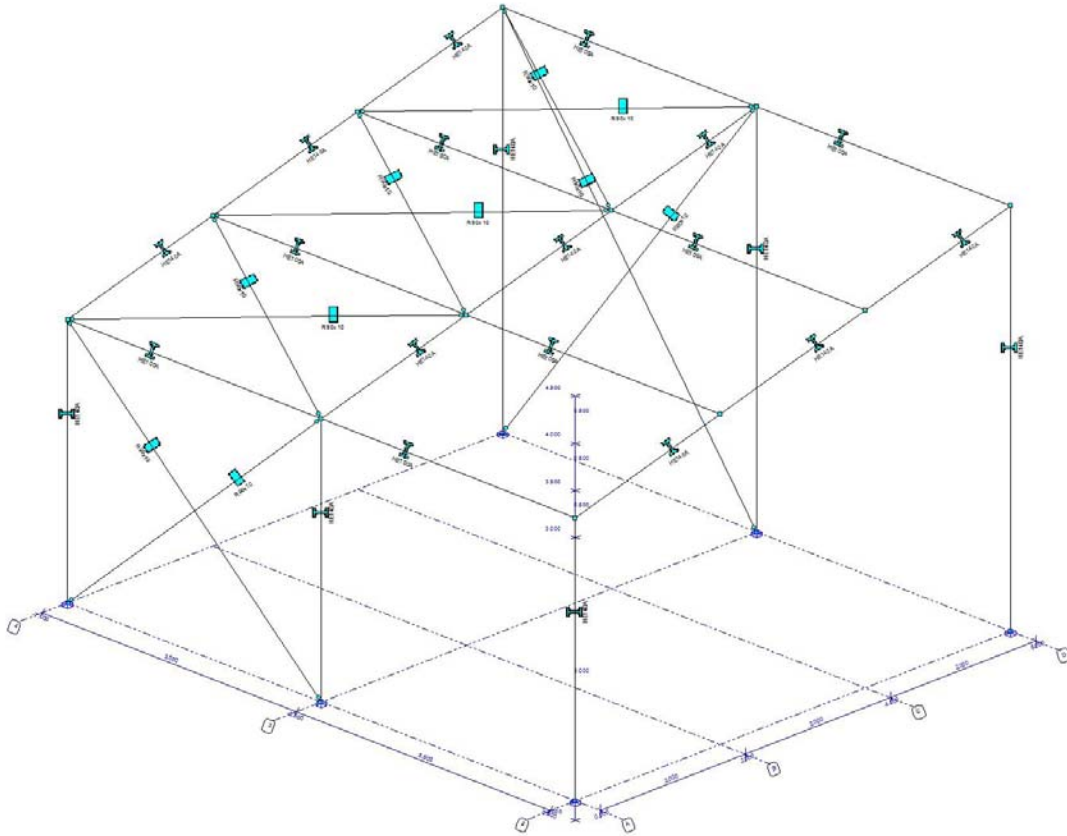


Projectnaam		Projectnummer	
Omschrijving		Constructeur	
Opdrachtgever		Eenheden	m, kN, kNm
Bestand	H:\MatrixFrame\Eindexamen\Versie A Opdracht 3 Eindexamen.mxe		

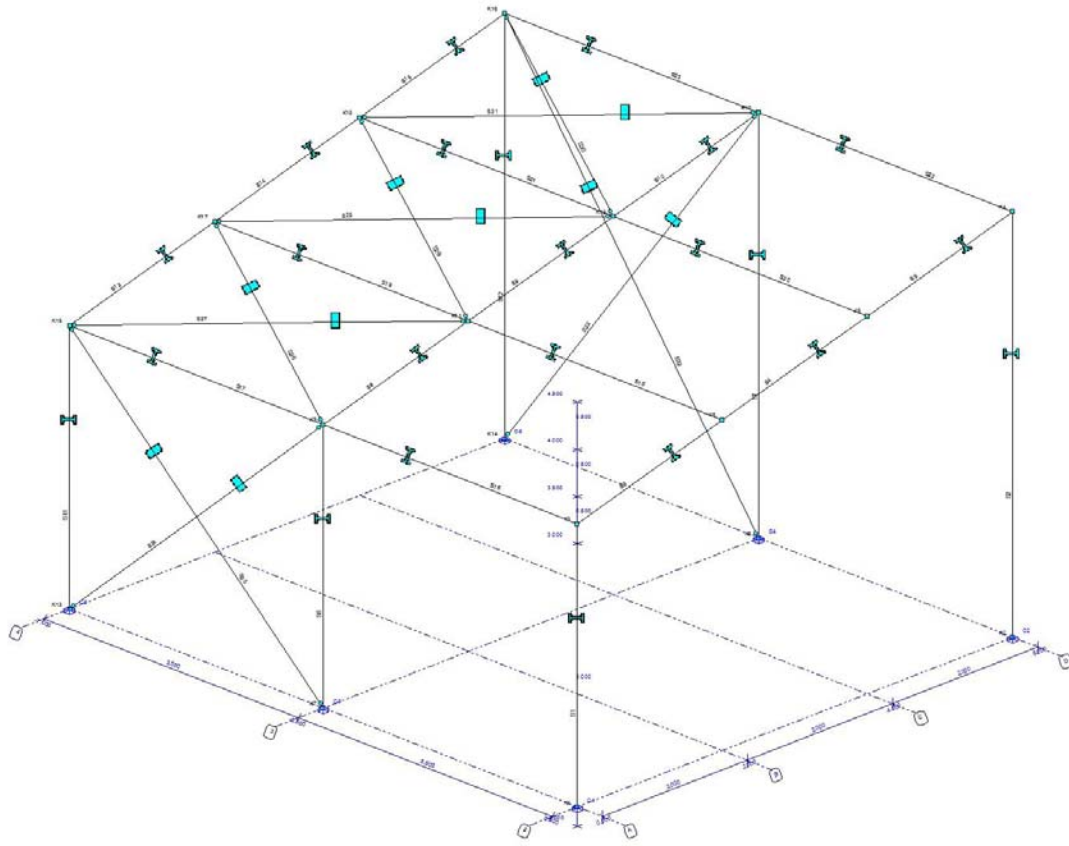
### CONSTRUCTIEGEGEVENS

Projecttype	Knopen	Staven	Opleggingen	Profielen	Bel.gev.	Bel.comb.
3D-Raamwerk	18	33	6	3	6	6

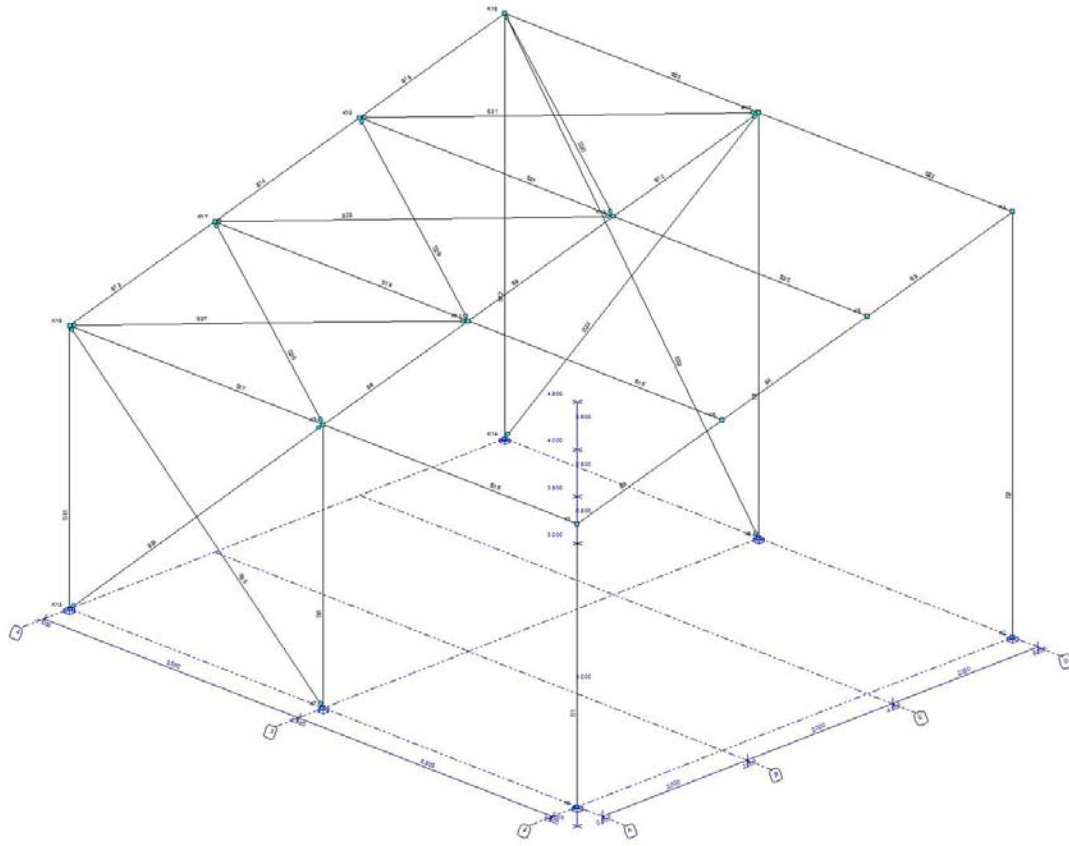
AFB. GEOMETRIE LIGGER



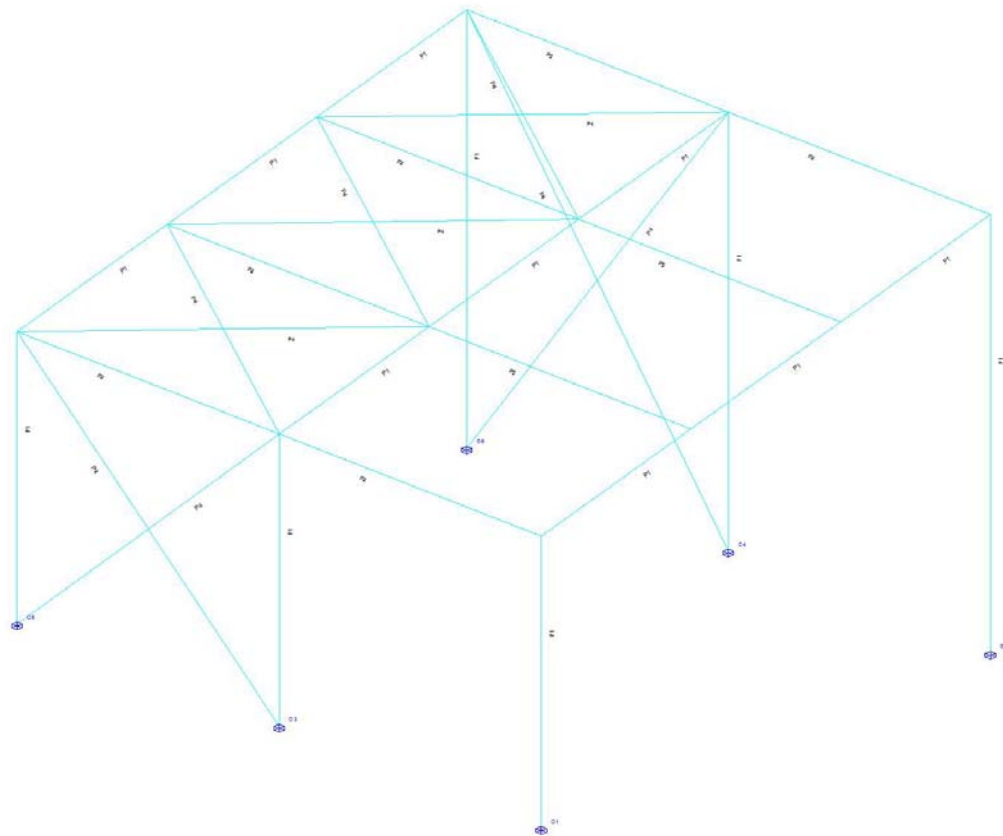
AFB. GEOMETRIE RAAMWERK



AFB. GEOMETRIE 1 STAVEN EN KNOPEN



AFB. GEOMETRIE 2 STAVEN EN KNOPEN



**STAVEN**

StAAF	Knoop B	Scharnier B E	Knoop E	Profiel	X-B	Y-B	Z-B	X-E	Y-E	Z-E	Lengte	
S1	K1	XYZXrYrZr	XYZXrYrZr	K3	P1	0,000	0,000	0,000	0,000	0,000	-3,000	3,000
S2	K2	XYZXrYrZr	XYZXrYrZr	K4	P1	6,000	0,000	0,000	6,000	0,000	-4,500	4,500
S3	K3	XYZXrYrZr	XYZXrYrZr	K5	P1	0,000	0,000	-3,000	2,000	0,000	-3,500	2,062
S4	K5	XYZXrYrZr	XYZXrYrZr	K6	P1	2,000	0,000	-3,500	4,000	0,000	-4,000	2,062
S5	K6	XYZXrYrZr	XYZXrYrZr	K4	P1	4,000	0,000	-4,000	6,000	0,000	-4,500	2,062
S6	K7	XYZXrYrZr	XYZXrYrZr	K9	P1	0,000	-3,500	0,000	0,000	-3,500	-3,000	3,000
S7	K8	XYZXrYrZr	XYZXrYrZr	K10	P1	6,000	-3,500	0,000	6,000	-3,500	-4,500	4,500
S8	K9	XYZXrYrZr	XYZXrYrZr	K11	P1	0,000	-3,500	-3,000	2,000	-3,500	-3,500	2,062
S9	K11	XYZXrYrZr	XYZXrYrZr	K12	P1	2,000	-3,500	-3,500	4,000	-3,500	-4,000	2,062
S10	K12	XYZXrYrZr	XYZXrYrZr	K10	P1	4,000	-3,500	-4,000	6,000	-3,500	-4,500	2,062
S11	K13	XYZXrYrZr	XYZXrYrZr	K15	P1	0,000	-7,000	0,000	0,000	-7,000	-3,000	3,000
S12	K14	XYZXrYrZr	XYZXrYrZr	K16	P1	6,000	-7,000	0,000	6,000	-7,000	-4,500	4,500
S13	K15	XYZXrYrZr	XYZXrYrZr	K17	P1	0,000	-7,000	-3,000	2,000	-7,000	-3,500	2,062
S14	K17	XYZXrYrZr	XYZXrYrZr	K18	P1	2,000	-7,000	-3,500	4,000	-7,000	-4,000	2,062
S15	K18	XYZXrYrZr	XYZXrYrZr	K16	P1	4,000	-7,000	-4,000	6,000	-7,000	-4,500	2,062
S16	K3	XYZXrYrZr	XYZXrYrZr	K9	P2	0,000	0,000	-3,000	0,000	-3,500	-3,000	3,500
S17	K9	XYZXrYrZr	XYZXrYrZr	K15	P2	0,000	-3,500	-3,000	0,000	-7,000	-3,000	3,500
S18	K5	XYZXrYrZr	XYZXrYrZr	K11	P2	2,000	0,000	-3,500	2,000	-3,500	-3,500	3,500
S19	K11	XYZXrYrZr	XYZXrYrZr	K17	P2	2,000	-3,500	-3,500	2,000	-7,000	-3,500	3,500
S20	K6	XYZXrYrZr	XYZXrYrZr	K12	P2	4,000	0,000	-4,000	4,000	-3,500	-4,000	3,500
S21	K12	XYZXrYrZr	XYZXrYrZr	K18	P2	4,000	-3,500	-4,000	4,000	-7,000	-4,000	3,500
S22	K4	XYZXrYrZr	XYZXrYrZr	K10	P2	6,000	0,000	-4,500	6,000	-3,500	-4,500	3,500
S23	K10	XYZXrYrZr	XYZXrYrZr	K16	P2	6,000	-3,500	-4,500	6,000	-7,000	-4,500	3,500
S24	K13	XYZXr--	XYZXr--	K9	P4	0,000	-7,000	0,000	0,000	-3,500	-3,000	4,610
S25	K7	XYZXr--	XYZXr--	K15	P4	0,000	-3,500	0,000	0,000	-7,000	-3,000	4,610
S26	K9	XYZXr--	XYZXr--	K17	P4	0,000	-3,500	-3,000	2,000	-7,000	-3,500	4,062

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Staaf	Knoop B	Scharnier B E	Knoop E	Profiel	X-B	Y-B	Z-B	X-E	Y-E	Z-E	Lengte	
S27	K15	XYZXr--	XYZXr--	K11	P4	0,000	-7,000	-3,000	2,000	-3,500	-3,500	4,062
S28	K11	XYZXr--	XYZXr--	K18	P4	2,000	-3,500	-3,500	4,000	-7,000	-4,000	4,062
S29	K17	XYZXr--	XYZXr--	K12	P4	2,000	-7,000	-3,500	4,000	-3,500	-4,000	4,062
S30	K12	XYZXr--	XYZXrYrZr	K16	P4	4,000	-3,500	-4,000	6,000	-7,000	-4,500	4,062
S31	K18	XYZXr--	XYZXr--	K10	P4	4,000	-7,000	-4,000	6,000	-3,500	-4,500	4,062
S32	K8	XYZXr--	XYZXr--	K16	P4	6,000	-3,500	0,000	6,000	-7,000	-4,500	5,701
S33	K14	XYZXr--	XYZXr--	K10	P4	6,000	-7,000	0,000	6,000	-3,500	-4,500	5,701
-	-	-	-	-	-	m	m	m	m	m	m	m

## PROFIELEN

Profiel	Profielnaam	Oppervlakte	It	ly	Iz Materiaal	Hoek
P1	HE140A	3.1416e-03	8.1298e-08	1.0331e-05	3.8932e-06 S235	0
P2	HE100A	2.1236e-03	5.2365e-08	3.4923e-06	1.3381e-06 S235	0
P4	R90x10	9.0000e-04	2.7895e-08	7.5000e-09	6.0750e-07 S235	0
-	-	m2	m4	m4	m4 -	°

## PROFIELVORMEN

Profiel	Verl. h.	hB	hE	tf	tw	tf2	B	bL	bR Raatl.	Hoogte
P4	Nee	0.010	0.010	0.000	0.000	0.000	0.090	0.000	0.000 Nee	0.000
-	-	m	m	m	m	m	m	m	m -	m

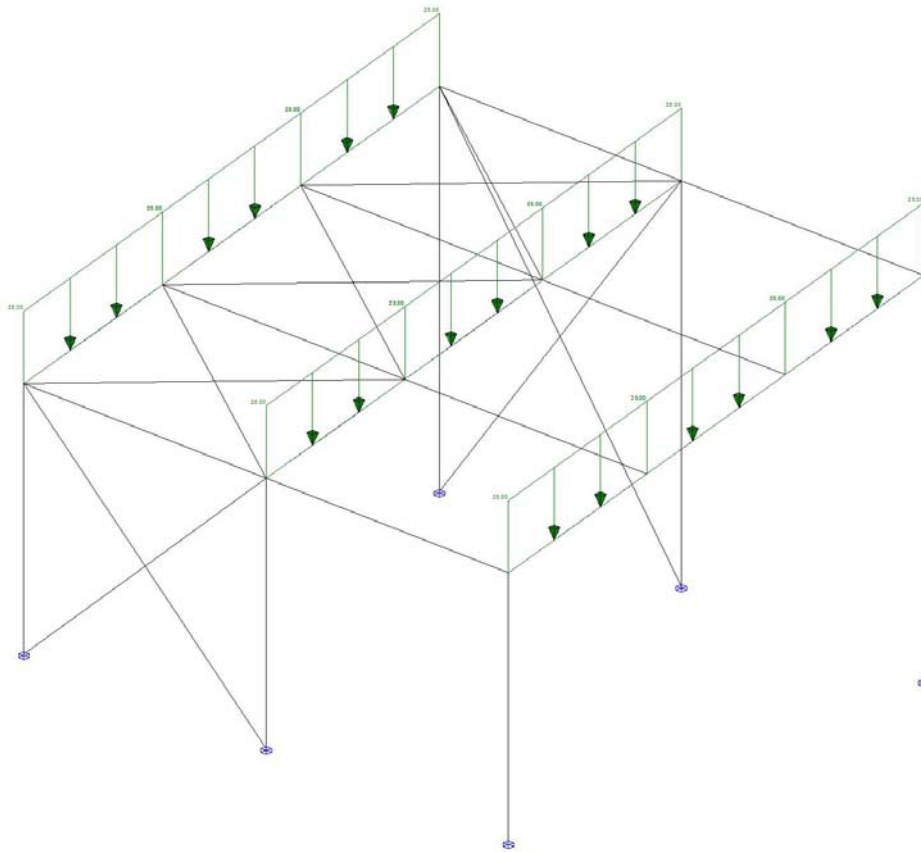
## MATERIALEN

Materiaalnaam	Poison	Dichtheid	E-Modulus	Uitzettingcoeff
S235	0.30	78.50	2.1000e+08	12.0000e-06
-	-	kN/m3	kN/m2	C°m

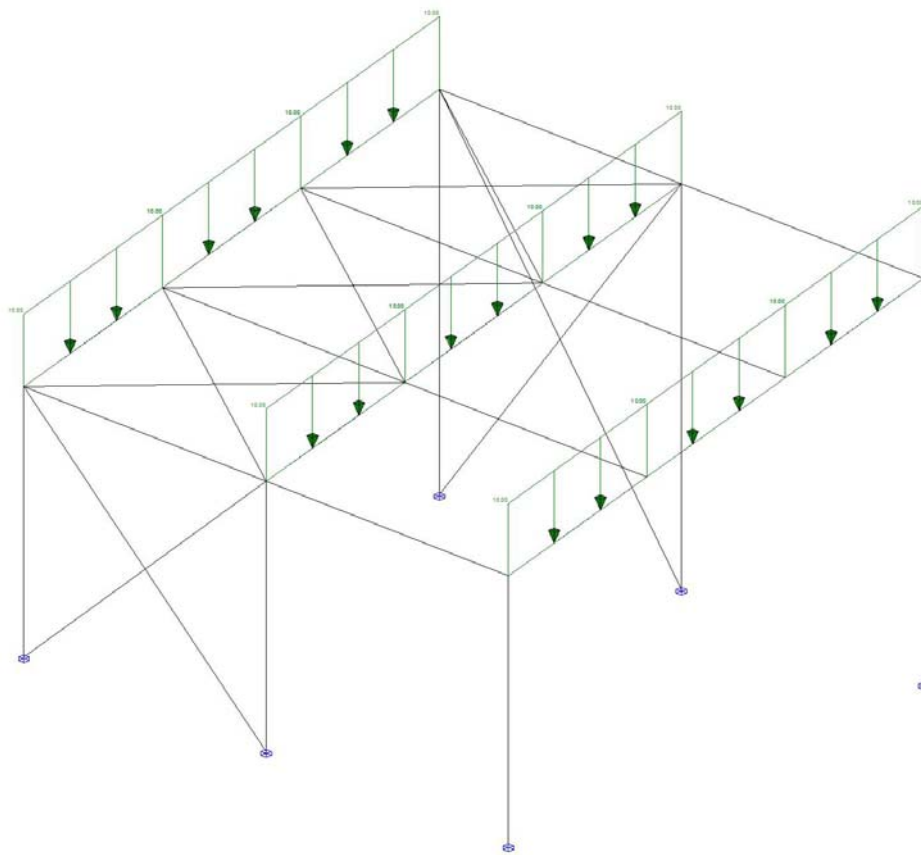
## OPLEGGINGEN

Oplegging	Knopen	X	Y	Z	Xr	Yr	Zr	HoekXr	HoekYr	HoekZr
O1	K1	vast	vast	vast	vast	vast	vast	0	0	0
O2	K2	vast	vast	vast	vast	vast	vast	0	0	0
O3	K7	vast	vast	vast	vast	vast	vast	0	0	0
O4	K8	vast	vast	vast	vast	vast	vast	0	0	0
O5	K13	vast	vast	vast	vast	vast	vast	0	0	0
O6	K14	vast	vast	vast	vast	vast	vast	0	0	0
-	-	kN/m	kN/m	kN/m	kNmrad	kNmrad	kNmrad	°	°	°

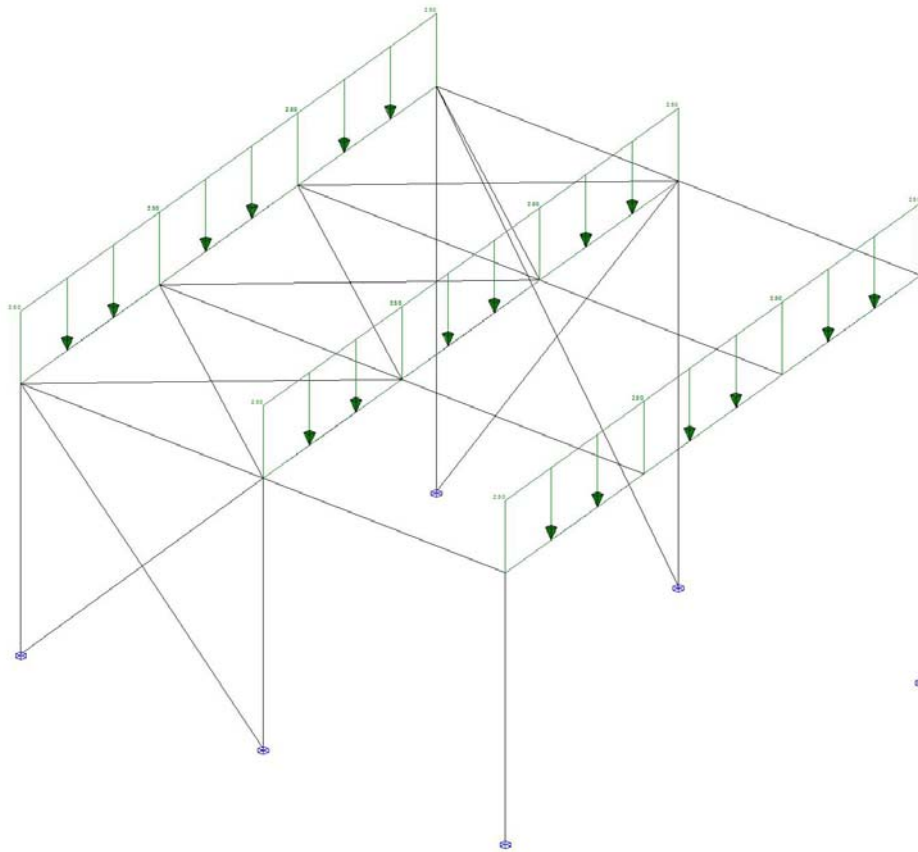
AFB. LASTEN B.G.1 PERMANENT



AFB. LASTEN B.G.2 OPGELEGDE BELASTING

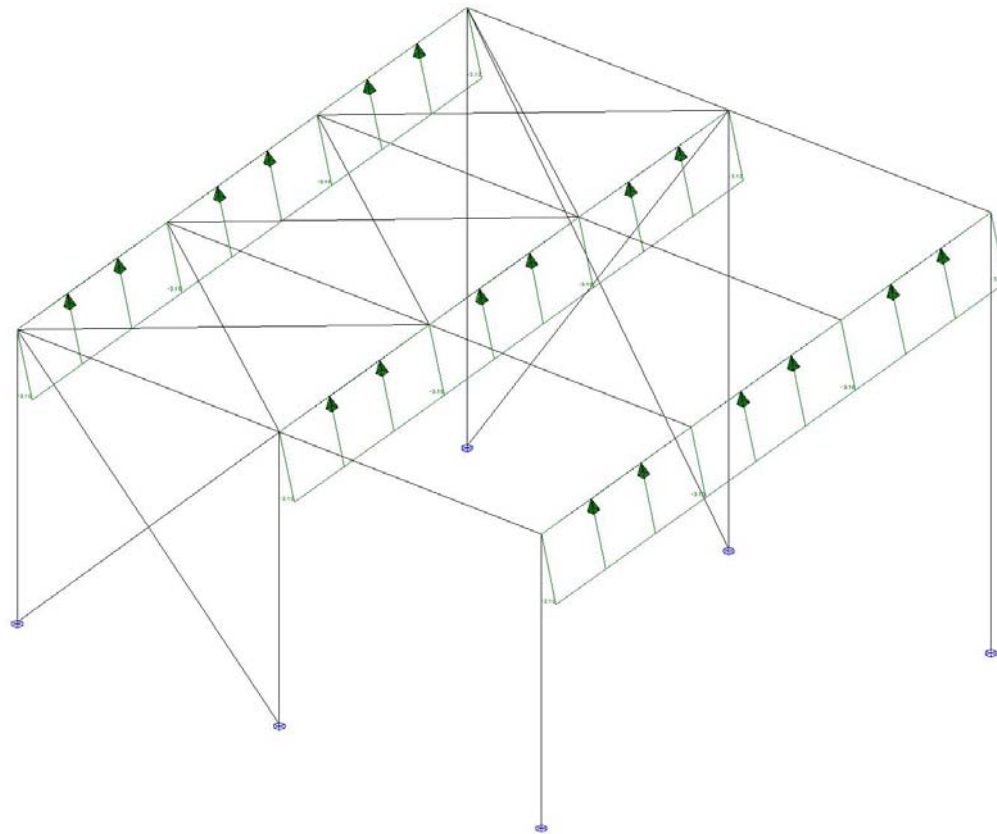


AFB. LASTEN B.G.3 SNEEUWBELASTING

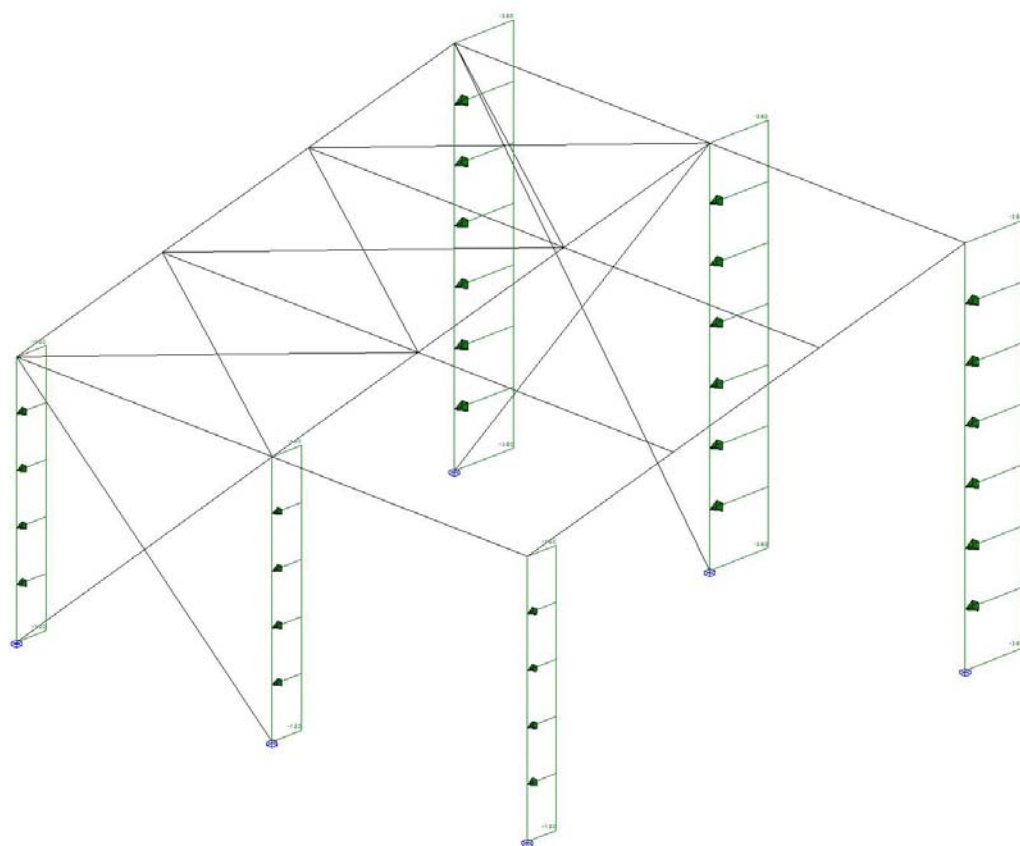




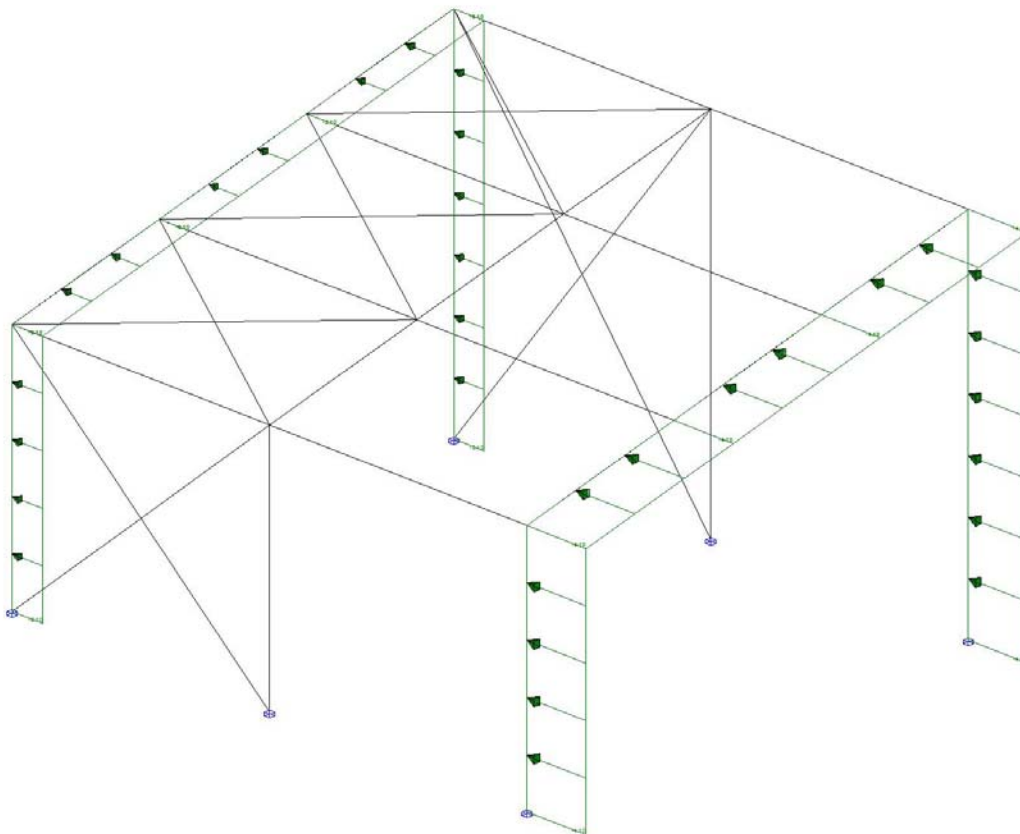
AFB. LASTEN B.G.4 WINDBELASTING DAK



AFB. LASTEN B.G.5 WINDBELASTING ZIJDEN



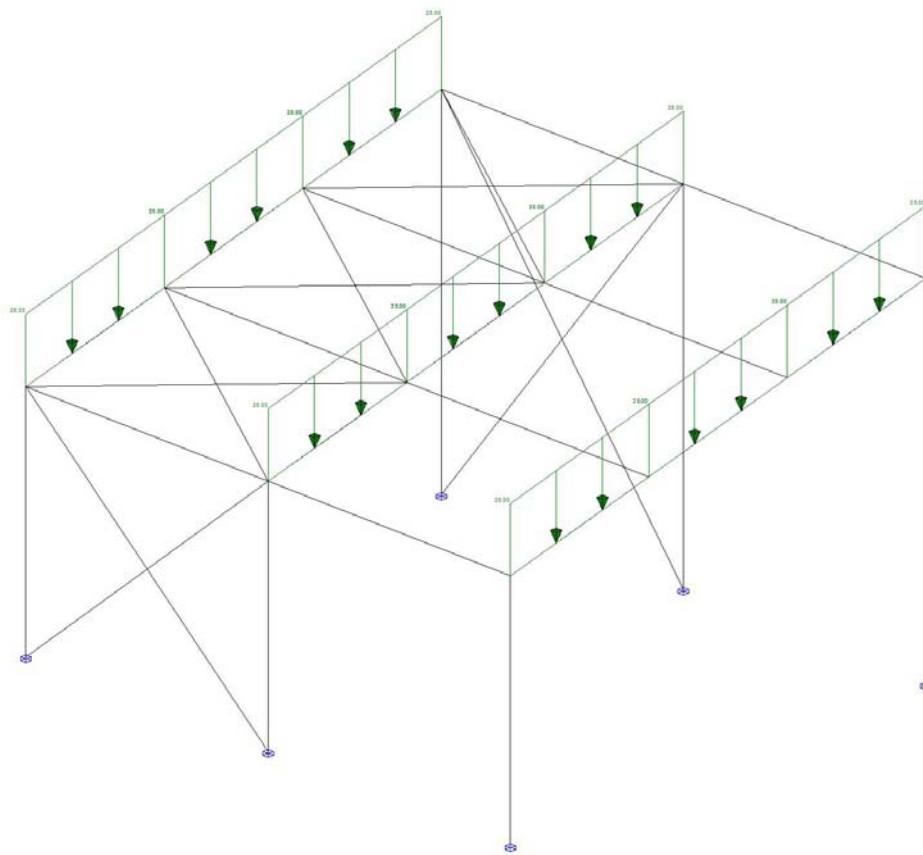
AFB. LASTEN B.G.6 WINDBELASTING GEVEL



**B.G.1: PERMANENT**

Type	Beginwaarde	Eindwaarde	Beginafstand	Eindafstand	Richting Staaf of knoop
<b>B.G.1: Permanent</b>					
q	25,00	25,00	0,000	2,062(L)	Z" S3-S5,S8-S10,S13-S15
<b>Som lasten</b>	<b>X: 0,00</b>	<b>kN Y: 0,00</b>	<b>kN Z: 463,85</b>	<b>kN</b>	
-	-	-	m	m	--

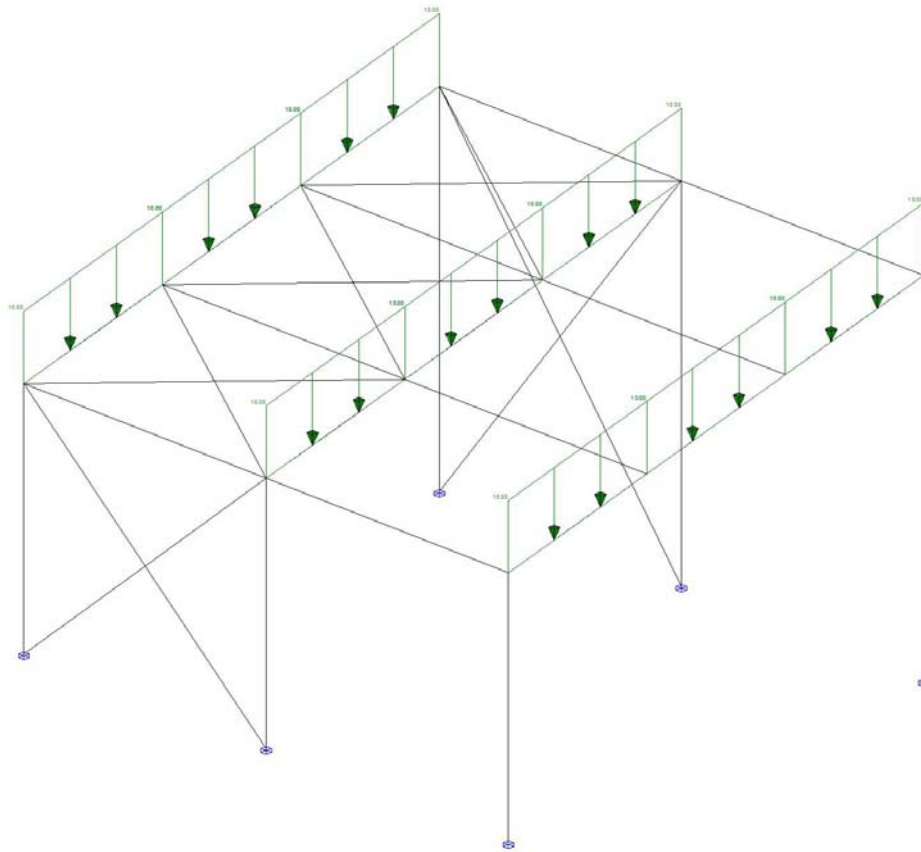
B.G.1: PERMANENT



**B.G.2: OPGELEGDE BELASTING**

Type	Beginwaarde	Eindwaarde	Beginafstand	Eindafstand	Richting Staaf of knoop
<b>B.G.2: Opgelegde Belasting</b>					
q	10,00	10,00	0,000	2,062(L)	Z" S3-S5,S8-S10,S13-S15
<b>Som lasten</b>	<b>X: 0,00</b>	<b>kN Y: 0,00</b>	<b>kN Z: 185,54</b>	<b>kN</b>	
-	-	-	m	m	- -

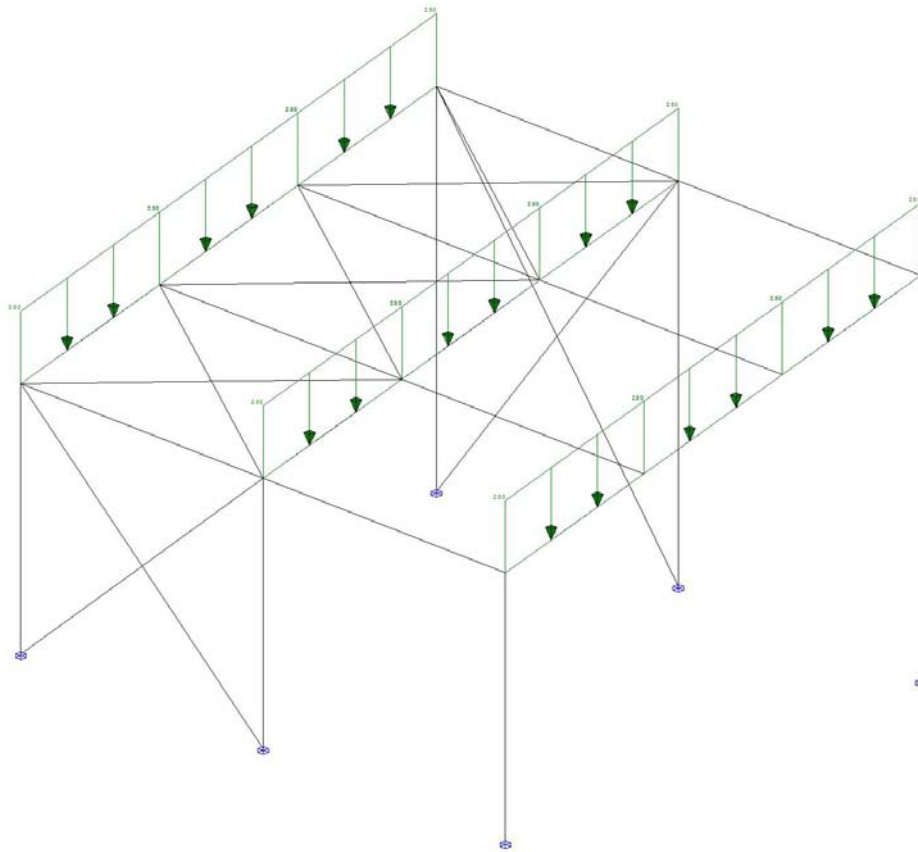
B.G.2: OPGELEGDE BELASTING



**B.G.3: SNEEUWBELASTING**

Type	Beginwaarde	Eindwaarde	Beginafstand	Eindafstand	Richting Staaf of knoop
<b>B.G.3: Sneeuwbelasting</b>					
q	2,50	2,50	0,000	2,062(L)	Z" S3-S5,S8-S10,S13-S15
<b>Som lasten</b>	<b>X: 0,00</b>	<b>kN Y: 0,00</b>	<b>kN Z: 46,38</b>	<b>kN</b>	
-	-	-	<b>m</b>	<b>m</b>	- -

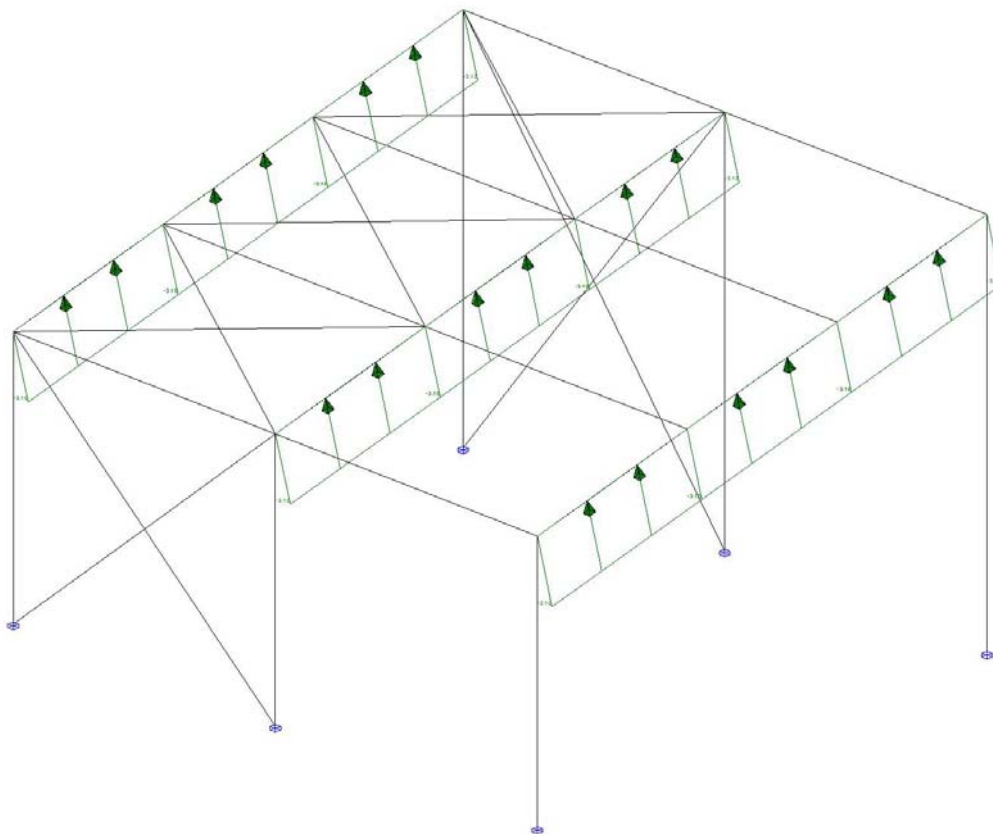
B.G.3: SNEEUWBELASTING



**B.G.4: WINDBELASTING DAK**

Type	Beginwaarde	Eindwaarde	Beginafstand	Eindafstand	Richting Staaf of knoop
<b>B.G.4: Windbelasting dak</b>					
q	-3,10	-3,10	0,000	2,062(L)	Z' S3-S5,S8-S10,S13-S15
<b>Som lasten</b>	<b>X: -13,95</b>	<b>kN Y: 0,00</b>	<b>kN Z: -55,80</b>	<b>kN</b>	
-	-	-	<b>m</b>	<b>m</b>	--

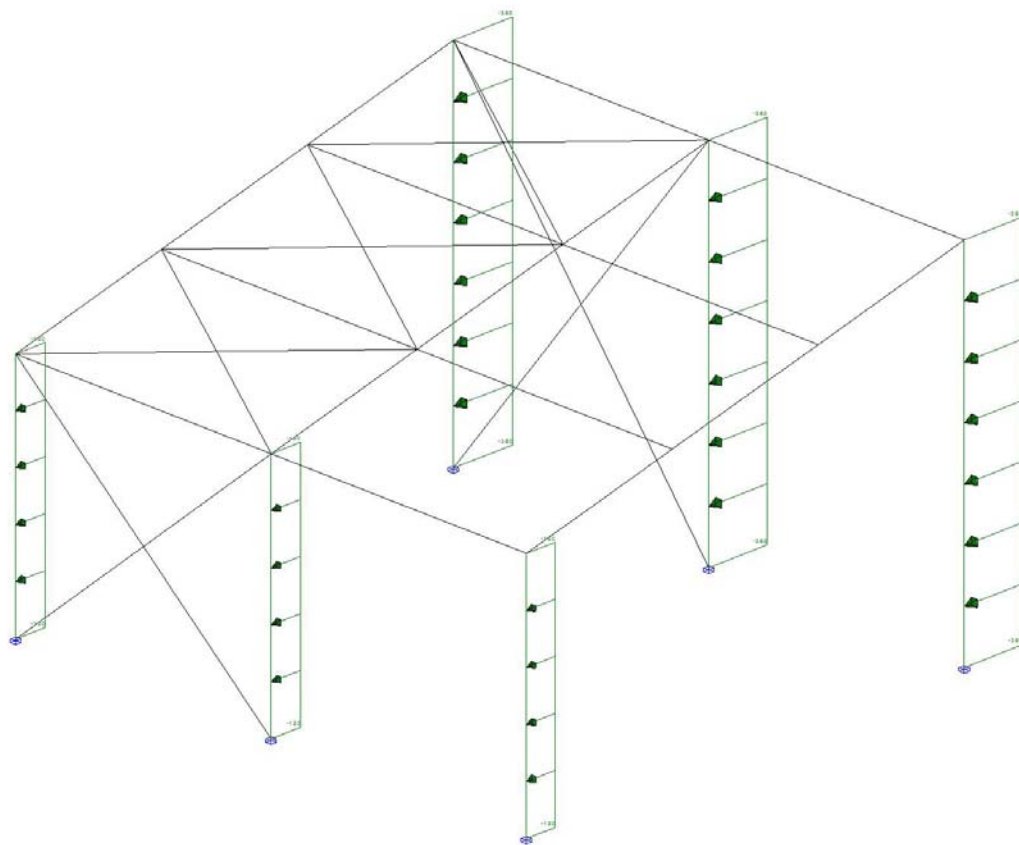
B.G.4: WINDBELASTING DAK



**B.G.5: WINDBELASTING ZIJDEN**

Type	Beginwaarde	Eindwaarde	Beginafstand	Eindafstand	Richting Staaf of knoop
<b>B.G.5: Windbelasting Zijden</b>					
q	-1,80	-1,80	0,000	3,000(L)	X" S1,S6,S11
q	-3,60	-3,60	0,000	4,500(L)	X" S2,S7,S12
<b>Som lasten</b>	<b>X: -64,80</b>	<b>kN Y: 0,00</b>	<b>kN Z: 0,00</b>	<b>kN</b>	
-	-	-	m	m	- -

B.G.5: WINDBELASTING ZIJDEN

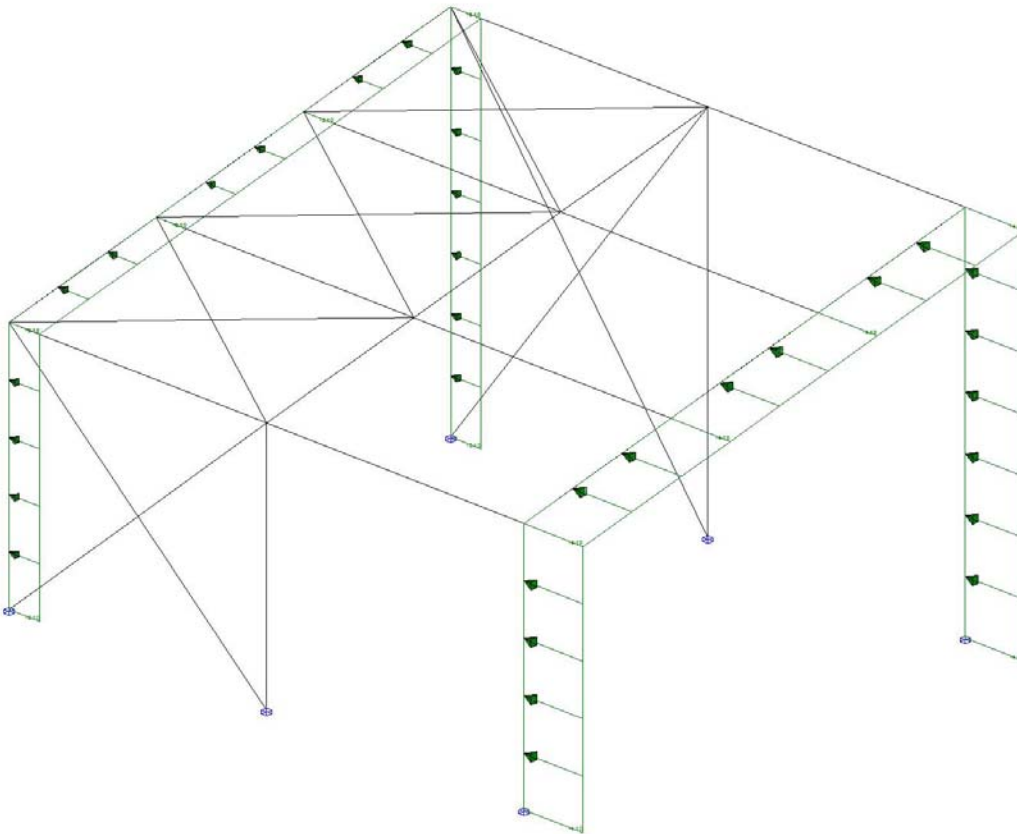


**B.G.6: WINDBELASTING GEVEL**

Type	Beginwaarde	Eindwaarde	Beginafstand	Eindafstand	Richting Staaf of knoop
<b>B.G.6: Windbelasting gevel</b>					
q	-4,10	-4,10	0,000	3,000(L)	Y S1,S3
q	-4,10	-4,10	0,000	2,062(L)	Y S2,S4-S5
q	-2,10	-2,10	0,000	3,000(L)	Y S11-S15
<b>Som lasten</b>	<b>X: 0,00</b>	<b>kN Y: -84,84</b>	<b>kN Z: 0,00</b>	<b>kN</b>	
-	-	-	<b>m</b>	<b>m</b>	--



B.G.6: WINDBELASTING GEVEL



**BELASTINGSGEVALLEN TYPEN**

Oplegg.	Staven	B.G.Type	Gunstig/Ong.	Element	Niveau	Veld	PsiK	PsiI
B.G.1	Permanent	Permanent	-		N.v.t.	N.v.t.		
B.G.2	Opgelegde Belasting	Verdeelde veranderlijke belasting	-	Cat. A0) Vloer parkeergarage	1	1	1.00	0.25
B.G.3	Sneeuwbelasting	Sneeuwbelasting	-		N.v.t.	N.v.t.		
B.G.4	Windbelasting dak	Windbelasting	-		N.v.t.	N.v.t.		
B.G.5	Windbelasting Zijden	Windbelasting	-		N.v.t.	N.v.t.		
B.G.6	Windbelasting gevel	Windbelasting	-		N.v.t.	N.v.t.		

**LASTENGENERATOR OPTIES**

Gebouwtype: Sportgebouw

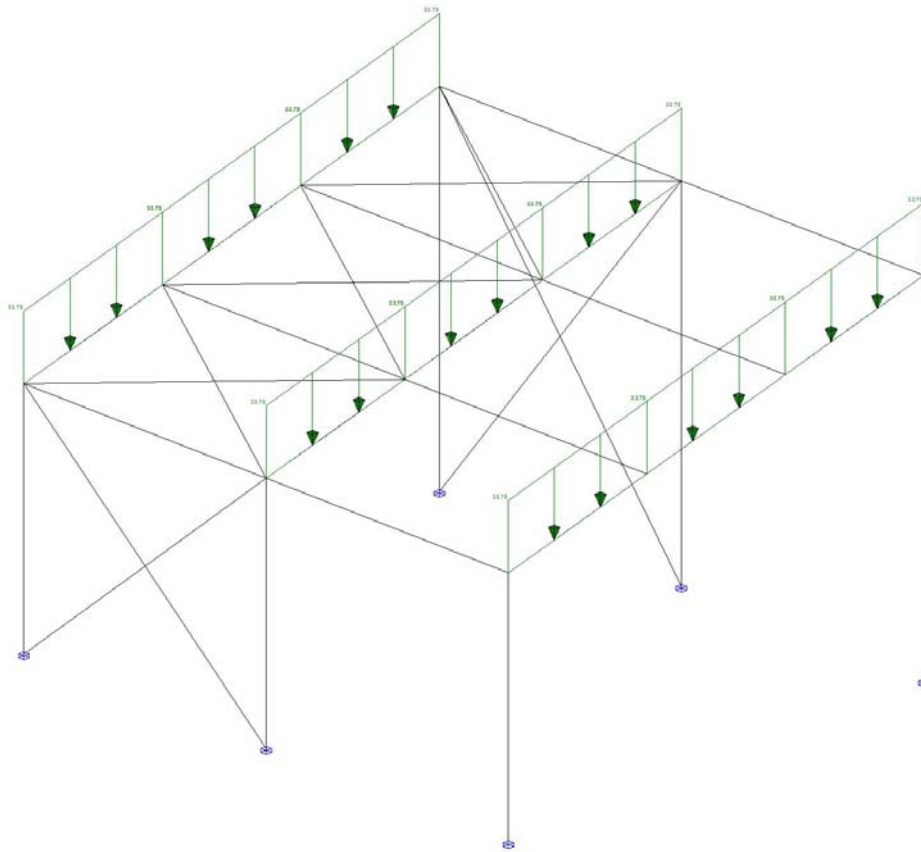
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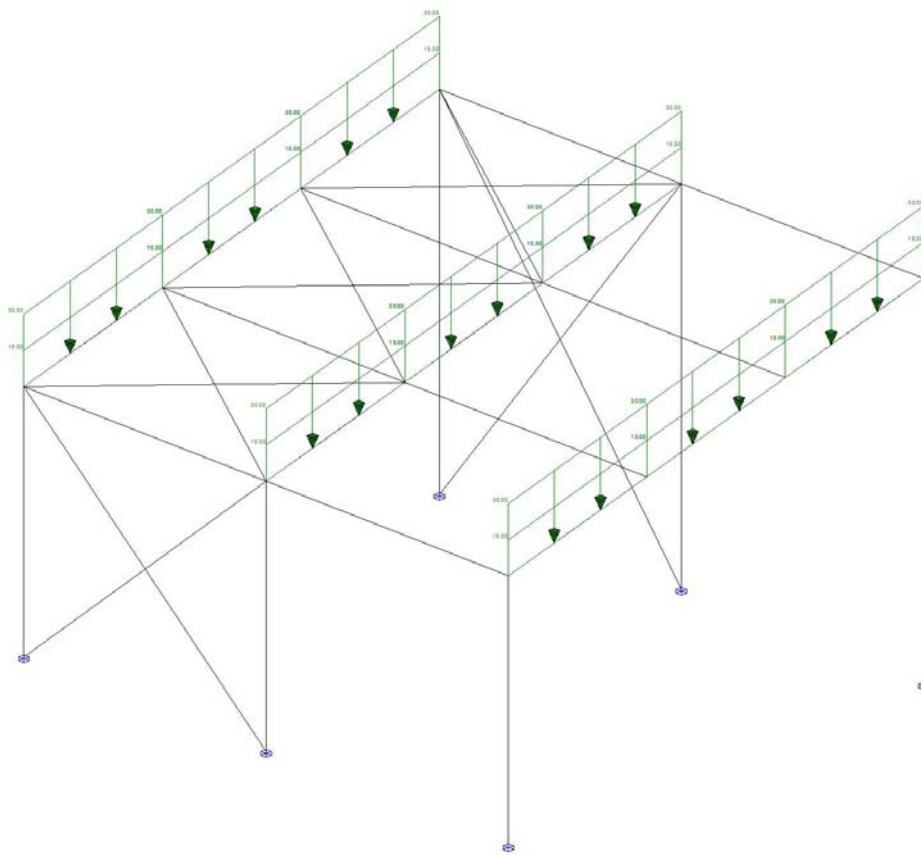
Betrouwbaarheidsklasse: 3

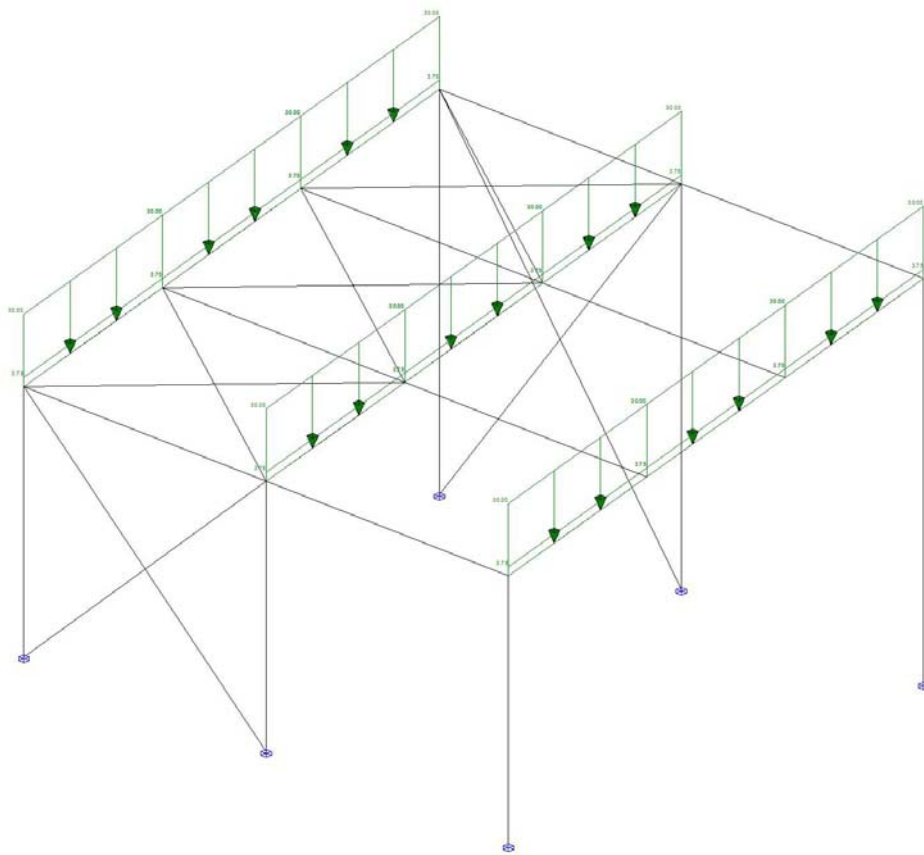
Combinatieregels:

NEN6702#6.3.3.1 Afb. 3

NEN6702#6.3.3.2 Extreem



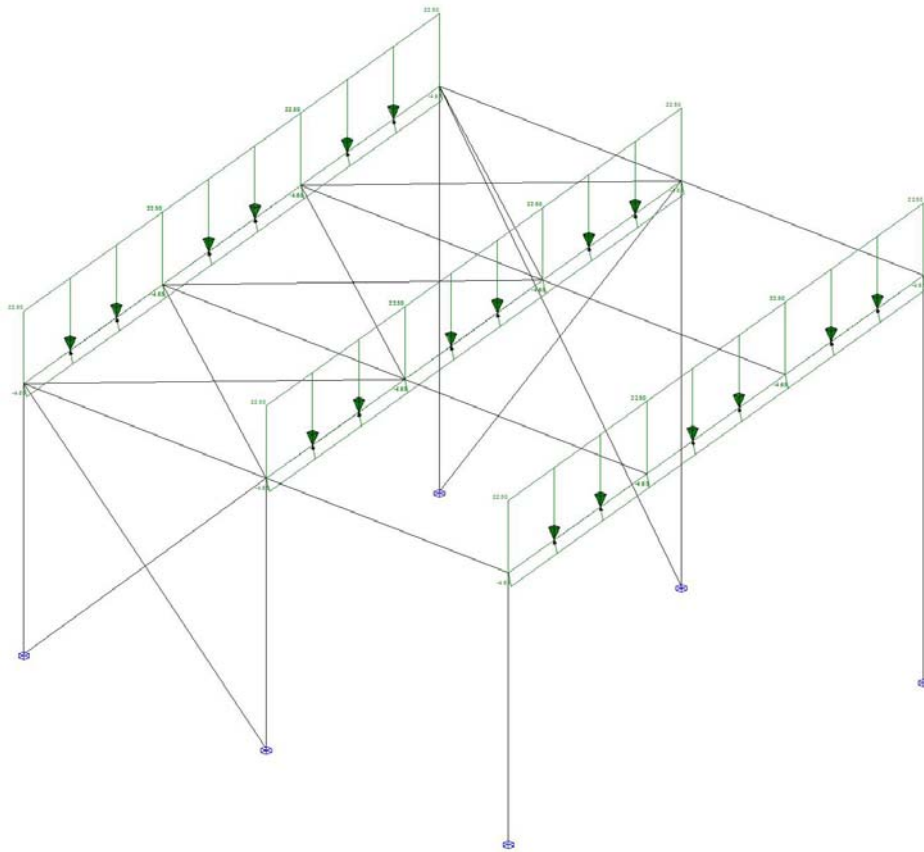


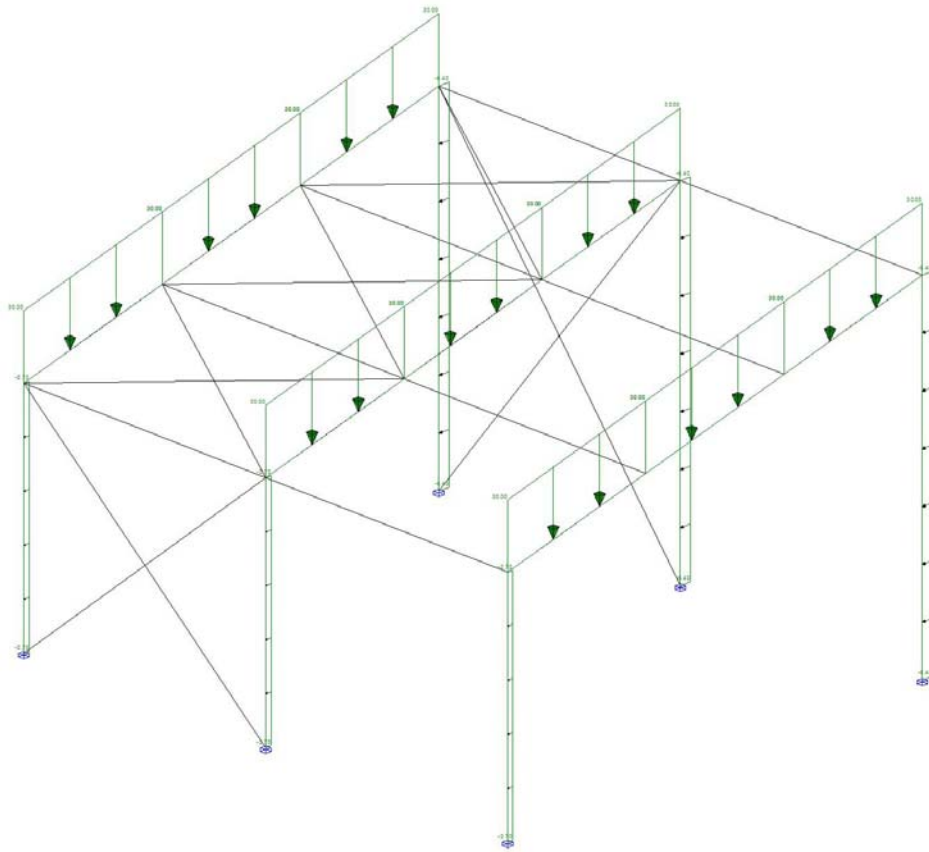


Studie

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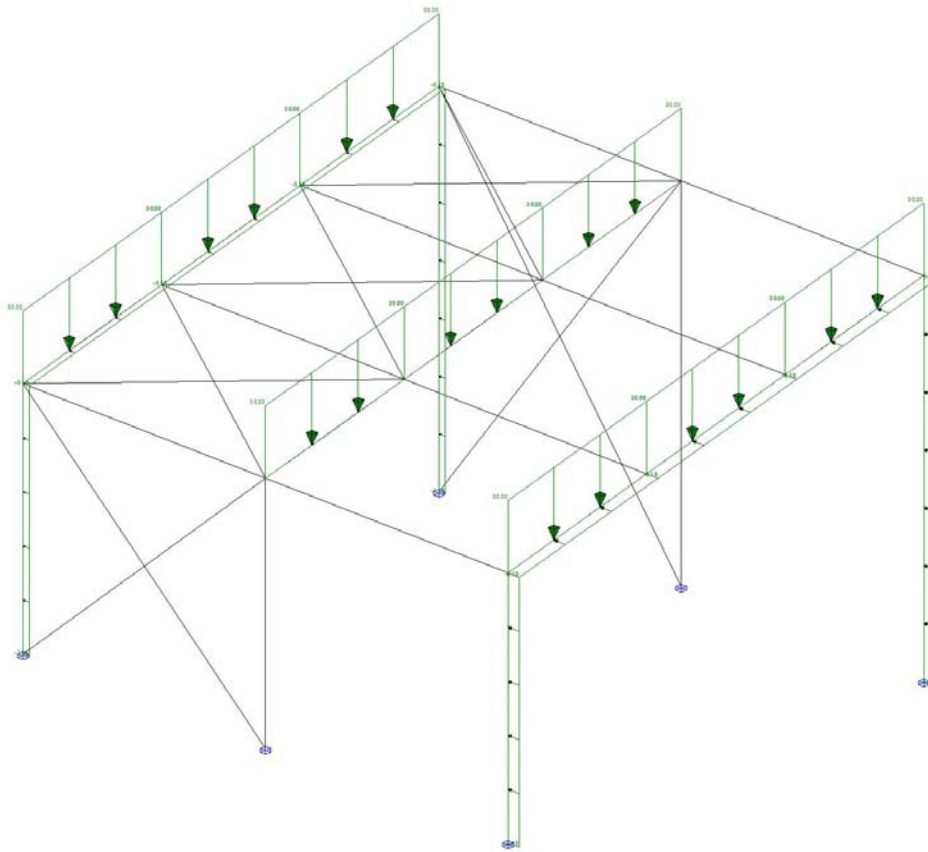
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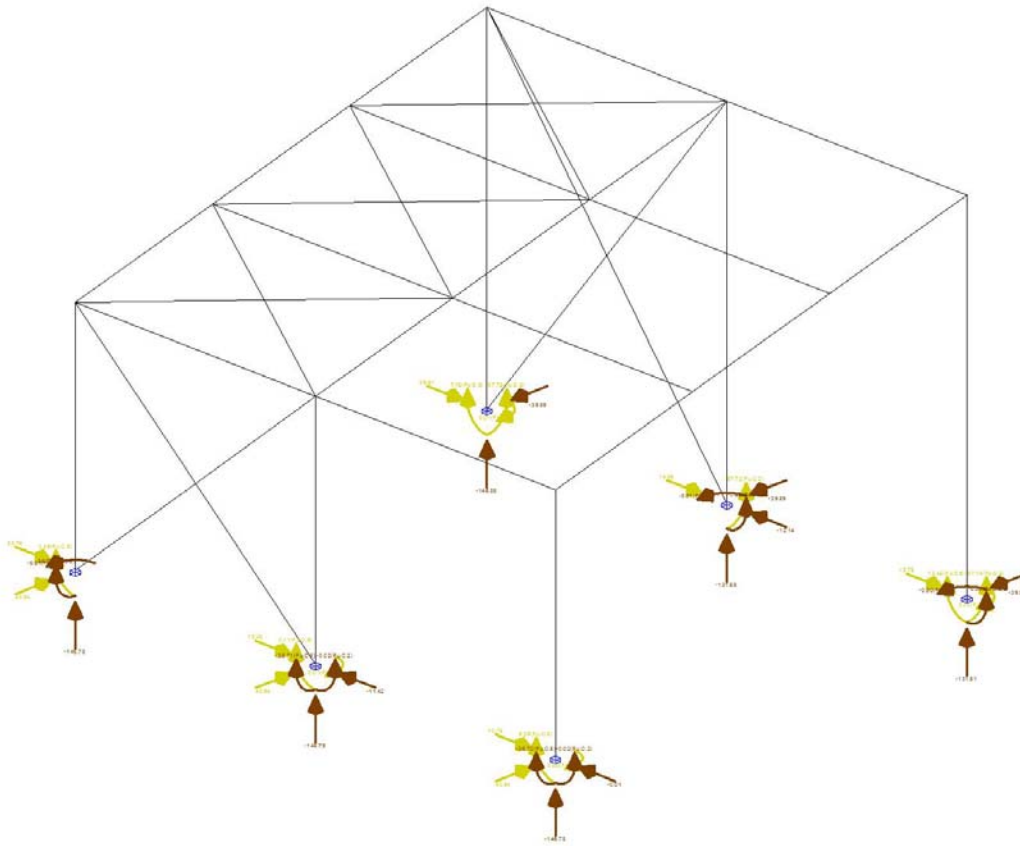


### FUNDAMENTEEL BELASTINGSCOMBINATIES (TABEL)

B.G.	Omschrijving	Fu.C.1	Fu.C.2	Fu.C.3	Fu.C.4	Fu.C.5	Fu.C.6
B.G.1	Permanent	1.35	1.20	1.20	0.90	1.20	1.20
B.G.2	Opgelegde Belasting	-	1.50	-	-	-	-
B.G.3	Sneeuwbelasting	-	-	1.50	-	-	-
B.G.4	Windbelasting dak	-	-	-	1.50	-	-
B.G.5	Windbelasting Zijden	-	-	-	-	1.50	-
B.G.6	Windbelasting gevel	-	-	-	-	-	1.50

### FUNDAMENTEEL BELASTINGSCOMBINATIES (LIJST)

Fu.C.1 = 1.35\*B.G.1  
 Fu.C.2 = 1.20\*B.G.1 + 1.50\*B.G.2  
 Fu.C.3 = 1.20\*B.G.1 + 1.50\*B.G.3  
 Fu.C.4 = 0.90\*B.G.1 + 1.50\*B.G.4  
 Fu.C.5 = 1.20\*B.G.1 + 1.50\*B.G.5  
 Fu.C.6 = 1.20\*B.G.1 + 1.50\*B.G.6



### FU.C. OPLEGREACTIES

B.C.	Oplegging	Knoop	X	Y	Z	Mx	My	Mz
Fu.C.1	O1	K1	29.92	-0.01	-110.09	-0.01	-16.47	0.00
Fu.C.1	O2	K2	-29.92	0.00	-98.63	0.00	50.80	0.00
Fu.C.1	O3	K7	29.92	-8.56	-110.09	-0.01	-16.46	0.01
Fu.C.1	O4	K8	-29.92	-9.10	-98.67	0.00	50.79	-0.01
Fu.C.1	O5	K13	29.91	8.57	-110.09	0.01	-16.45	-0.01
Fu.C.1	O6	K14	-29.92	9.11	-98.63	0.01	50.79	0.01
<b>Som Reacties</b>			<b>0.00</b>	<b>0.00</b>	<b>-626.20</b>			
<b>Som Lasten</b>			<b>0.00</b>	<b>0.00</b>	<b>626.20</b>			
Fu.C.2	O1	K1	39.89	-0.01	-146.78	-0.02	-21.95	0.00
Fu.C.2	O2	K2	-39.89	0.00	-131.51	0.00	67.74	0.00
Fu.C.2	O3	K7	39.89	-11.42	-146.79	-0.02	-21.95	0.01
Fu.C.2	O4	K8	-39.89	-12.14	-131.55	-0.01	67.72	-0.01
Fu.C.2	O5	K13	39.88	11.42	-146.78	0.02	-21.94	-0.01
Fu.C.2	O6	K14	-39.89	12.14	-131.51	0.01	67.72	0.01
<b>Som Reacties</b>			<b>0.00</b>	<b>0.00</b>	<b>-834.93</b>			
<b>Som Lasten</b>			<b>0.00</b>	<b>0.00</b>	<b>834.93</b>			
Fu.C.3	O1	K1	29.92	-0.01	-110.09	-0.01	-16.47	0.00
Fu.C.3	O2	K2	-29.92	0.00	-98.63	0.00	50.80	0.00
Fu.C.3	O3	K7	29.92	-8.56	-110.09	-0.01	-16.46	0.01
Fu.C.3	O4	K8	-29.92	-9.10	-98.67	0.00	50.79	-0.01
Fu.C.3	O5	K13	29.91	8.57	-110.09	0.01	-16.45	-0.01
Fu.C.3	O6	K14	-29.92	9.11	-98.63	0.01	50.79	0.01
<b>Som Reacties</b>			<b>0.00</b>	<b>0.00</b>	<b>-626.20</b>			
<b>Som Lasten</b>			<b>0.00</b>	<b>0.00</b>	<b>626.20</b>			
Fu.C.4	O1	K1	20.67	0.00	-60.52	-0.01	-18.33	0.00
Fu.C.4	O2	K2	-13.69	0.00	-50.73	0.00	21.54	0.00
Fu.C.4	O3	K7	20.67	-4.69	-60.52	-0.01	-18.33	0.00
Fu.C.4	O4	K8	-13.69	-4.68	-50.75	0.00	21.54	0.00

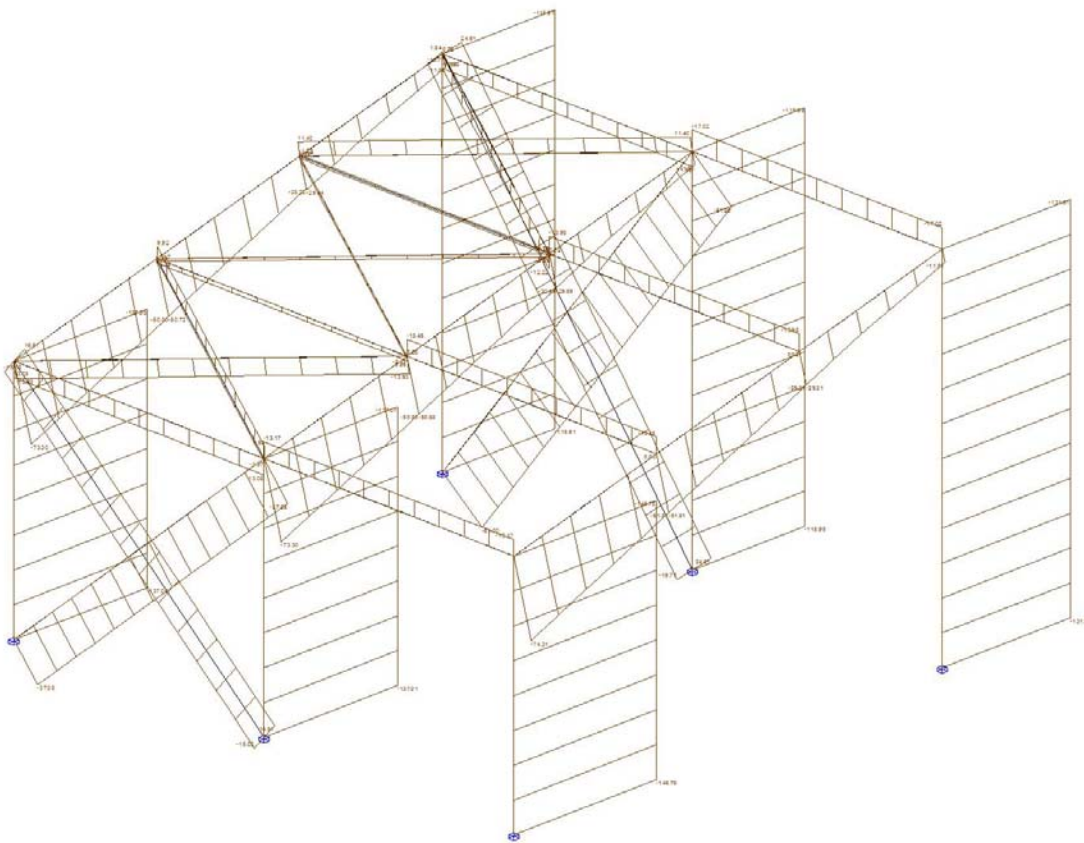


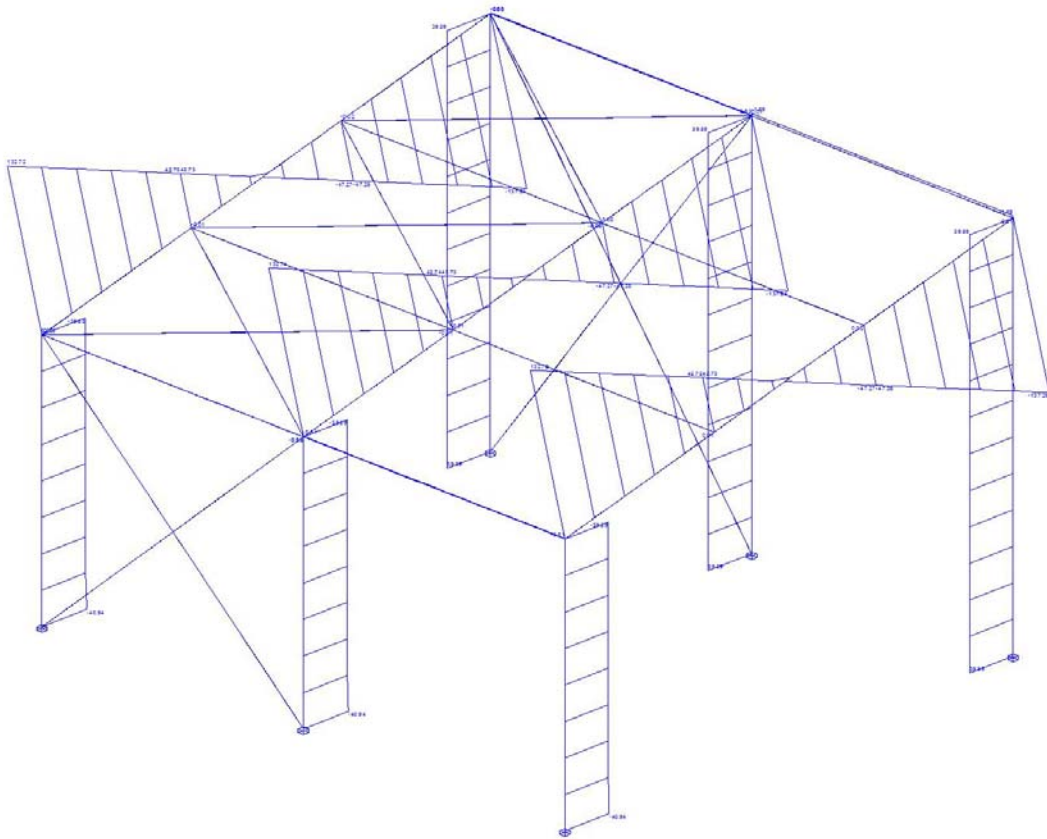
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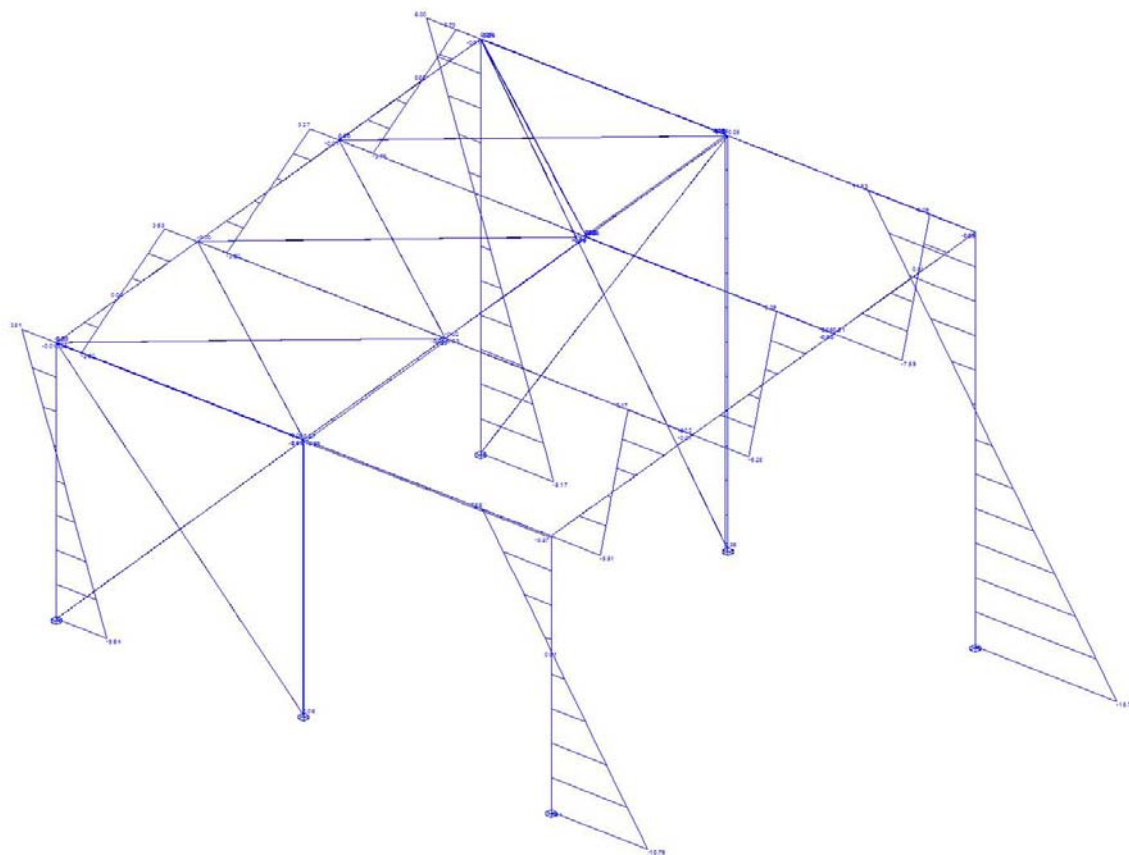
B.C.	Oplegging	Knoop	X	Y	Z	Mx	My	Mz
Fu.C.4	O5	K13	20.66	4.70	-60.52	0.01	-18.33	0.00
Fu.C.4	O6	K14	-13.69	4.68	-50.73	0.00	21.53	0.00
<b>Som Reacties</b>			<b>20.93</b>	<b>0.00</b>	<b>-333.76</b>			
<b>Som Lasten</b>			<b>-20.93</b>	<b>0.00</b>	<b>333.76</b>			
Fu.C.5	O1	K1	40.94	-0.01	-101.59	-0.01	-36.72	0.00
Fu.C.5	O2	K2	-8.54	0.00	-83.94	0.00	22.84	0.00
Fu.C.5	O3	K7	40.94	-7.88	-101.59	-0.01	-36.71	0.01
Fu.C.5	O4	K8	-8.54	-7.73	-83.96	0.00	22.83	-0.01
Fu.C.5	O5	K13	40.94	7.89	-101.60	0.01	-36.71	-0.01
Fu.C.5	O6	K14	-8.54	7.74	-83.94	0.01	22.83	0.01
<b>Som Reacties</b>			<b>97.20</b>	<b>0.00</b>	<b>-556.62</b>			
<b>Som Lasten</b>			<b>-97.20</b>	<b>0.00</b>	<b>556.62</b>			
Fu.C.6	O1	K1	26.39	10.79	-98.32	6.36	-14.23	0.00
Fu.C.6	O2	K2	-26.68	15.75	-89.39	13.42	45.37	0.00
Fu.C.6	O3	K7	26.51	12.48	-62.55	0.11	-14.47	0.01
Fu.C.6	O4	K8	-26.62	14.85	-26.81	-0.22	45.20	-0.01
Fu.C.6	O5	K13	26.88	33.79	-132.71	3.45	-15.19	-0.01
Fu.C.6	O6	K14	-26.48	39.61	-146.85	7.12	44.89	0.01
<b>Som Reacties</b>			<b>0.00</b>	<b>127.27</b>	<b>-556.62</b>			
<b>Som Lasten</b>			<b>0.00</b>	<b>-127.27</b>	<b>556.62</b>			
-	-	-	<b>kN</b>	<b>kN</b>	<b>kN</b>	<b>kNm</b>	<b>kNm</b>	<b>kNm</b>

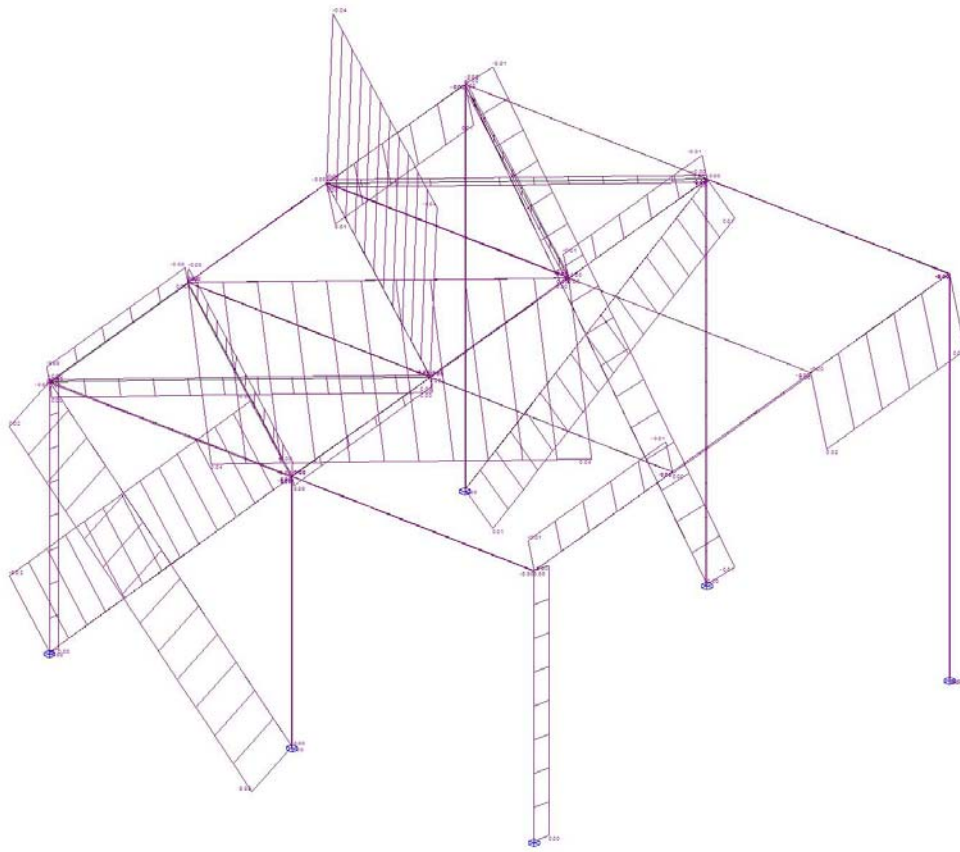
AFB. FU.C. NORMAALKRACHT (NX) OMHULLENDE

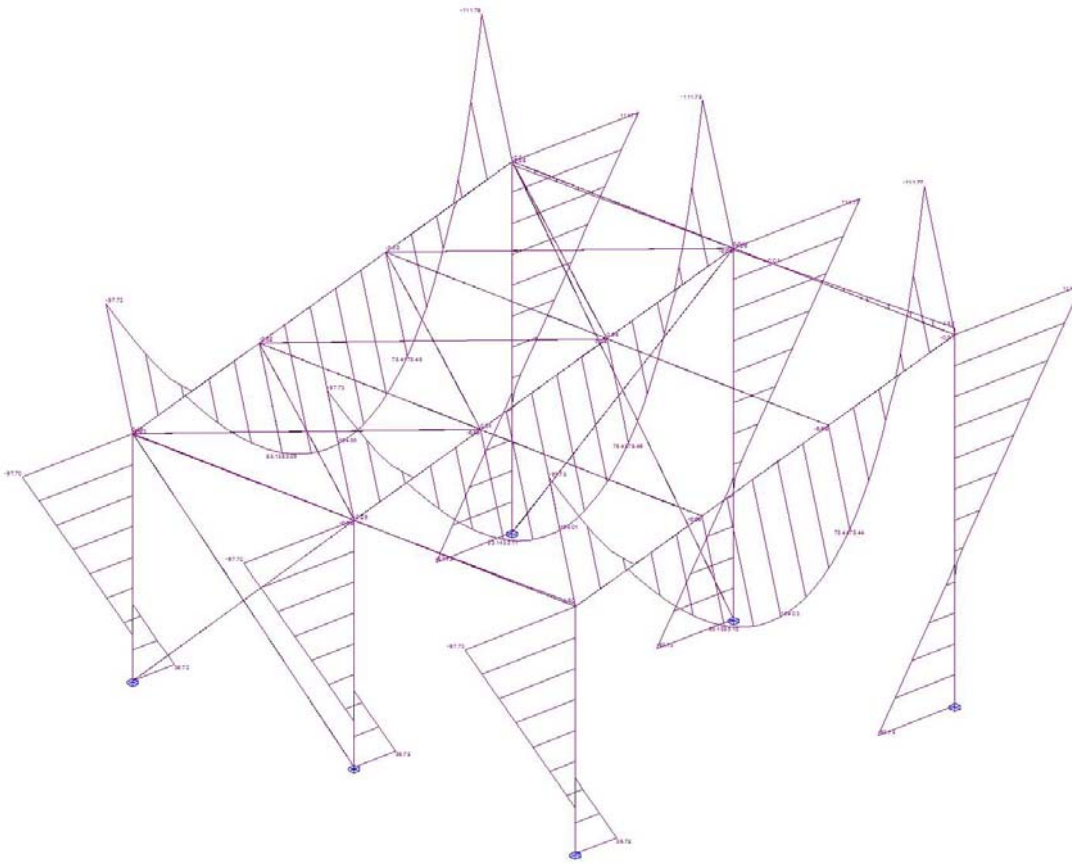
Fundamenteel Belastingscombinaties

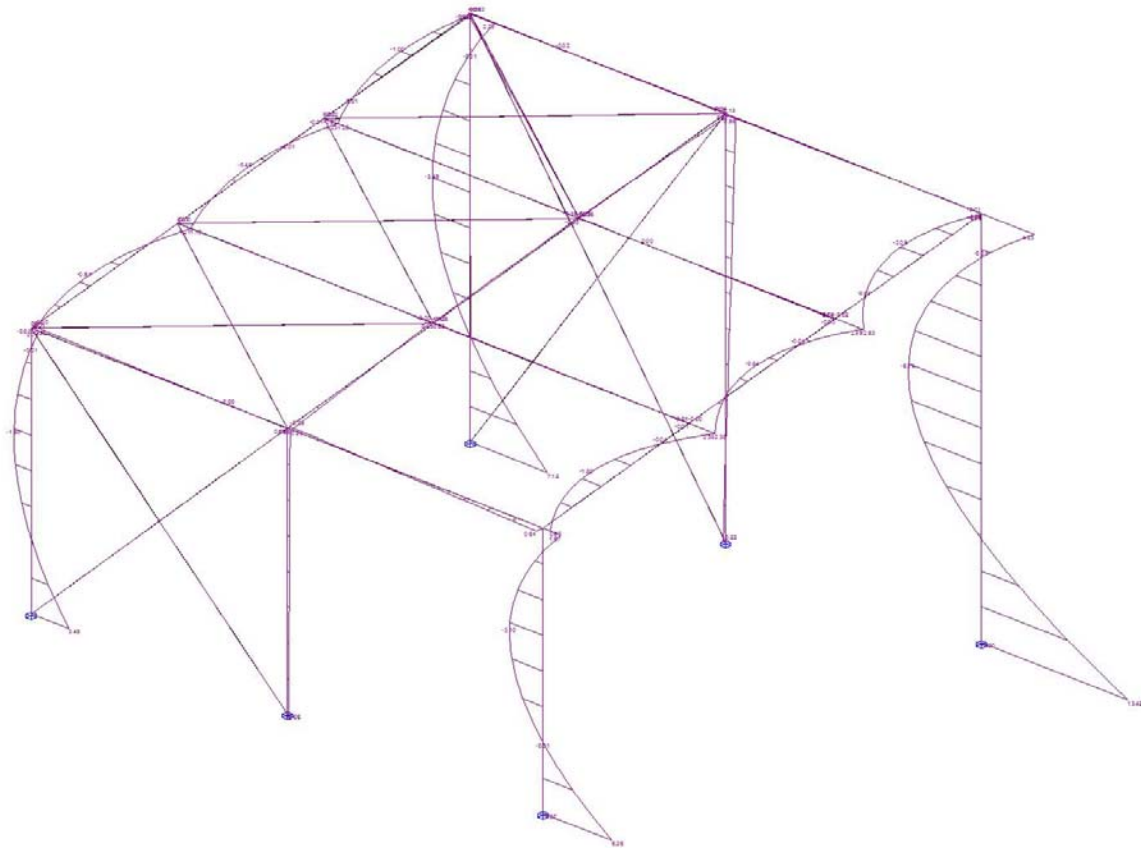












Stuud