( C:\THUVIENSOLIDWORKS\ALUMINUM FRAMES25102020\SERI 5 (20,40)\20X20S5 - IS MISSING(1)[32])(khung),**  **SolidBody 34( C:\THUVIENSOLIDWORKS\ALUMINUM FRAMES25102020\SERI 5 (20,40)\20X20S5 - IS MISSING(1)[45])(khung),**  **SolidBody 35( C:\THUVIENSOLIDWORKS\ALUMINUM FRAMES25102020\SERI 5 (20,40)\20X20S5 - IS MISSING(1)[24])(khung),**  **SolidBody 36( C:\THUVIENSOLIDWORKS\ALUMINUM FRAMES25102020\SERI 5 (20,40)\20X20S5 - IS MISSING(1)[35])(khung),**  **SolidBody 37( C:\THUVIENSOLIDWORKS\ALUMINUM FRAMES25102020\SERI 5 (20,40)\20X20S5 - IS MISSING(1)[17])(khung),**  **SolidBody 38( C:\THUVIENSOLIDWORKS\ALUMINUM FRAMES25102020\SERI 5 (20,40)\20X20S5 - IS MISSING(1)[34])(khung),**  **SolidBody 39( C:\THUVIENSOLIDWORKS\ALUMINUM FRAMES25102020\SERI 5 (20,40)\20X20S5 - IS MISSING(1)[41])(khung),**  **SolidBody 40( C:\THUVIENSOLIDWORKS\ALUMINUM FRAMES25102020\SERI 5 (20,40)\20X20S5 - IS MISSING(1)[4])(khung),**  **SolidBody 41( C:\THUVIENSOLIDWORKS\ALUMINUM FRAMES25102020\SERI 5 (20,40)\20X20S5 - IS MISSING(1)[13])(khung),**  **SolidBody 42( C:\THUVIENSOLIDWORKS\ALUMINUM FRAMES25102020\SERI 5 (20,40)\20X20S5 - IS MISSING(1)[30])(khung),**  **SolidBody 43( C:\THUVIENSOLIDWORKS\ALUMINUM FRAMES25102020\SERI 5 (20,40)\20X20S5 - IS MISSING(1)[33])(khung),**  **SolidBody 44( C:\THUVIENSOLIDWORKS\ALUMINUM FRAMES25102020\SERI 5 (20,40)\20X20S5 - IS MISSING(1)[18])(khung),**  **SolidBody 45( C:\THUVIENSOLIDWORKS\ALUMINUM FRAMES25102020\SERI 5 (20,40)\20X20S5 - IS MISSING(1)[20])(khung),**  **SolidBody 46( C:\THUVIENSOLIDWORKS\ALUMINUM FRAMES25102020\SERI 5 (20,40)\20X20S5 - IS MISSING(1)[29])(khung),**  **SolidBody 47( C:\THUVIENSOLIDWORKS\ALUMINUM FRAMES25102020\SERI 5 (20,40)\20X20S5 - IS MISSING(1)[14])(khung),**  **SolidBody 48( C:\THUVIENSOLIDWORKS\ALUMINUM FRAMES25102020\SERI 5 (20,40)\20X20S5 - IS MISSING(1)[39])(khung),**  **SolidBody 49( C:\THUVIENSOLIDWORKS\ALUMINUM FRAMES25102020\SERI 5 (20,40)\20X20S5 - IS MISSING(1)[15])(khung),**  **SolidBody 50( C:\THUVIENSOLIDWORKS\ALUMINUM FRAMES25102020\SERI 5 (20,40)\20X20S5 - IS MISSING(1)[1])(khung),**  **SolidBody 51( C:\THUVIENSOLIDWORKS\ALUMINUM FRAMES25102020\SERI 5 (20,40)\20X20S5 - IS MISSING(1)[51])(khung)** | | **Curve Data:N/A** | | | |

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| **Loads and Fixtures**  | ****Fixture name**** | ****Fixture Image**** | ****Fixture Details**** | | --- | --- | --- | | **Fixed-1** |  | |  |  | | --- | --- | | Entities: | **4 Joint(s)** | | Type: | **Fixed Geometry** | |  | ****Load name**** | ****Load Image**** | ****Load Details**** | | --- | --- | --- | | **Force-11** |  | |  |  | | --- | --- | | Entities: | **5 Beam (s)** | | Reference: | **Edge< 1 >** | | Type: | **Apply force** | | Values: | **---, ---, -60 N** | | Moments: | **---, ---, --- N.m** | | | **Force-12** |  | |  |  | | --- | --- | | Entities: | **4 Beam (s)** | | Reference: | **Edge< 1 >** | | Type: | **Apply force** | | Values: | **---, ---, -70 N** | | Moments: | **---, ---, --- N.m** | | | **Force-13** |  | |  |  | | --- | --- | | Entities: | **10 Beam (s)** | | Reference: | **Edge< 1 >** | | Type: | **Apply force** | | Values: | **---, ---, -20 N** | | Moments: | **---, ---, --- N.m** | | | **Force-14** |  | |  |  | | --- | --- | | Entities: | **4 Beam (s)** | | Reference: | **Edge< 1 >** | | Type: | **Apply force** | | Values: | **---, ---, -2 N** | | Moments: | **---, ---, --- N.m** | | | **Force-15** |  | |  |  | | --- | --- | | Entities: | **4 Beam (s)** | | Reference: | **Edge< 1 >** | | Type: | **Apply force** | | Values: | **---, ---, -2 N** | | Moments: | **---, ---, --- N.m** | | | **Force-16** |  | |  |  | | --- | --- | | Entities: | **4 Beam (s)** | | Reference: | **Edge< 1 >** | | Type: | **Apply force** | | Values: | **---, ---, -80 N** | | Moments: | **---, ---, --- N.m** | | | **Force-17** |  | |  |  | | --- | --- | | Entities: | **4 Beam (s)** | | Reference: | **Edge< 1 >** | | Type: | **Apply force** | | Values: | **---, ---, -2 N** | | Moments: | **---, ---, --- N.m** | | | **Force-18** |  | |  |  | | --- | --- | | Entities: | **4 Beam (s)** | | Reference: | **Edge< 1 >** | | Type: | **Apply force** | | Values: | **---, ---, -2 N** | | Moments: | **---, ---, --- N.m** | | | **Gravity-1** |  | |  |  | | --- | --- | | Reference: | **Top Plane** | | Values: | **0 0 -9.81** | | Units: | **m/s^2** | | |

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| Connector Definitions No Data |

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| Contact Information No Data |

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| Mesh information  |  |  | | --- | --- | | Mesh type | Beam Mesh |  Mesh information - Details  |  |  | | --- | --- | | Total Nodes | 687 | | Total Elements | 651 | | Time to complete mesh(hh;mm;ss): | 00:00:05 | | Computer name: |  | |

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| Sensor Details No Data |

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| Resultant ForcesReaction forces  | Selection set | Units | Sum X | Sum Y | Sum Z | Resultant | | --- | --- | --- | --- | --- | --- | | Entire Model | N | 0 | 1,239.36 | 0 | 1,239.36 |  Reaction Moments  | Selection set | Units | Sum X | Sum Y | Sum Z | Resultant | | --- | --- | --- | --- | --- | --- | | Entire Model | N.m | 0.00114512 | -0.00135136 | 0.00288701 | 0.00338708 | |
| Free body forces  | Selection set | Units | Sum X | Sum Y | Sum Z | Resultant | | --- | --- | --- | --- | --- | --- | | Entire Model | N | 0 | 0 | 0 | 0 |  Free body moments  | Selection set | Units | Sum X | Sum Y | Sum Z | Resultant | | --- | --- | --- | --- | --- | --- | | Entire Model | N.m | 0 | 0 | 0 | 0 | |

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| BeamsBeam Forces  | Beam Name | Joints | Axial(N) | Shear1(N) | Shear2(N) | Moment1(N.m) | Moment2(N.m) | Torque(N.m) | | --- | --- | --- | --- | --- | --- | --- | --- | | Beam-1( C:\THUVIENSOLIDWORKS\ALUMINUM FRAMES25102020\SERI 5 (20,40)\20X20S5 - IS MISSING(1)[26]) | 1 | -0.779508 | 0.00557184 | 11.9601 | -0.448703 | 0.0169442 | 0.00060074 | | 2 | 0.779508 | -0.00557184 | 11.9416 | 0.441283 | -0.0124867 | -0.000600739 | | Beam-2( C:\THUVIENSOLIDWORKS\ALUMINUM FRAMES25102020\SERI 5 (20,40)\20X20S5 - IS MISSING(1)[44]) | 1 | 0 | -1.59872e-13 | -1.87433e-08 | 1.8074e-11 | -4.52305e-13 | -1.02037e-11 | | 2 | 0 | 3.30402e-13 | 2.22803 | -0.0557009 | 1.36136e-12 | 3.06112e-11 | | Beam-3( C:\THUVIENSOLIDWORKS\ALUMINUM FRAMES25102020\SERI 5 (20,40)\20X20S5 - IS MISSING(1)[7]) | 1 | -41.7756 | -0.104464 | 48.6039 | 10.2011 | 0.0365594 | 0.0887339 | | 2 | 41.9438 | 0.144783 | 48.8487 | -10.3517 | 0.050513 | 0.0887524 | | 3 | -41.9438 | -0.144783 | -16.0211 | -9.75798 | 0.0392525 | -0.0887524 | | Beam-4( C:\THUVIENSOLIDWORKS\ALUMINUM FRAMES25102020\SERI 5 (20,40)\20X20S5 - IS MISSING(1)[31]) | 1 | -2.82889e-08 | -3.41061e-13 | 2.27374e-13 | -1.27329e-11 | 9.43956e-12 | 5.96252e-13 | | 2 | -12.3557 | 1.28459e-11 | -2.27374e-13 | -8.90736e-11 | 0.0557009 | 4.17402e-12 | | 3 | 22.4834 | -1.28473e-11 | 2.27374e-13 | 8.90594e-11 | -0.0557009 | -4.17402e-12 | | Beam-5( C:\THUVIENSOLIDWORKS\ALUMINUM FRAMES25102020\SERI 5 (20,40)\20X20S5 - IS MISSING(1)[10]) | 1 | 39.3288 | 0.0121034 | 12.4983 | -3.50085 | -0.160077 | 0.0548392 | | 2 | -1.84617 | -0.576697 | 70.7216 | -14.1438 | -0.110723 | 0.0101482 | | 3 | 1.84626 | 0.575355 | -37.9101 | -11.6562 | -0.162829 | -0.0101481 | | 4 | 39.3288 | 0.0121034 | -10.2108 | -3.88166 | -0.15699 | -0.0565626 | | 5 | 1.9854 | -0.574135 | 71.0858 | 14.3234 | 0.104518 | 0.0104546 | | 6 | 39.3287 | 0.0121336 | 7.53339 | -3.89598 | -0.159637 | -0.000861579 | | Beam-6( C:\THUVIENSOLIDWORKS\ALUMINUM FRAMES25102020\SERI 5 (20,40)\20X20S5 - IS MISSING(1)[23]) | 1 | 25.6214 | 0.586746 | -37.4236 | 8.16564 | -0.0442407 | -0.00813493 | | 2 | -23.569 | -0.586746 | 37.4236 | 8.67498 | 0.308277 | 0.00813521 | | Beam-7( C:\THUVIENSOLIDWORKS\ALUMINUM FRAMES25102020\SERI 5 (20,40)\20X20S5 - IS MISSING(1)[40]) | 1 | 0 | 9.9476e-14 | -1.87353e-08 | 2.6219e-11 | -1.17284e-12 | 1.29707e-11 | | 2 | 0 | 8.10019e-13 | 2.22803 | -0.0557009 | 3.52207e-12 | -3.89124e-11 | | Beam-8( C:\THUVIENSOLIDWORKS\ALUMINUM FRAMES25102020\SERI 5 (20,40)\20X20S5 - IS MISSING(1)[6]) | 1 | 13.9827 | -0.113474 | 32.1021 | -3.46542 | -0.0464223 | 0.000163954 | | 2 | -13.9827 | 0.113474 | 31.5008 | 3.22788 | -0.0432224 | -0.000163954 | | Beam-9( C:\THUVIENSOLIDWORKS\ALUMINUM FRAMES25102020\SERI 5 (20,40)\20X20S5 - IS MISSING(1)[8]) | 1 | -13.7746 | 0.112128 | 31.8811 | 3.45742 | -0.0438625 | -6.78236e-05 | | 2 | 13.7746 | -0.112128 | 31.7674 | -3.41193 | -0.0458397 | 6.78228e-05 | | Beam-10( C:\THUVIENSOLIDWORKS\ALUMINUM FRAMES25102020\SERI 5 (20,40)\20X20S5 - IS MISSING(1)[22]) | 1 | 25.776 | -0.585582 | 37.3433 | -8.14882 | 0.0444732 | -0.00805162 | | 2 | -23.7238 | 0.585582 | -37.3433 | -8.65566 | -0.307985 | 0.00805106 | | Beam-11( C:\THUVIENSOLIDWORKS\ALUMINUM FRAMES25102020\SERI 5 (20,40)\20X20S5 - IS MISSING(1)[46]) | 1 | 0 | 2.77112e-13 | -1.87427e-08 | 1.94511e-11 | 6.25056e-13 | 7.72049e-12 | | 2 | 0 | -4.9738e-14 | 2.22803 | -0.0557009 | -1.8775e-12 | -2.31616e-11 | | Beam-12( C:\THUVIENSOLIDWORKS\ALUMINUM FRAMES25102020\SERI 5 (20,40)\20X20S5 - IS MISSING(1)[2]) | 1 | 309.534 | -10.4436 | -29.0743 | 3.35078 | -1.15928 | -0.00468053 | | 2 | -305.801 | 10.4436 | 29.0743 | 6.24375 | -2.34281 | 0.00468053 | | 3 | -80.5229 | 13.6705 | 41.6857 | 10.1448 | -3.51125 | 0.00979608 | | 4 | -308.12 | 10.4436 | 29.0743 | 5.66226 | -2.07824 | 0.00468053 | | 5 | -191.141 | 9.94066 | 30.9125 | 6.59385 | -2.0103 | -0.010681 | | 6 | -84.63 | 13.6705 | 41.6857 | -7.02966 | 2.17669 | 0.00979608 | | Beam-13( C:\THUVIENSOLIDWORKS\ALUMINUM FRAMES25102020\SERI 5 (20,40)\20X20S5 - IS MISSING(1)[11]) | 1 | 39.3316 | 0.0109844 | -10.2199 | -3.88091 | 0.160084 | 0.0547379 | | 2 | 39.3316 | 0.0109844 | 12.4892 | -3.50242 | 0.157283 | -0.0566638 | | 3 | -1.90792 | 0.574911 | 71.0704 | -14.3192 | 0.104768 | -0.0105188 | | 4 | 39.3316 | 0.0109844 | -10.2199 | -3.88091 | 0.160084 | 0.0547379 | | 5 | 39.3316 | 0.0110146 | 7.52429 | -3.89723 | 0.157683 | -0.000963064 | | 6 | 1.92649 | 0.578174 | 70.7426 | 14.1494 | -0.111122 | -0.0102216 | | Beam-14( C:\THUVIENSOLIDWORKS\ALUMINUM FRAMES25102020\SERI 5 (20,40)\20X20S5 - IS MISSING(1)[21]) | 1 | 25.4418 | 0.567849 | 37.4051 | -8.15816 | -0.0463307 | 0.00629718 | | 2 | -23.3896 | -0.567849 | -37.405 | -8.67411 | 0.301863 | -0.00629663 | | Beam-15( C:\THUVIENSOLIDWORKS\ALUMINUM FRAMES25102020\SERI 5 (20,40)\20X20S5 - IS MISSING(1)[5]) | 1 | 41.9659 | -48.7071 | 0.14445 | -0.0496483 | -9.96092 | 0.099638 | | 2 | -41.7978 | -48.7555 | -0.104131 | -0.0360436 | 10.1448 | 0.0993208 | | 3 | -41.9659 | 16.1573 | -0.14445 | -0.038524 | -9.83568 | -0.099638 | | Beam-16( C:\THUVIENSOLIDWORKS\ALUMINUM FRAMES25102020\SERI 5 (20,40)\20X20S5 - IS MISSING(1)[16]) | 1 | 32.7243 | 0.673493 | -0.00563121 | -0.00116453 | 0.360675 | -0.0128399 | | 2 | 2.10712e-08 | -6.82182e-13 | 1.02318e-12 | -1.27303e-11 | 1.02967e-11 | -4.88394e-14 | | 3 | 10.4561 | 5.68373e-13 | -4.54747e-13 | 6.36362e-11 | -5.15321e-11 | 2.44197e-13 | | Beam-17( C:\THUVIENSOLIDWORKS\ALUMINUM FRAMES25102020\SERI 5 (20,40)\20X20S5 - IS MISSING(1)[42]) | 1 | 0 | 1.42109e-14 | -1.87428e-08 | 1.79781e-11 | 1.47038e-12 | -5.39835e-12 | | 2 | 0 | 7.10543e-14 | 2.22803 | -0.0557009 | -4.41225e-12 | 1.61953e-11 | | Beam-18( C:\THUVIENSOLIDWORKS\ALUMINUM FRAMES25102020\SERI 5 (20,40)\20X20S5 - IS MISSING(1)[47]) | 1 | 0 | 1.35003e-13 | 1.87458e-08 | -1.39401e-10 | 6.26388e-13 | -7.71638e-12 | | 2 | -1.81899e-12 | 3.33955e-13 | 2.22803 | 0.0557009 | -1.87739e-12 | 2.31494e-11 | | Beam-19( C:\THUVIENSOLIDWORKS\ALUMINUM FRAMES25102020\SERI 5 (20,40)\20X20S5 - IS MISSING(1)[48]) | 1 | 0 | -1.58096e-13 | 1.87503e-08 | -1.38061e-10 | 2.76501e-13 | -1.04684e-11 | | 2 | 3.63798e-12 | 4.35207e-13 | 2.22803 | 0.0557009 | -8.37885e-13 | 3.14052e-11 | | Beam-20( C:\THUVIENSOLIDWORKS\ALUMINUM FRAMES25102020\SERI 5 (20,40)\20X20S5 - IS MISSING(1)[49]) | 1 | 0 | -2.66454e-13 | 1.87579e-08 | -1.38281e-10 | -4.54525e-13 | 1.02154e-11 | | 2 | 0 | -1.03029e-13 | 2.22803 | 0.0557009 | 1.35247e-12 | -3.06456e-11 | | Beam-21( C:\THUVIENSOLIDWORKS\ALUMINUM FRAMES25102020\SERI 5 (20,40)\20X20S5 - IS MISSING(1)[12]) | 1 | -26.6934 | 0.732291 | -62.1267 | -4.90884 | -0.392845 | -0.314654 | | 2 | -26.6991 | 0.0587985 | 6.52798 | -4.94802 | -0.388436 | 2.69601e-05 | | 3 | -10.7301 | -1.32132 | 69.674 | -14.8402 | -0.251729 | 0.00635301 | | 4 | 10.7003 | -1.28866 | 69.5918 | 14.7548 | 0.22998 | 0.00591305 | | 5 | -26.6991 | 0.0587985 | 6.52798 | -4.94802 | -0.388436 | 2.69601e-05 | | 6 | -26.6934 | 0.732291 | -62.1267 | -4.90884 | -0.392845 | -0.314654 | | Beam-22( C:\THUVIENSOLIDWORKS\ALUMINUM FRAMES25102020\SERI 5 (20,40)\20X20S5 - IS MISSING(1)[36]) | 1 | 0 | 7.10543e-14 | 1.87609e-08 | -1.4612e-10 | 5.99854e-13 | 1.27249e-11 | | 2 | 1.45519e-11 | 1.20792e-13 | 2.22803 | 0.0557009 | -1.79257e-12 | -3.81755e-11 | | Beam-23( C:\THUVIENSOLIDWORKS\ALUMINUM FRAMES25102020\SERI 5 (20,40)\20X20S5 - IS MISSING(1)[50]) | 1 | 0 | -1.49214e-13 | 1.87458e-08 | -1.39595e-10 | -7.29417e-13 | 8.08276e-12 | | 2 | 9.09495e-13 | -2.98428e-13 | 2.22803 | 0.0557009 | 2.19536e-12 | -2.42483e-11 | | Beam-24( C:\THUVIENSOLIDWORKS\ALUMINUM FRAMES25102020\SERI 5 (20,40)\20X20S5 - IS MISSING(1)[3]) | 1 | -80.7299 | 42.0559 | 13.9194 | 3.54617 | -10.3516 | -0.00665049 | | 2 | 310.401 | -29.3778 | -10.6377 | 1.25546 | -3.35534 | 0.00401379 | | 3 | -308.987 | 29.3778 | 10.6377 | 2.04223 | -5.75176 | -0.00401379 | | 4 | -306.576 | 29.3778 | 10.6377 | 2.52344 | -6.92687 | -0.00401379 | | 5 | -191.6 | 31.2938 | 10.1344 | 2.04604 | -6.68808 | 0.0122337 | | 6 | -84.8369 | 42.0559 | 13.9194 | -2.24432 | 6.97542 | -0.00665049 | | Beam-25( C:\THUVIENSOLIDWORKS\ALUMINUM FRAMES25102020\SERI 5 (20,40)\20X20S5 - IS MISSING(1)[37]) | 1 | 0 | 9.9476e-14 | 1.87438e-08 | -1.46075e-10 | -1.14753e-12 | -1.29536e-11 | | 2 | 1.45519e-11 | 1.00897e-12 | 2.22803 | 0.0557009 | 3.44036e-12 | 3.88611e-11 | | Beam-26( C:\THUVIENSOLIDWORKS\ALUMINUM FRAMES25102020\SERI 5 (20,40)\20X20S5 - IS MISSING(1)[43]) | 1 | 0 | -7.10543e-15 | -1.87427e-08 | 1.96563e-11 | -7.29861e-13 | -8.07909e-12 | | 2 | 0 | 4.26326e-13 | 2.22803 | -0.0557009 | 2.20091e-12 | 2.42375e-11 | | Beam-27( C:\THUVIENSOLIDWORKS\ALUMINUM FRAMES25102020\SERI 5 (20,40)\20X20S5 - IS MISSING(1)[25]) | 1 | -0.673493 | 0.00563121 | 11.8121 | -0.428024 | -0.0128399 | 0.000601412 | | 2 | 0.673493 | -0.00563121 | 11.8364 | 0.437731 | 0.0173448 | -0.000601413 | | Beam-28( C:\THUVIENSOLIDWORKS\ALUMINUM FRAMES25102020\SERI 5 (20,40)\20X20S5 - IS MISSING(1)[28]) | 1 | 2.91038e-09 | -2.41585e-13 | -1.13687e-13 | -1.04823e-11 | -1.31384e-12 | 2.75117e-13 | | 2 | 2.54728 | -2.94165e-12 | 6.82121e-13 | 9.43459e-11 | 0.0557009 | -2.48573e-12 | | 3 | 0.136821 | 2.41585e-13 | 1.13687e-13 | 1.04805e-11 | 1.31006e-12 | -2.75117e-13 | | Beam-29( C:\THUVIENSOLIDWORKS\ALUMINUM FRAMES25102020\SERI 5 (20,40)\20X20S5 - IS MISSING(1)[9]) | 1 | 0 | 0 | 0 | 0 | 0 | 0 | | 2 | -26.6718 | -0.0270658 | 6.8216 | -4.91564 | 0.384413 | 0.000548291 | | 3 | -10.805 | 1.26204 | 69.6959 | -14.7916 | 0.22688 | -0.0055115 | | 4 | -26.6718 | -0.0270658 | 6.8216 | -4.91564 | 0.384413 | 0.000548291 | | 5 | 10.8052 | -1.26474 | -40.7149 | -11.431 | 0.37331 | 0.00551126 | | 6 | 10.677 | 1.33794 | 69.5699 | 14.8039 | -0.252578 | -0.00642269 | | Beam-30( C:\THUVIENSOLIDWORKS\ALUMINUM FRAMES25102020\SERI 5 (20,40)\20X20S5 - IS MISSING(1)[27]) | 1 | 2.91038e-09 | 1.27898e-13 | -4.54747e-13 | 1.02069e-11 | -1.41842e-12 | -4.51382e-13 | | 2 | 0.136821 | -1.27898e-13 | 4.54747e-13 | -1.01963e-11 | 1.42197e-12 | 4.51382e-13 | | 3 | 2.54728 | 2.45848e-12 | -5.68434e-13 | -9.18483e-11 | 0.0557009 | 4.07299e-12 | | Beam-31( C:\THUVIENSOLIDWORKS\ALUMINUM FRAMES25102020\SERI 5 (20,40)\20X20S5 - IS MISSING(1)[38]) | 1 | 0 | -3.55271e-13 | 1.87459e-08 | -1.37576e-10 | -1.98286e-12 | -5.43832e-12 | | 2 | 0 | 5.68434e-14 | 2.22803 | 0.0557009 | 5.94724e-12 | 1.63151e-11 | | Beam-32( C:\THUVIENSOLIDWORKS\ALUMINUM FRAMES25102020\SERI 5 (20,40)\20X20S5 - IS MISSING(1)[19]) | 1 | -0.0727094 | 0.00802515 | 41.7948 | -5.02483 | 0.0951526 | -0.00180634 | | 2 | 0.0727094 | -0.00802515 | 41.8538 | 5.04844 | -0.0887325 | 0.00180634 | | Beam-33( C:\THUVIENSOLIDWORKS\ALUMINUM FRAMES25102020\SERI 5 (20,40)\20X20S5 - IS MISSING(1)[32]) | 1 | -2.82889e-08 | 1.25056e-12 | 1.13687e-13 | 1.29532e-11 | 9.49996e-12 | -1.14794e-12 | | 2 | -12.3557 | 1.36416e-11 | 2.27374e-13 | 9.06653e-11 | 0.0557009 | -8.03371e-12 | | 3 | 22.4834 | -1.36432e-11 | -2.27374e-13 | -9.06653e-11 | -0.0557009 | 8.03371e-12 | | Beam-34( C:\THUVIENSOLIDWORKS\ALUMINUM FRAMES25102020\SERI 5 (20,40)\20X20S5 - IS MISSING(1)[45]) | 1 | 0 | 3.19744e-14 | -1.87468e-08 | 1.79647e-11 | 2.72782e-13 | 1.04812e-11 | | 2 | 0 | -1.95399e-13 | 2.22803 | -0.0557009 | -8.32001e-13 | -3.14436e-11 | | Beam-35( C:\THUVIENSOLIDWORKS\ALUMINUM FRAMES25102020\SERI 5 (20,40)\20X20S5 - IS MISSING(1)[24]) | 1 | 25.2816 | -0.563751 | -37.4825 | 8.17423 | 0.0463698 | 0.00635305 | | 2 | -23.2292 | 0.563751 | 37.4825 | 8.69291 | -0.300058 | -0.00635333 | | Beam-36( C:\THUVIENSOLIDWORKS\ALUMINUM FRAMES25102020\SERI 5 (20,40)\20X20S5 - IS MISSING(1)[35]) | 1 | 0 | 1.87457e-08 | -4.26326e-14 | 1.45239e-12 | 1.38048e-10 | 5.23842e-12 | | 2 | -3.63798e-12 | 2.22803 | -1.98952e-13 | -4.36318e-12 | -0.0557009 | -1.5715e-11 | | Beam-37( C:\THUVIENSOLIDWORKS\ALUMINUM FRAMES25102020\SERI 5 (20,40)\20X20S5 - IS MISSING(1)[17]) | 1 | 2.70009 | -0.0305798 | 36.7387 | 4.58974 | -0.209251 | 0.000905126 | | 2 | -2.70009 | 0.0305798 | 36.9099 | -4.65822 | 0.233714 | -0.000905125 | | Beam-38( C:\THUVIENSOLIDWORKS\ALUMINUM FRAMES25102020\SERI 5 (20,40)\20X20S5 - IS MISSING(1)[34]) | 1 | -2.82889e-08 | 1.13687e-13 | 1.13687e-13 | 1.27116e-11 | -9.46443e-12 | 5.75401e-13 | | 2 | 22.4834 | -1.02318e-12 | 3.41061e-13 | -8.89671e-11 | 0.0557009 | -4.0349e-12 | | 3 | -12.3557 | 1.02318e-12 | -3.41061e-13 | 8.896e-11 | -0.0557009 | 4.0349e-12 | | Beam-39( C:\THUVIENSOLIDWORKS\ALUMINUM FRAMES25102020\SERI 5 (20,40)\20X20S5 - IS MISSING(1)[41]) | 1 | 0 | 9.9476e-14 | -1.87546e-08 | 2.61622e-11 | 5.77982e-13 | -1.27081e-11 | | 2 | 0 | 2.84217e-14 | 2.22803 | -0.0557009 | -1.72651e-12 | 3.81248e-11 | | Beam-40( C:\THUVIENSOLIDWORKS\ALUMINUM FRAMES25102020\SERI 5 (20,40)\20X20S5 - IS MISSING(1)[4]) | 1 | -80.7061 | -13.8782 | -41.6622 | -10.2012 | 3.55415 | 0.00986293 | | 2 | 309.694 | 10.4617 | 29.0752 | -3.35143 | 1.16284 | -0.00468965 | | 3 | -305.87 | -10.4617 | -29.0752 | -6.8249 | 2.55447 | 0.00468965 | | 4 | -84.8131 | -13.8782 | -41.6622 | 6.96357 | -2.21936 | 0.00986293 | | 5 | -191.271 | -9.88995 | -30.9923 | -6.62382 | 1.98768 | -0.0107632 | | 6 | -308.281 | -10.4617 | -29.0752 | -5.66189 | 2.0803 | 0.00468965 | | Beam-41( C:\THUVIENSOLIDWORKS\ALUMINUM FRAMES25102020\SERI 5 (20,40)\20X20S5 - IS MISSING(1)[13]) | 1 | 2.11876e-08 | -4.54808e-13 | 1.13687e-13 | 1.29523e-11 | 1.03935e-11 | -2.96638e-13 | | 2 | 6.97071 | -2.27435e-13 | 2.27374e-13 | -3.88383e-11 | -3.11644e-11 | 8.89917e-13 | | 3 | 32.8723 | 0.779508 | -0.00557184 | -0.00115792 | 0.370752 | 0.0169442 | | Beam-42( C:\THUVIENSOLIDWORKS\ALUMINUM FRAMES25102020\SERI 5 (20,40)\20X20S5 - IS MISSING(1)[30]) | 1 | 2.91038e-09 | -2.69996e-13 | -2.27374e-13 | -1.02158e-11 | 1.44085e-12 | -4.50286e-13 | | 2 | 2.54728 | -2.61477e-12 | -1.25056e-12 | 9.18838e-11 | -0.0557009 | 4.04852e-12 | | 3 | 0.136821 | 2.70017e-13 | 2.27374e-13 | 1.02141e-11 | -1.44862e-12 | 4.50286e-13 | | Beam-43( C:\THUVIENSOLIDWORKS\ALUMINUM FRAMES25102020\SERI 5 (20,40)\20X20S5 - IS MISSING(1)[33]) | 1 | -2.82889e-08 | 5.68434e-13 | -1.13687e-13 | -9.47509e-12 | 1.29674e-11 | -1.17123e-12 | | 2 | -12.3557 | -1.02318e-12 | 2.04636e-12 | -0.0557009 | 9.0786e-11 | -8.20982e-12 | | 3 | 22.4834 | 1.02318e-12 | -2.04636e-12 | 0.0557009 | -9.07434e-11 | 8.20982e-12 | | Beam-44( C:\THUVIENSOLIDWORKS\ALUMINUM FRAMES25102020\SERI 5 (20,40)\20X20S5 - IS MISSING(1)[18]) | 1 | -2.46571 | 0.0319557 | 36.6874 | -4.56425 | -0.206841 | -0.000891456 | | 2 | 2.46571 | -0.0319557 | 36.9612 | 4.67377 | 0.232406 | 0.000891455 | | Beam-45( C:\THUVIENSOLIDWORKS\ALUMINUM FRAMES25102020\SERI 5 (20,40)\20X20S5 - IS MISSING(1)[20]) | 1 | -0.00663059 | 0.0094322 | 41.8447 | -5.04388 | -0.0881731 | -0.00180837 | | 2 | 0.00663059 | -0.0094322 | 41.8038 | 5.02751 | 0.0957189 | 0.00180837 | | Beam-46( C:\THUVIENSOLIDWORKS\ALUMINUM FRAMES25102020\SERI 5 (20,40)\20X20S5 - IS MISSING(1)[29]) | 1 | 2.91038e-09 | -1.42015e-14 | 1.13687e-13 | 1.04672e-11 | 1.3487e-12 | 2.73677e-13 | | 2 | 2.54728 | -8.91018e-12 | -3.41061e-13 | -9.42357e-11 | -0.0557009 | -2.48191e-12 | | 3 | 0.136821 | 1.42202e-14 | -1.13687e-13 | -1.04663e-11 | -1.35136e-12 | -2.73677e-13 | | Beam-47( C:\THUVIENSOLIDWORKS\ALUMINUM FRAMES25102020\SERI 5 (20,40)\20X20S5 - IS MISSING(1)[14]) | 1 | 2.10712e-08 | -3.41061e-13 | -3.41061e-13 | 1.27063e-11 | -1.03411e-11 | -5.19519e-14 | | 2 | 6.97071 | -3.41061e-13 | -4.54747e-13 | -3.81348e-11 | 3.10081e-11 | 1.55856e-13 | | 3 | 32.8537 | -0.779508 | 0.00557184 | 0.00115792 | -0.363332 | -0.0124867 | | Beam-48( C:\THUVIENSOLIDWORKS\ALUMINUM FRAMES25102020\SERI 5 (20,40)\20X20S5 - IS MISSING(1)[39]) | 1 | 0 | 1.42109e-13 | -1.87427e-08 | 1.76161e-11 | -1.96376e-12 | 5.28694e-12 | | 2 | 0 | 2.70006e-13 | 2.22803 | -0.0557009 | 5.9015e-12 | -1.58609e-11 | | Beam-49( C:\THUVIENSOLIDWORKS\ALUMINUM FRAMES25102020\SERI 5 (20,40)\20X20S5 - IS MISSING(1)[15]) | 1 | 32.7485 | -0.673493 | 0.00563121 | 0.00116453 | -0.370381 | 0.0173448 | | 2 | 2.10712e-08 | -1.13687e-13 | 3.41061e-13 | -1.29683e-11 | -1.03491e-11 | -2.99795e-13 | | 3 | 10.4561 | 2.27374e-13 | -7.95808e-13 | 6.4837e-11 | 5.17169e-11 | 1.499e-12 | | Beam-50( C:\THUVIENSOLIDWORKS\ALUMINUM FRAMES25102020\SERI 5 (20,40)\20X20S5 - IS MISSING(1)[1]) | 1 | -305.996 | -29.3768 | -10.6558 | -2.31599 | 6.33853 | -0.00400502 | | 2 | 309.729 | 29.3768 | 10.6558 | -1.25613 | 3.35584 | 0.00400502 | | 3 | -80.2079 | -42.0794 | -14.1271 | -3.64253 | 10.4284 | -0.00667788 | | 4 | -305.996 | -29.3768 | -10.6558 | -2.31599 | 6.33853 | -0.00400502 | | 5 | -191.093 | -31.3717 | -10.0886 | -1.65723 | 5.54172 | 0.0122893 | | 6 | -81.9161 | -42.0794 | -14.1271 | 1.64871 | -5.3323 | -0.00667788 | | Beam-51( C:\THUVIENSOLIDWORKS\ALUMINUM FRAMES25102020\SERI 5 (20,40)\20X20S5 - IS MISSING(1)[51]) | 1 | -0.0403187 | 0.168128 | 31.7974 | 0.177486 | -0.067461 | -0.00116884 | | 2 | 0.0403187 | -0.168128 | 31.8511 | -0.198959 | -0.0670418 | 0.00116884 |  Beam Stresses  | Beam Name | Joints | Axial(N/m^2) | Bending Dir1(N/m^2) | Bending Dir2(N/m^2) | Torsional (N/m^2) | Upper bound axial and bending(N/m^2) | | --- | --- | --- | --- | --- | --- | --- | | Beam-1( C:\THUVIENSOLIDWORKS\ALUMINUM FRAMES25102020\SERI 5 (20,40)\20X20S5 - IS MISSING(1)[26]) | 1 | 4,527.13 | 670,525 | 24,300.9 | -10,762.4 | 699,353 | | 2 | 4,527.13 | 659,437 | 17,908.1 | -10,762.4 | 681,872 | | Beam-2( C:\THUVIENSOLIDWORKS\ALUMINUM FRAMES25102020\SERI 5 (20,40)\20X20S5 - IS MISSING(1)[44]) | 1 | 0 | 2.70091e-05 | 6.48683e-07 | -0.00018287 | 2.76578e-05 | | 2 | 0 | 83,237.4 | 1.95242e-06 | -0.000548611 | 83,237.4 | | Beam-3( C:\THUVIENSOLIDWORKS\ALUMINUM FRAMES25102020\SERI 5 (20,40)\20X20S5 - IS MISSING(1)[7]) | 1 | -242,619 | 1.52441e+07 | -52,432.4 | 1.5905e+06 | 1.55392e+07 | | 2 | -243,596 | 1.54692e+07 | 72,444.3 | -1.59083e+06 | 1.57852e+07 | | 3 | -243,596 | -1.4582e+07 | -56,294.9 | -1.59083e+06 | 1.48819e+07 | | Beam-4( C:\THUVIENSOLIDWORKS\ALUMINUM FRAMES25102020\SERI 5 (20,40)\20X20S5 - IS MISSING(1)[31]) | 1 | -0.000164293 | -1.90276e-05 | -1.3538e-05 | 1.06852e-05 | 0.000196858 | | 2 | -71,758.1 | -0.000133108 | -79,884.6 | 7.48009e-05 | 151,643 | | 3 | -130,577 | -0.000133087 | -79,884.6 | 7.48009e-05 | 210,461 | | Beam-5( C:\THUVIENSOLIDWORKS\ALUMINUM FRAMES25102020\SERI 5 (20,40)\20X20S5 - IS MISSING(1)[10]) | 1 | 228,409 | -5.23154e+06 | 229,578 | 982,750 | 5.68953e+06 | | 2 | 10,721.9 | 2.1136e+07 | -158,797 | -181,861 | 2.13055e+07 | | 3 | 10,722.5 | -1.74186e+07 | 233,525 | -181,860 | 1.76628e+07 | | 4 | 228,409 | -5.80061e+06 | 225,151 | -1.01363e+06 | 6.25417e+06 | | 5 | 11,530.6 | 2.14043e+07 | -149,896 | 187,353 | 2.15658e+07 | | 6 | 228,409 | -5.82201e+06 | 228,948 | -15,440 | 6.27937e+06 | | Beam-6( C:\THUVIENSOLIDWORKS\ALUMINUM FRAMES25102020\SERI 5 (20,40)\20X20S5 - IS MISSING(1)[23]) | 1 | -148,801 | -1.22024e+07 | -63,448.9 | 145,787 | 1.24147e+07 | | 2 | -136,881 | 1.29636e+07 | -442,122 | 145,792 | 1.35426e+07 | | Beam-7( C:\THUVIENSOLIDWORKS\ALUMINUM FRAMES25102020\SERI 5 (20,40)\20X20S5 - IS MISSING(1)[40]) | 1 | 0 | 3.91808e-05 | 1.68205e-06 | 0.00023246 | 4.08628e-05 | | 2 | 0 | 83,237.4 | 5.05126e-06 | 0.000697385 | 83,237.4 | | Beam-8( C:\THUVIENSOLIDWORKS\ALUMINUM FRAMES25102020\SERI 5 (20,40)\20X20S5 - IS MISSING(1)[6]) | 1 | -81,206.7 | 5.17859e+06 | -66,577.6 | -2,938.83 | 5.32638e+06 | | 2 | -81,206.7 | 4.82363e+06 | 61,988.4 | -2,938.84 | 4.96683e+06 | | Beam-9( C:\THUVIENSOLIDWORKS\ALUMINUM FRAMES25102020\SERI 5 (20,40)\20X20S5 - IS MISSING(1)[8]) | 1 | -79,998.4 | 5.16664e+06 | 62,906.4 | -1,215.72 | 5.30955e+06 | | 2 | -79,998.4 | 5.09866e+06 | -65,742 | -1,215.71 | 5.2444e+06 | | Beam-10( C:\THUVIENSOLIDWORKS\ALUMINUM FRAMES25102020\SERI 5 (20,40)\20X20S5 - IS MISSING(1)[22]) | 1 | -149,698 | 1.21773e+07 | 63,782.3 | 144,290 | 1.23908e+07 | | 2 | -137,780 | -1.29347e+07 | 441,704 | 144,280 | 1.35142e+07 | | Beam-11( C:\THUVIENSOLIDWORKS\ALUMINUM FRAMES25102020\SERI 5 (20,40)\20X20S5 - IS MISSING(1)[46]) | 1 | 0 | 2.9067e-05 | -8.96437e-07 | 0.000138366 | 2.99635e-05 | | 2 | 0 | 83,237.4 | -2.69266e-06 | 0.0004151 | 83,237.4 | | Beam-12( C:\THUVIENSOLIDWORKS\ALUMINUM FRAMES25102020\SERI 5 (20,40)\20X20S5 - IS MISSING(1)[2]) | 1 | -1.79767e+06 | -5.00728e+06 | -1.6626e+06 | 83,878.1 | 8.46755e+06 | | 2 | -1.77599e+06 | 9.33043e+06 | 3.36e+06 | 83,878.1 | 1.44664e+07 | | 3 | -467,651 | 1.51601e+07 | 5.03574e+06 | 175,552 | 2.06635e+07 | | 4 | -1.78946e+06 | 8.46148e+06 | 2.98055e+06 | 83,878.1 | 1.32315e+07 | | 5 | -1.11008e+06 | 9.85361e+06 | 2.88312e+06 | -191,411 | 1.38468e+07 | | 6 | -491,503 | -1.05049e+07 | -3.12174e+06 | 175,552 | 1.41181e+07 | | Beam-13( C:\THUVIENSOLIDWORKS\ALUMINUM FRAMES25102020\SERI 5 (20,40)\20X20S5 - IS MISSING(1)[11]) | 1 | 228,425 | -5.79949e+06 | -229,589 | 980,936 | 6.2575e+06 | | 2 | 228,425 | -5.23389e+06 | -225,571 | -1.01545e+06 | 5.68788e+06 | | 3 | 11,080.6 | 2.13981e+07 | 150,255 | 188,504 | 2.15594e+07 | | 4 | 228,425 | -5.79949e+06 | -229,589 | 980,936 | 6.2575e+06 | | 5 | 228,425 | -5.82388e+06 | -226,145 | -17,258.7 | 6.27845e+06 | | 6 | 11,188.4 | 2.11444e+07 | 159,368 | -183,177 | 2.1315e+07 | | Beam-14( C:\THUVIENSOLIDWORKS\ALUMINUM FRAMES25102020\SERI 5 (20,40)\20X20S5 - IS MISSING(1)[21]) | 1 | -147,758 | 1.21913e+07 | -66,446.3 | -112,849 | 1.24055e+07 | | 2 | -135,840 | -1.29623e+07 | -432,923 | -112,839 | 1.3531e+07 | | Beam-15( C:\THUVIENSOLIDWORKS\ALUMINUM FRAMES25102020\SERI 5 (20,40)\20X20S5 - IS MISSING(1)[5]) | 1 | -243,725 | 74,192.6 | -1.42857e+07 | -1.78571e+06 | 1.46036e+07 | | 2 | -242,748 | -53,862.2 | -1.45494e+07 | 1.78003e+06 | 1.4846e+07 | | 3 | -243,725 | -57,568.8 | 1.41061e+07 | -1.78571e+06 | 1.44074e+07 | | Beam-16( C:\THUVIENSOLIDWORKS\ALUMINUM FRAMES25102020\SERI 5 (20,40)\20X20S5 - IS MISSING(1)[16]) | 1 | 190,052 | -1,740.24 | -517,270 | -230,099 | 709,062 | | 2 | -0.000122375 | 1.90236e-05 | 1.47672e-05 | 8.75234e-07 | 0.000156165 | | 3 | 60,725.5 | 9.50956e-05 | 7.39059e-05 | 4.37618e-06 | 60,725.5 | | Beam-17( C:\THUVIENSOLIDWORKS\ALUMINUM FRAMES25102020\SERI 5 (20,40)\20X20S5 - IS MISSING(1)[42]) | 1 | 0 | 2.68658e-05 | -2.10878e-06 | -9.67487e-05 | 2.89745e-05 | | 2 | 0 | 83,237.4 | -6.32792e-06 | -0.00029025 | 83,237.4 | | Beam-18( C:\THUVIENSOLIDWORKS\ALUMINUM FRAMES25102020\SERI 5 (20,40)\20X20S5 - IS MISSING(1)[47]) | 1 | 0 | 0.000208316 | 8.98348e-07 | 0.00013829 | 0.000209214 | | 2 | -1.05641e-08 | 83,237.3 | 2.6925e-06 | 0.000414873 | 83,237.3 | | Beam-19( C:\THUVIENSOLIDWORKS\ALUMINUM FRAMES25102020\SERI 5 (20,40)\20X20S5 - IS MISSING(1)[48]) | 1 | 0 | 0.000206314 | 3.9655e-07 | 0.00018761 | 0.00020671 | | 2 | 2.11282e-08 | 83,237.3 | 1.20167e-06 | 0.00056283 | 83,237.3 | | Beam-20( C:\THUVIENSOLIDWORKS\ALUMINUM FRAMES25102020\SERI 5 (20,40)\20X20S5 - IS MISSING(1)[49]) | 1 | 0 | 0.000206642 | -6.51868e-07 | -0.000183076 | 0.000207294 | | 2 | 0 | 83,237.3 | -1.93968e-06 | -0.000549217 | 83,237.3 | | Beam-21( C:\THUVIENSOLIDWORKS\ALUMINUM FRAMES25102020\SERI 5 (20,40)\20X20S5 - IS MISSING(1)[12]) | 1 | -155,027 | -7.3356e+06 | 563,407 | -5.63878e+06 | 8.05403e+06 | | 2 | -155,060 | -7.39414e+06 | 557,084 | 483.141 | 8.10629e+06 | | 3 | 62,316.8 | 2.21766e+07 | -361,023 | -113,850 | 2.25999e+07 | | 4 | 62,143.8 | 2.20491e+07 | -329,831 | 105,965 | 2.24411e+07 | | 5 | -155,060 | -7.39414e+06 | 557,084 | 483.141 | 8.10629e+06 | | 6 | -155,027 | -7.3356e+06 | 563,407 | -5.63878e+06 | 8.05403e+06 | | Beam-22( C:\THUVIENSOLIDWORKS\ALUMINUM FRAMES25102020\SERI 5 (20,40)\20X20S5 - IS MISSING(1)[36]) | 1 | 0 | 0.000218356 | 8.60293e-07 | -0.000228051 | 0.000219216 | | 2 | 8.45128e-08 | 83,237.3 | 2.57085e-06 | -0.000684164 | 83,237.3 | | Beam-23( C:\THUVIENSOLIDWORKS\ALUMINUM FRAMES25102020\SERI 5 (20,40)\20X20S5 - IS MISSING(1)[50]) | 1 | 0 | 0.000208606 | -1.04611e-06 | -0.000144856 | 0.000209652 | | 2 | 5.28205e-09 | 83,237.3 | -3.14852e-06 | -0.000434567 | 83,237.3 | | Beam-24( C:\THUVIENSOLIDWORKS\ALUMINUM FRAMES25102020\SERI 5 (20,40)\20X20S5 - IS MISSING(1)[3]) | 1 | -468,853 | 5.29927e+06 | 1.4846e+07 | -119,177 | 2.06141e+07 | | 2 | -1.80271e+06 | -1.87611e+06 | -4.81214e+06 | -71,927.1 | 8.49095e+06 | | 3 | -1.7945e+06 | 3.05183e+06 | 8.24902e+06 | -71,927.1 | 1.30953e+07 | | 4 | -1.7805e+06 | 3.77093e+06 | 9.93433e+06 | -71,927.1 | 1.54858e+07 | | 5 | -1.11275e+06 | 3.05753e+06 | 9.59186e+06 | 219,228 | 1.37621e+07 | | 6 | -492,705 | -3.35382e+06 | -1.00039e+07 | -119,177 | 1.38505e+07 | | Beam-25( C:\THUVIENSOLIDWORKS\ALUMINUM FRAMES25102020\SERI 5 (20,40)\20X20S5 - IS MISSING(1)[37]) | 1 | 0 | 0.000218289 | -1.64575e-06 | 0.000232149 | 0.000219935 | | 2 | 8.45128e-08 | 83,237.3 | -4.93407e-06 | 0.000696452 | 83,237.3 | | Beam-26( C:\THUVIENSOLIDWORKS\ALUMINUM FRAMES25102020\SERI 5 (20,40)\20X20S5 - IS MISSING(1)[43]) | 1 | 0 | 2.93736e-05 | 1.04675e-06 | -0.000144793 | 3.04204e-05 | | 2 | 0 | 83,237.4 | 3.15648e-06 | -0.000434382 | 83,237.4 | | Beam-27( C:\THUVIENSOLIDWORKS\ALUMINUM FRAMES25102020\SERI 5 (20,40)\20X20S5 - IS MISSING(1)[25]) | 1 | 3,911.43 | 639,624 | -18,414.6 | -10,779.6 | 661,950 | | 2 | 3,911.43 | 654,129 | -24,875.5 | -10,779.6 | 682,916 | | Beam-28( C:\THUVIENSOLIDWORKS\ALUMINUM FRAMES25102020\SERI 5 (20,40)\20X20S5 - IS MISSING(1)[28]) | 1 | -1.69026e-05 | 1.56643e-05 | -1.88427e-06 | -4.93027e-06 | 3.44512e-05 | | 2 | 14,793.8 | 0.000140987 | -79,884.7 | -4.45458e-05 | 94,678.5 | | 3 | 794.61 | 1.56617e-05 | -1.87886e-06 | -4.93027e-06 | 794.61 | | Beam-29( C:\THUVIENSOLIDWORKS\ALUMINUM FRAMES25102020\SERI 5 (20,40)\20X20S5 - IS MISSING(1)[9]) | 1 | 0 | 0 | 0 | 0 | 0 | | 2 | -154,901 | -7.34576e+06 | -551,314 | 9,825.7 | 8.05197e+06 | | 3 | 62,752 | 2.2104e+07 | 325,386 | 98,769.3 | 2.24922e+07 | | 4 | -154,901 | -7.34576e+06 | -551,314 | 9,825.7 | 8.05197e+06 | | 5 | 62,753.1 | -1.7082e+07 | -535,391 | 98,765 | 1.76802e+07 | | 6 | 62,008.5 | 2.21223e+07 | 362,240 | -115,098 | 2.25466e+07 | | Beam-30( C:\THUVIENSOLIDWORKS\ALUMINUM FRAMES25102020\SERI 5 (20,40)\20X20S5 - IS MISSING(1)[27]) | 1 | -1.69026e-05 | -1.52529e-05 | -2.03426e-06 | 8.08906e-06 | 3.41897e-05 | | 2 | 794.61 | -1.5237e-05 | -2.03936e-06 | 8.08906e-06 | 794.61 | | 3 | 14,793.8 | -0.000137255 | -79,884.7 | 7.29907e-05 | 94,678.5 | | Beam-31( C:\THUVIENSOLIDWORKS\ALUMINUM FRAMES25102020\SERI 5 (20,40)\20X20S5 - IS MISSING(1)[38]) | 1 | 0 | 0.000205588 | -2.84376e-06 | 9.74631e-05 | 0.000208432 | | 2 | 0 | 83,237.3 | -8.52937e-06 | 0.000292391 | 83,237.3 | | Beam-32( C:\THUVIENSOLIDWORKS\ALUMINUM FRAMES25102020\SERI 5 (20,40)\20X20S5 - IS MISSING(1)[19]) | 1 | 422.273 | 7.50892e+06 | 136,465 | 32,370.6 | 7.6458e+06 | | 2 | 422.273 | 7.5442e+06 | 127,258 | 32,370.6 | 7.67188e+06 | | Beam-33( C:\THUVIENSOLIDWORKS\ALUMINUM FRAMES25102020\SERI 5 (20,40)\20X20S5 - IS MISSING(1)[32]) | 1 | -0.000164293 | 1.93568e-05 | -1.36246e-05 | -2.05718e-05 | 0.000197274 | | 2 | -71,758.1 | 0.000135487 | -79,884.6 | -0.000143969 | 151,643 | | 3 | -130,577 | 0.000135487 | -79,884.6 | -0.000143969 | 210,461 | | Beam-34( C:\THUVIENSOLIDWORKS\ALUMINUM FRAMES25102020\SERI 5 (20,40)\20X20S5 - IS MISSING(1)[45]) | 1 | 0 | 2.68459e-05 | -3.91216e-07 | 0.000187843 | 2.72371e-05 | | 2 | 0 | 83,237.4 | -1.19323e-06 | 0.00056353 | 83,237.4 | | Beam-35( C:\THUVIENSOLIDWORKS\ALUMINUM FRAMES25102020\SERI 5 (20,40)\20X20S5 - IS MISSING(1)[24]) | 1 | -146,827 | -1.22153e+07 | 66,502.3 | -113,850 | 1.24286e+07 | | 2 | -134,908 | 1.29904e+07 | 430,335 | -113,855 | 1.35556e+07 | | Beam-36( C:\THUVIENSOLIDWORKS\ALUMINUM FRAMES25102020\SERI 5 (20,40)\20X20S5 - IS MISSING(1)[35]) | 1 | 0 | -2.1704e-06 | 0.000197985 | -9.38593e-05 | 0.000200155 | | 2 | -2.11282e-08 | -6.52017e-06 | 79,884.6 | -0.000281574 | 79,884.6 | | Beam-37( C:\THUVIENSOLIDWORKS\ALUMINUM FRAMES25102020\SERI 5 (20,40)\20X20S5 - IS MISSING(1)[17]) | 1 | 15,681.2 | 6.85874e+06 | 300,101 | 16,220.4 | 7.17453e+06 | | 2 | 15,681.2 | 6.96108e+06 | 335,187 | 16,220.4 | 7.31195e+06 | | Beam-38( C:\THUVIENSOLIDWORKS\ALUMINUM FRAMES25102020\SERI 5 (20,40)\20X20S5 - IS MISSING(1)[34]) | 1 | -0.000164293 | 1.89958e-05 | 1.35736e-05 | 1.03118e-05 | 0.000196862 | | 2 | -130,577 | 0.000132949 | 79,884.7 | 7.231e-05 | 210,461 | | 3 | -71,758.1 | 0.000132938 | 79,884.7 | 7.231e-05 | 151,643 | | Beam-39( C:\THUVIENSOLIDWORKS\ALUMINUM FRAMES25102020\SERI 5 (20,40)\20X20S5 - IS MISSING(1)[41]) | 1 | 0 | 3.90958e-05 | -8.28926e-07 | -0.000227753 | 3.99247e-05 | | 2 | 0 | 83,237.4 | -2.47611e-06 | -0.00068327 | 83,237.4 | | Beam-40( C:\THUVIENSOLIDWORKS\ALUMINUM FRAMES25102020\SERI 5 (20,40)\20X20S5 - IS MISSING(1)[4]) | 1 | -468,715 | -1.52444e+07 | -5.09727e+06 | 176,750 | 2.08103e+07 | | 2 | -1.7986e+06 | 5.00825e+06 | 1.66771e+06 | 84,041.5 | 8.47457e+06 | | 3 | -1.77639e+06 | -1.01989e+07 | -3.66355e+06 | 84,041.5 | 1.56388e+07 | | 4 | -492,567 | 1.04061e+07 | 3.18295e+06 | 176,750 | 1.40816e+07 | | 5 | -1.11084e+06 | -9.89839e+06 | -2.85068e+06 | -192,883 | 1.38599e+07 | | 6 | -1.79039e+06 | -8.46092e+06 | -2.98351e+06 | 84,041.5 | 1.32348e+07 | | Beam-41( C:\THUVIENSOLIDWORKS\ALUMINUM FRAMES25102020\SERI 5 (20,40)\20X20S5 - IS MISSING(1)[13]) | 1 | -0.000123051 | -1.93555e-05 | 1.4906e-05 | 5.31594e-06 | 0.000157312 | | 2 | 40,483.6 | -5.80385e-05 | 4.46951e-05 | 1.59479e-05 | 40,483.6 | | 3 | 190,912 | -1,730.36 | -531,722 | 303,651 | 724,364 | | Beam-42( C:\THUVIENSOLIDWORKS\ALUMINUM FRAMES25102020\SERI 5 (20,40)\20X20S5 - IS MISSING(1)[30]) | 1 | -1.69026e-05 | 1.52662e-05 | 2.06642e-06 | 8.06941e-06 | 3.42351e-05 | | 2 | 14,793.8 | 0.000137308 | 79,884.6 | 7.25521e-05 | 94,678.4 | | 3 | 794.61 | 1.52635e-05 | 2.07757e-06 | 8.06941e-06 | 794.61 | | Beam-43( C:\THUVIENSOLIDWORKS\ALUMINUM FRAMES25102020\SERI 5 (20,40)\20X20S5 - IS MISSING(1)[33]) | 1 | -0.000164293 | -1.41592e-05 | -1.85975e-05 | -2.09897e-05 | 0.00019705 | | 2 | -71,758.1 | -83,237.4 | -0.000130203 | -0.000147129 | 154,995 | | 3 | -130,577 | -83,237.4 | -0.000130142 | -0.000147129 | 213,814 | | Beam-44( C:\THUVIENSOLIDWORKS\ALUMINUM FRAMES25102020\SERI 5 (20,40)\20X20S5 - IS MISSING(1)[18]) | 1 | 14,320 | 6.82065e+06 | -296,646 | 15,975.4 | 7.13161e+06 | | 2 | 14,320 | 6.98431e+06 | -333,310 | 15,975.4 | 7.33194e+06 | | Beam-45( C:\THUVIENSOLIDWORKS\ALUMINUM FRAMES25102020\SERI 5 (20,40)\20X20S5 - IS MISSING(1)[20]) | 1 | 38.5083 | 7.53739e+06 | -126,455 | 32,407 | 7.66388e+06 | | 2 | 38.5083 | 7.51293e+06 | -137,277 | 32,407 | 7.65025e+06 | | Beam-46( C:\THUVIENSOLIDWORKS\ALUMINUM FRAMES25102020\SERI 5 (20,40)\20X20S5 - IS MISSING(1)[29]) | 1 | -1.69026e-05 | -1.56418e-05 | 1.93427e-06 | -4.90447e-06 | 3.44786e-05 | | 2 | 14,793.8 | -0.000140822 | 79,884.6 | -4.44775e-05 | 94,678.4 | | 3 | 794.61 | -1.56404e-05 | 1.93809e-06 | -4.90447e-06 | 794.61 | | Beam-47( C:\THUVIENSOLIDWORKS\ALUMINUM FRAMES25102020\SERI 5 (20,40)\20X20S5 - IS MISSING(1)[14]) | 1 | -0.000122375 | -1.89878e-05 | -1.48309e-05 | 9.31012e-07 | 0.000156193 | | 2 | 40,483.6 | -5.69873e-05 | -4.44709e-05 | 2.79304e-06 | 40,483.6 | | 3 | 190,804 | 1,730.36 | 521,081 | -223,770 | 713,615 | | Beam-48( C:\THUVIENSOLIDWORKS\ALUMINUM FRAMES25102020\SERI 5 (20,40)\20X20S5 - IS MISSING(1)[39]) | 1 | 0 | 2.63249e-05 | 2.81637e-06 | 9.4752e-05 | 2.91413e-05 | | 2 | 0 | 83,237.4 | 8.46377e-06 | 0.000284257 | 83,237.4 | | Beam-49( C:\THUVIENSOLIDWORKS\ALUMINUM FRAMES25102020\SERI 5 (20,40)\20X20S5 - IS MISSING(1)[15]) | 1 | 190,193 | 1,740.24 | 531,191 | 310,831 | 723,124 | | 2 | -0.000122375 | 1.93793e-05 | -1.48423e-05 | 5.37252e-06 | 0.000156596 | | 3 | 60,725.5 | 9.68901e-05 | -7.41709e-05 | 2.68631e-05 | 60,725.5 | | Beam-50( C:\THUVIENSOLIDWORKS\ALUMINUM FRAMES25102020\SERI 5 (20,40)\20X20S5 - IS MISSING(1)[1]) | 1 | -1.77713e+06 | -3.46094e+06 | -9.09054e+06 | -71,770 | 1.43286e+07 | | 2 | -1.79881e+06 | 1.87712e+06 | 4.81285e+06 | -71,770 | 8.48878e+06 | | 3 | -465,821 | -5.44326e+06 | -1.49561e+07 | -119,667 | 2.08651e+07 | | 4 | -1.77713e+06 | -3.46094e+06 | -9.09054e+06 | -71,770 | 1.43286e+07 | | 5 | -1.10981e+06 | -2.4765e+06 | -7.94779e+06 | 220,225 | 1.15341e+07 | | 6 | -475,742 | 2.46377e+06 | 7.64744e+06 | -119,667 | 1.0587e+07 | | Beam-51( C:\THUVIENSOLIDWORKS\ALUMINUM FRAMES25102020\SERI 5 (20,40)\20X20S5 - IS MISSING(1)[51]) | 1 | -234.158 | 265,229 | 96,750.7 | -20,946.4 | 362,214 | | 2 | -234.158 | 297,317 | -96,149.5 | -20,946.4 | 393,700 | |

|  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- |
| Study Results  | Name | Type | Min | Max | | --- | --- | --- | --- | | Stress1 | Upper bound axial and bending | 0.000e+00N/m^2  Element: 650 | 2.260e+07N/m^2  Element: 288 | | **khung-Static 1-Stress-Stress1** | | | |  | Name | Type | Min | Max | | --- | --- | --- | --- | | Displacement1 | URES: Resultant Displacement | 0.000e+00mm  Node: 170 | 2.966e+00mm  Node: 627 | | **khung-Static 1-Displacement-Displacement1** | | | |  | Name | Type | Min | Max | | --- | --- | --- | --- | | Factor of Safety1 | Automatic | 2.440e+00  Node: 299 | 6.940e+04  Node: 394 | | **khung-Static 1-Factor of Safety-Factor of Safety1** | | | | |

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| Conclusion |