TITELSEITE

Projekt: K_PB_STRUKTUR DE_201905_16

PROJEKTKARTE

OBJEKT:

- Ausschankstand in Form einer Weihnachtspyramide

PROJEKTSTANDARDS LADEN:

- NBN EN 1993-1:2005/ABN:2010/A1:2014
- EN 1991-1-3/4:2005 NAD GERMANY
- EN 1990-2002

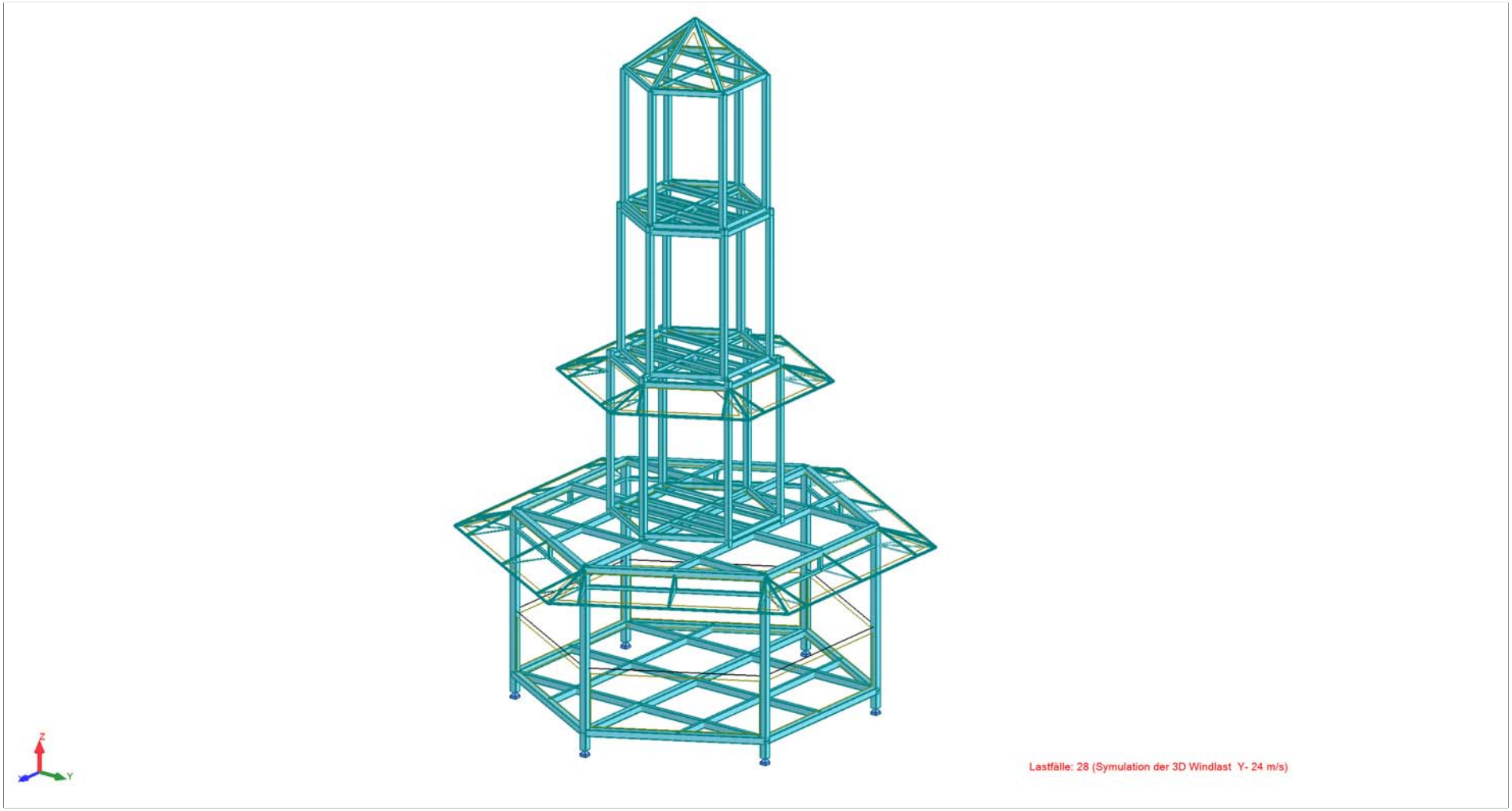
PROJEKTNORMEN DIMENSIONIERENDER STAHLBAU

- EN 1993-1:2005/A1:2014
- ENV 1993-1 1992 NAD GERMANY
- EN 1993-1-8:2005/AC:2009
- DIN EN 13814 with German Annex.

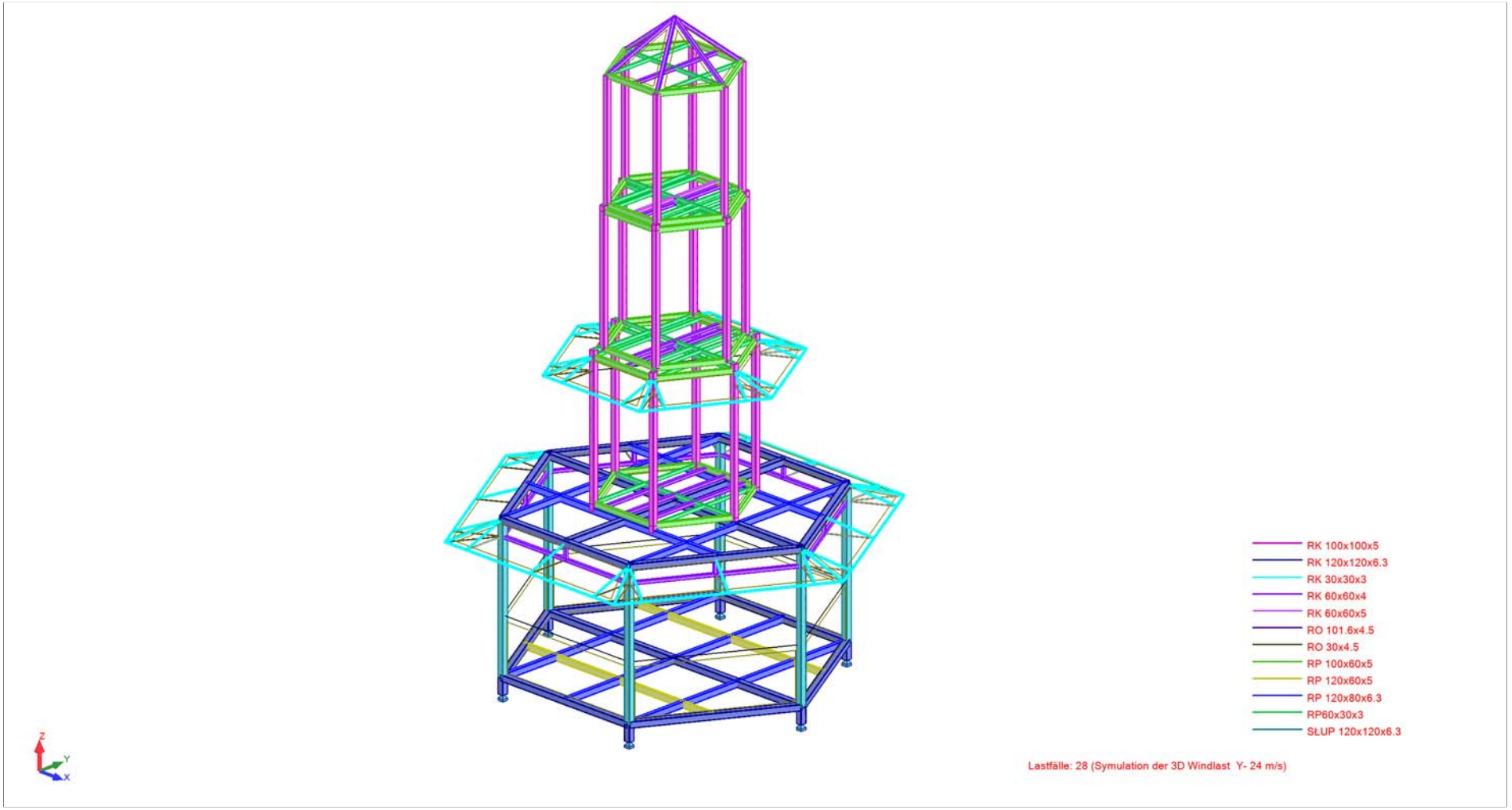
PROJEKTNORMEN DIMENSIONIERENDER STAHLBAU

- STAHL St37-2/215 Baust.St37-2 fy=215 fur Stahlbauteile
- STAHL St52-3/325 Baust.St52-3 fy=325 fur Stahlbauteile Stahlstange 1

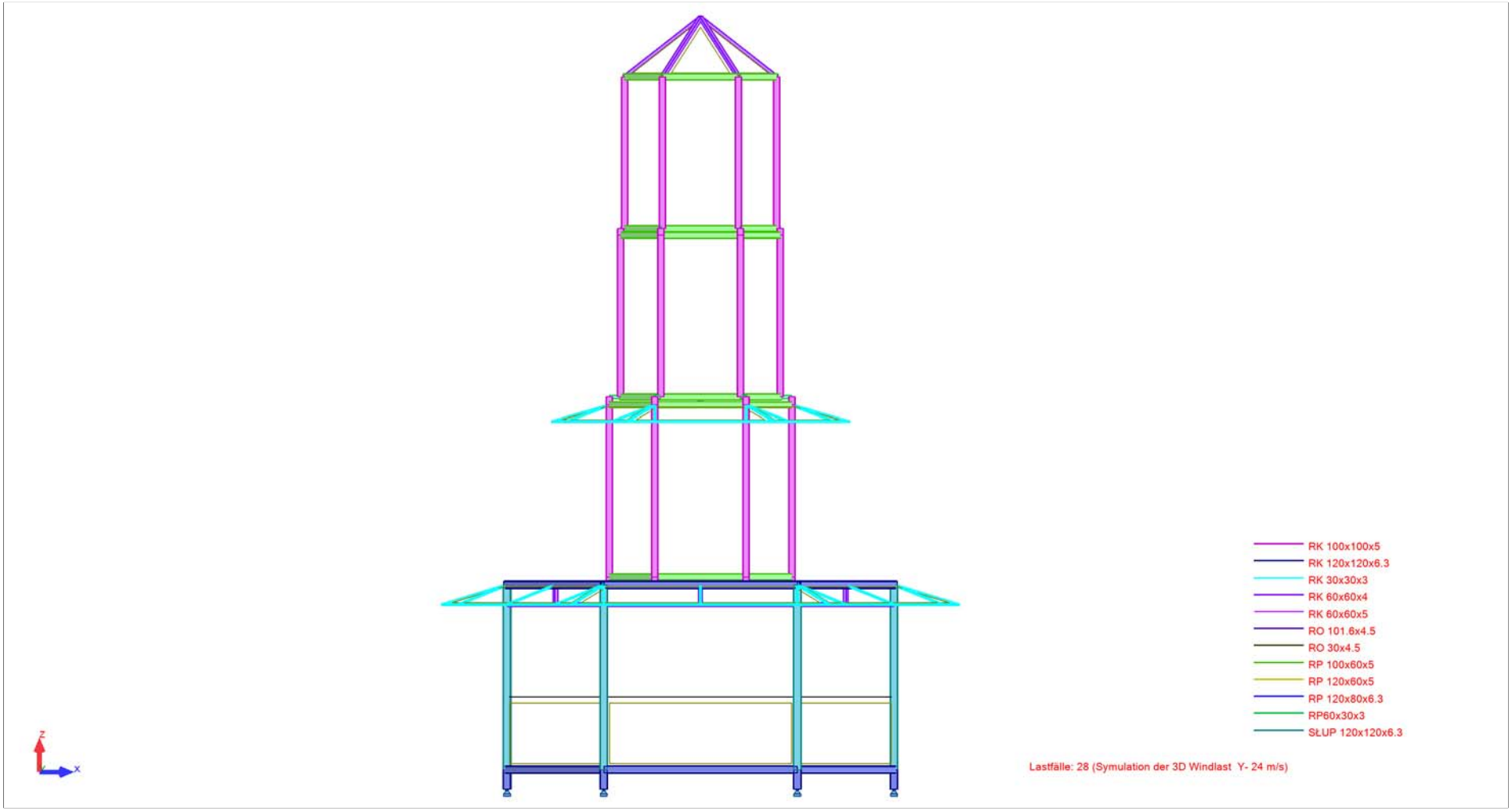
Ansicht I - BERECHNUNGSMODELL



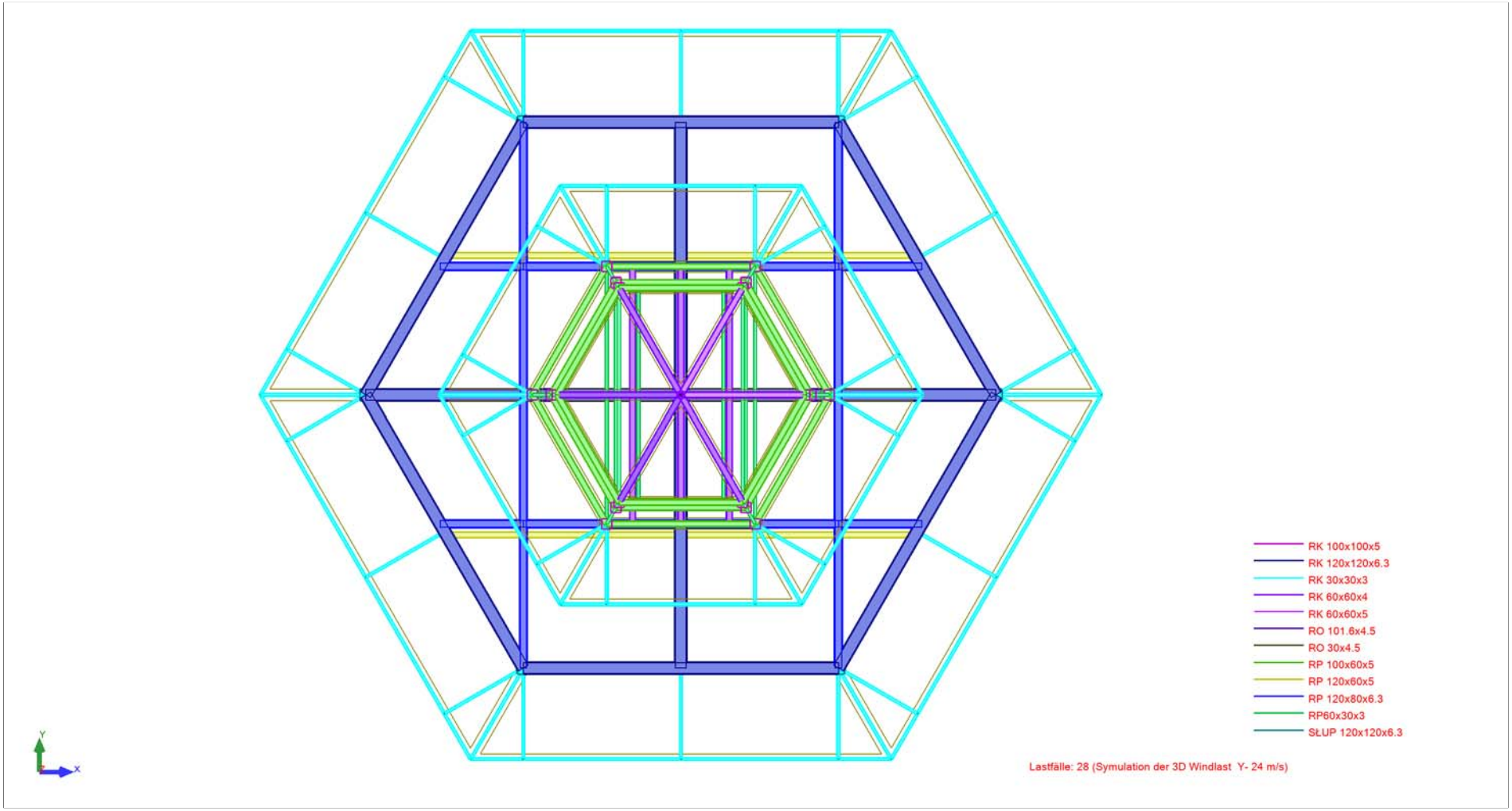
Ansicht II - BERECHNUNGSMODELL



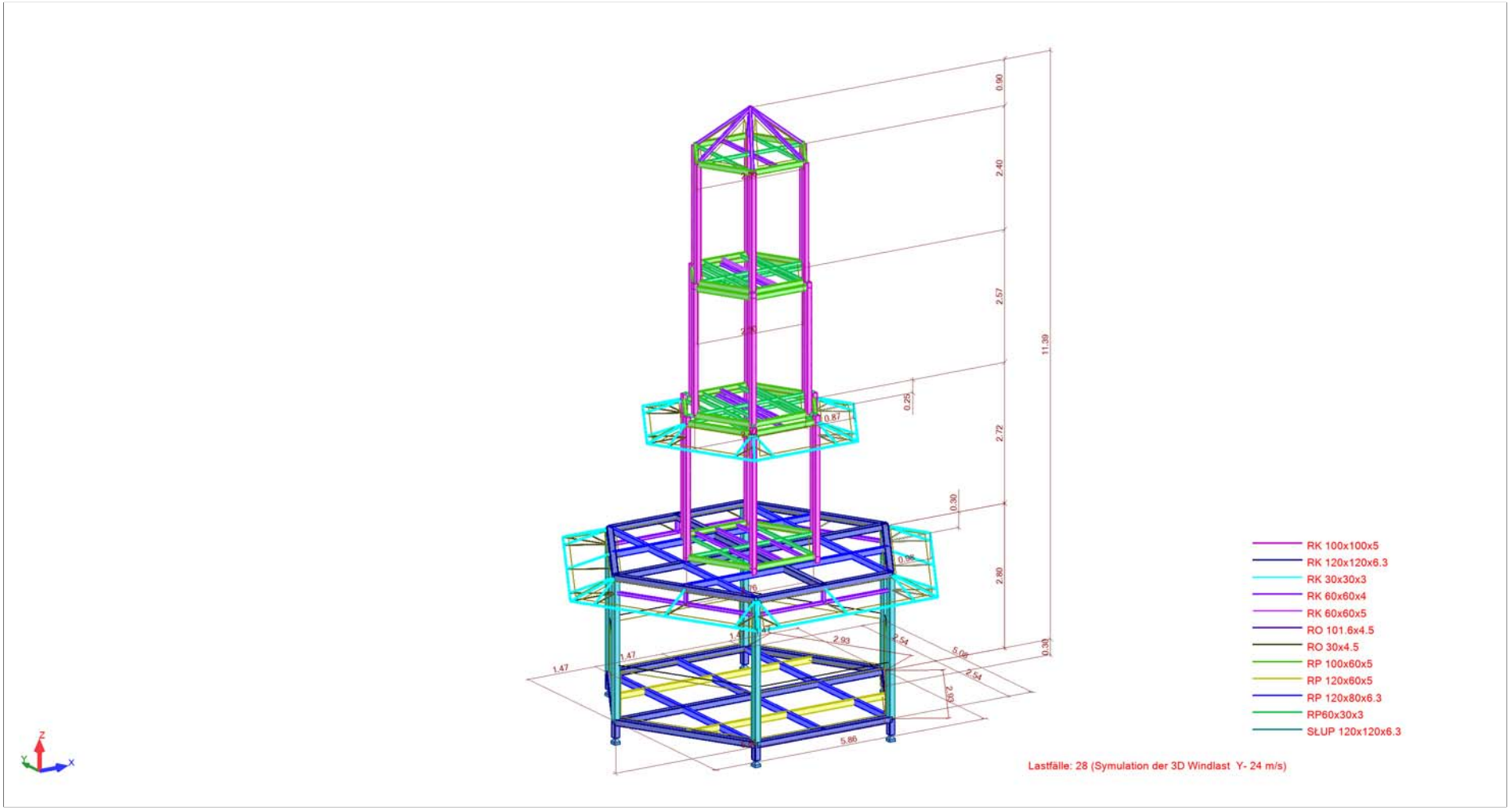
Ansicht III - BERECHNUNGSMODELL



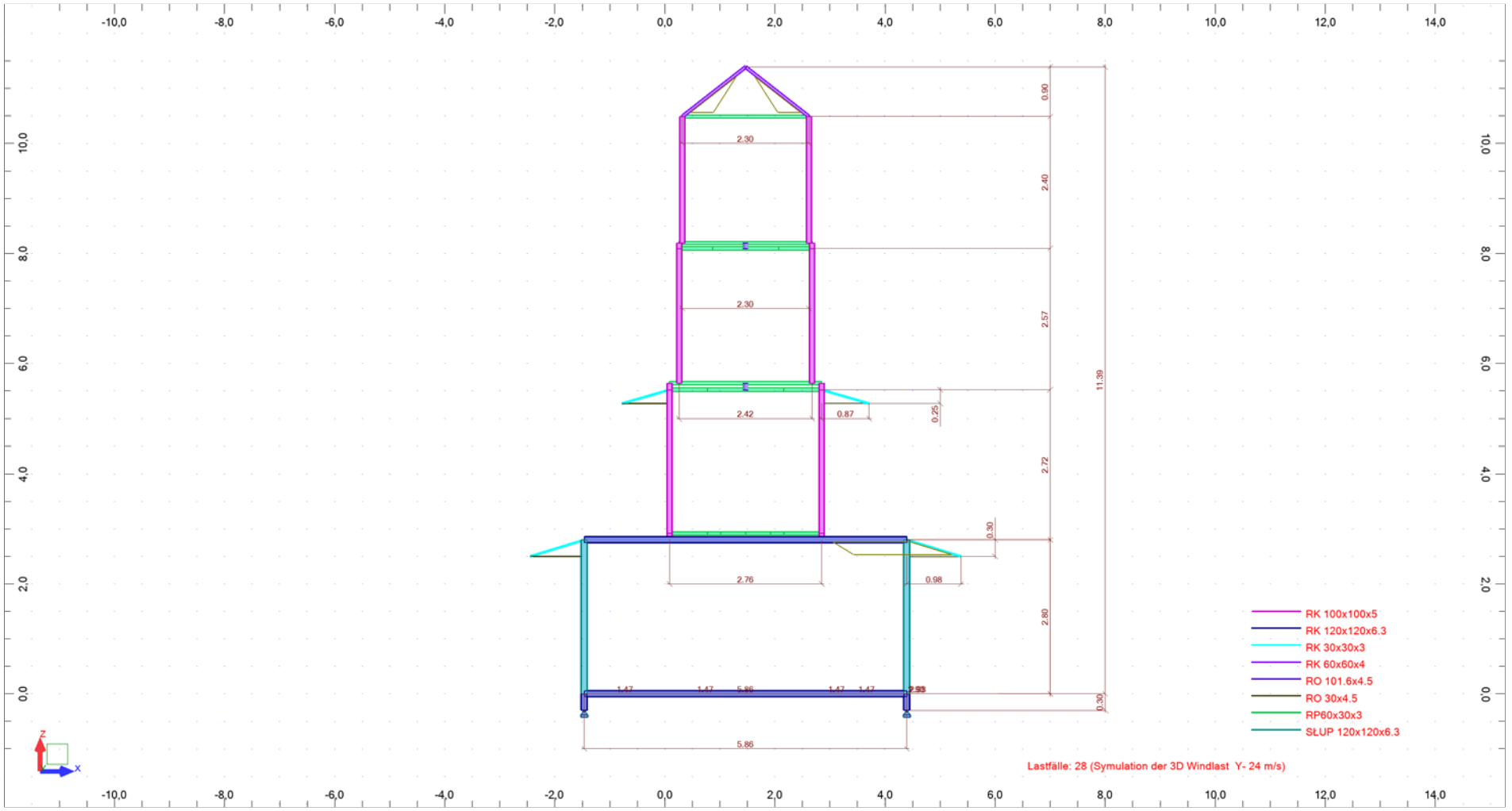
Ansicht IV - BERECHNUNGSMODELL



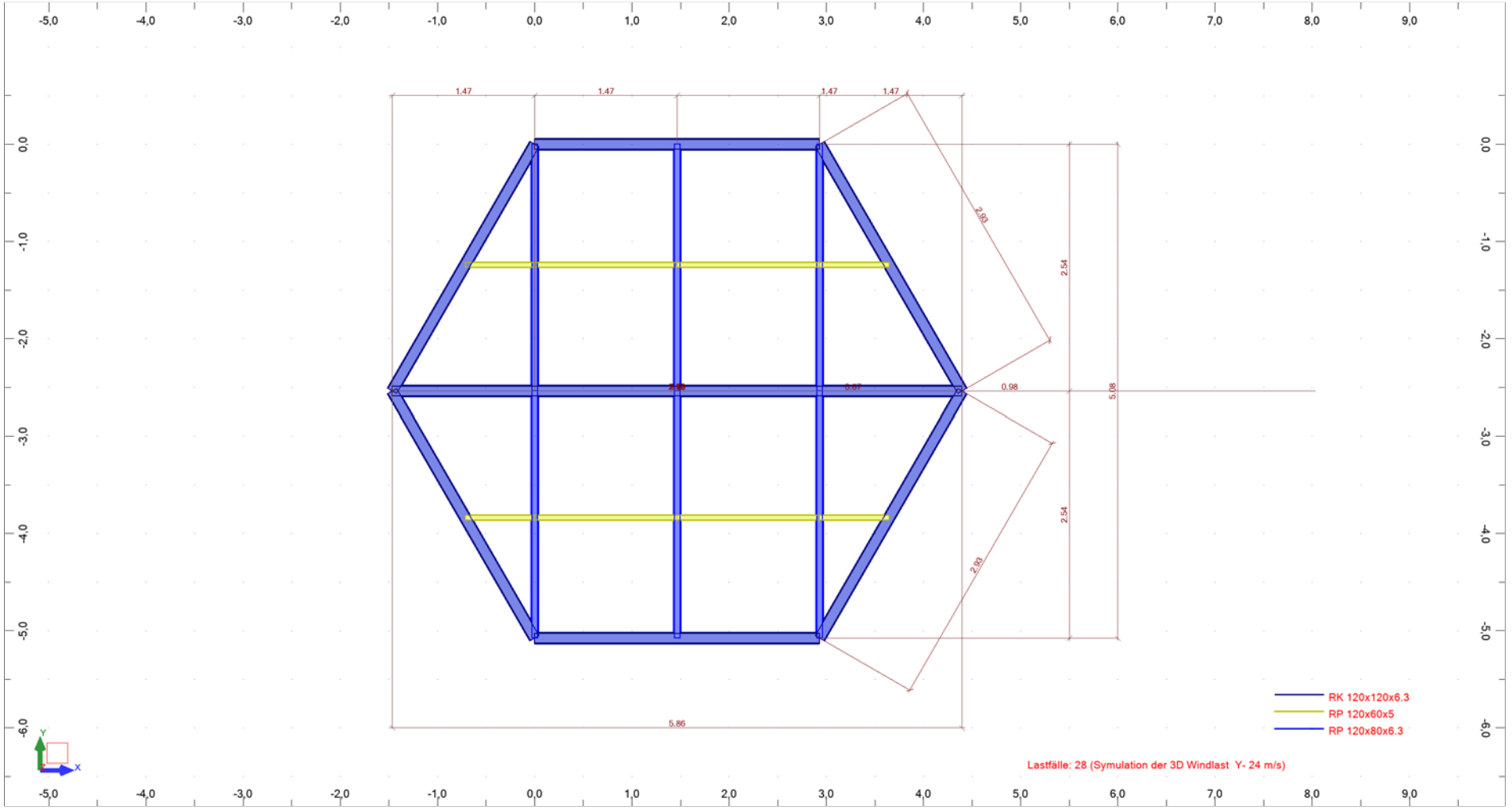
GEOMETRISCHES BAUPLAN 3D



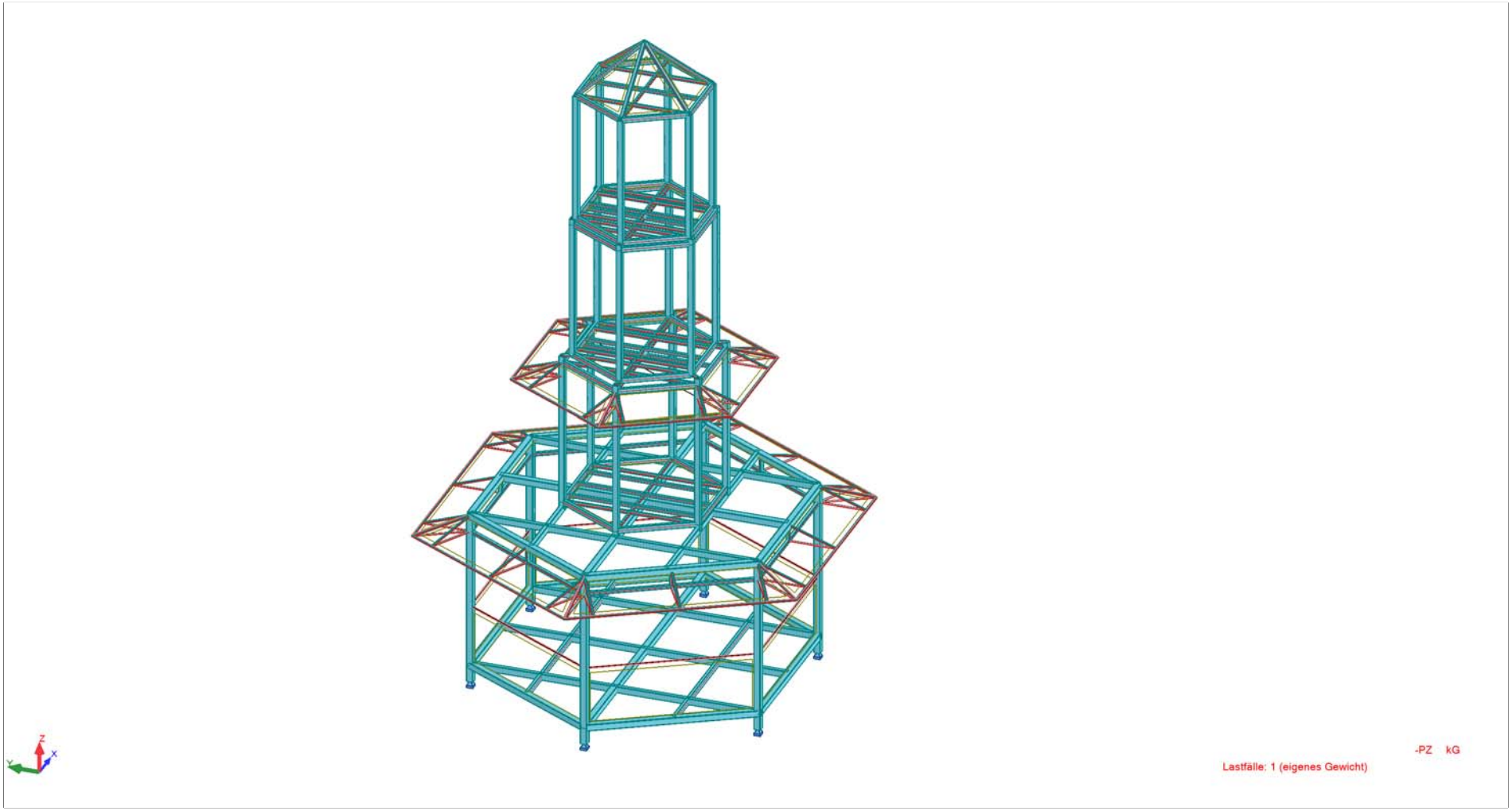
Ansicht - GEOMETRISCHES BAUPLAN



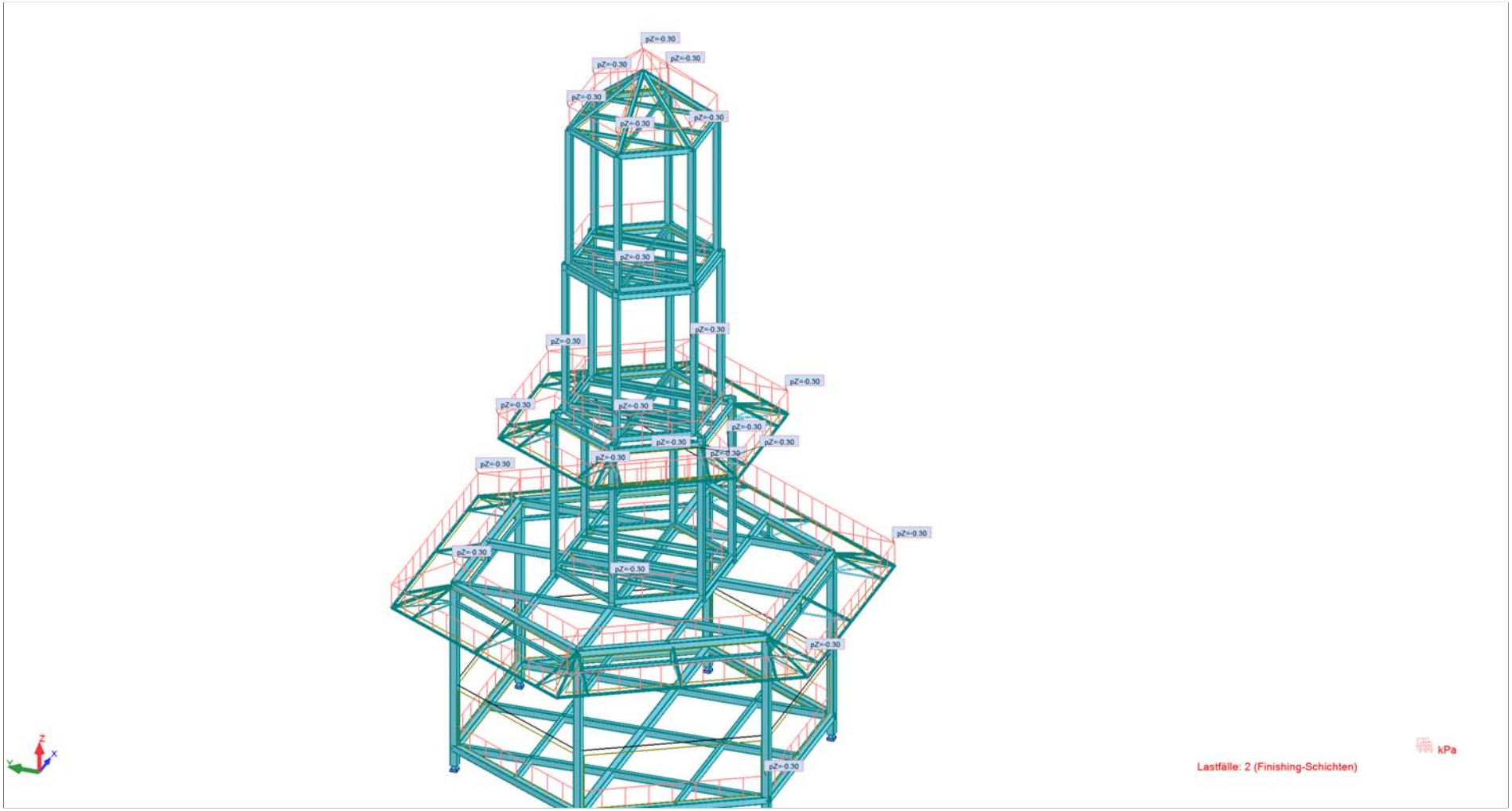
GEOMETRISCHES BAUPLAN ERDBODEN



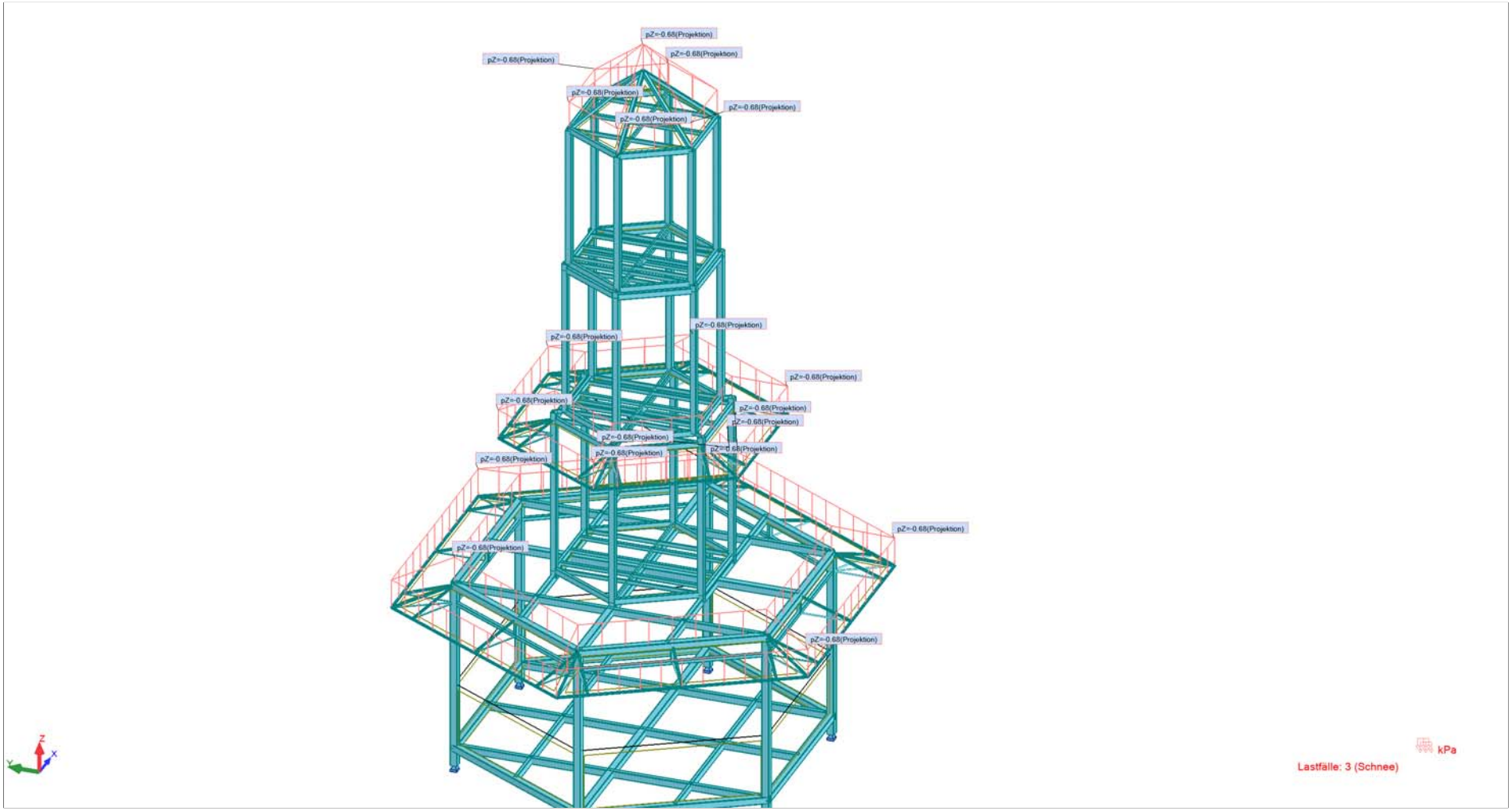
1 : eigenes Gewicht



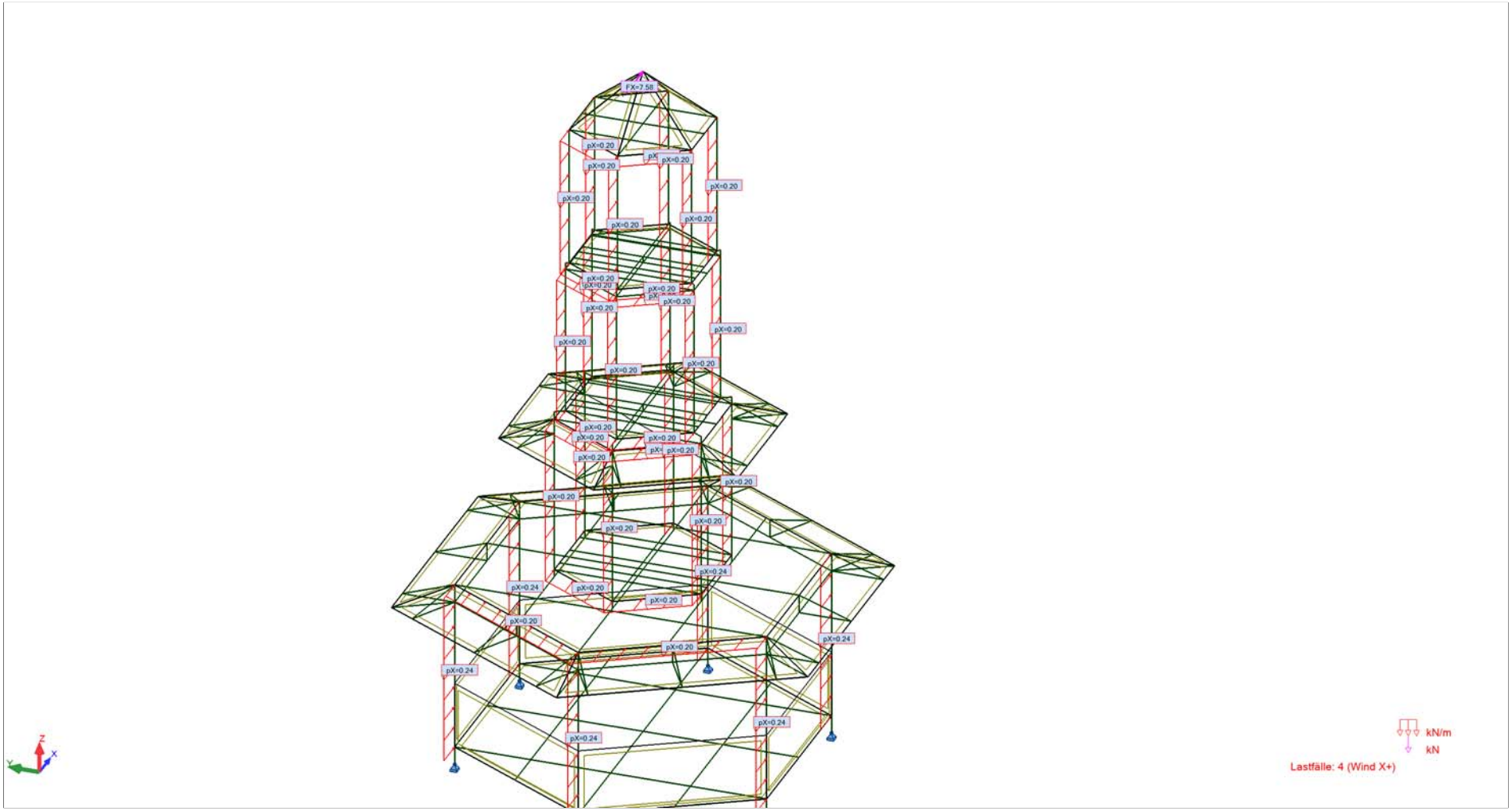
2 : Finishing-Schichten



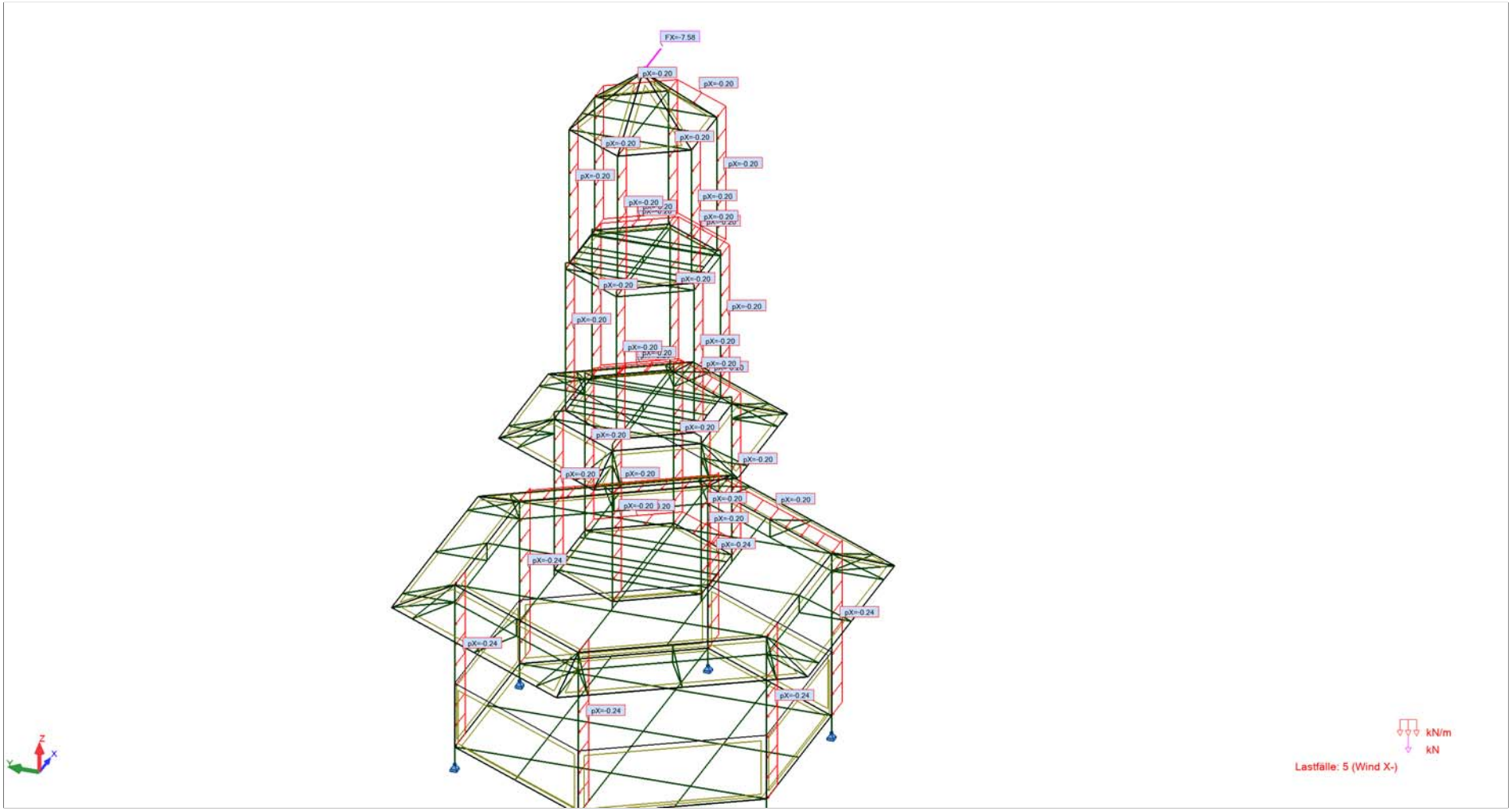
3 : Schnee



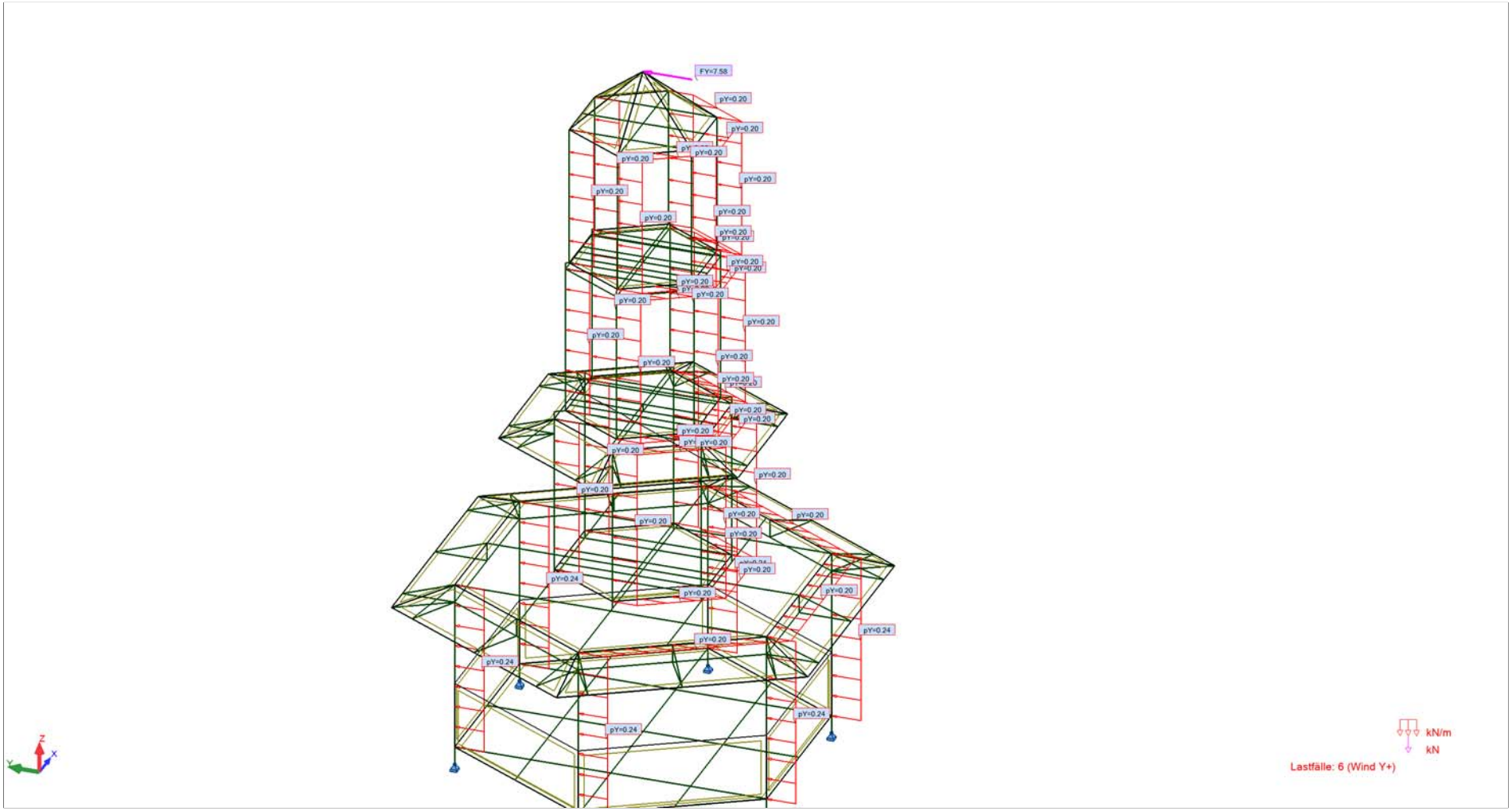
4 : Wind X+



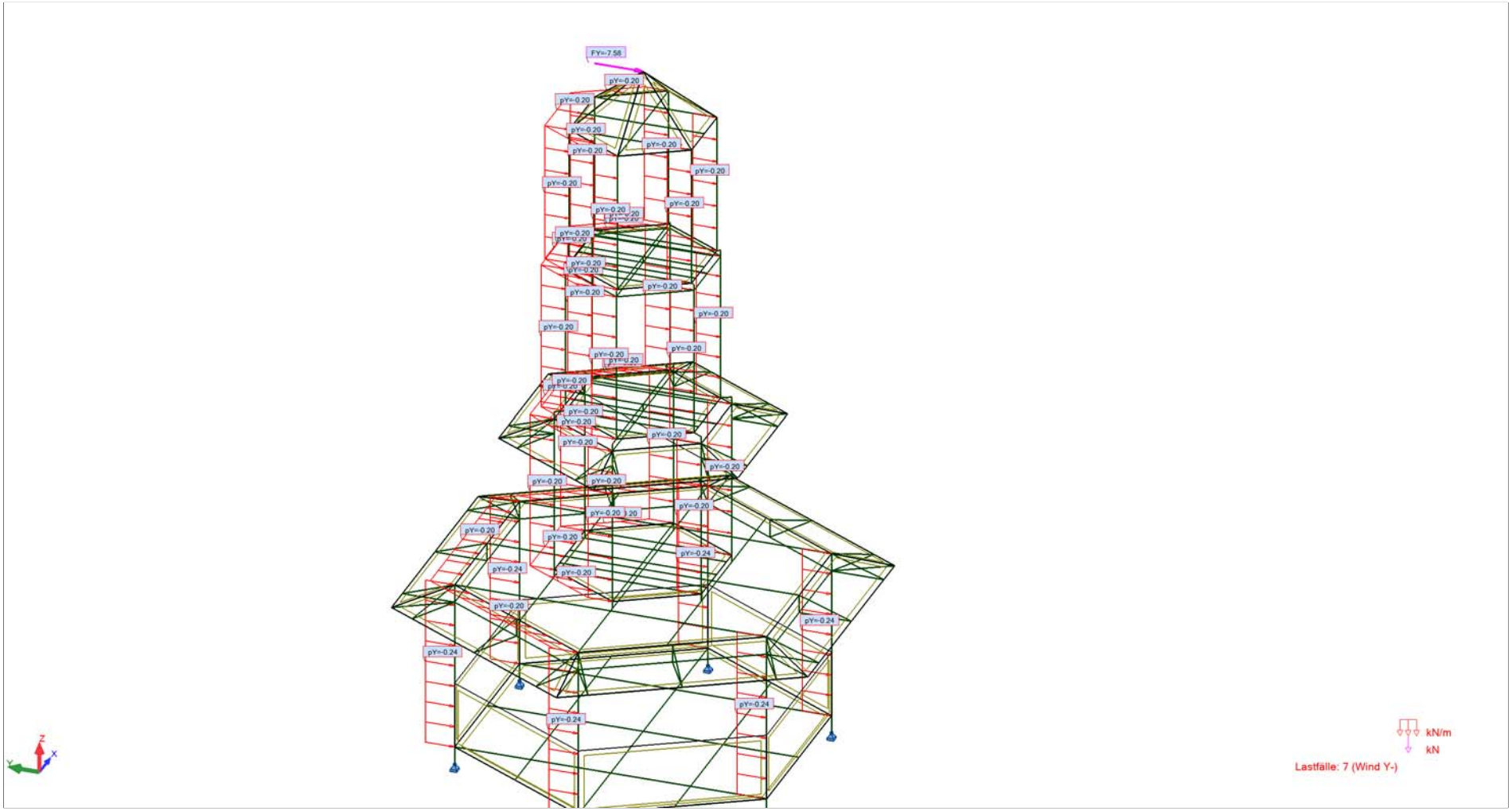
5 : Wind X-



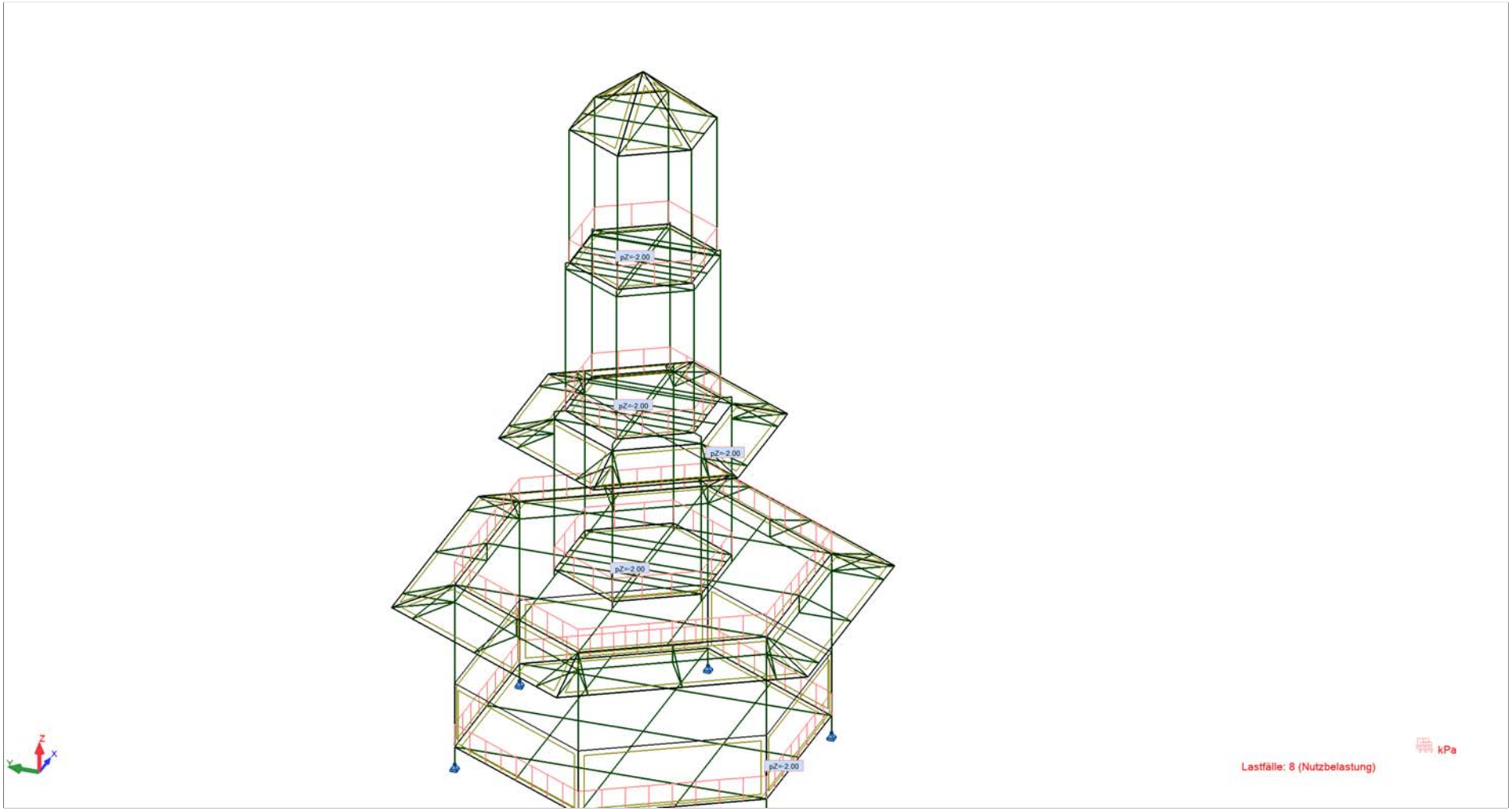
6 : Wind Y+



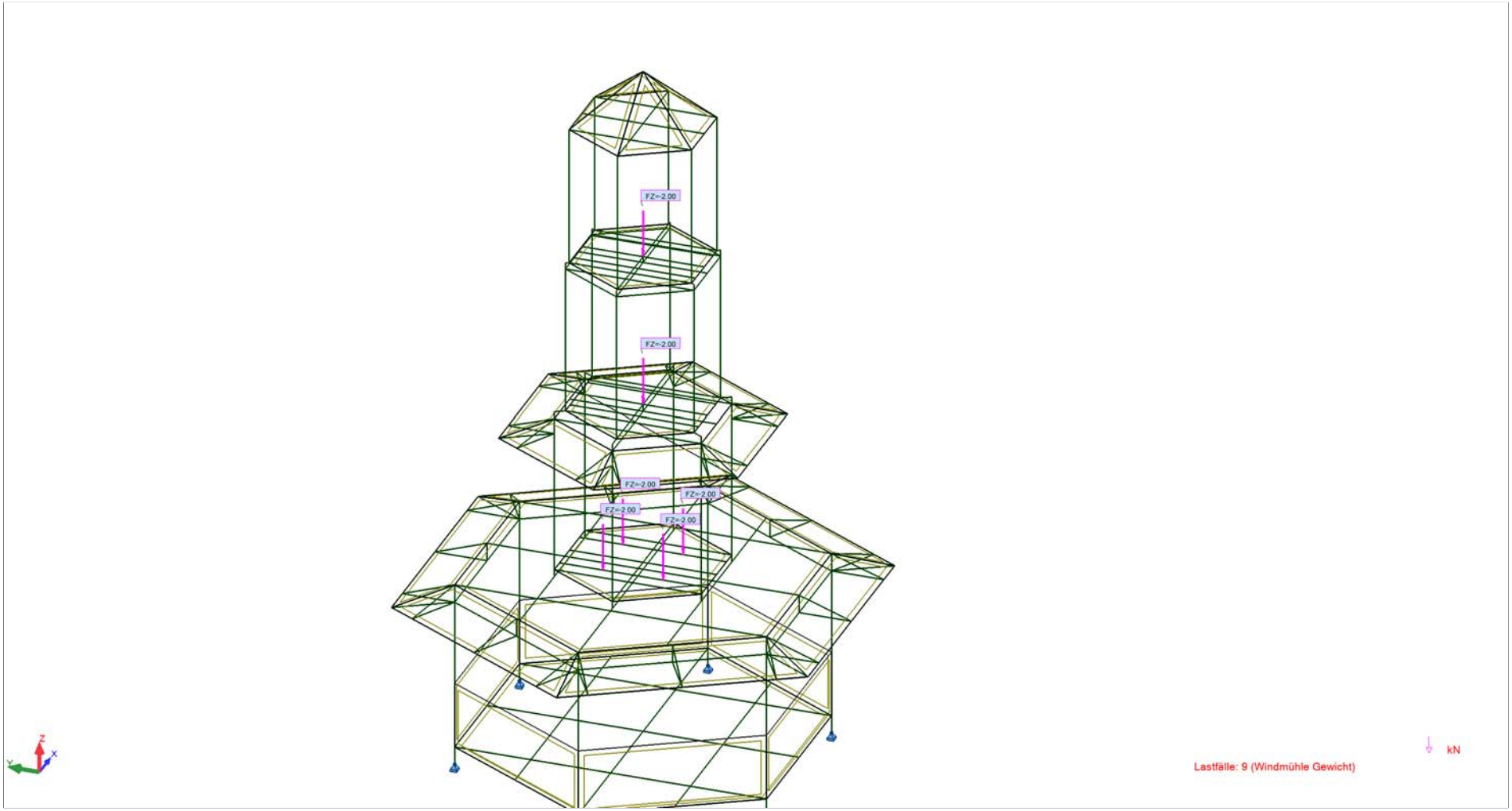
7 : Wind Y-



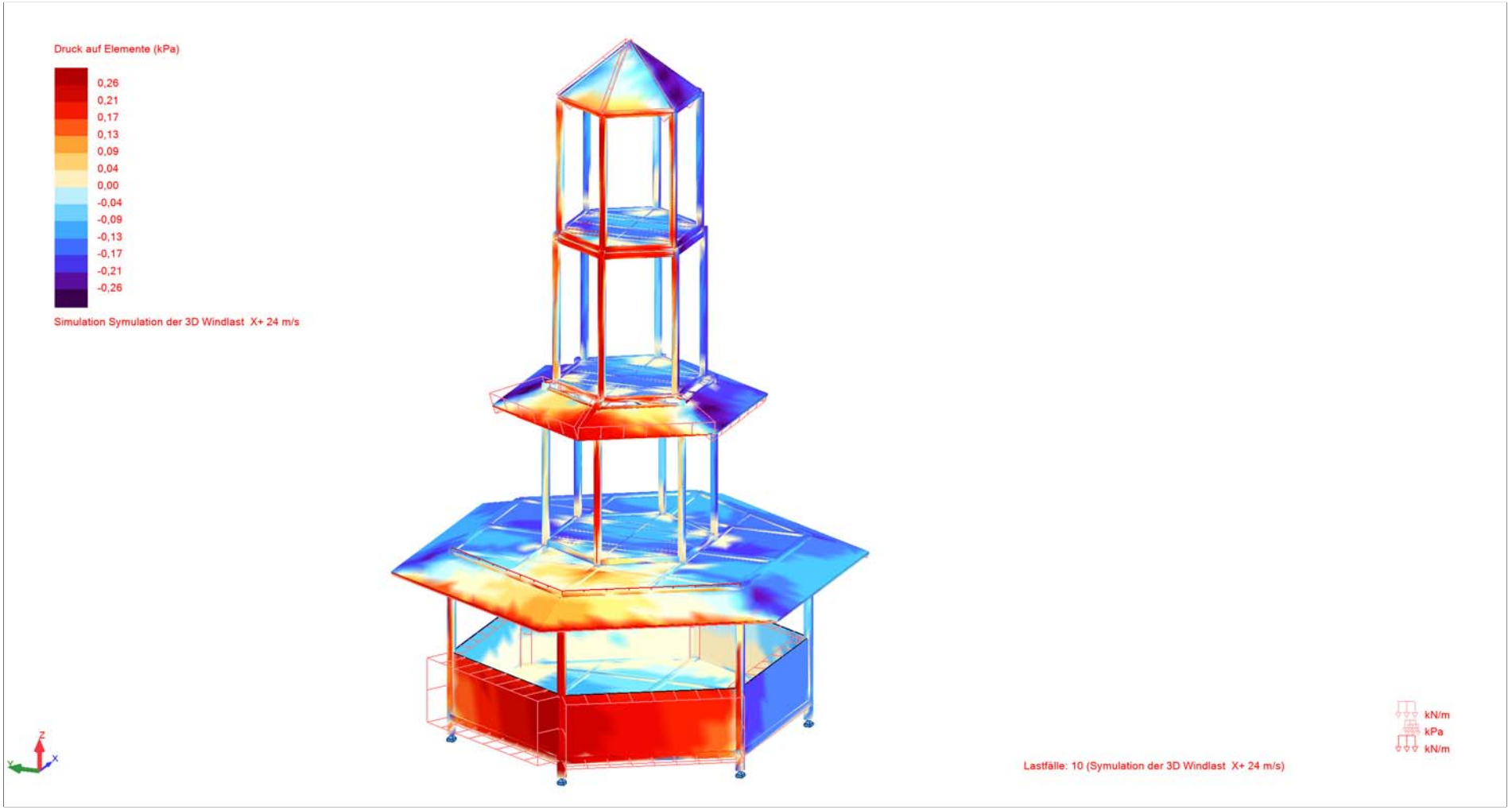
8 : Nutzbelastung



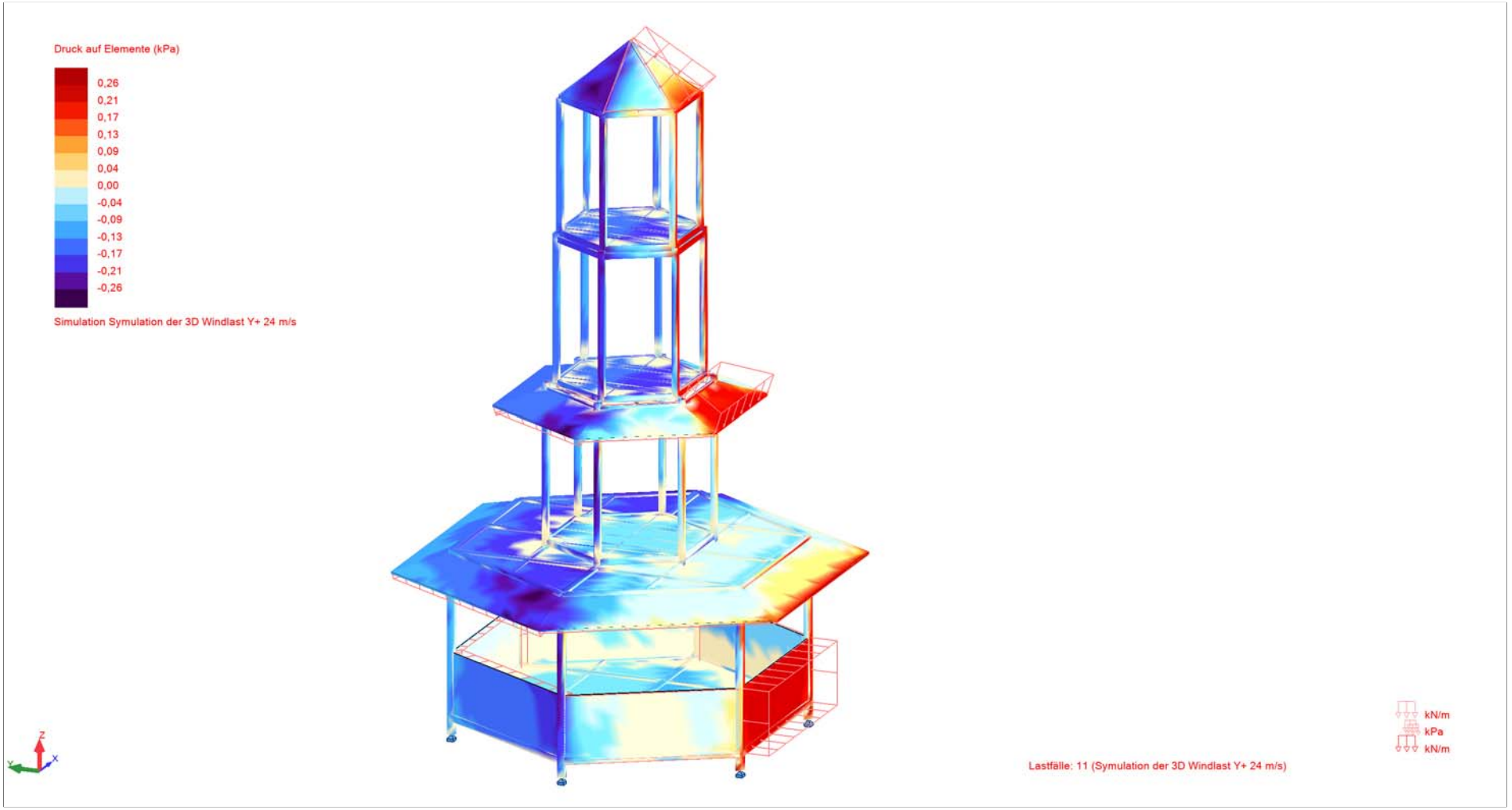
9 : Windmühle Gewicht



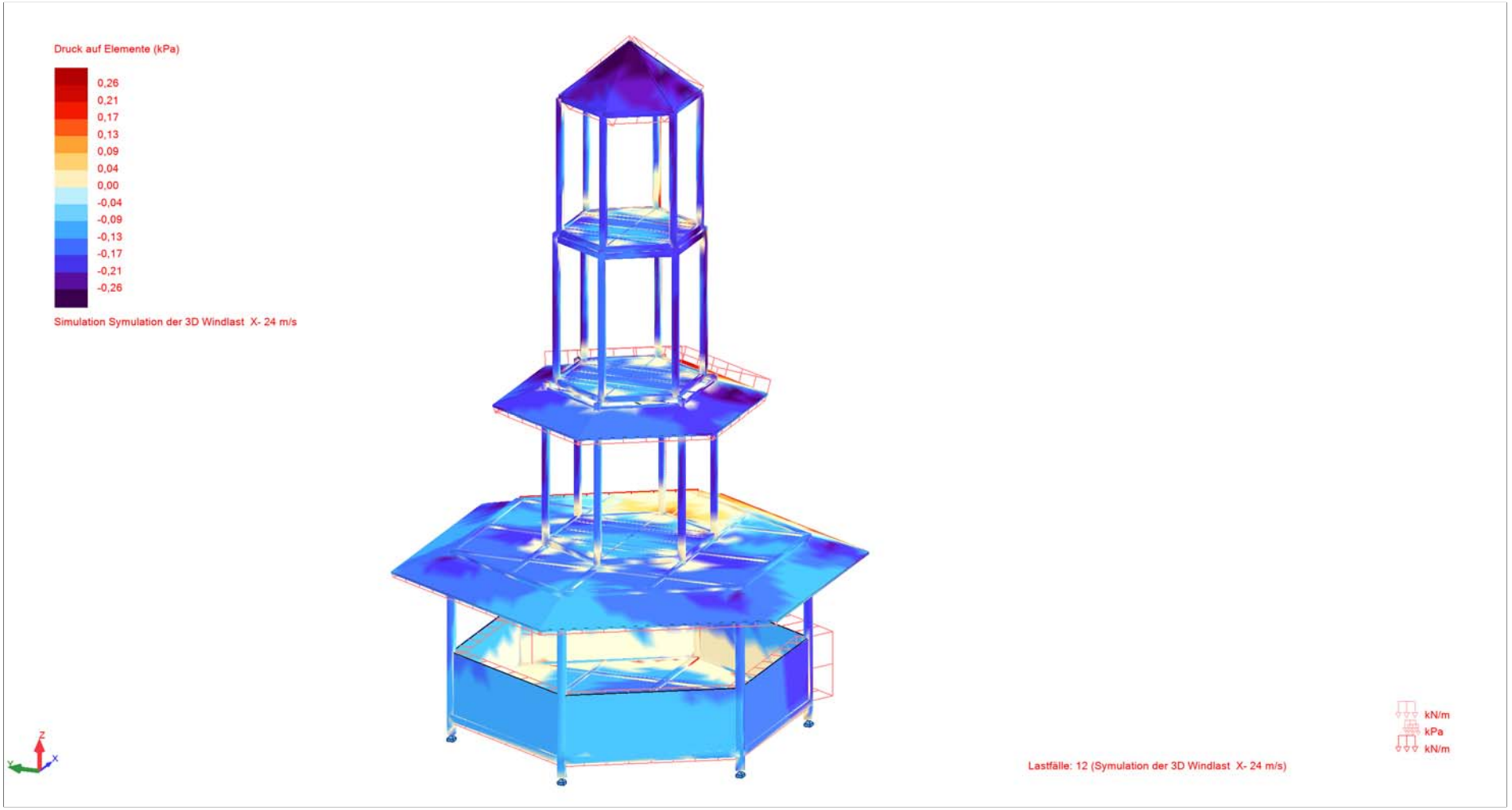
10 : Symulation der 3D Windlast X+ 24 m/s



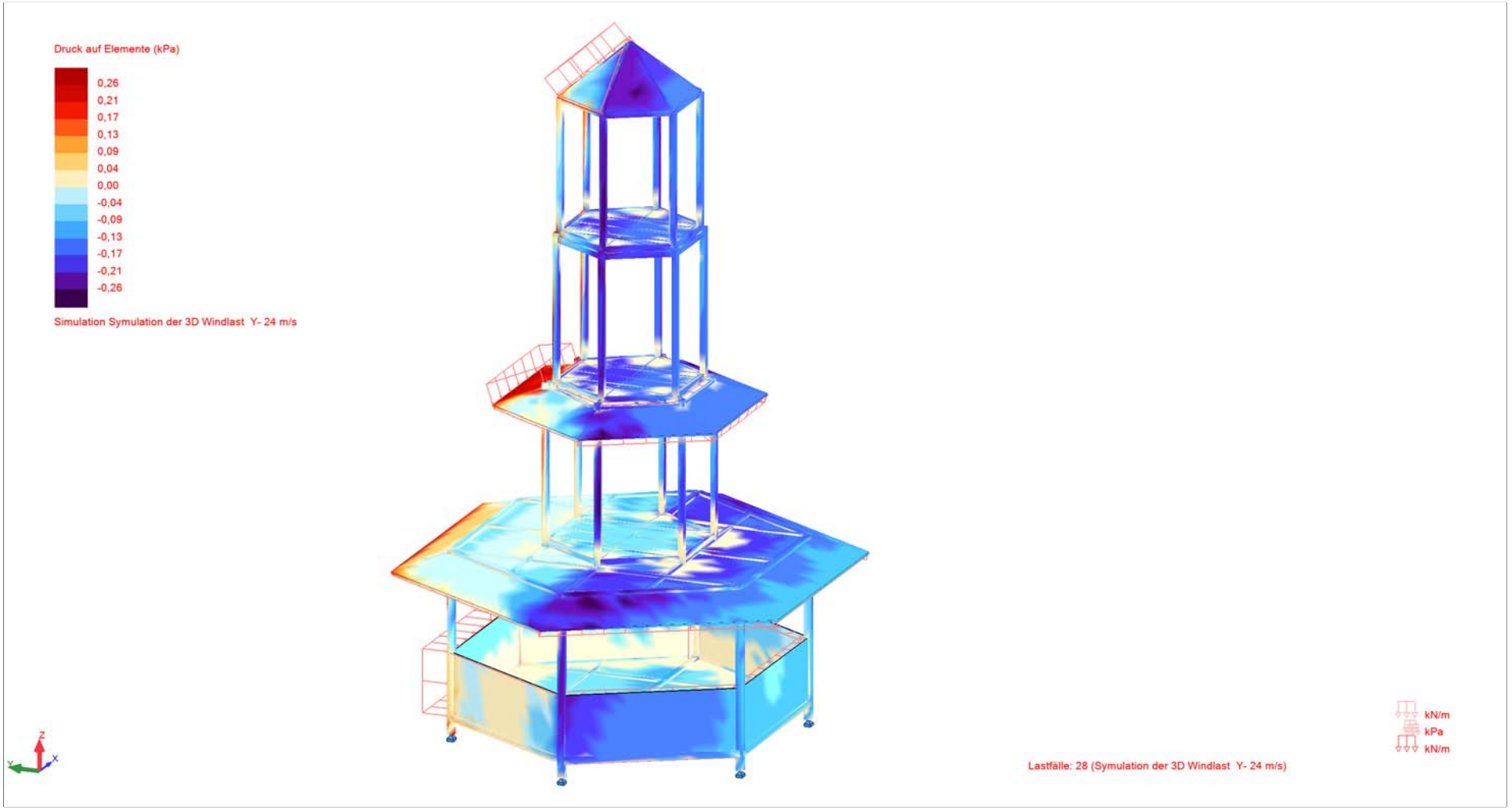
11 : Symulation der 3D Windlast Y+ 24 m/s



12 : Symulation der 3D Windlast X- 24 m/s



28 : Symulation der 3D Windlast Y- 24 m/s



Lasten: Info: 1

Lastfall	Name	Lastfallname	Lastart
1	STA1	eigenes Gewicht	
2	STA2	Finishing-Schichten	Tragend
3	SN1	Schnee	śnieg
4	WIATR1	Wind X+	wiatr
5	WIATR2	Wind X-	wiatr
6	WIATR3	Wind Y+	wiatr
7	WIATR4	Wind Y-	wiatr
8	EKSP1	Nutzbelastung	Kategorie A
9	STA3	Windmühle Gewicht	Tragend
10	WIATR5	Symulation der 3D Windlast X+ 24 m/s	wiatr
11	WIATR6	Symulation der 3D Windlast Y+ 24 m/s	wiatr
12	WIATR7	Symulation der 3D Windlast X- 24 m/s	wiatr
28	WIATR8	Symulation der 3D Windlast Y- 24 m/s	wiatr
29		GZT	
30		GZT+	
31		GZT-	
32		GZG	
33		GZG+	
34		GZG-	
35		GZG:CHR	
36		GZG:CHR+	
37		GZG:CHR-	
38		GZG:FRE	
39		GZG:FRE+	
40		GZG:FRE-	
41		GZG:QPR	
42		GZG:QPR+	
43		GZG:QPR-	

Lastfall	Berechnungsmethode
1	Modalanalyse mit Be
2	Statik - Linear
3	Statik - Linear
4	Statik - Linear
5	Statik - Linear
6	Statik - Linear
7	Statik - Linear
8	Statik - Linear
9	Statik - Linear
10	Statik - Linear
11	Statik - Linear
12	Statik - Linear
28	Statik - Linear
29	Statik - Linear
30	Statik - Linear
31	Statik - Linear
32	Statik - Linear
33	Statik - Linear
34	Statik - Linear
35	Statik - Linear
36	Statik - Linear
37	Statik - Linear

Lastfall	de
38	Statik - Linear
39	Statik - Linear
40	Statik - Linear
41	Statik - Linear
42	Statik - Linear
43	Statik - Linear

Definitionen von Lastkombinationen - Lastfälle: 29bis41S3 [EN 1990:2002] [EN 1990:2002]: Werte: 1

- Lastfälle: 29bis41S3 [EN 1990:2002]

Kombinationen/Komp.	Definition
GZT/ 1	2*1.35 + 3*0.75 + 8*1.50 + 9*1.35
GZT/ 2	2*1.35 + 8*1.50 + 9*1.35
GZT/ 3	2*1.35 + 3*0.75 + 8*1.50 + 9*1.35 + 10*0.90
GZT/ 4	2*1.35 + 8*1.50 + 9*1.35 + 10*0.90
GZT/ 5	2*1.35 + 3*0.75 + 8*1.50 + 9*1.35 + 11*0.90
GZT/ 6	2*1.35 + 8*1.50 + 9*1.35 + 11*0.90
GZT/ 7	2*1.35 + 3*0.75 + 8*1.50 + 9*1.35 + 12*0.90
GZT/ 8	2*1.35 + 8*1.50 + 9*1.35 + 12*0.90
GZT/ 9	2*1.35 + 3*0.75 + 8*1.50 + 9*1.35 + 28*0.90
GZT/ 10	2*1.35 + 8*1.50 + 9*1.35 + 28*0.90
GZT/ 11	2*1.35 + 9*1.35
GZT/ 12	2*1.00 + 3*0.75 + 8*1.50 + 9*1.00
GZT/ 13	2*1.00 + 8*1.50 + 9*1.00
GZT/ 14	2*1.00 + 3*0.75 + 8*1.50 + 9*1.00 + 10*0.90
GZT/ 15	2*1.00 + 8*1.50 + 9*1.00 + 10*0.90
GZT/ 16	2*1.00 + 3*0.75 + 8*1.50 + 9*1.00 + 11*0.90
GZT/ 17	2*1.00 + 8*1.50 + 9*1.00 + 11*0.90
GZT/ 18	2*1.00 + 3*0.75 + 8*1.50 + 9*1.00 + 12*0.90
GZT/ 19	2*1.00 + 8*1.50 + 9*1.00 + 12*0.90
GZT/ 20	2*1.00 + 3*0.75 + 8*1.50 + 9*1.00 + 28*0.90
GZT/ 21	2*1.00 + 8*1.50 + 9*1.00 + 28*0.90
GZT/ 22	2*1.00 + 9*1.00
GZT/ 23	2*1.35 + 3*0.75 + 4*0.90 + 8*1.50 + 9*1.35
GZT/ 24	2*1.35 + 4*0.90 + 8*1.50 + 9*1.35
GZT/ 25	2*1.35 + 3*0.75 + 5*0.90 + 8*1.50 + 9*1.35
GZT/ 26	2*1.35 + 5*0.90 + 8*1.50 + 9*1.35
GZT/ 27	2*1.35 + 3*0.75 + 6*0.90 + 8*1.50 + 9*1.35
GZT/ 28	2*1.35 + 6*0.90 + 8*1.50 + 9*1.35
GZT/ 29	2*1.35 + 3*0.75 + 7*0.90 + 8*1.50 + 9*1.35
GZT/ 30	2*1.35 + 7*0.90 + 8*1.50 + 9*1.35
GZT/ 31	2*1.00 + 3*0.75 + 4*0.90 + 8*1.50 + 9*1.00
GZT/ 32	2*1.00 + 4*0.90 + 8*1.50 + 9*1.00
GZT/ 33	2*1.00 + 3*0.75 + 5*0.90 + 8*1.50 + 9*1.00
GZT/ 34	2*1.00 + 5*0.90 + 8*1.50 + 9*1.00
GZT/ 35	2*1.00 + 3*0.75 + 6*0.90 + 8*1.50 + 9*1.00
GZT/ 36	2*1.00 + 6*0.90 + 8*1.50 + 9*1.00
GZT/ 37	2*1.00 + 3*0.75 + 7*0.90 + 8*1.50 + 9*1.00
GZT/ 38	2*1.00 + 7*0.90 + 8*1.50 + 9*1.00
GZT/ 39	2*1.35 + 3*0.75 + 8*1.05 + 9*1.35 + 10*1.50
GZT/ 40	2*1.35 + 8*1.05 + 9*1.35 + 10*1.50
GZT/ 41	2*1.35 + 3*0.75 + 8*1.05 + 9*1.35 + 11*1.50
GZT/ 42	2*1.35 + 8*1.05 + 9*1.35 + 11*1.50

Kombinationen/Komp.	Definition
GZT/ 43	2*1.35 + 3*0.75 + 8*1.05 + 9*1.35 + 12*1.50
GZT/ 44	2*1.35 + 8*1.05 + 9*1.35 + 12*1.50
GZT/ 45	2*1.35 + 3*0.75 + 8*1.05 + 9*1.35 + 28*1.50
GZT/ 46	2*1.35 + 8*1.05 + 9*1.35 + 28*1.50
GZT/ 47	2*1.35 + 3*0.75 + 9*1.35 + 10*1.50
GZT/ 48	2*1.35 + 9*1.35 + 10*1.50
GZT/ 49	2*1.35 + 3*0.75 + 9*1.35 + 11*1.50
GZT/ 50	2*1.35 + 9*1.35 + 11*1.50
GZT/ 51	2*1.35 + 3*0.75 + 9*1.35 + 12*1.50
GZT/ 52	2*1.35 + 9*1.35 + 12*1.50
GZT/ 53	2*1.35 + 3*0.75 + 9*1.35 + 28*1.50
GZT/ 54	2*1.35 + 9*1.35 + 28*1.50
GZT/ 55	2*1.00 + 3*0.75 + 8*1.05 + 9*1.00 + 10*1.50
GZT/ 56	2*1.00 + 8*1.05 + 9*1.00 + 10*1.50
GZT/ 57	2*1.00 + 3*0.75 + 8*1.05 + 9*1.00 + 11*1.50
GZT/ 58	2*1.00 + 8*1.05 + 9*1.00 + 11*1.50
GZT/ 59	2*1.00 + 3*0.75 + 8*1.05 + 9*1.00 + 12*1.50
GZT/ 60	2*1.00 + 8*1.05 + 9*1.00 + 12*1.50
GZT/ 61	2*1.00 + 3*0.75 + 8*1.05 + 9*1.00 + 28*1.50
GZT/ 62	2*1.00 + 8*1.05 + 9*1.00 + 28*1.50
GZT/ 63	2*1.00 + 3*0.75 + 9*1.00 + 10*1.50
GZT/ 64	2*1.00 + 9*1.00 + 10*1.50
GZT/ 65	2*1.00 + 3*0.75 + 9*1.00 + 11*1.50
GZT/ 66	2*1.00 + 9*1.00 + 11*1.50
GZT/ 67	2*1.00 + 3*0.75 + 9*1.00 + 12*1.50
GZT/ 68	2*1.00 + 9*1.00 + 12*1.50
GZT/ 69	2*1.00 + 3*0.75 + 9*1.00 + 28*1.50
GZT/ 70	2*1.00 + 9*1.00 + 28*1.50
GZT/ 71	2*1.35 + 3*0.75 + 4*1.50 + 8*1.05 + 9*1.35
GZT/ 72	2*1.35 + 4*1.50 + 8*1.05 + 9*1.35
GZT/ 73	2*1.35 + 3*0.75 + 5*1.50 + 8*1.05 + 9*1.35
GZT/ 74	2*1.35 + 5*1.50 + 8*1.05 + 9*1.35
GZT/ 75	2*1.35 + 3*0.75 + 6*1.50 + 8*1.05 + 9*1.35
GZT/ 76	2*1.35 + 6*1.50 + 8*1.05 + 9*1.35
GZT/ 77	2*1.35 + 3*0.75 + 7*1.50 + 8*1.05 + 9*1.35
GZT/ 78	2*1.35 + 7*1.50 + 8*1.05 + 9*1.35
GZT/ 79	2*1.35 + 3*0.75 + 4*1.50 + 9*1.35
GZT/ 80	2*1.35 + 4*1.50 + 9*1.35
GZT/ 81	2*1.35 + 3*0.75 + 5*1.50 + 9*1.35
GZT/ 82	2*1.35 + 5*1.50 + 9*1.35
GZT/ 83	2*1.35 + 3*0.75 + 6*1.50 + 9*1.35
GZT/ 84	2*1.35 + 6*1.50 + 9*1.35
GZT/ 85	2*1.35 + 3*0.75 + 7*1.50 + 9*1.35
GZT/ 86	2*1.35 + 7*1.50 + 9*1.35
GZT/ 87	2*1.00 + 3*0.75 + 4*1.50 + 8*1.05 + 9*1.00
GZT/ 88	2*1.00 + 4*1.50 + 8*1.05 + 9*1.00
GZT/ 89	2*1.00 + 3*0.75 + 5*1.50 + 8*1.05 + 9*1.00
GZT/ 90	2*1.00 + 5*1.50 + 8*1.05 + 9*1.00
GZT/ 91	2*1.00 + 3*0.75 + 6*1.50 + 8*1.05 + 9*1.00
GZT/ 92	2*1.00 + 6*1.50 + 8*1.05 + 9*1.00
GZT/ 93	2*1.00 + 3*0.75 + 7*1.50 + 8*1.05 + 9*1.00
GZT/ 94	2*1.00 + 7*1.50 + 8*1.05 + 9*1.00
GZT/ 95	2*1.00 + 3*0.75 + 4*1.50 + 9*1.00
GZT/ 96	2*1.00 + 4*1.50 + 9*1.00
GZT/ 97	2*1.00 + 3*0.75 + 5*1.50 + 9*1.00
GZT/ 98	2*1.00 + 5*1.50 + 9*1.00

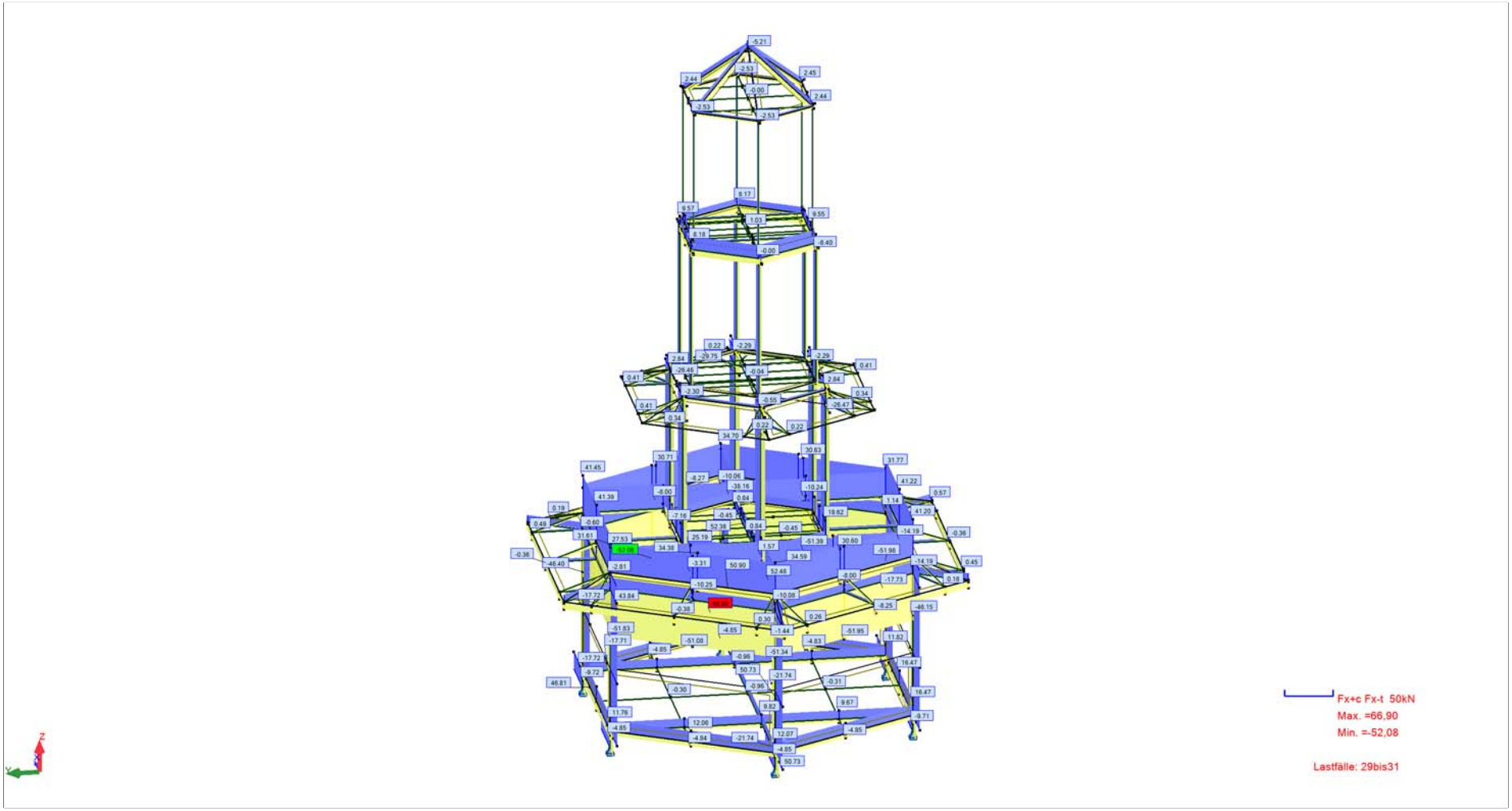
Kombinationen/Komp.	Definition
GZT/ 99	2*1.00 + 3*0.75 + 6*1.50 + 9*1.00
GZT/ 100	2*1.00 + 6*1.50 + 9*1.00
GZT/ 101	2*1.00 + 3*0.75 + 7*1.50 + 9*1.00
GZT/ 102	2*1.00 + 7*1.50 + 9*1.00
GZT/ 103	2*1.35 + 3*1.50 + 8*1.05 + 9*1.35
GZT/ 104	2*1.35 + 3*1.50 + 8*1.05 + 9*1.35 + 10*0.90
GZT/ 105	2*1.35 + 3*1.50 + 8*1.05 + 9*1.35 + 11*0.90
GZT/ 106	2*1.35 + 3*1.50 + 8*1.05 + 9*1.35 + 12*0.90
GZT/ 107	2*1.35 + 3*1.50 + 8*1.05 + 9*1.35 + 28*0.90
GZT/ 108	2*1.35 + 3*1.50 + 9*1.35
GZT/ 109	2*1.35 + 3*1.50 + 9*1.35 + 10*0.90
GZT/ 110	2*1.35 + 3*1.50 + 9*1.35 + 11*0.90
GZT/ 111	2*1.35 + 3*1.50 + 9*1.35 + 12*0.90
GZT/ 112	2*1.35 + 3*1.50 + 9*1.35 + 28*0.90
GZT/ 113	2*1.00 + 3*1.50 + 8*1.05 + 9*1.00
GZT/ 114	2*1.00 + 3*1.50 + 8*1.05 + 9*1.00 + 10*0.90
GZT/ 115	2*1.00 + 3*1.50 + 8*1.05 + 9*1.00 + 11*0.90
GZT/ 116	2*1.00 + 3*1.50 + 8*1.05 + 9*1.00 + 12*0.90
GZT/ 117	2*1.00 + 3*1.50 + 8*1.05 + 9*1.00 + 28*0.90
GZT/ 118	2*1.00 + 3*1.50 + 9*1.00
GZT/ 119	2*1.00 + 3*1.50 + 9*1.00 + 10*0.90
GZT/ 120	2*1.00 + 3*1.50 + 9*1.00 + 11*0.90
GZT/ 121	2*1.00 + 3*1.50 + 9*1.00 + 12*0.90
GZT/ 122	2*1.00 + 3*1.50 + 9*1.00 + 28*0.90
GZT/ 123	2*1.35 + 3*1.50 + 4*0.90 + 8*1.05 + 9*1.35
GZT/ 124	2*1.35 + 3*1.50 + 5*0.90 + 8*1.05 + 9*1.35
GZT/ 125	2*1.35 + 3*1.50 + 6*0.90 + 8*1.05 + 9*1.35
GZT/ 126	2*1.35 + 3*1.50 + 7*0.90 + 8*1.05 + 9*1.35
GZT/ 127	2*1.35 + 3*1.50 + 4*0.90 + 9*1.35
GZT/ 128	2*1.35 + 3*1.50 + 5*0.90 + 9*1.35
GZT/ 129	2*1.35 + 3*1.50 + 6*0.90 + 9*1.35
GZT/ 130	2*1.35 + 3*1.50 + 7*0.90 + 9*1.35
GZT/ 131	2*1.00 + 3*1.50 + 4*0.90 + 8*1.05 + 9*1.00
GZT/ 132	2*1.00 + 3*1.50 + 5*0.90 + 8*1.05 + 9*1.00
GZT/ 133	2*1.00 + 3*1.50 + 6*0.90 + 8*1.05 + 9*1.00
GZT/ 134	2*1.00 + 3*1.50 + 7*0.90 + 8*1.05 + 9*1.00
GZT/ 135	2*1.00 + 3*1.50 + 4*0.90 + 9*1.00
GZT/ 136	2*1.00 + 3*1.50 + 5*0.90 + 9*1.00
GZT/ 137	2*1.00 + 3*1.50 + 6*0.90 + 9*1.00
GZT/ 138	2*1.00 + 3*1.50 + 7*0.90 + 9*1.00
GZG:CHR/ 1	2*1.00 + 3*0.50 + 8*1.00 + 9*1.00
GZG:CHR/ 2	2*1.00 + 8*1.00 + 9*1.00
GZG:CHR/ 3	2*1.00 + 3*0.50 + 8*1.00 + 9*1.00 + 10*0.60
GZG:CHR/ 4	2*1.00 + 8*1.00 + 9*1.00 + 10*0.60
GZG:CHR/ 5	2*1.00 + 3*0.50 + 8*1.00 + 9*1.00 + 11*0.60
GZG:CHR/ 6	2*1.00 + 8*1.00 + 9*1.00 + 11*0.60
GZG:CHR/ 7	2*1.00 + 3*0.50 + 8*1.00 + 9*1.00 + 12*0.60
GZG:CHR/ 8	2*1.00 + 8*1.00 + 9*1.00 + 12*0.60
GZG:CHR/ 9	2*1.00 + 3*0.50 + 8*1.00 + 9*1.00 + 28*0.60
GZG:CHR/ 10	2*1.00 + 8*1.00 + 9*1.00 + 28*0.60
GZG:CHR/ 11	2*1.00 + 9*1.00
GZG:CHR/ 12	2*1.00 + 3*0.50 + 4*0.60 + 8*1.00 + 9*1.00
GZG:CHR/ 13	2*1.00 + 4*0.60 + 8*1.00 + 9*1.00
GZG:CHR/ 14	2*1.00 + 3*0.50 + 5*0.60 + 8*1.00 + 9*1.00
GZG:CHR/ 15	2*1.00 + 5*0.60 + 8*1.00 + 9*1.00
GZG:CHR/ 16	2*1.00 + 3*0.50 + 6*0.60 + 8*1.00 + 9*1.00

Kombinationen/Komp.	Definition
GZG:CHR/ 17	2*1.00 + 6*0.60 + 8*1.00 + 9*1.00
GZG:CHR/ 18	2*1.00 + 3*0.50 + 7*0.60 + 8*1.00 + 9*1.00
GZG:CHR/ 19	2*1.00 + 7*0.60 + 8*1.00 + 9*1.00
GZG:CHR/ 20	2*1.00 + 3*0.50 + 8*0.70 + 9*1.00 + 10*1.00
GZG:CHR/ 21	2*1.00 + 8*0.70 + 9*1.00 + 10*1.00
GZG:CHR/ 22	2*1.00 + 3*0.50 + 8*0.70 + 9*1.00 + 11*1.00
GZG:CHR/ 23	2*1.00 + 8*0.70 + 9*1.00 + 11*1.00
GZG:CHR/ 24	2*1.00 + 3*0.50 + 8*0.70 + 9*1.00 + 12*1.00
GZG:CHR/ 25	2*1.00 + 8*0.70 + 9*1.00 + 12*1.00
GZG:CHR/ 26	2*1.00 + 3*0.50 + 8*0.70 + 9*1.00 + 28*1.00
GZG:CHR/ 27	2*1.00 + 8*0.70 + 9*1.00 + 28*1.00
GZG:CHR/ 28	2*1.00 + 3*0.50 + 9*1.00 + 10*1.00
GZG:CHR/ 29	2*1.00 + 9*1.00 + 10*1.00
GZG:CHR/ 30	2*1.00 + 3*0.50 + 9*1.00 + 11*1.00
GZG:CHR/ 31	2*1.00 + 9*1.00 + 11*1.00
GZG:CHR/ 32	2*1.00 + 3*0.50 + 9*1.00 + 12*1.00
GZG:CHR/ 33	2*1.00 + 9*1.00 + 12*1.00
GZG:CHR/ 34	2*1.00 + 3*0.50 + 9*1.00 + 28*1.00
GZG:CHR/ 35	2*1.00 + 9*1.00 + 28*1.00
GZG:CHR/ 36	2*1.00 + 3*0.50 + 4*1.00 + 8*0.70 + 9*1.00
GZG:CHR/ 37	2*1.00 + 4*1.00 + 8*0.70 + 9*1.00
GZG:CHR/ 38	2*1.00 + 3*0.50 + 5*1.00 + 8*0.70 + 9*1.00
GZG:CHR/ 39	2*1.00 + 5*1.00 + 8*0.70 + 9*1.00
GZG:CHR/ 40	2*1.00 + 3*0.50 + 6*1.00 + 8*0.70 + 9*1.00
GZG:CHR/ 41	2*1.00 + 6*1.00 + 8*0.70 + 9*1.00
GZG:CHR/ 42	2*1.00 + 3*0.50 + 7*1.00 + 8*0.70 + 9*1.00
GZG:CHR/ 43	2*1.00 + 7*1.00 + 8*0.70 + 9*1.00
GZG:CHR/ 44	2*1.00 + 3*0.50 + 4*1.00 + 9*1.00
GZG:CHR/ 45	2*1.00 + 4*1.00 + 9*1.00
GZG:CHR/ 46	2*1.00 + 3*0.50 + 5*1.00 + 9*1.00
GZG:CHR/ 47	2*1.00 + 5*1.00 + 9*1.00
GZG:CHR/ 48	2*1.00 + 3*0.50 + 6*1.00 + 9*1.00
GZG:CHR/ 49	2*1.00 + 6*1.00 + 9*1.00
GZG:CHR/ 50	2*1.00 + 3*0.50 + 7*1.00 + 9*1.00
GZG:CHR/ 51	2*1.00 + 7*1.00 + 9*1.00
GZG:CHR/ 52	2*1.00 + 3*1.00 + 8*0.70 + 9*1.00
GZG:CHR/ 53	2*1.00 + 3*1.00 + 8*0.70 + 9*1.00 + 10*0.60
GZG:CHR/ 54	2*1.00 + 3*1.00 + 8*0.70 + 9*1.00 + 11*0.60
GZG:CHR/ 55	2*1.00 + 3*1.00 + 8*0.70 + 9*1.00 + 12*0.60
GZG:CHR/ 56	2*1.00 + 3*1.00 + 8*0.70 + 9*1.00 + 28*0.60
GZG:CHR/ 57	2*1.00 + 3*1.00 + 9*1.00
GZG:CHR/ 58	2*1.00 + 3*1.00 + 9*1.00 + 10*0.60
GZG:CHR/ 59	2*1.00 + 3*1.00 + 9*1.00 + 11*0.60
GZG:CHR/ 60	2*1.00 + 3*1.00 + 9*1.00 + 12*0.60
GZG:CHR/ 61	2*1.00 + 3*1.00 + 9*1.00 + 28*0.60
GZG:CHR/ 62	2*1.00 + 3*1.00 + 4*0.60 + 8*0.70 + 9*1.00
GZG:CHR/ 63	2*1.00 + 3*1.00 + 5*0.60 + 8*0.70 + 9*1.00
GZG:CHR/ 64	2*1.00 + 3*1.00 + 6*0.60 + 8*0.70 + 9*1.00
GZG:CHR/ 65	2*1.00 + 3*1.00 + 7*0.60 + 8*0.70 + 9*1.00
GZG:CHR/ 66	2*1.00 + 3*1.00 + 4*0.60 + 9*1.00
GZG:CHR/ 67	2*1.00 + 3*1.00 + 5*0.60 + 9*1.00
GZG:CHR/ 68	2*1.00 + 3*1.00 + 6*0.60 + 9*1.00
GZG:CHR/ 69	2*1.00 + 3*1.00 + 7*0.60 + 9*1.00
GZG:FRE/ 70	2*1.00 + 8*0.50 + 9*1.00
GZG:FRE/ 71	2*1.00 + 9*1.00
GZG:FRE/ 72	2*1.00 + 8*0.30 + 9*1.00 + 10*0.20

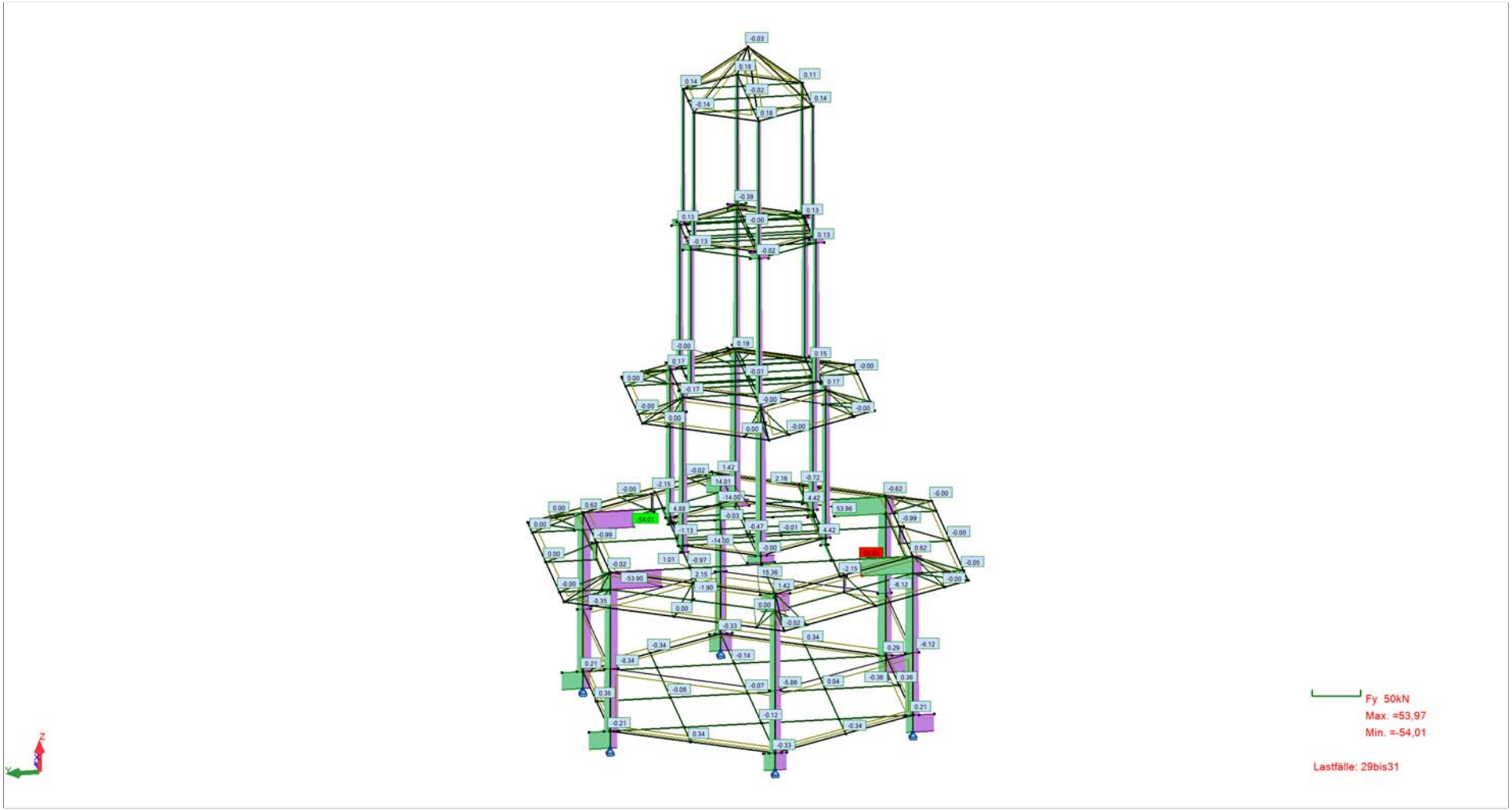
Kombinationen/Komp.	Definition
GZG:FRE/ 73	2*1.00 + 8*0.30 + 9*1.00 + 11*0.20
GZG:FRE/ 74	2*1.00 + 8*0.30 + 9*1.00 + 12*0.20
GZG:FRE/ 75	2*1.00 + 8*0.30 + 9*1.00 + 28*0.20
GZG:FRE/ 76	2*1.00 + 9*1.00 + 10*0.20
GZG:FRE/ 77	2*1.00 + 9*1.00 + 11*0.20
GZG:FRE/ 78	2*1.00 + 9*1.00 + 12*0.20
GZG:FRE/ 79	2*1.00 + 9*1.00 + 28*0.20
GZG:FRE/ 80	2*1.00 + 4*0.20 + 8*0.30 + 9*1.00
GZG:FRE/ 81	2*1.00 + 5*0.20 + 8*0.30 + 9*1.00
GZG:FRE/ 82	2*1.00 + 6*0.20 + 8*0.30 + 9*1.00
GZG:FRE/ 83	2*1.00 + 7*0.20 + 8*0.30 + 9*1.00
GZG:FRE/ 84	2*1.00 + 4*0.20 + 9*1.00
GZG:FRE/ 85	2*1.00 + 5*0.20 + 9*1.00
GZG:FRE/ 86	2*1.00 + 6*0.20 + 9*1.00
GZG:FRE/ 87	2*1.00 + 7*0.20 + 9*1.00
GZG:FRE/ 88	2*1.00 + 3*0.20 + 8*0.30 + 9*1.00
GZG:FRE/ 89	2*1.00 + 3*0.20 + 9*1.00
GZG:QPR/ 90	2*1.00 + 8*0.30 + 9*1.00
GZG:QPR/ 91	2*1.00 + 9*1.00
GZG:CHR/ 1	2*1.00 + 3*0.50 + 8*1.00 + 9*1.00
GZG:CHR/ 2	2*1.00 + 8*1.00 + 9*1.00
GZG:CHR/ 3	2*1.00 + 3*0.50 + 8*1.00 + 9*1.00 + 10*0.60
GZG:CHR/ 4	2*1.00 + 8*1.00 + 9*1.00 + 10*0.60
GZG:CHR/ 5	2*1.00 + 3*0.50 + 8*1.00 + 9*1.00 + 11*0.60
GZG:CHR/ 6	2*1.00 + 8*1.00 + 9*1.00 + 11*0.60
GZG:CHR/ 7	2*1.00 + 3*0.50 + 8*1.00 + 9*1.00 + 12*0.60
GZG:CHR/ 8	2*1.00 + 8*1.00 + 9*1.00 + 12*0.60
GZG:CHR/ 9	2*1.00 + 3*0.50 + 8*1.00 + 9*1.00 + 28*0.60
GZG:CHR/ 10	2*1.00 + 8*1.00 + 9*1.00 + 28*0.60
GZG:CHR/ 11	2*1.00 + 9*1.00
GZG:CHR/ 12	2*1.00 + 3*0.50 + 4*0.60 + 8*1.00 + 9*1.00
GZG:CHR/ 13	2*1.00 + 4*0.60 + 8*1.00 + 9*1.00
GZG:CHR/ 14	2*1.00 + 3*0.50 + 5*0.60 + 8*1.00 + 9*1.00
GZG:CHR/ 15	2*1.00 + 5*0.60 + 8*1.00 + 9*1.00
GZG:CHR/ 16	2*1.00 + 3*0.50 + 6*0.60 + 8*1.00 + 9*1.00
GZG:CHR/ 17	2*1.00 + 6*0.60 + 8*1.00 + 9*1.00
GZG:CHR/ 18	2*1.00 + 3*0.50 + 7*0.60 + 8*1.00 + 9*1.00
GZG:CHR/ 19	2*1.00 + 7*0.60 + 8*1.00 + 9*1.00
GZG:CHR/ 20	2*1.00 + 3*0.50 + 8*0.70 + 9*1.00 + 10*1.00
GZG:CHR/ 21	2*1.00 + 8*0.70 + 9*1.00 + 10*1.00
GZG:CHR/ 22	2*1.00 + 3*0.50 + 8*0.70 + 9*1.00 + 11*1.00
GZG:CHR/ 23	2*1.00 + 8*0.70 + 9*1.00 + 11*1.00
GZG:CHR/ 24	2*1.00 + 3*0.50 + 8*0.70 + 9*1.00 + 12*1.00
GZG:CHR/ 25	2*1.00 + 8*0.70 + 9*1.00 + 12*1.00
GZG:CHR/ 26	2*1.00 + 3*0.50 + 8*0.70 + 9*1.00 + 28*1.00
GZG:CHR/ 27	2*1.00 + 8*0.70 + 9*1.00 + 28*1.00
GZG:CHR/ 28	2*1.00 + 3*0.50 + 9*1.00 + 10*1.00
GZG:CHR/ 29	2*1.00 + 9*1.00 + 10*1.00
GZG:CHR/ 30	2*1.00 + 3*0.50 + 9*1.00 + 11*1.00
GZG:CHR/ 31	2*1.00 + 9*1.00 + 11*1.00
GZG:CHR/ 32	2*1.00 + 3*0.50 + 9*1.00 + 12*1.00
GZG:CHR/ 33	2*1.00 + 9*1.00 + 12*1.00
GZG:CHR/ 34	2*1.00 + 3*0.50 + 9*1.00 + 28*1.00
GZG:CHR/ 35	2*1.00 + 9*1.00 + 28*1.00
GZG:CHR/ 36	2*1.00 + 3*0.50 + 4*1.00 + 8*0.70 + 9*1.00
GZG:CHR/ 37	2*1.00 + 4*1.00 + 8*0.70 + 9*1.00

Kombinationen/Komp.	Definition
GZG:CHR/ 38	2*1.00 + 3*0.50 + 5*1.00 + 8*0.70 + 9*1.00
GZG:CHR/ 39	2*1.00 + 5*1.00 + 8*0.70 + 9*1.00
GZG:CHR/ 40	2*1.00 + 3*0.50 + 6*1.00 + 8*0.70 + 9*1.00
GZG:CHR/ 41	2*1.00 + 6*1.00 + 8*0.70 + 9*1.00
GZG:CHR/ 42	2*1.00 + 3*0.50 + 7*1.00 + 8*0.70 + 9*1.00
GZG:CHR/ 43	2*1.00 + 7*1.00 + 8*0.70 + 9*1.00
GZG:CHR/ 44	2*1.00 + 3*0.50 + 4*1.00 + 9*1.00
GZG:CHR/ 45	2*1.00 + 4*1.00 + 9*1.00
GZG:CHR/ 46	2*1.00 + 3*0.50 + 5*1.00 + 9*1.00
GZG:CHR/ 47	2*1.00 + 5*1.00 + 9*1.00
GZG:CHR/ 48	2*1.00 + 3*0.50 + 6*1.00 + 9*1.00
GZG:CHR/ 49	2*1.00 + 6*1.00 + 9*1.00
GZG:CHR/ 50	2*1.00 + 3*0.50 + 7*1.00 + 9*1.00
GZG:CHR/ 51	2*1.00 + 7*1.00 + 9*1.00
GZG:CHR/ 52	2*1.00 + 3*1.00 + 8*0.70 + 9*1.00
GZG:CHR/ 53	2*1.00 + 3*1.00 + 8*0.70 + 9*1.00 + 10*0.60
GZG:CHR/ 54	2*1.00 + 3*1.00 + 8*0.70 + 9*1.00 + 11*0.60
GZG:CHR/ 55	2*1.00 + 3*1.00 + 8*0.70 + 9*1.00 + 12*0.60
GZG:CHR/ 56	2*1.00 + 3*1.00 + 8*0.70 + 9*1.00 + 28*0.60
GZG:CHR/ 57	2*1.00 + 3*1.00 + 9*1.00
GZG:CHR/ 58	2*1.00 + 3*1.00 + 9*1.00 + 10*0.60
GZG:CHR/ 59	2*1.00 + 3*1.00 + 9*1.00 + 11*0.60
GZG:CHR/ 60	2*1.00 + 3*1.00 + 9*1.00 + 12*0.60
GZG:CHR/ 61	2*1.00 + 3*1.00 + 9*1.00 + 28*0.60
GZG:CHR/ 62	2*1.00 + 3*1.00 + 4*0.60 + 8*0.70 + 9*1.00
GZG:CHR/ 63	2*1.00 + 3*1.00 + 5*0.60 + 8*0.70 + 9*1.00
GZG:CHR/ 64	2*1.00 + 3*1.00 + 6*0.60 + 8*0.70 + 9*1.00
GZG:CHR/ 65	2*1.00 + 3*1.00 + 7*0.60 + 8*0.70 + 9*1.00
GZG:CHR/ 66	2*1.00 + 3*1.00 + 4*0.60 + 9*1.00
GZG:CHR/ 67	2*1.00 + 3*1.00 + 5*0.60 + 9*1.00
GZG:CHR/ 68	2*1.00 + 3*1.00 + 6*0.60 + 9*1.00
GZG:CHR/ 69	2*1.00 + 3*1.00 + 7*0.60 + 9*1.00
GZG:FRE/ 1	2*1.00 + 8*0.50 + 9*1.00
GZG:FRE/ 2	2*1.00 + 9*1.00
GZG:FRE/ 3	2*1.00 + 8*0.30 + 9*1.00 + 10*0.20
GZG:FRE/ 4	2*1.00 + 8*0.30 + 9*1.00 + 11*0.20
GZG:FRE/ 5	2*1.00 + 8*0.30 + 9*1.00 + 12*0.20
GZG:FRE/ 6	2*1.00 + 8*0.30 + 9*1.00 + 28*0.20
GZG:FRE/ 7	2*1.00 + 9*1.00 + 10*0.20
GZG:FRE/ 8	2*1.00 + 9*1.00 + 11*0.20
GZG:FRE/ 9	2*1.00 + 9*1.00 + 12*0.20
GZG:FRE/ 10	2*1.00 + 9*1.00 + 28*0.20
GZG:FRE/ 11	2*1.00 + 4*0.20 + 8*0.30 + 9*1.00
GZG:FRE/ 12	2*1.00 + 5*0.20 + 8*0.30 + 9*1.00
GZG:FRE/ 13	2*1.00 + 6*0.20 + 8*0.30 + 9*1.00
GZG:FRE/ 14	2*1.00 + 7*0.20 + 8*0.30 + 9*1.00
GZG:FRE/ 15	2*1.00 + 4*0.20 + 9*1.00
GZG:FRE/ 16	2*1.00 + 5*0.20 + 9*1.00
GZG:FRE/ 17	2*1.00 + 6*0.20 + 9*1.00
GZG:FRE/ 18	2*1.00 + 7*0.20 + 9*1.00
GZG:FRE/ 19	2*1.00 + 3*0.20 + 8*0.30 + 9*1.00
GZG:FRE/ 20	2*1.00 + 3*0.20 + 9*1.00
GZG:QPR/ 1	2*1.00 + 8*0.30 + 9*1.00
GZG:QPR/ 2	2*1.00 + 9*1.00

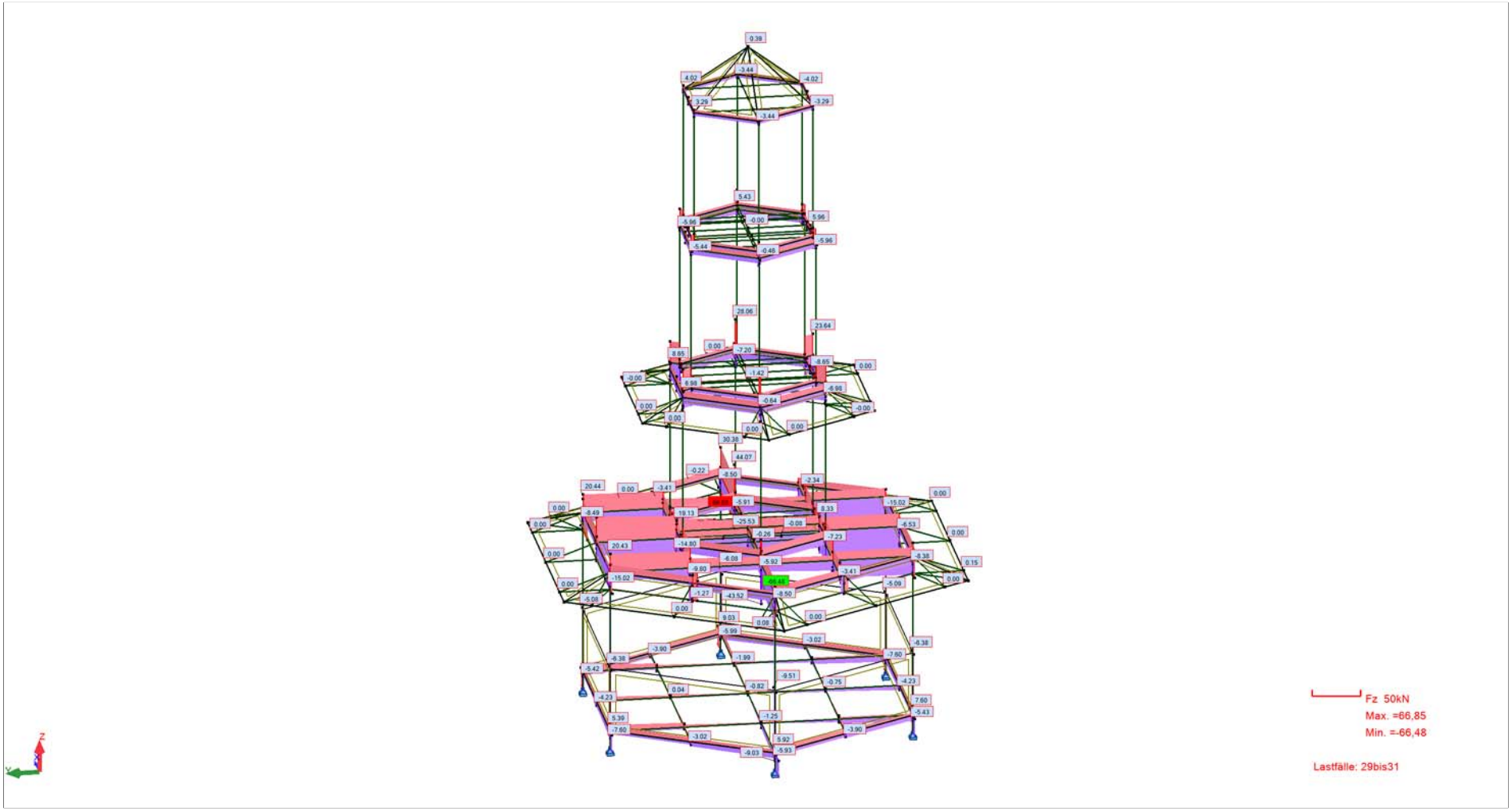
Ansicht - FX; 1



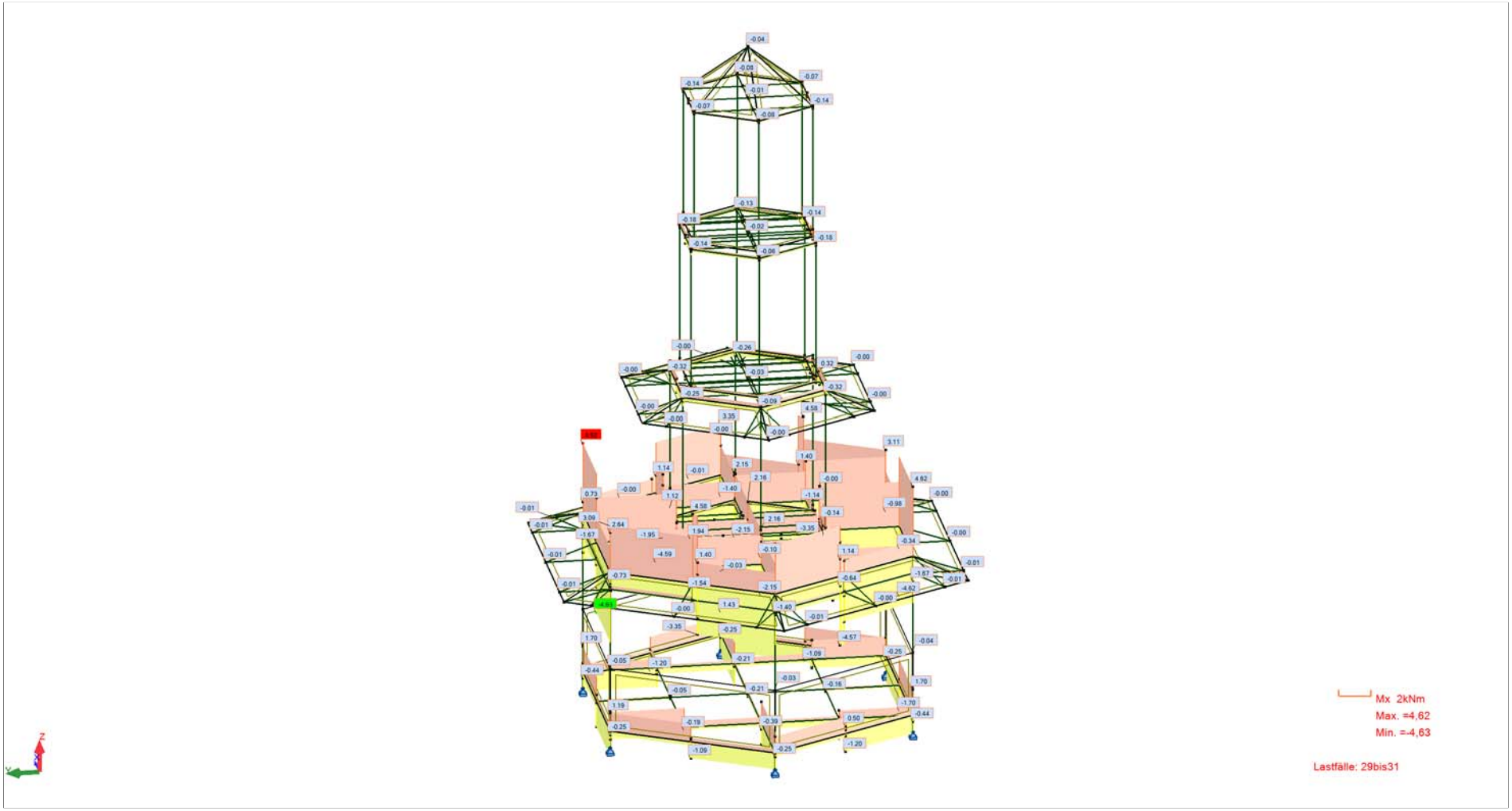
Ansicht - FY; 1



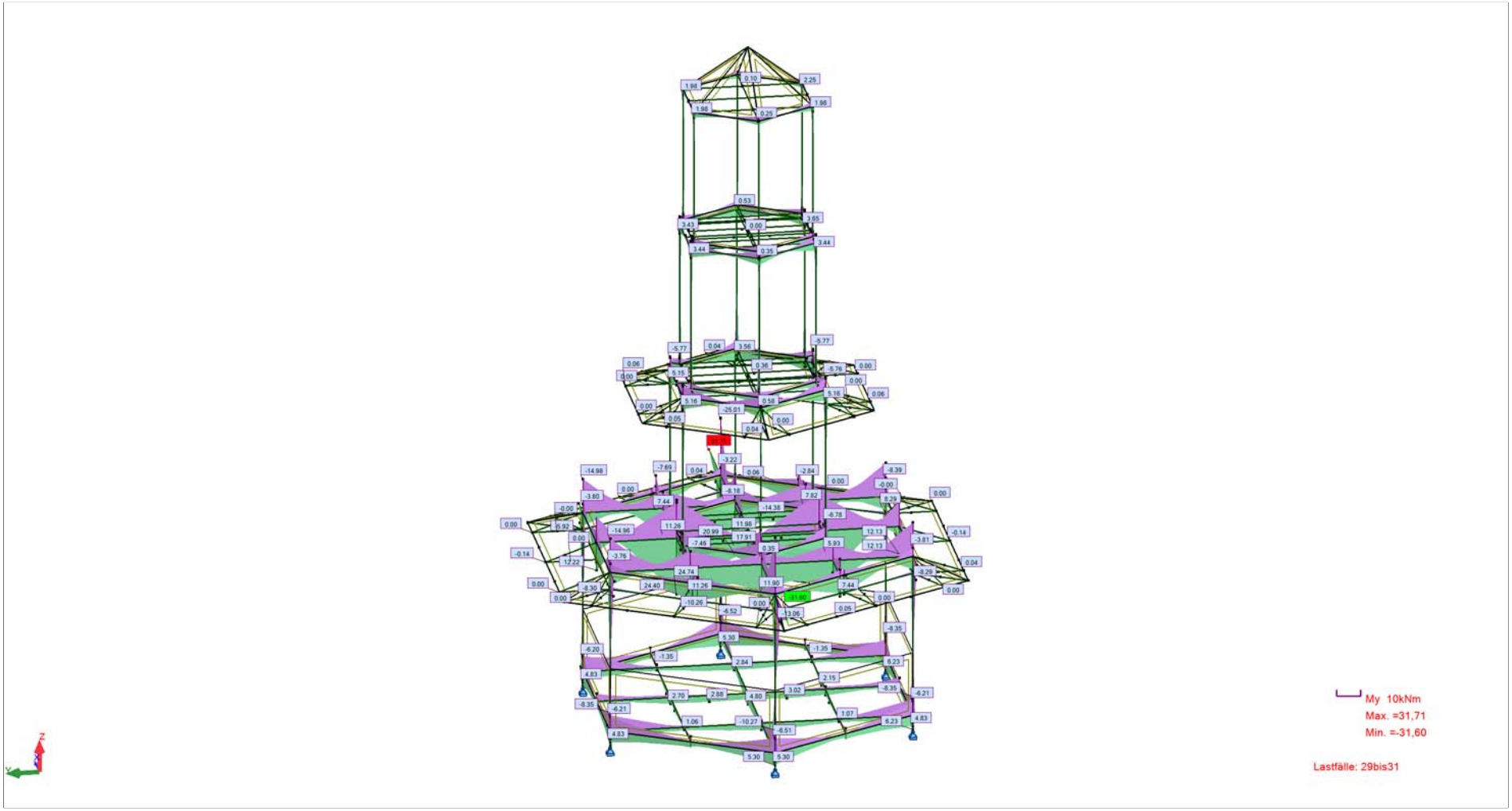
Ansicht - FZ; 1



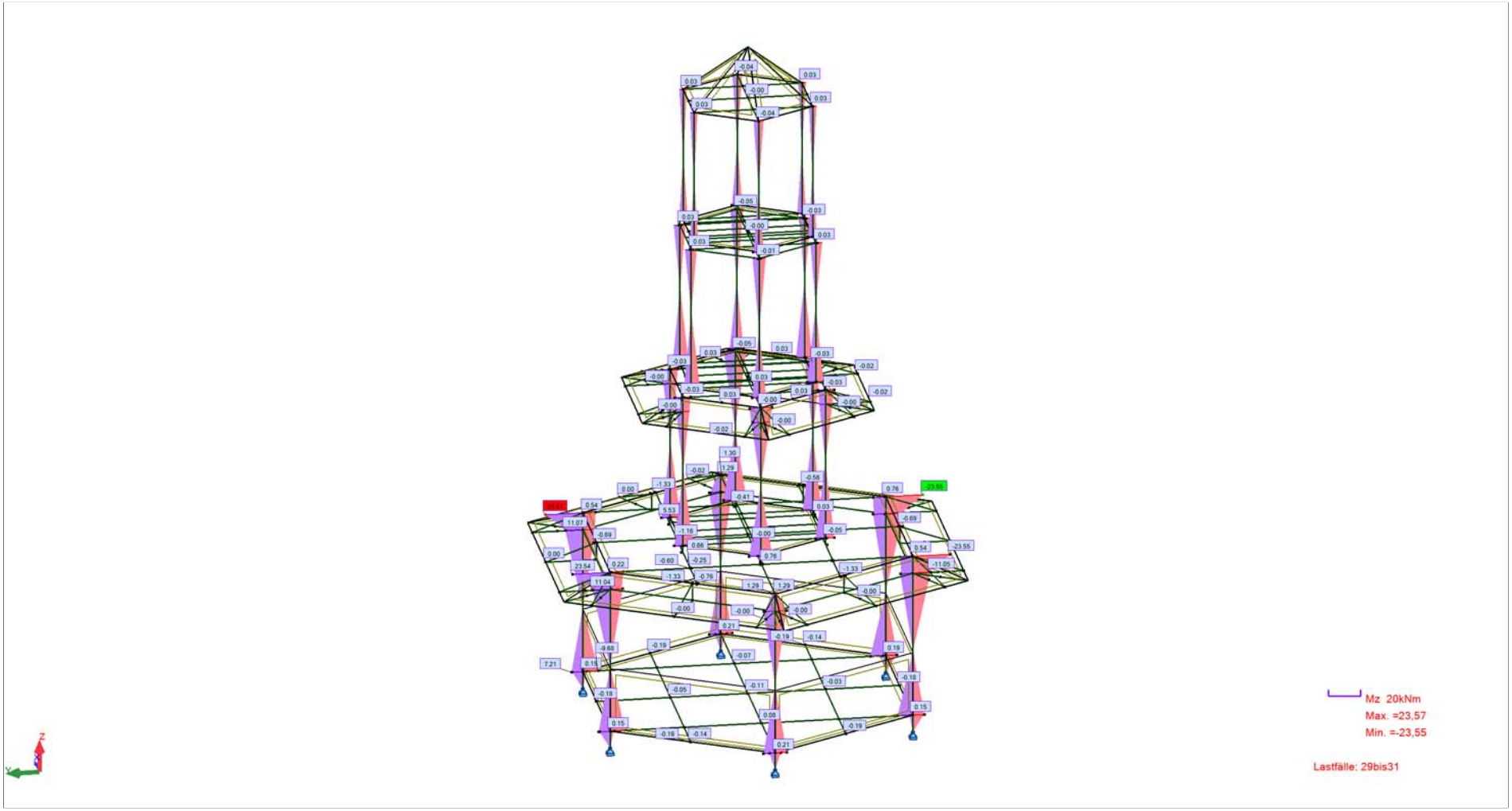
Ansicht - MX; 1



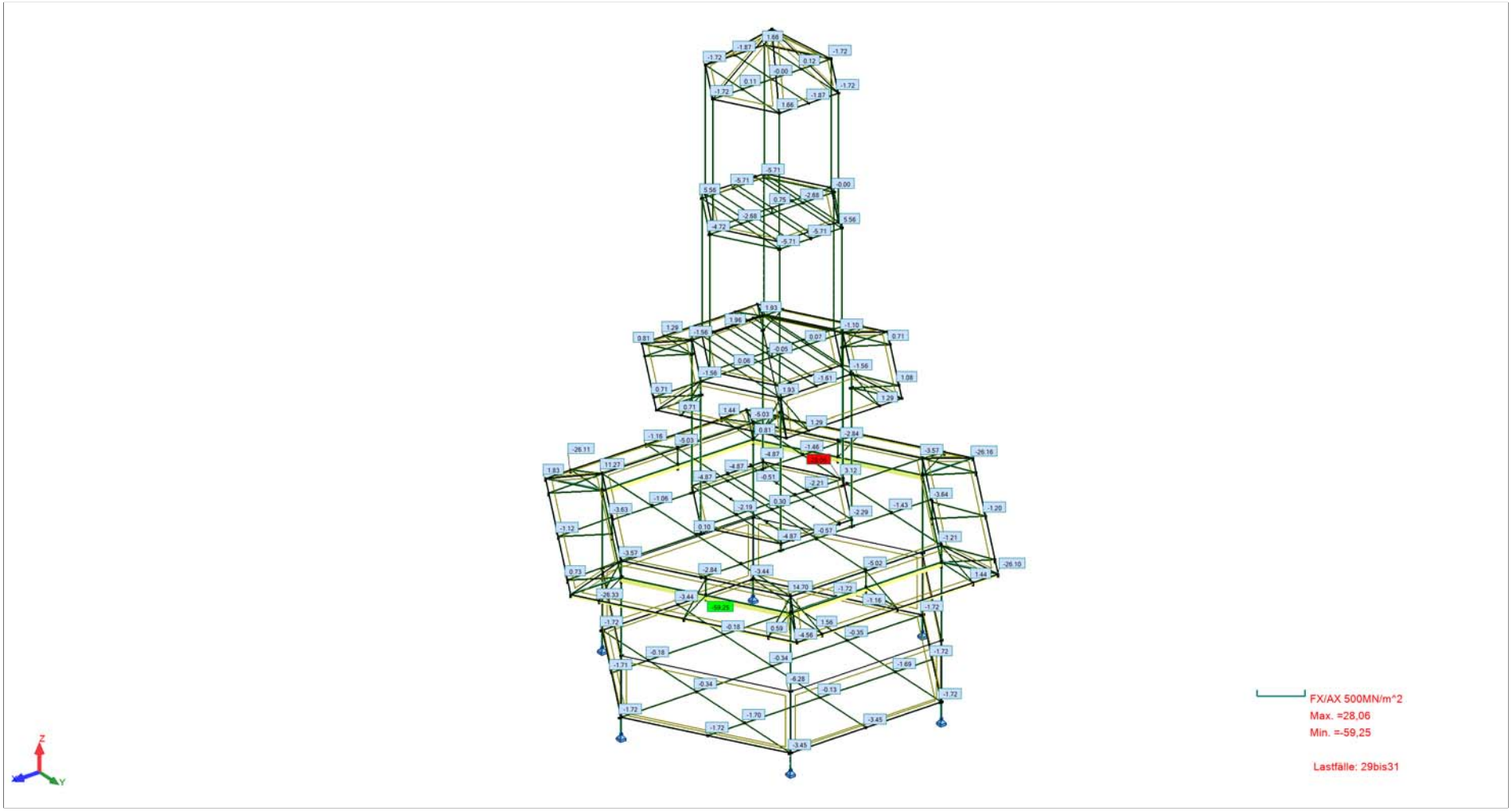
Ansicht - MY; 1



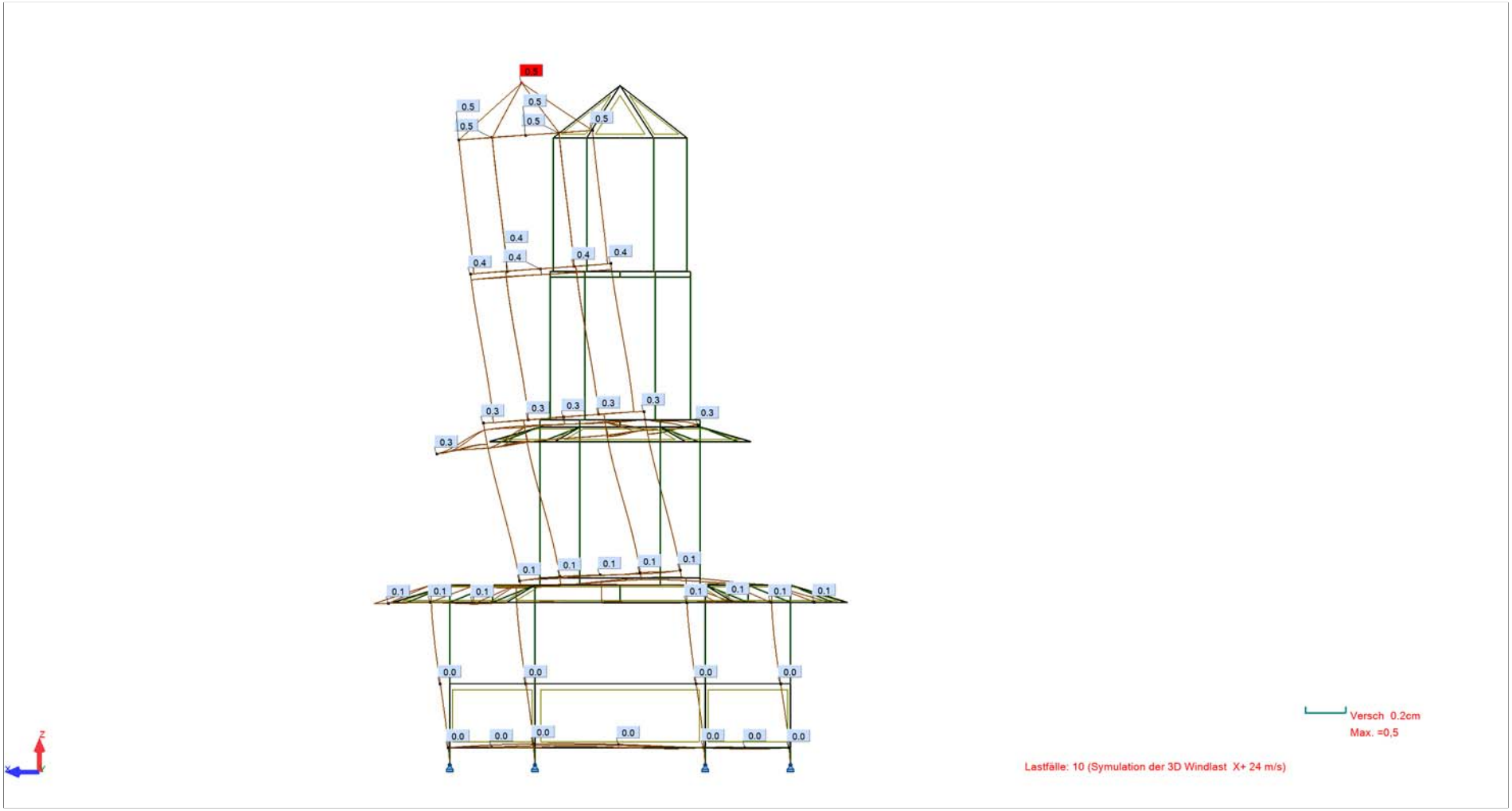
Ansicht - MZ; 1



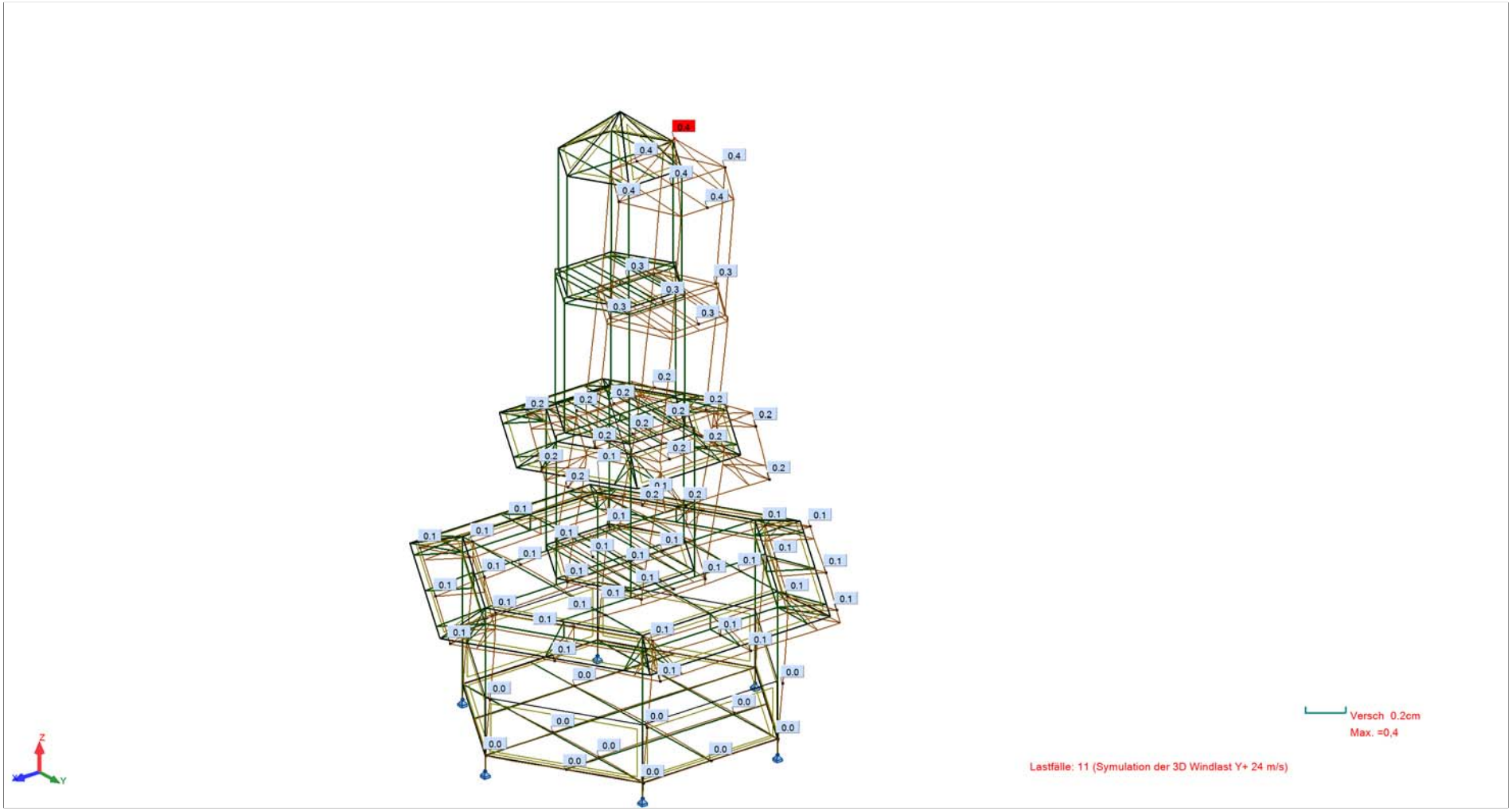
Ansicht - Fx/Ax;



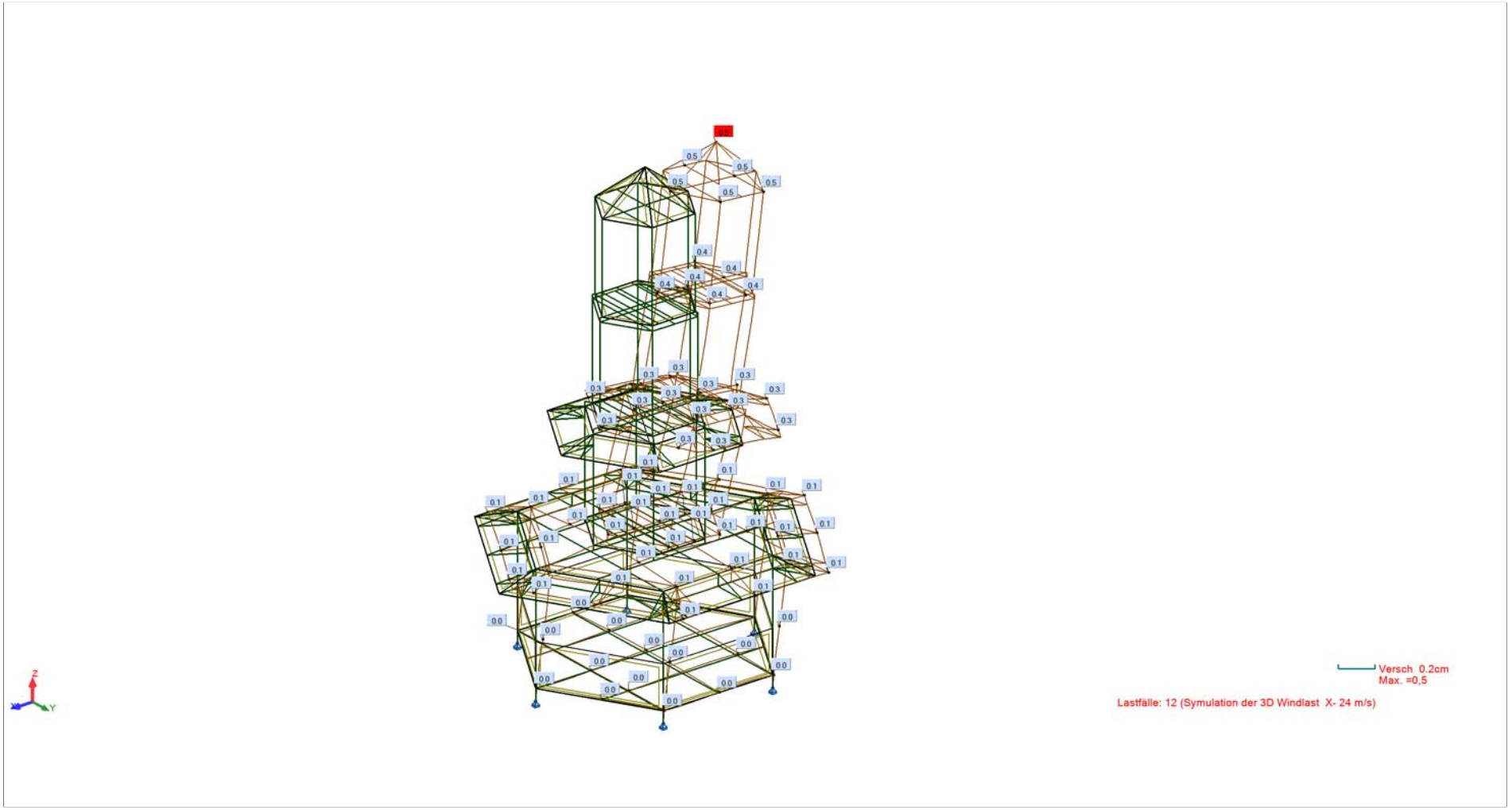
Ansicht - Verformung; 4



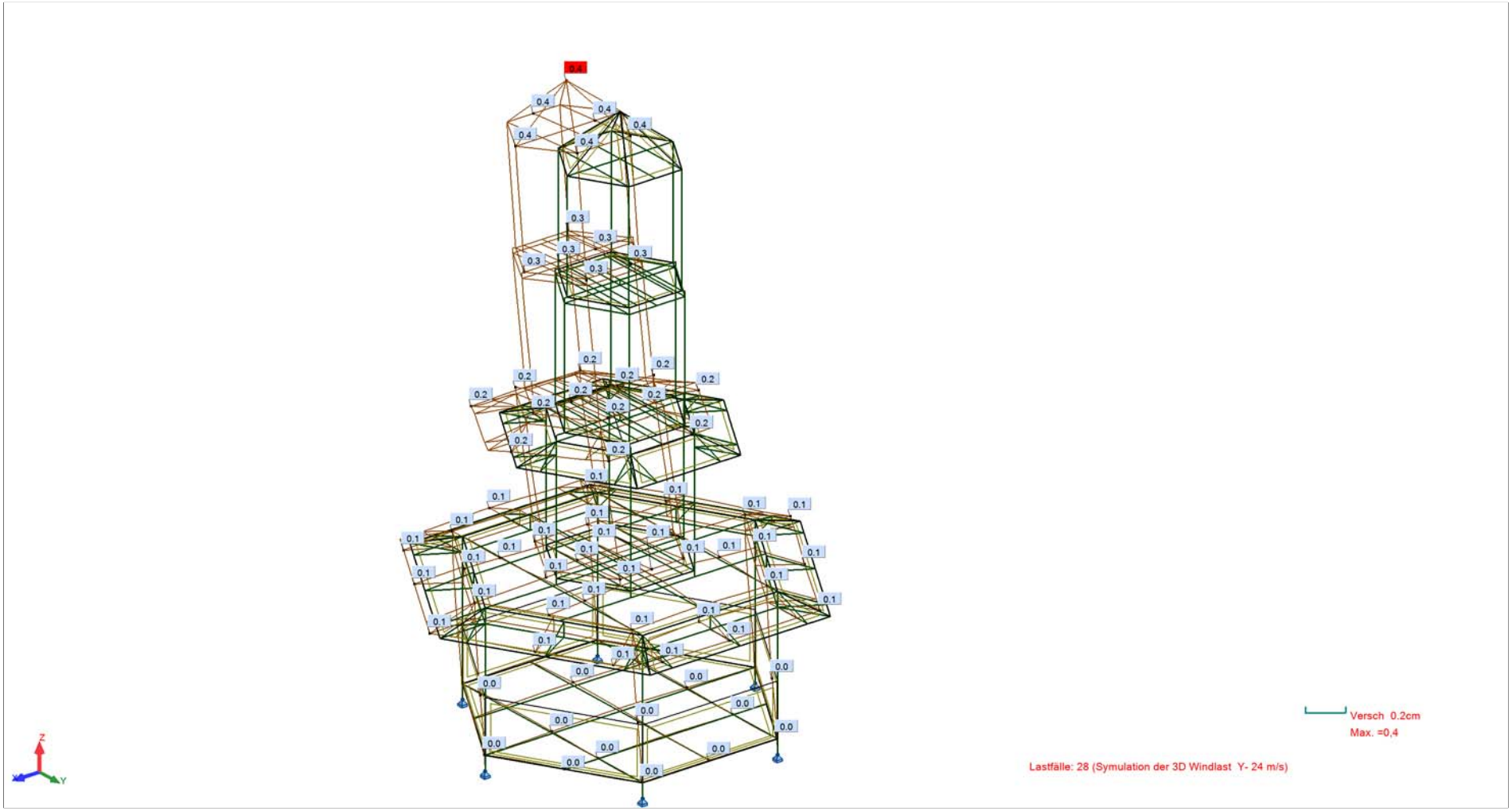
Ansicht - Verformung; 5



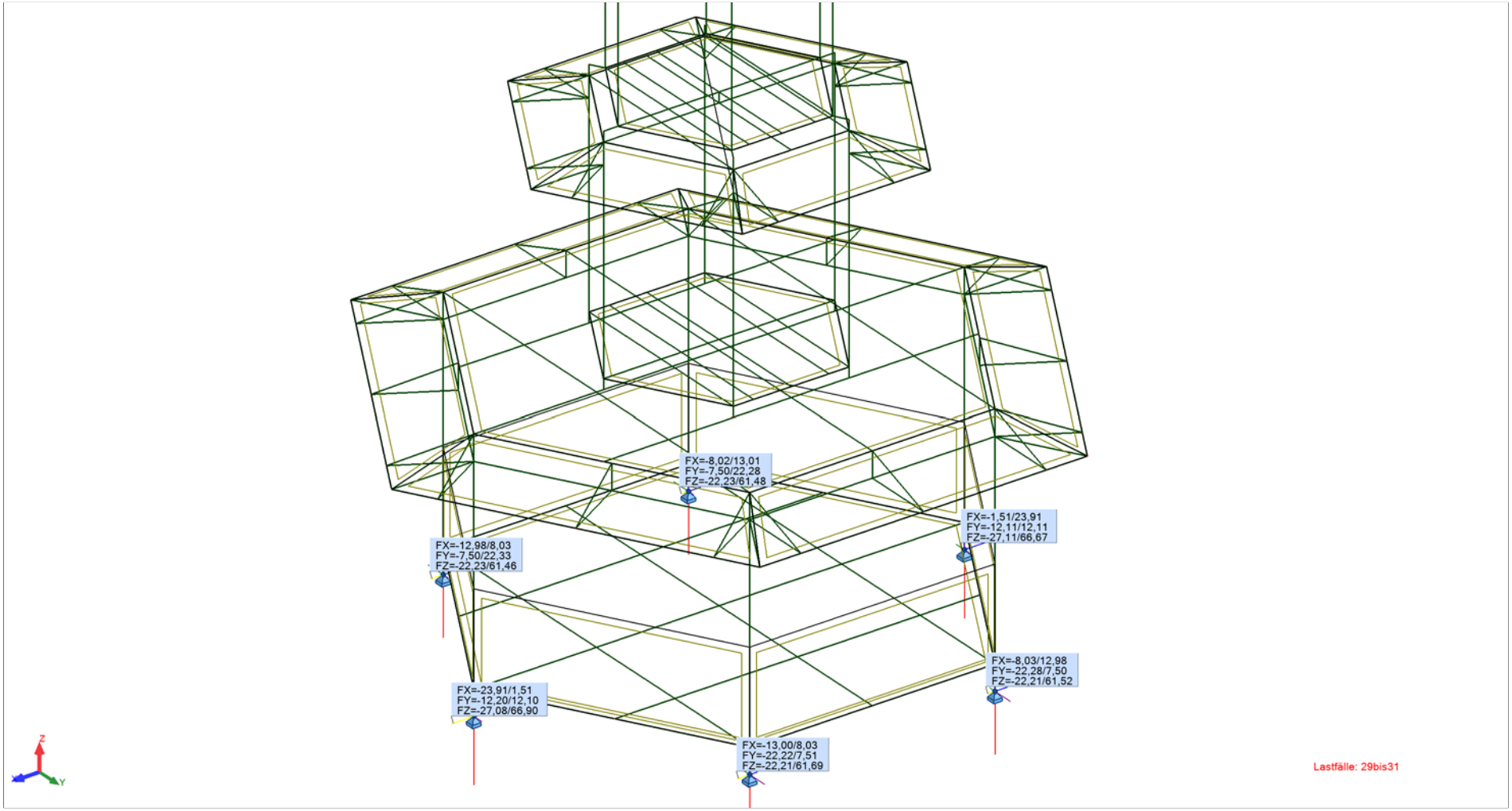
Ansicht - Verformung; 6



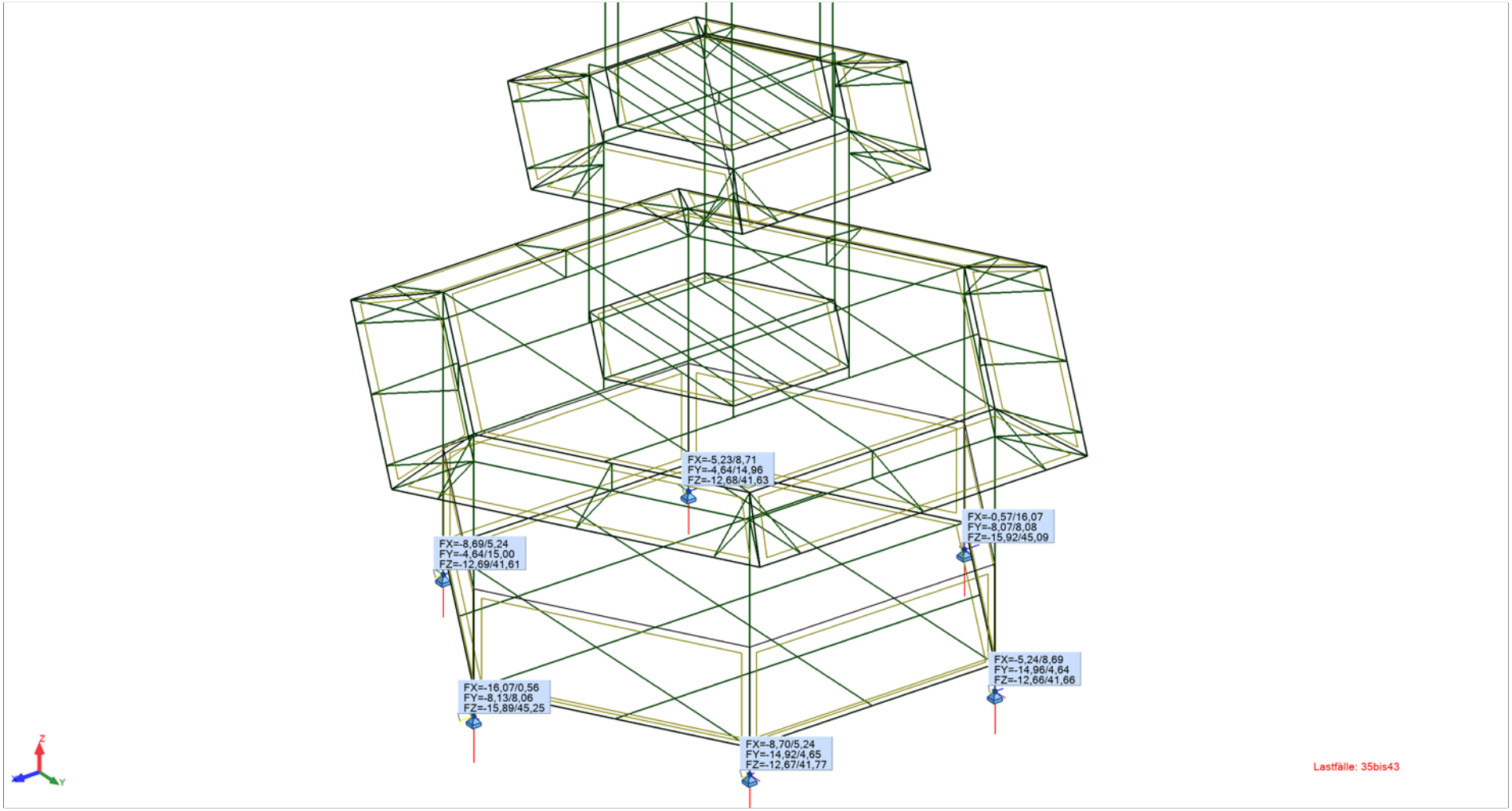
Ansicht - Verformung; 7



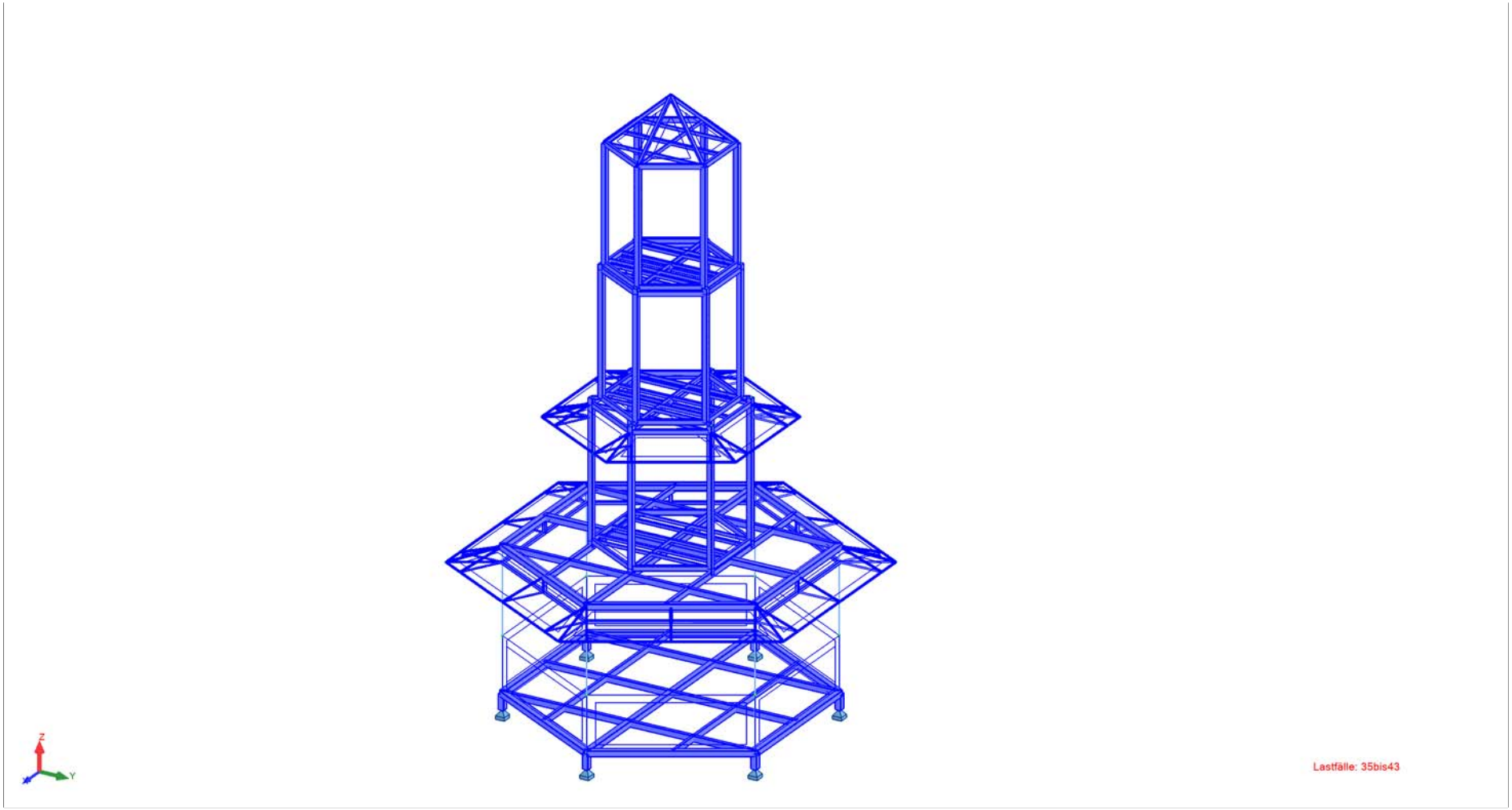
Ansicht - Auflagerkräfte(kN,kN/m);Auflagerkraftmomente(kN*m,kN*m/m);



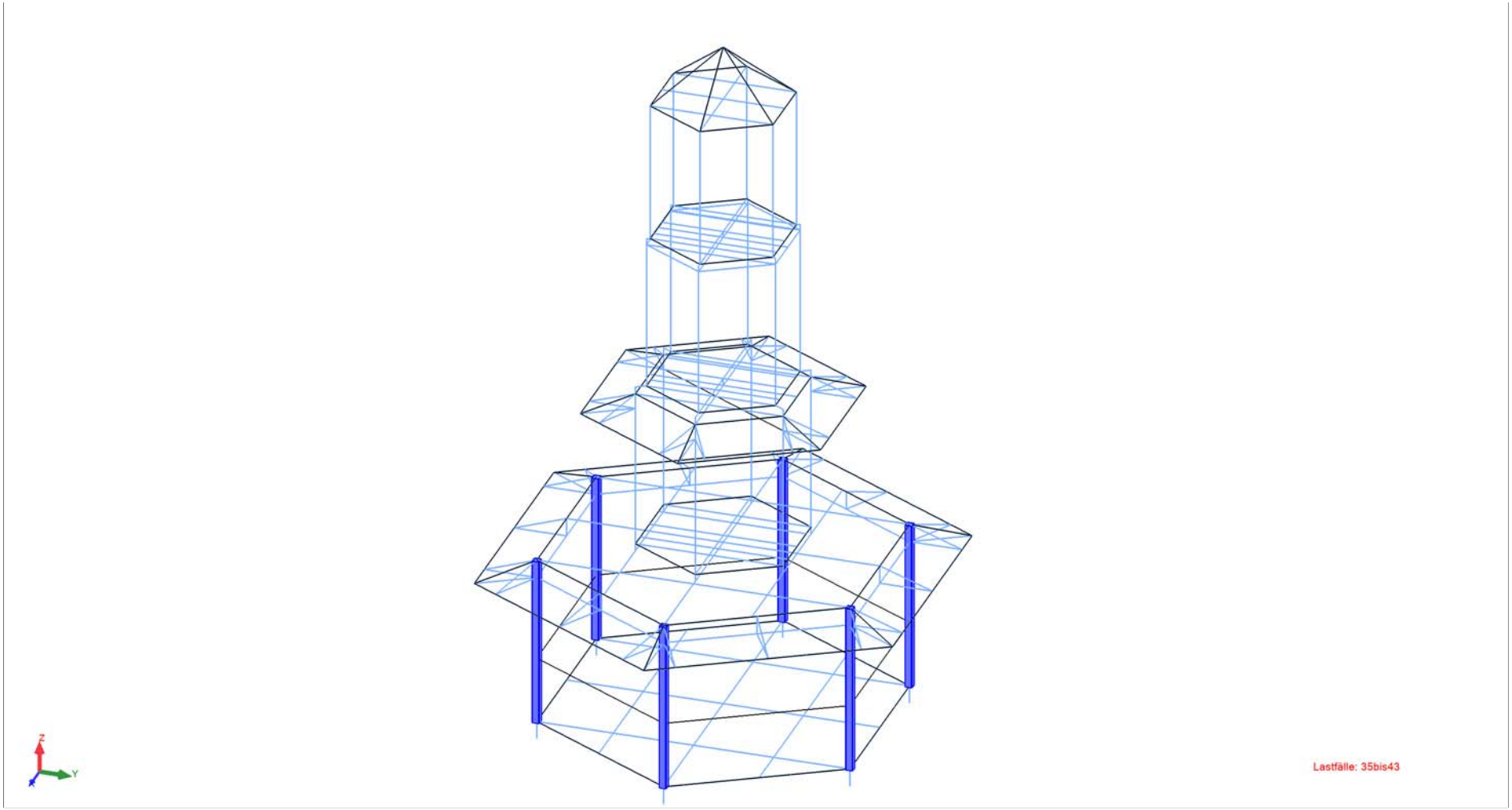
Ansicht - Auflagerkräfte(kN,kN/m);Auflagerkraftmomente(kN*m,kN*m/m); 1



Ansicht - o STAHL St37-2/215 Baust.St37-2 fy=215 fur Stahlbauteile



Ansicht - o STAHL St52-3/325 Baust.St52-3 fy=325 fur Stahlbauteile Stahlstange 1



STAHLBEMESSUNG

STAHLBEMESSUNG

NORM: *EN 1993-1:2005/A1:2014, Eurocode 3: Design of steel structures.*
BERECHNUNGSMETHODE: Normgruppennachweis

NORMGRUPPE: 1 Stahlstange 1
STAB: 30 **PUNKT:** 3 **KOORDINATE:** x = 0.89 L = 2.50 m

LASTEN:
Maßgebender Lastfall: 29 GZT /71/ 2*1.35 + 3*0.75 + 4*1.50 + 8*1.05 + 9*1.35

MATERIAL:
STAHL St52-3/325 (S355) fy = 325.00 MPa



QUERSCHNITTSPARAMETER: SŁUP 120x120x6.3

h=12.0 cm	gM0=1.00	gM1=1.00	
b=12.0 cm	Ay=14.10 cm2	Az=14.10 cm2	Ax=28.20 cm2
tw=0.6 cm	Iy=603.00 cm4	Iz=603.00 cm4	Ix=926.02 cm4
tf=0.6 cm	Wply=116.28 cm3	Wplz=116.28 cm3	

INTERNE KRÄFTE UND TRAGLAST:

N,Ed = 50.90 kN	My,Ed = 13.07 kN*m	Mz,Ed = 0.00 kN*m	Vy,Ed = -0.00 kN
Nc,Rd = 916.50 kN	My,Ed,max = 31.71 kN*m	Mz,Ed,max = -0.03 kN*m	Vy,T,Rd = 264.57 kN
Nb,Rd = 750.32 kN	My,c,Rd = 37.79 kN*m	Mz,c,Rd = 37.79 kN*m	Vz,Ed = 9.01 kN
	MN,y,Rd = 37.79 kN*m	MN,z,Rd = 37.79 kN*m	Vz,T,Rd = 264.57 kN
			Tt,Ed = -0.00 kN*m
			Querschnittsklasse = 1

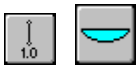


KIPPPARAMETER:

KNICKPARAMETER:


Um Y-Achse:

Ly = 2.80 m	Lam_y = 0.76	Lz = 2.80 m	Lam_z = 0.76
Lcr,y = 2.80 m	Xy = 0.82	Lcr,z = 2.80 m	Xz = 0.82
Lamy = 60.55	kyy = 0.93	Lamz = 60.55	kyz = 0.56


Um Z-Achse:

VERIFIKATIONSFORMELN:
Prüfung der Querschnittsfestigkeit:
N,Ed/Nc,Rd = 0.06 < 1.00 (6.2.4.(1))
(My,Ed/MN,y,Rd)^ 1.67 + (Mz,Ed/MN,z,Rd)^1.67 = 0.17 < 1.00 (6.2.9.1.(6))
Vy,Ed/Vy,T,Rd = 0.00 < 1.00 (6.2.6-7)
Vz,Ed/Vz,T,Rd = 0.03 < 1.00 (6.2.6-7)
Tau,ty,Ed/(fy/(sqrt(3)*gM0)) = 0.00 < 1.00 (6.2.6)
Tau,tz,Ed/(fy/(sqrt(3)*gM0)) = 0.00 < 1.00 (6.2.6)
Prüfung der globalen Stabilität des Stabs:
Lambda,y = 60.55 < Lambda,max = 200.00 Lambda,z = 60.55 < Lambda,max = 200.00 STABIL
N,Ed/(Xy*N,Rk/gM1) + kyy*My,Ed,max/(XLT*My,Rk/gM1) + kyz*Mz,Ed,max/(Mz,Rk/gM1) = 0.85 < 1.00 (6.3.3.(4))
N,Ed/(Xz*N,Rk/gM1) + kzy*My,Ed,max/(XLT*My,Rk/gM1) + kzz*Mz,Ed,max/(Mz,Rk/gM1) = 0.54 < 1.00

(6.3.3.(4))

Querschnitt ok !!!

STAHLBEMESSUNG

NORM: *EN 1993-1:2005/A1:2014, Eurocode 3: Design of steel structures.*
BERECHNUNGSMETHODE: Normgruppennachweis

NORMGRUPPE: 2 Stahlstange 2
STAB: 57 **PUNKT:** **KOORDINATE:** x = 1.00 L = 2.60 m

LASTEN:
Maßgebender Lastfall: 29 GZT /76/ 2*1.35 + 6*1.50 + 8*1.05 + 9*1.35

MATERIAL:
STAHL St37-2/215 (S235) fy = 215.00 MPa



QUERSCHNITTSPARAMETER: RK 100x100x5

h=10.0 cm	gM0=1.00	gM1=1.00	
b=10.0 cm	Ay=9.35 cm2	Az=9.35 cm2	Ax=18.70 cm2
tw=0.5 cm	Iy=279.00 cm4	Iz=279.00 cm4	Ix=428.69 cm4
tf=0.5 cm	Wply=64.59 cm3	Wplz=64.59 cm3	

INTERNE KRÄFTE UND TRAGLAST:

N,Ed = 32.30 kN	My,Ed = -0.76 kN*m	Mz,Ed = -6.43 kN*m	Vy,Ed = 4.88 kN
Nc,Rd = 402.05 kN	My,Ed,max = 1.25 kN*m	Mz,Ed,max = -6.43 kN*m	Vy,T,Rd = 116.05 kN
Nb,Rd = 343.52 kN	My,c,Rd = 13.89 kN*m	Mz,c,Rd = 13.89 kN*m	Vz,Ed = -0.81 kN
	MN,y,Rd = 13.89 kN*m	MN,z,Rd = 13.89 kN*m	Vz,T,Rd = 116.05 kN
			Tt,Ed = -0.00 kN*m
			Querschnittsklasse = 1

KIPPPARAMETER:

KNICKPARAMETER:

Um Y-Achse: Um Z-Achse:

Ly = 2.60 m	Lam_y = 0.69	Lz = 2.60 m	Lam_z = 0.69
Lcr,y = 2.60 m	Xy = 0.85	Lcr,z = 2.60 m	Xz = 0.85
Lamy = 67.31	kzy = 0.56	Lamz = 67.31	kzz = 0.94

VERIFIKATIONSFORMELN:
Prüfung der Querschnittsfestigkeit:
N,Ed/Nc,Rd = 0.08 < 1.00 (6.2.4.(1))
(My,Ed/MN,y,Rd)^ 1.67 + (Mz,Ed/MN,z,Rd)^1.67 = 0.28 < 1.00 (6.2.9.1.(6))
Vy,Ed/Vy,T,Rd = 0.04 < 1.00 (6.2.6-7)
Vz,Ed/Vz,T,Rd = 0.01 < 1.00 (6.2.6-7)
Tau,ty,Ed/(fy/(sqrt(3)*gM0)) = 0.00 < 1.00 (6.2.6)
Tau,tz,Ed/(fy/(sqrt(3)*gM0)) = 0.00 < 1.00 (6.2.6)
Prüfung der globalen Stabilität des Stabs:
Lambda,y = 67.31 < Lambda,max = 200.00 Lambda,z = 67.31 < Lambda,max = 200.00 STABIL
N,Ed/(Xy*N,Rk/gM1) + kyy*My,Ed,max/(XLT*My,Rk/gM1) + kyz*Mz,Ed,max/(Mz,Rk/gM1) = 0.44 < 1.00
(6.3.3.(4))

N,Ed/(Xz*N,Rk/gM1) + kzy*My,Ed,max/(XLT*My,Rk/gM1) + kzz*Mz,Ed,max/(Mz,Rk/gM1) = 0.58 < 1.00 (6.3.3.(4))

Querschnitt ok !!!

STAHLBEMESSUNG

NORM: *EN 1993-1:2005/A1:2014, Eurocode 3: Design of steel structures.*
BERECHNUNGSMETHODE: Normgruppennachweis

NORMGRUPPE: 3 Stahlstange 3
STAB: 106 **PUNKT:** **KOORDINATE:** x = 1.00 L = 2.45 m

LASTEN:
Maßgebender Lastfall: 29 GZT /73/ 2*1.35 + 3*0.75 + 5*1.50 + 8*1.05 + 9*1.35

MATERIAL:
STAHL St37-2/215 (S235) fy = 215.00 MPa



QUERSCHNITTSPARAMETER: RK 100x100x5

h=10.0 cm	gM0=1.00	gM1=1.00	
b=10.0 cm	Ay=9.35 cm2	Az=9.35 cm2	Ax=18.70 cm2
tw=0.5 cm	Iy=279.00 cm4	Iz=279.00 cm4	Ix=428.69 cm4
tf=0.5 cm	Wply=64.59 cm3	Wplz=64.59 cm3	

INTERNE KRÄFTE UND TRAGLAST:

N,Ed = 22.58 kN	My,Ed = -5.75 kN*m	Mz,Ed = -0.00 kN*m	Vy,Ed = -0.00 kN
Nc,Rd = 402.05 kN	My,Ed,max = -5.75 kN*m	Mz,Ed,max = -0.00 kN*m	Vy,T,Rd = 116.06 kN
Nb,Rd = 350.46 kN	My,c,Rd = 13.89 kN*m	Mz,c,Rd = 13.89 kN*m	Vz,Ed = -4.18 kN
	MN,y,Rd = 13.89 kN*m	MN,z,Rd = 13.89 kN*m	Vz,T,Rd = 116.06 kN
			Tt,Ed = -0.00 kN*m
			Querschnittsklasse = 1



KIPPPARAMETER:

KNICKPARAMETER:



Um Y-Achse:



Um Z-Achse:

Ly = 2.45 m	Lam_y = 0.65	Lz = 2.45 m	Lam_z = 0.65
Lcr,y = 2.45 m	Xy = 0.87	Lcr,z = 2.45 m	Xz = 0.87
Lamy = 63.43	kyy = 0.93	Lamz = 63.43	kyz = 0.56

VERIFIKATIONSFORMELN:
Prüfung der Querschnittsfestigkeit:
N,Ed/Nc,Rd = 0.06 < 1.00 (6.2.4.(1))
(My,Ed/MN,y,Rd)^ 1.67 + (Mz,Ed/MN,z,Rd)^1.67 = 0.23 < 1.00 (6.2.9.1.(6))
Vy,Ed/Vy,T,Rd = 0.00 < 1.00 (6.2.6-7)
Vz,Ed/Vz,T,Rd = 0.04 < 1.00 (6.2.6-7)
Tau,ty,Ed/(fy/(sqrt(3)*gM0)) = 0.00 < 1.00 (6.2.6)
Tau,tz,Ed/(fy/(sqrt(3)*gM0)) = 0.00 < 1.00 (6.2.6)
Prüfung der globalen Stabilität des Stabs:
Lambda,y = 63.43 < Lambda,max = 200.00 Lambda,z = 63.43 < Lambda,max = 200.00 STABIL
N,Ed/(Xy*N,Rk/gM1) + kyy*My,Ed,max/(XLT*My,Rk/gM1) + kyz*Mz,Ed,max/(Mz,Rk/gM1) = 0.45 < 1.00

(6.3.3.(4))
N,Ed/(Xz*N,Rk/gM1) + kzy*My,Ed,max/(XLT*My,Rk/gM1) + kzz*Mz,Ed,max/(Mz,Rk/gM1) = 0.29 < 1.00
(6.3.3.(4))

Querschnitt ok !!!

STAHLBEMESSUNG

NORM: *EN 1993-1:2005/A1:2014, Eurocode 3: Design of steel structures.*
BERECHNUNGSMETHODE: Normgruppennachweis

NORMGRUPPE: 4 Stahlstange 4
STAB: 146 **PUNKT:** **KOORDINATE:** x = 1.00 L = 2.30 m

LASTEN:
Maßgebender Lastfall: 29 GZT /71/ 2*1.35 + 3*0.75 + 4*1.50 + 8*1.05 + 9*1.35

MATERIAL:
STAHL St37-2/215 (S235) fy = 215.00 MPa



QUERSCHNITTSPARAMETER: RK 100x100x5

h=10.0 cm	gM0=1.00	gM1=1.00	
b=10.0 cm	Ay=9.35 cm2	Az=9.35 cm2	Ax=18.70 cm2
tw=0.5 cm	Iy=279.00 cm4	Iz=279.00 cm4	Ix=428.69 cm4
tf=0.5 cm	Wply=64.59 cm3	Wplz=64.59 cm3	

INTERNE KRÄFTE UND TRAGLAST:

N,Ed = 3.57 kN	My,Ed = 3.32 kN*m	Mz,Ed = 0.25 kN*m	Vy,Ed = -0.33 kN
Nc,Rd = 402.05 kN	My,Ed,max = 3.32 kN*m	Mz,Ed,max = -0.51 kN*m	Vy,T,Rd = 115.63 kN
Nb,Rd = 356.83 kN	My,c,Rd = 13.89 kN*m	Mz,c,Rd = 13.89 kN*m	Vz,Ed = 3.07 kN
	MN,y,Rd = 13.89 kN*m	MN,z,Rd = 13.89 kN*m	Vz,T,Rd = 115.63 kN
			Tt,Ed = 0.04 kN*m
			Querschnittsklasse = 1



KIPPPARAMETER:

KNICKPARAMETER:



Um Y-Achse:



Um Z-Achse:

Ly = 2.30 m	Lam_y = 0.61	Lz = 2.30 m	Lam_z = 0.61
Lcr,y = 2.30 m	Xy = 0.89	Lcr,z = 2.30 m	Xz = 0.89
Lamy = 59.55	kyy = 0.90	Lamz = 59.55	kyz = 0.54

VERIFIKATIONSFORMELN:
Prüfung der Querschnittsfestigkeit:
N,Ed/Nc,Rd = 0.01 < 1.00 (6.2.4.(1))
(My,Ed/MN,y,Rd)^ 1.66 + (Mz,Ed/MN,z,Rd)^1.66 = 0.09 < 1.00 (6.2.9.1.(6))
Vy,Ed/Vy,T,Rd = 0.00 < 1.00 (6.2.6-7)
Vz,Ed/Vz,T,Rd = 0.03 < 1.00 (6.2.6-7)
Tau,ty,Ed/(fy/(sqrt(3)*gM0)) = 0.00 < 1.00 (6.2.6)
Tau,tz,Ed/(fy/(sqrt(3)*gM0)) = 0.00 < 1.00 (6.2.6)
Prüfung der globalen Stabilität des Stabs:
Lambda,y = 59.55 < Lambda,max = 200.00 Lambda,z = 59.55 < Lambda,max = 200.00 STABIL

N,Ed/(Xy*N,Rk/gM1) + kyy*My,Ed,max/(XLT*My,Rk/gM1) + kyz*Mz,Ed,max/(Mz,Rk/gM1) = 0.25 < 1.00 (6.3.3.(4))
N,Ed/(Xz*N,Rk/gM1) + kzy*My,Ed,max/(XLT*My,Rk/gM1) + kzz*Mz,Ed,max/(Mz,Rk/gM1) = 0.17 < 1.00 (6.3.3.(4))

Querschnitt ok !!!

STAHLBEMESSUNG

NORM: *EN 1993-1:2005/A1:2014, Eurocode 3: Design of steel structures.*
BERECHNUNGSMETHODE: Normgruppennachweis

NORMGRUPPE: 5 Stahlplattform 1
STAB: 9 **PUNKT:** **KOORDINATE:** x = 1.00 L = 5.86 m

LASTEN:
Maßgebender Lastfall: 29 GZT /26/ 2*1.35 + 5*0.90 + 8*1.50 + 9*1.35

MATERIAL:
STAHL St37-2/215 (S235) fy = 215.00 MPa



QUERSCHNITTSPARAMETER: RK 120x120x6.3

h=12.0 cm	gM0=1.00	gM1=1.00	
b=12.0 cm	Ay=14.10 cm2	Az=14.10 cm2	Ax=28.20 cm2
tw=0.6 cm	Iy=603.00 cm4	Iz=603.00 cm4	Ix=926.02 cm4
tf=0.6 cm	Wply=116.28 cm3	Wplz=116.28 cm3	

INTERNE KRÄFTE UND TRAGLAST:

N,Ed = 9.76 kN	My,Ed = -10.25 kN*m	Mz,Ed = 0.00 kN*m	Vy,Ed = -0.00 kN
Nc,Rd = 606.30 kN	My,Ed,max = -10.25 kN*m		Mz,Ed,max = -0.00 kN*m
	Vy,T,Rd = 174.92 kN		
Nb,Rd = 288.24 kN	My,c,Rd = 25.00 kN*m	Mz,c,Rd = 25.00 kN*m	Vz,Ed = -9.02 kN
	MN,y,Rd = 25.00 kN*m	MN,z,Rd = 25.00 kN*m	Vz,T,Rd = 174.92 kN
			Tt,Ed = -0.01 kN*m
			Querschnittsklasse = 1

KIPPPARAMETER:

KNICKPARAMETER:

Um Y-Achse: Um Z-Achse:

Ly = 5.86 m	Lam_y = 1.29	Lz = 5.86 m	Lam_z = 1.29
Lcr,y = 5.86 m	Xy = 0.48	Lcr,z = 5.86 m	Xz = 0.48
Lamy = 126.76	kyy = 0.92	Lamz = 126.76	kyz = 0.55

VERIFIKATIONSFORMELN:
Prüfung der Querschnittsfestigkeit:
N,Ed/Nc,Rd = 0.02 < 1.00 (6.2.4.(1))
(My,Ed/MN,y,Rd)^ 1.66 + (Mz,Ed/MN,z,Rd)^1.66 = 0.23 < 1.00 (6.2.9.1.(6))
Vy,Ed/Vy,T,Rd = 0.00 < 1.00 (6.2.6-7)
Vz,Ed/Vz,T,Rd = 0.05 < 1.00 (6.2.6-7)
Tau,ty,Ed/(fy/(sqrt(3)*gM0)) = 0.00 < 1.00 (6.2.6)
Tau,tz,Ed/(fy/(sqrt(3)*gM0)) = 0.00 < 1.00 (6.2.6)

Prüfung der globalen Stabilität des Stabs:
Lambda,y = 126.76 < Lambda,max = 200.00 Lambda,z = 126.76 < Lambda,max = 200.00 STABIL
N,Ed/(Xy*N,Rk/gM1) + kyy*My,Ed,max/(XLT*My,Rk/gM1) + kyz*Mz,Ed,max/(Mz,Rk/gM1) = 0.41 < 1.00 (6.3.3.(4))
N,Ed/(Xz*N,Rk/gM1) + kzy*My,Ed,max/(XLT*My,Rk/gM1) + kzz*Mz,Ed,max/(Mz,Rk/gM1) = 0.26 < 1.00 (6.3.3.(4))

Querschnitt ok !!!

STAHLBEMESSUNG

NORM: *EN 1993-1:2005/A1:2014, Eurocode 3: Design of steel structures.*
BERECHNUNGSMETHODE: Normgruppennachweis

NORMGRUPPE: 7 Stahlplattform 3
STAB: 36 **PUNKT:** 3 **KOORDINATE:** x = 1.00 L = 1.38 m

LASTEN:
Maßgebender Lastfall: 29 GZT /71/ 2*1.35 + 3*0.75 + 4*1.50 + 8*1.05 + 9*1.35

MATERIAL:
STAHL St37-2/215 (S235) fy = 215.00 MPa



QUERSCHNITTSPARAMETER: RP 100x60x5

h=10.0 cm	gM0=1.00	gM1=1.00	
b=6.0 cm	Ay=5.51 cm2	Az=9.19 cm2	Ax=14.70 cm2
tw=0.5 cm	Iy=189.00 cm4	Iz=83.60 cm4	Ix=182.00 cm4
tf=0.5 cm	Wply=45.59 cm3	Wplz=31.88 cm3	

INTERNE KRÄFTE UND TRAGLAST:

N,Ed = 8.84 kN	My,Ed = 5.31 kN*m	Mz,Ed = -0.03 kN*m	Vy,Ed = 0.08 kN
Nc,Rd = 316.05 kN	My,Ed,max = -6.79 kN*m	Mz,Ed,max = -0.05 kN*m	Vy,T,Rd = 59.65 kN
Nb,Rd = 282.51 kN	My,c,Rd = 9.80 kN*m	Mz,c,Rd = 6.85 kN*m	Vz,Ed = 5.08 kN
	MN,y,Rd = 9.80 kN*m	MN,z,Rd = 6.85 kN*m	Vz,T,Rd = 99.41 kN
			Tt,Ed = -0.83 kN*m
			Querschnittsklasse = 1

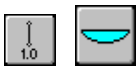


KIPPPARAMETER:

KNICKPARAMETER:



Um Y-Achse:



Um Z-Achse:

Ly = 1.38 m	Lam_y = 0.39	Lz = 1.38 m	Lam_z = 0.59
Lcr,y = 1.38 m	Xy = 0.95	Lcr,z = 1.38 m	Xz = 0.89
Lamy = 38.51	kyy = 0.91	Lamz = 57.90	kyz = 0.55

VERIFIKATIONSFORMELN:
Prüfung der Querschnittsfestigkeit:
N,Ed/Nc,Rd = 0.03 < 1.00 (6.2.4.(1))
(My,Ed/MN,y,Rd)^ 1.66 + (Mz,Ed/MN,z,Rd)^1.66 = 0.36 < 1.00 (6.2.9.1.(6))
Vy,Ed/Vy,T,Rd = 0.00 < 1.00 (6.2.6-7)
Vz,Ed/Vz,T,Rd = 0.05 < 1.00 (6.2.6-7)
Tau,ty,Ed/(fy/(sqrt(3)*gM0)) = 0.13 < 1.00 (6.2.6)

Tau,tz,Ed/(fy/(sqrt(3)*gM0)) = 0.13 < 1.00 (6.2.6)
Prüfung der globalen Stabilität des Stabs:
Lambda,y = 38.51 < Lambda,max = 200.00 Lambda,z = 57.90 < Lambda,max = 200.00 STABIL
N,Ed/(Xy*N,Rk/gM1) + kyy*My,Ed,max/(XLT*My,Rk/gM1) + kyz*Mz,Ed,max/(Mz,Rk/gM1) = 0.66 < 1.00 (6.3.3.(4))
N,Ed/(Xz*N,Rk/gM1) + kzy*My,Ed,max/(XLT*My,Rk/gM1) + kzz*Mz,Ed,max/(Mz,Rk/gM1) = 0.41 < 1.00 (6.3.3.(4))

Querschnitt ok !!!

STAHLBEMESSUNG

NORM: *EN 1993-1:2005/A1:2014, Eurocode 3: Design of steel structures.*
BERECHNUNGSMETHODE: Normgruppennachweis

NORMGRUPPE: 8 Stahlplattform 4
STAB: 49 **PUNKT:** **KOORDINATE:** x = 1.00 L = 1.38 m

LASTEN:
Maßgebender Lastfall: 29 GZT /71/ 2*1.35 + 3*0.75 + 4*1.50 + 8*1.05 + 9*1.35

MATERIAL:
STAHL St37-2/215 (S235) fy = 215.00 MPa



QUERSCHNITTSPARAMETER: RP 100x60x5

h=10.0 cm	gM0=1.00	gM1=1.00	
b=6.0 cm	Ay=5.51 cm2	Az=9.19 cm2	Ax=14.70 cm2
tw=0.5 cm	Iy=189.00 cm4	Iz=83.60 cm4	Ix=182.00 cm4
tf=0.5 cm	Wply=45.59 cm3	Wplz=31.88 cm3	

INTERNE KRÄFTE UND TRAGLAST:

N,Ed = 0.44 kN	My,Ed = -5.77 kN*m	Mz,Ed = 0.01 kN*m	Vy,Ed = -0.02 kN
Nc,Rd = 316.05 kN	My,Ed,max = -5.77 kN*m	Mz,Ed,max = -0.03 kN*m	Vy,T,Rd = 63.25 kN
Nb,Rd = 282.50 kN	My,c,Rd = 9.80 kN*m	Mz,c,Rd = 6.85 kN*m	Vz,Ed = -8.65 kN
	MN,y,Rd = 9.80 kN*m	MN,z,Rd = 6.85 kN*m	Vz,T,Rd = 105.41 kN
			Tt,Ed = -0.49 kN*m
			Querschnittsklasse = 1

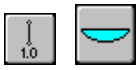


KIPPPARAMETER:

KNICKPARAMETER:



Um Y-Achse:



Um Z-Achse:

Ly = 1.38 m	Lam_y = 0.39	Lz = 1.38 m	Lam_z = 0.59
Lcr,y = 1.38 m	Xy = 0.95	Lcr,z = 1.38 m	Xz = 0.89
Lamy = 38.51	kyy = 0.90	Lamz = 57.90	kyz = 0.54

VERIFIKATIONSFORMELN:
Prüfung der Querschnittsfestigkeit:
N,Ed/Nc,Rd = 0.00 < 1.00 (6.2.4.(1))
(My,Ed/MN,y,Rd)^ 1.66 + (Mz,Ed/MN,z,Rd)^1.66 = 0.42 < 1.00 (6.2.9.1.(6))
Vy,Ed/Vy,T,Rd = 0.00 < 1.00 (6.2.6-7)
Vz,Ed/Vz,T,Rd = 0.08 < 1.00 (6.2.6-7)

Tau,ty,Ed/(fy/(sqrt(3)*gM0)) = 0.08 < 1.00 (6.2.6)
Tau,tz,Ed/(fy/(sqrt(3)*gM0)) = 0.08 < 1.00 (6.2.6)
Prüfung der globalen Stabilität des Stabs:
Lambda,y = 38.51 < Lambda,max = 200.00 Lambda,z = 57.90 < Lambda,max = 200.00 STABIL
N,Ed/(Xy*N,Rk/gM1) + kyy*My,Ed,max/(XLT*My,Rk/gM1) + kyz*Mz,Ed,max/(Mz,Rk/gM1) = 0.53 < 1.00 (6.3.3.(4))
N,Ed/(Xz*N,Rk/gM1) + kzy*My,Ed,max/(XLT*My,Rk/gM1) + kzz*Mz,Ed,max/(Mz,Rk/gM1) = 0.32 < 1.00 (6.3.3.(4))

Querschnitt ok !!!

STAHLBEMESSUNG

NORM: *EN 1993-1:2005/A1:2014, Eurocode 3: Design of steel structures.*
BERECHNUNGSMETHODE: Normgruppennachweis

NORMGRUPPE: 9 Stahlplattform 5
STAB: 71 **PUNKT:** **KOORDINATE:** x = 0.00 L = 0.00 m

LASTEN:
Maßgebender Lastfall: 29 GZT /78/ 2*1.35 + 7*1.50 + 8*1.05 + 9*1.35

MATERIAL:
STAHL St37-2/215 (S235) fy = 215.00 MPa



QUERSCHNITTSPARAMETER: RP 100x60x5

h=10.0 cm	gM0=1.00	gM1=1.00	
b=6.0 cm	Ay=5.51 cm2	Az=9.19 cm2	Ax=14.70 cm2
tw=0.5 cm	Iy=189.00 cm4	Iz=83.60 cm4	Ix=182.00 cm4
tf=0.5 cm	Wply=45.59 cm3	Wplz=31.88 cm3	

INTERNE KRÄFTE UND TRAGLAST:

N,Ed = 0.02 kN	My,Ed = 2.63 kN*m	Mz,Ed = -0.23 kN*m	Vy,Ed = -0.34 kN
Nc,Rd = 316.05 kN	My,Ed,max = 2.63 kN*m	Mz,Ed,max = -0.23 kN*m	Vy,T,Rd = 67.20 kN
Nb,Rd = 290.55 kN	My,c,Rd = 9.80 kN*m	Mz,c,Rd = 6.85 kN*m	Vz,Ed = -3.43 kN
	MN,y,Rd = 9.80 kN*m	MN,z,Rd = 6.85 kN*m	Vz,T,Rd = 112.00 kN
			Tt,Ed = 0.12 kN*m
			Querschnittsklasse = 1

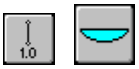


KIPPPARAMETER:

KNICKPARAMETER:



Um Y-Achse:



Um Z-Achse:

Ly = 1.21 m	Lam_y = 0.34	Lz = 1.21 m	Lam_z = 0.52
Lcr,y = 1.21 m	Xy = 0.97	Lcr,z = 1.21 m	Xz = 0.92
Lamy = 33.68	kyy = 0.90	Lamz = 50.63	kyz = 0.54

VERIFIKATIONSFORMELN:
Prüfung der Querschnittsfestigkeit:
N,Ed/Nc,Rd = 0.00 < 1.00 (6.2.4.(1))
(My,Ed/MN,y,Rd)^ 1.66 + (Mz,Ed/MN,z,Rd)^1.66 = 0.12 < 1.00 (6.2.9.1.(6))
Vy,Ed/Vy,T,Rd = 0.01 < 1.00 (6.2.6-7)

Vz,Ed/Vz,T,Rd = 0.03 < 1.00 (6.2.6-7)
Tau,ty,Ed/(fy/(sqrt(3)*gM0)) = 0.02 < 1.00 (6.2.6)
Tau,tz,Ed/(fy/(sqrt(3)*gM0)) = 0.02 < 1.00 (6.2.6)
Prüfung der globalen Stabilität des Stabs:
Lambda,y = 33.68 < Lambda,max = 200.00 Lambda,z = 50.63 < Lambda,max = 200.00 STABIL
N,Ed/(Xy*N,Rk/gM1) + kyy*My,Ed,max/(XLT*My,Rk/gM1) + kyz*Mz,Ed,max/(Mz,Rk/gM1) = 0.26 < 1.00 (6.3.3.(4))
N,Ed/(Xz*N,Rk/gM1) + kzy*My,Ed,max/(XLT*My,Rk/gM1) + kzz*Mz,Ed,max/(Mz,Rk/gM1) = 0.17 < 1.00 (6.3.3.(4))

Querschnitt ok !!!

STAHLBEMESSUNG

NORM: *EN 1993-1:2005/A1:2014, Eurocode 3: Design of steel structures.*
BERECHNUNGSMETHODE: Normgruppennachweis

NORMGRUPPE: 10 Stahlplattform 6
STAB: 99 **PUNKT:** **KOORDINATE:** x = 1.00 L = 1.21 m

LASTEN:
Maßgebender Lastfall: 29 GZT /71/ 2*1.35 + 3*0.75 + 4*1.50 + 8*1.05 + 9*1.35

MATERIAL:
STAHL St37-2/215 (S235) fy = 215.00 MPa



QUERSCHNITTSPARAMETER: RP 100x60x5

h=10.0 cm	gM0=1.00	gM1=1.00	
b=6.0 cm	Ay=5.51 cm2	Az=9.19 cm2	Ax=14.70 cm2
tw=0.5 cm	Iy=189.00 cm4	Iz=83.60 cm4	Ix=182.00 cm4
tf=0.5 cm	Wply=45.59 cm3	Wplz=31.88 cm3	

INTERNE KRÄFTE UND TRAGLAST:

N,Ed = 1.12 kN	My,Ed = 3.57 kN*m	Mz,Ed = -0.03 kN*m	Vy,Ed = 0.04 kN
Nc,Rd = 316.05 kN	My,Ed,max = -3.81 kN*m	Mz,Ed,max = -0.03 kN*m	Vy,T,Rd = 68.34 kN
Nb,Rd = 290.55 kN	My,c,Rd = 9.80 kN*m	Mz,c,Rd = 6.85 kN*m	Vz,Ed = 5.76 kN
	MN,y,Rd = 9.80 kN*m	MN,z,Rd = 6.85 kN*m	Vz,T,Rd = 113.91 kN
			Tt,Ed = 0.01 kN*m
			Querschnittsklasse = 1

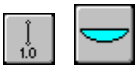


KIPPPARAMETER:

KNICKPARAMETER:



Um Y-Achse:



Um Z-Achse:

Ly = 1.21 m	Lam_y = 0.34	Lz = 1.21 m	Lam_z = 0.52
Lcr,y = 1.21 m	Xy = 0.97	Lcr,z = 1.21 m	Xz = 0.92
Lamy = 33.68	kyy = 0.90	Lamz = 50.63	kyz = 0.54

VERIFIKATIONSFORMELN:
Prüfung der Querschnittsfestigkeit:
N,Ed/Nc,Rd = 0.00 < 1.00 (6.2.4.(1))
(My,Ed/MN,y,Rd)^ 1.66 + (Mz,Ed/MN,z,Rd)^1.66 = 0.19 < 1.00 (6.2.9.1.(6))

Vy,Ed/Vy,T,Rd = 0.00 < 1.00 (6.2.6-7)
Vz,Ed/Vz,T,Rd = 0.05 < 1.00 (6.2.6-7)
Tau,ty,Ed/(fy/(sqrt(3)*gM0)) = 0.00 < 1.00 (6.2.6)
Tau,tz,Ed/(fy/(sqrt(3)*gM0)) = 0.00 < 1.00 (6.2.6)
Prüfung der globalen Stabilität des Stabs:
Lambda,y = 33.68 < Lambda,max = 200.00 Lambda,z = 50.63 < Lambda,max = 200.00 STABIL
N,Ed/(Xy*N,Rk/gM1) + kyy*My,Ed,max/(XLT*My,Rk/gM1) + kyz*Mz,Ed,max/(Mz,Rk/gM1) = 0.36 < 1.00 (6.3.3.(4))
N,Ed/(Xz*N,Rk/gM1) + kzy*My,Ed,max/(XLT*My,Rk/gM1) + kzz*Mz,Ed,max/(Mz,Rk/gM1) = 0.22 < 1.00 (6.3.3.(4))

Querschnitt ok !!!

STAHLBEMESSUNG

NORM: *EN 1993-1:2005/A1:2014, Eurocode 3: Design of steel structures.*
BERECHNUNGSMETHODE: Normgruppennachweis

NORMGRUPPE: 11 Stahlplattform 7
STAB: 115 **PUNKT:** **KOORDINATE:** x = 0.00 L = 0.00 m

LASTEN:
Maßgebender Lastfall: 29 GZT /80/ 2*1.35 + 4*1.50 + 9*1.35

MATERIAL:
STAHL St37-2/215 (S235) fy = 215.00 MPa



QUERSCHNITTSPARAMETER: RP 100x60x5

h=10.0 cm	gM0=1.00	gM1=1.00	
b=6.0 cm	Ay=5.51 cm2	Az=9.19 cm2	Ax=14.70 cm2
tw=0.5 cm	Iy=189.00 cm4	Iz=83.60 cm4	Ix=182.00 cm4
tf=0.5 cm	Wply=45.59 cm3	Wplz=31.88 cm3	

INTERNE KRÄFTE UND TRAGLAST:

N,Ed = 0.08 kN	My,Ed = -2.46 kN*m	Mz,Ed = 0.32 kN*m	Vy,Ed = 1.16 kN
Nc,Rd = 316.05 kN	My,Ed,max = -2.46 kN*m	Mz,Ed,max = -0.34 kN*m	Vy,T,Rd = 66.19 kN
Nb,Rd = 292.98 kN	My,c,Rd = 9.80 kN*m	Mz,c,Rd = 6.85 kN*m	Vz,Ed = 4.61 kN
	MN,y,Rd = 9.80 kN*m	MN,z,Rd = 6.85 kN*m	Vz,T,Rd = 110.32 kN
			Tt,Ed = 0.21 kN*m
			Querschnittsklasse = 1



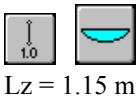
KIPPPARAMETER:

KNICKPARAMETER:



Um Y-Achse:

Ly = 1.15 m	Lam_y = 0.33	Lz = 1.15 m	Lam_z = 0.49
Lcr,y = 1.15 m	Xy = 0.97	Lcr,z = 1.15 m	Xz = 0.93
Lamy = 32.07	kyy = 0.90	Lamz = 48.22	kyz = 0.54



Um Z-Achse:

VERIFIKATIONSFORMELN:
Prüfung der Querschnittsfestigkeit:
N,Ed/Nc,Rd = 0.00 < 1.00 (6.2.4.(1))

(My,Ed/MN,y,Rd)^ 1.66 + (Mz,Ed/MN,z,Rd)^1.66 = 0.11 < 1.00 (6.2.9.1.(6))
Vy,Ed/Vy,T,Rd = 0.02 < 1.00 (6.2.6-7)
Vz,Ed/Vz,T,Rd = 0.04 < 1.00 (6.2.6-7)
Tau,ty,Ed/(fy/(sqrt(3)*gM0)) = 0.03 < 1.00 (6.2.6)
Tau,tz,Ed/(fy/(sqrt(3)*gM0)) = 0.03 < 1.00 (6.2.6)
Prüfung der globalen Stabilität des Stabs:
Lambda,y = 32.07 < Lambda,max = 200.00 Lambda,z = 48.22 < Lambda,max = 200.00 STABIL
N,Ed/(Xy*N,Rk/gM1) + kyy*My,Ed,max/(XLT*My,Rk/gM1) + kyz*Mz,Ed,max/(Mz,Rk/gM1) = 0.25 < 1.00 (6.3.3.(4))
N,Ed/(Xz*N,Rk/gM1) + kzy*My,Ed,max/(XLT*My,Rk/gM1) + kzz*Mz,Ed,max/(Mz,Rk/gM1) = 0.18 < 1.00 (6.3.3.(4))

Querschnitt ok !!!

STAHLBEMESSUNG

NORM: *EN 1993-1:2005/A1:2014, Eurocode 3: Design of steel structures.*
BERECHNUNGSMETHODE: Normgruppennachweis

NORMGRUPPE: 14 Stahldach 1
STAB: 264 SŁUP BRAMY_264 **PUNKT:** 3 **KOORDINATE:** x = 0.87 L = 3.42 m

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LASTEN:
Maßgebender Lastfall: 10 Symulation der 3D Windlast X+ 24 m/s

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MATERIAL:
STAHL St37-2/215 (S235) fy = 215.00 MPa



QUERSCHNITTSPARAMETER: RK 30x30x3

h=3.0 cm	gM0=1.00	gM1=1.00	
b=3.0 cm	Ay=1.57 cm2	Az=1.57 cm2	Ax=3.14 cm2
tw=0.3 cm	Iy=3.74 cm4	Iz=3.74 cm4	Ix=5.90 cm4
tf=0.3 cm	Wply=2.96 cm3	Wplz=2.96 cm3	

INTERNE KRÄFTE UND TRAGLAST:

N,Ed = 0.06 kN	My,Ed = 0.00 kN*m	Mz,Ed = 0.00 kN*m	Vy,Ed = -0.01 kN
Nc,Rd = 67.51 kN	My,Ed,max = 0.00 kN*m	Mz,Ed,max = 0.00 kN*m	Vy,T,Rd = 19.48 kN
Nb,Rd = 4.78 kN	My,c,Rd = 0.64 kN*m	Mz,c,Rd = 0.64 kN*m	Vz,Ed = 0.01 kN
	MN,y,Rd = 0.64 kN*m	MN,z,Rd = 0.64 kN*m	Vz,T,Rd = 19.48 kN
			Tt,Ed = -0.00 kN*m
			Querschnittsklasse = 1



KIPPPARAMETER:

KNICKPARAMETER:



Um Y-Achse:

Ly = 3.91 m	Lam_y = 3.65	Lz = 3.91 m	Lam_z = 3.65
Lcr,y = 3.91 m	Xy = 0.07	Lcr,z = 3.91 m	Xz = 0.07
Lamy = 358.47	kyy = 0.91	Lamz = 358.47	kyz = 0.55



Um Z-Achse:

VERIFIKATIONSFORMELN:
Prüfung der Querschnittsfestigkeit:

N,Ed/Nc,Rd = 0.00 < 1.00 (6.2.4.(1))
(My,Ed/MN,y,Rd)^ 1.66 + (Mz,Ed/MN,z,Rd)^1.66 = 0.00 < 1.00 (6.2.9.1.(6))
Vy,Ed/Vy,T,Rd = 0.00 < 1.00 (6.2.6-7)
Vz,Ed/Vz,T,Rd = 0.00 < 1.00 (6.2.6-7)
Tau,ty,Ed/(fy/(sqrt(3)*gM0)) = 0.00 < 1.00 (6.2.6)
Tau,tz,Ed/(fy/(sqrt(3)*gM0)) = 0.00 < 1.00 (6.2.6)
Prüfung der globalen Stabilität des Stabs:
Lambda,y = 358.47 > Lambda,max = 200.00 Lambda,z = 358.47 > Lambda,max = 200.00 INSTABIL
N,Ed/(Xy*N,Rk/gM1) + kyy*My,Ed,max/(XLT*My,Rk/gM1) + kyz*Mz,Ed,max/(Mz,Rk/gM1) = 0.02 < 1.00 (6.3.3.(4))
N,Ed/(Xz*N,Rk/gM1) + kzy*My,Ed,max/(XLT*My,Rk/gM1) + kzz*Mz,Ed,max/(Mz,Rk/gM1) = 0.02 < 1.00 (6.3.3.(4))

Instabilität !!!

STAHLBEMESSUNG

NORM: *EN 1993-1:2005/A1:2014, Eurocode 3: Design of steel structures.*
BERECHNUNGSMETHODE: Normgruppennachweis

NORMGRUPPE: 15 Stahldach 2
STAB: 288 SŁUP BRAMY_288 **PUNKT:** 1 **KOORDINATE:** x = 0.19 L = 0.43 m

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LASTEN:
Maßgebender Lastfall: 29 GZT /71/ 2*1.35 + 3*0.75 + 4*1.50 + 8*1.05 + 9*1.35

MATERIAL:
STAHL St37-2/215 (S235) fy = 215.00 MPa



QUERSCHNITTSPARAMETER: RK 30x30x3

h=3.0 cm	gM0=1.00	gM1=1.00	
b=3.0 cm	Ay=1.57 cm2	Az=1.57 cm2	Ax=3.14 cm2
tw=0.3 cm	Iy=3.74 cm4	Iz=3.74 cm4	Ix=5.90 cm4
tf=0.3 cm	Wply=2.96 cm3	Wplz=2.96 cm3	

INTERNE KRÄFTE UND TRAGLAST:

N,Ed = 0.70 kN	My,Ed = -0.10 kN*m	Mz,Ed = -0.02 kN*m	Vy,Ed = -0.03 kN
Nc,Rd = 67.51 kN	My,Ed,max = -0.10 kN*m	Mz,Ed,max = -0.02 kN*m	Vy,T,Rd = 19.36 kN
Nb,Rd = 13.79 kN	My,c,Rd = 0.64 kN*m	Mz,c,Rd = 0.64 kN*m	Vz,Ed = 0.27 kN
	MN,y,Rd = 0.64 kN*m	MN,z,Rd = 0.64 kN*m	Vz,T,Rd = 19.36 kN
			Tt,Ed = -0.00 kN*m
			Querschnittsklasse = 1



KIPPPARAMETER:

KNICKPARAMETER:



Um Y-Achse:

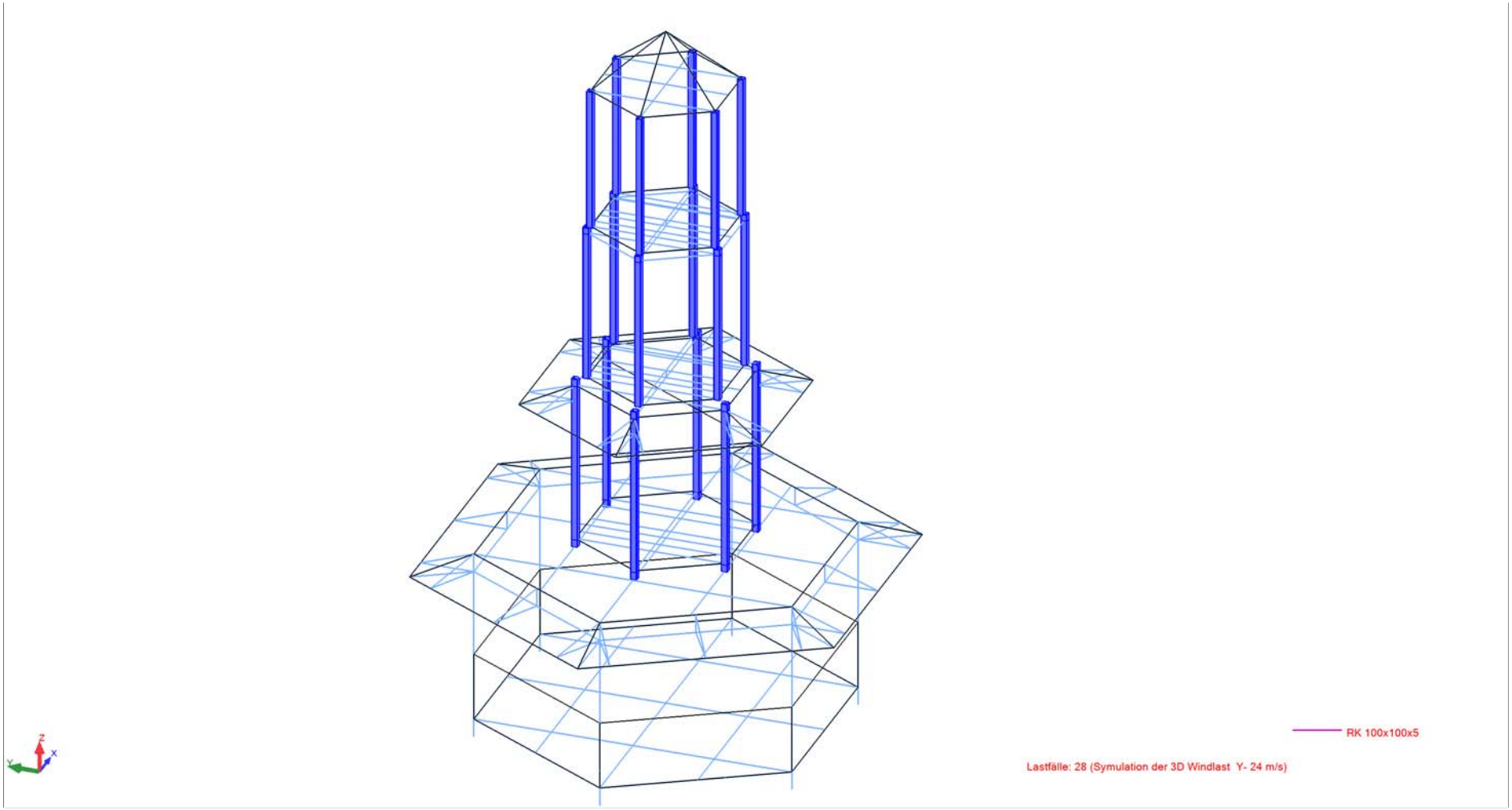
Ly = 2.25 m	Lam_y = 2.10	Lz = 2.25 m	Lam_z = 2.10
Lcr,y = 2.25 m	Xy = 0.20	Lcr,z = 2.25 m	Xz = 0.20
Lamy = 205.87	kyy = 0.94	Lamz = 205.87	kyz = 0.56

VERIFIKATIONSFORMELN:
Prüfung der Querschnittsfestigkeit:

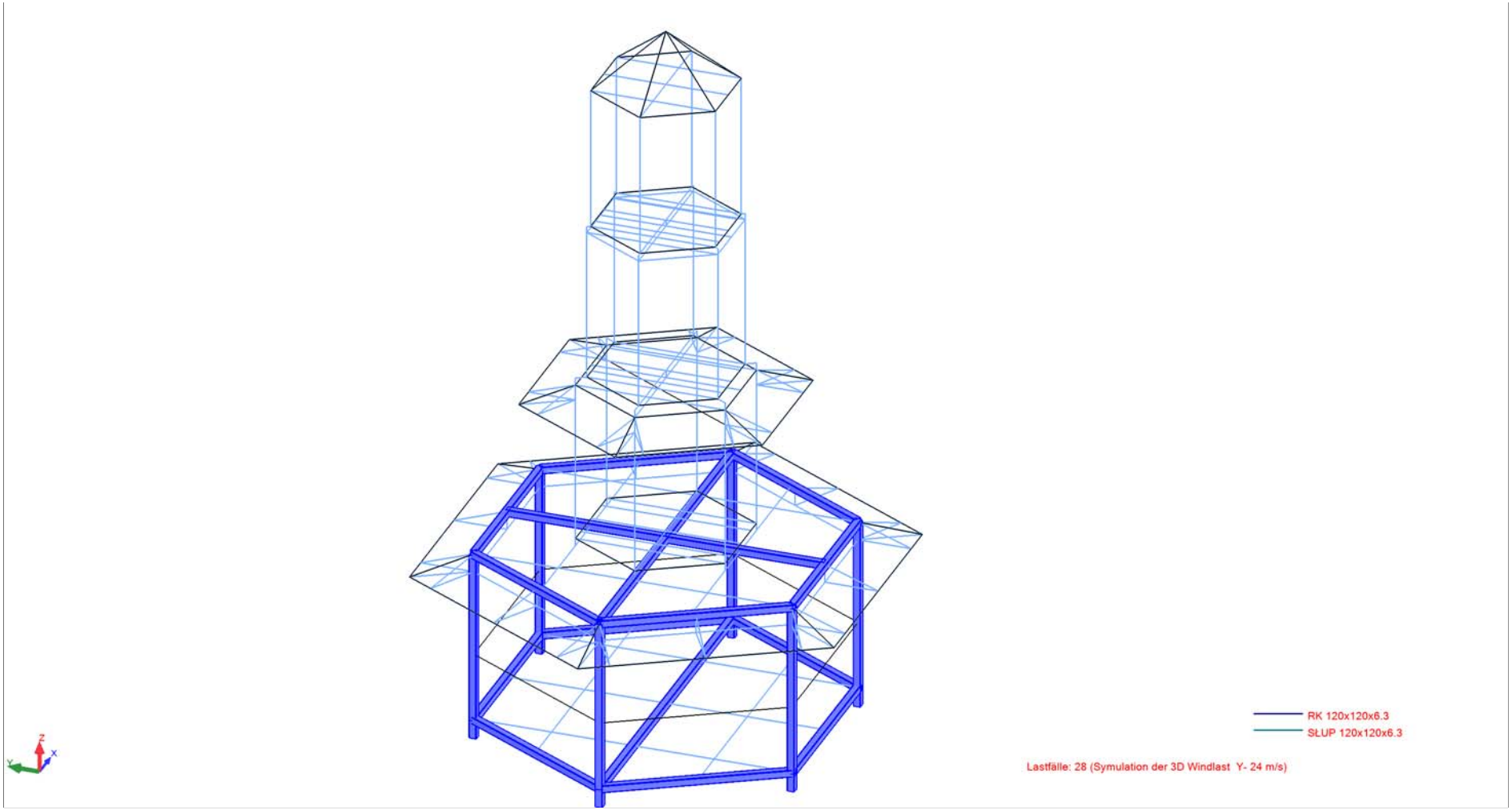
N,Ed/Nc,Rd = 0.01 < 1.00 (6.2.4.(1))
(My,Ed/MN,y,Rd)^ 1.66 + (Mz,Ed/MN,z,Rd)^1.66 = 0.05 < 1.00 (6.2.9.1.(6))
Vy,Ed/Vy,T,Rd = 0.00 < 1.00 (6.2.6-7)
Vz,Ed/Vz,T,Rd = 0.01 < 1.00 (6.2.6-7)
Tau,ty,Ed/(fy/(sqrt(3)*gM0)) = 0.01 < 1.00 (6.2.6)
Tau,tz,Ed/(fy/(sqrt(3)*gM0)) = 0.01 < 1.00 (6.2.6)
Prüfung der globalen Stabilität des Stabs:
Lambda,y = 205.87 > Lambda,max = 200.00 Lambda,z = 205.87 > Lambda,max = 200.00 INSTABIL
N,Ed/(Xy*N,Rk/gM1) + kyy*My,Ed,max/(XLT*My,Rk/gM1) + kyz*Mz,Ed,max/(Mz,Rk/gM1) = 0.21 < 1.00 (6.3.3.(4))
N,Ed/(Xz*N,Rk/gM1) + kzy*My,Ed,max/(XLT*My,Rk/gM1) + kzz*Mz,Ed,max/(Mz,Rk/gM1) = 0.17 < 1.00 (6.3.3.(4))

Instabilität !!!

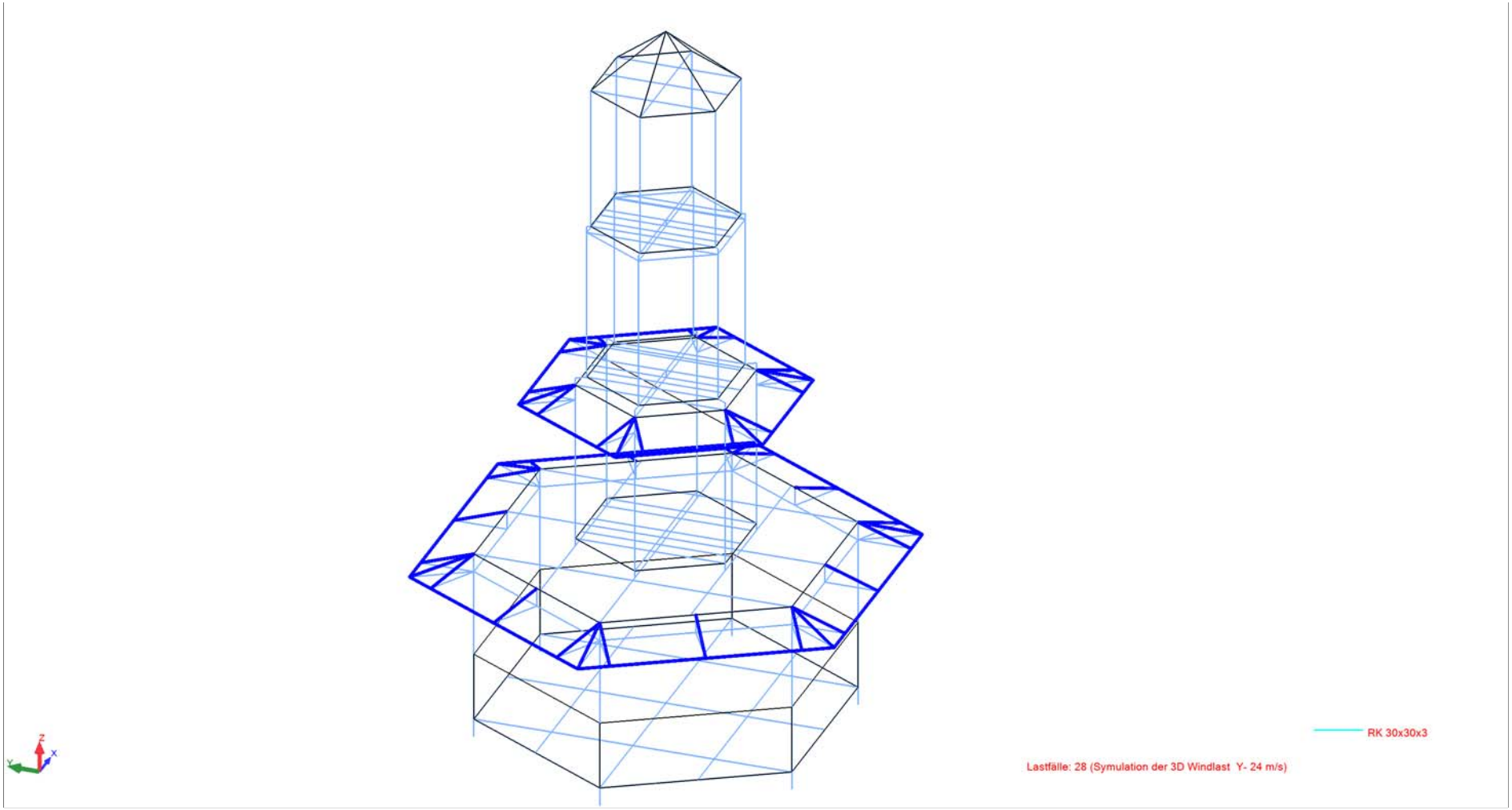
ELEMENTE DES AUFBAUS RK 100x5



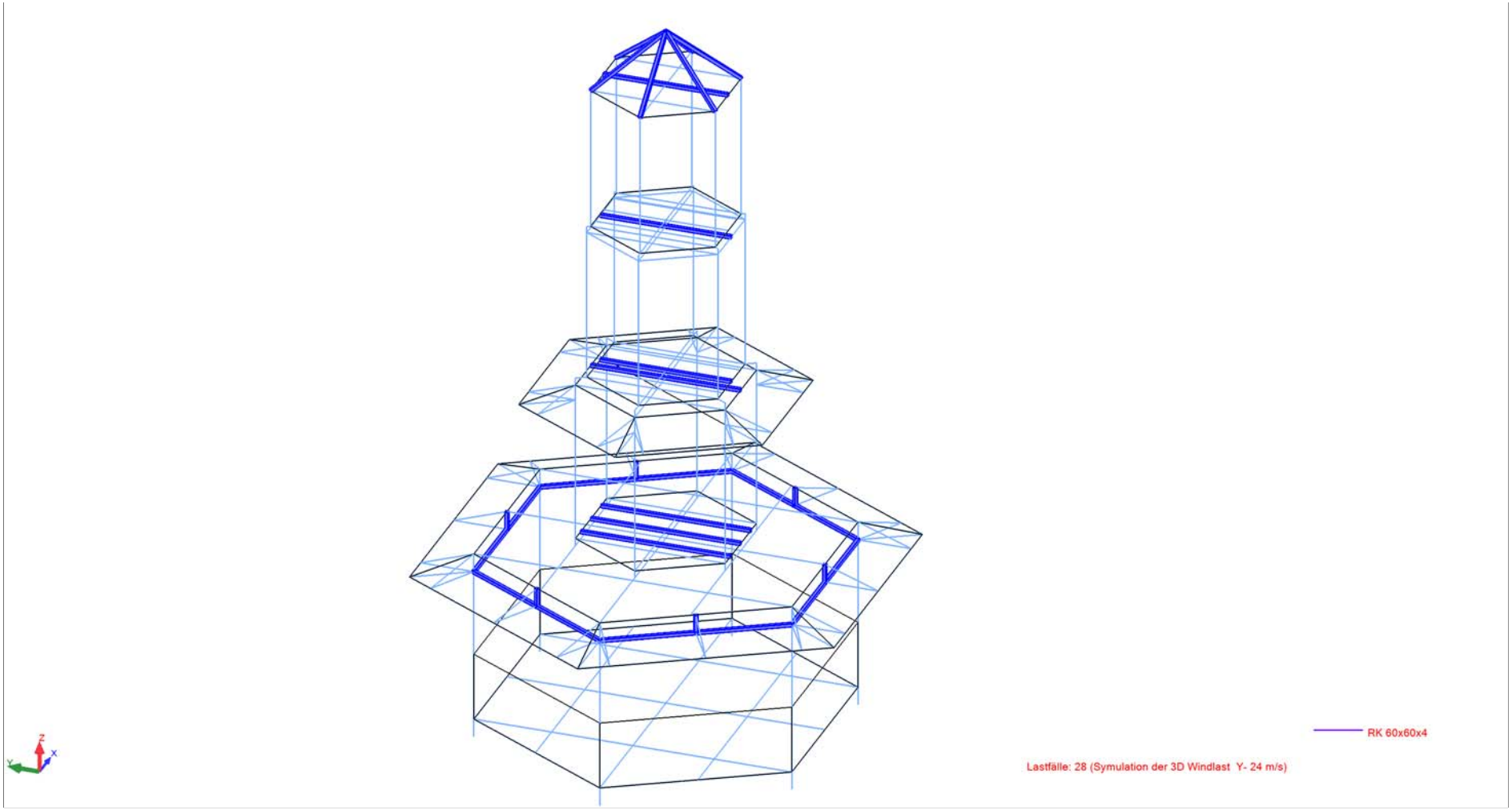
ELEMENTE DES AUFBAUS RK 120x6,3



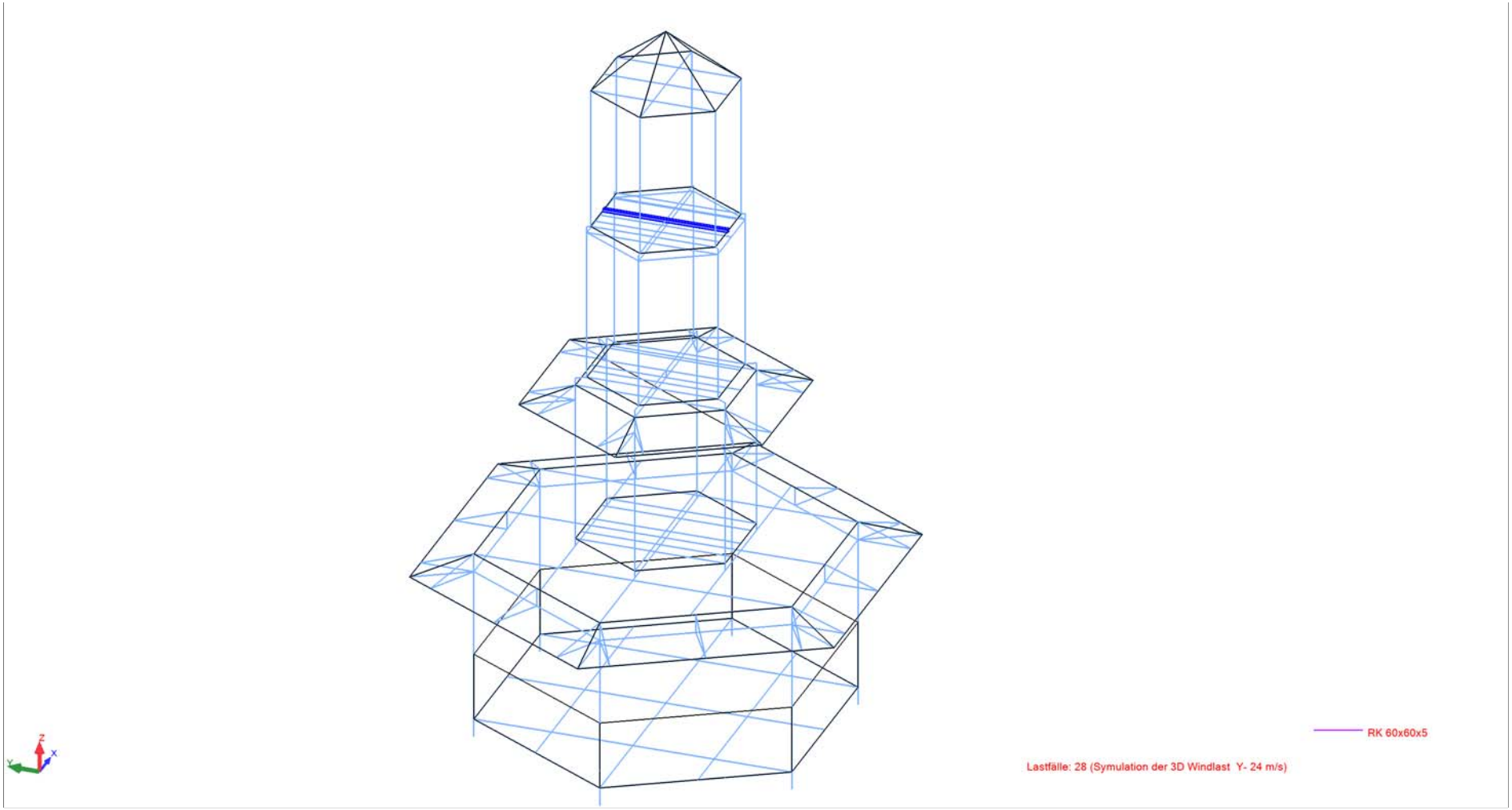
ELEMENTE DES AUFBAUS RK 30x3



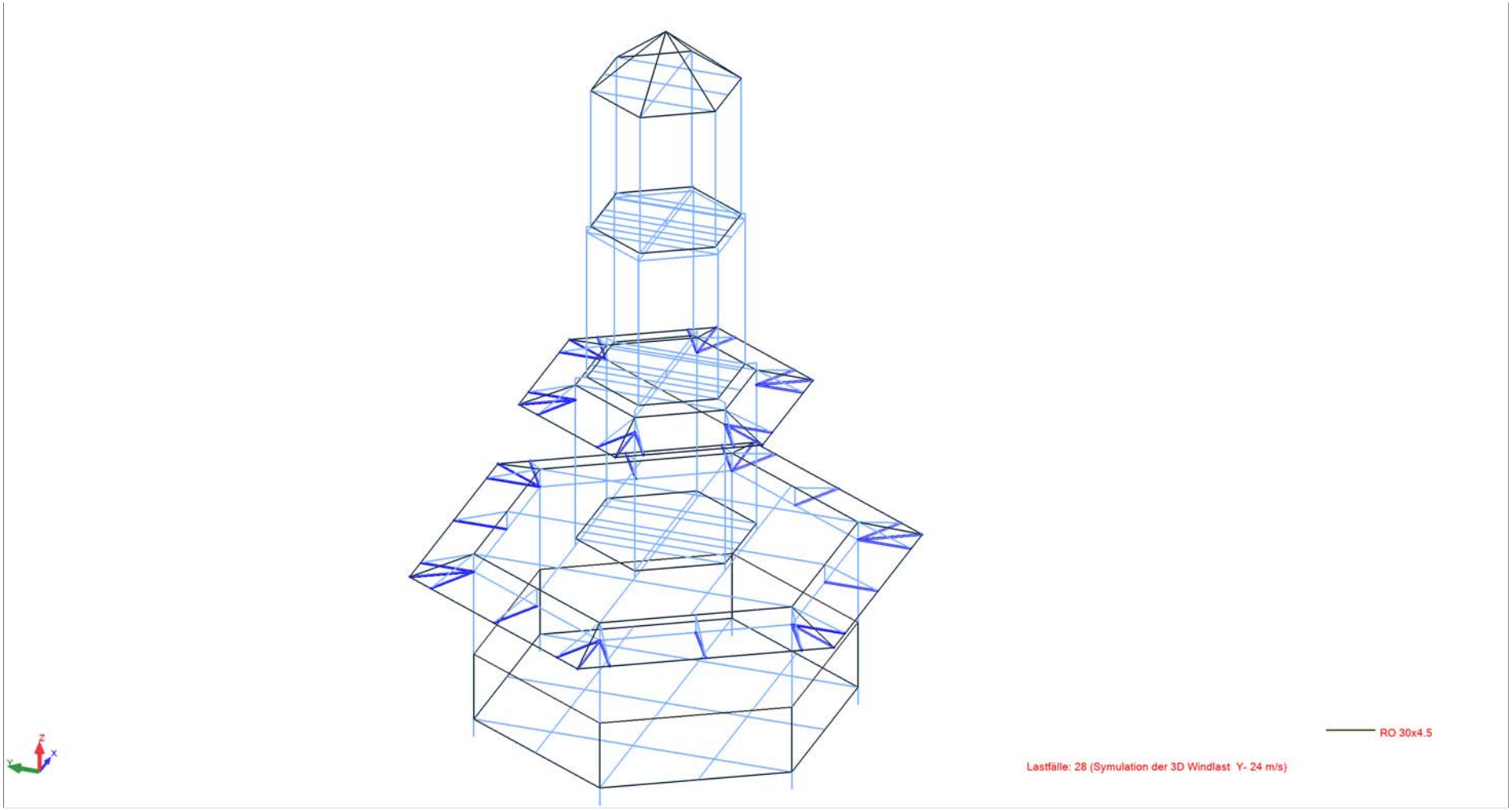
ELEMENTE DES AUFBAUS RK 60x4



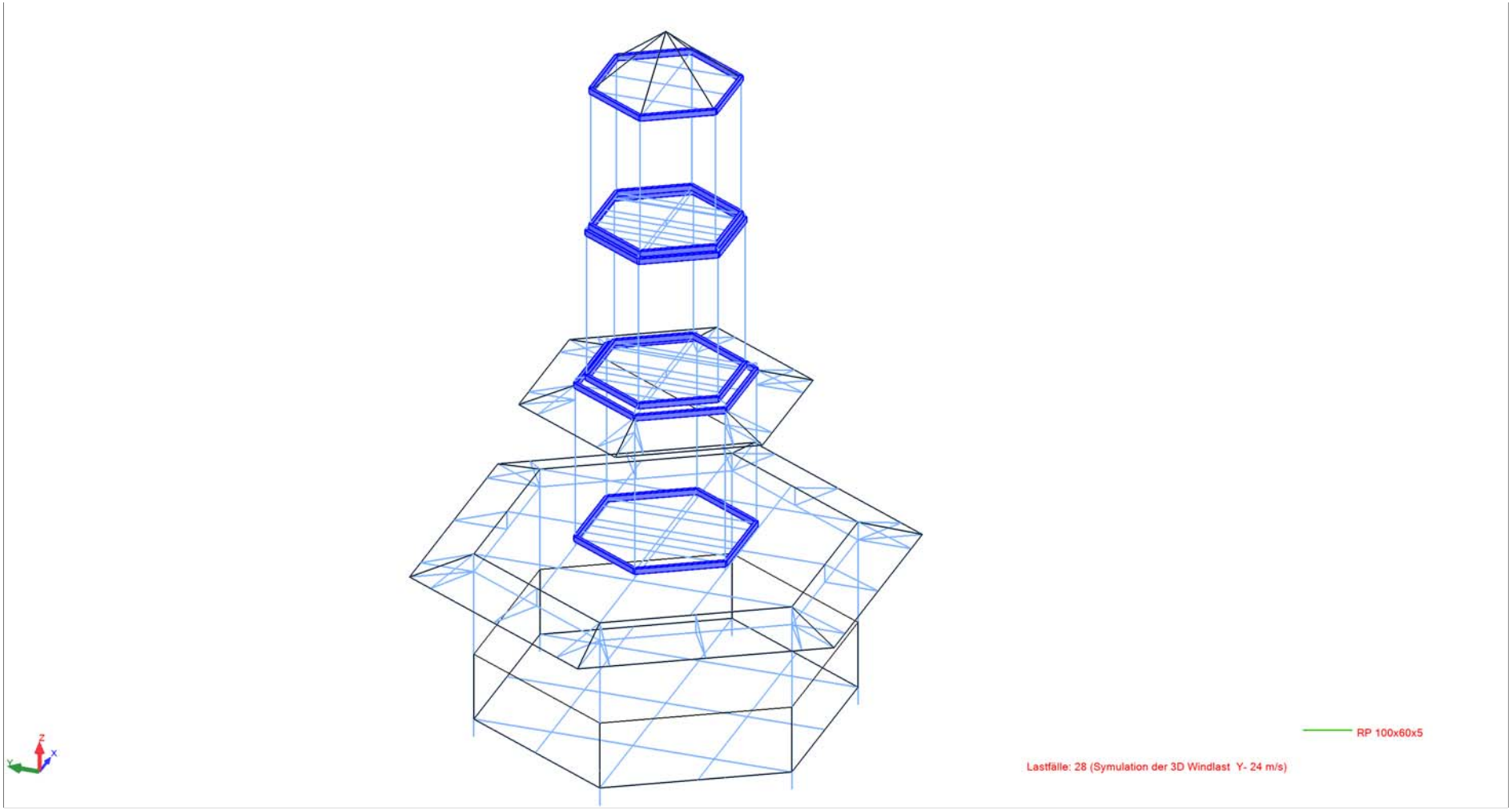
ELEMENTE DES AUFBAUS RK 60x5



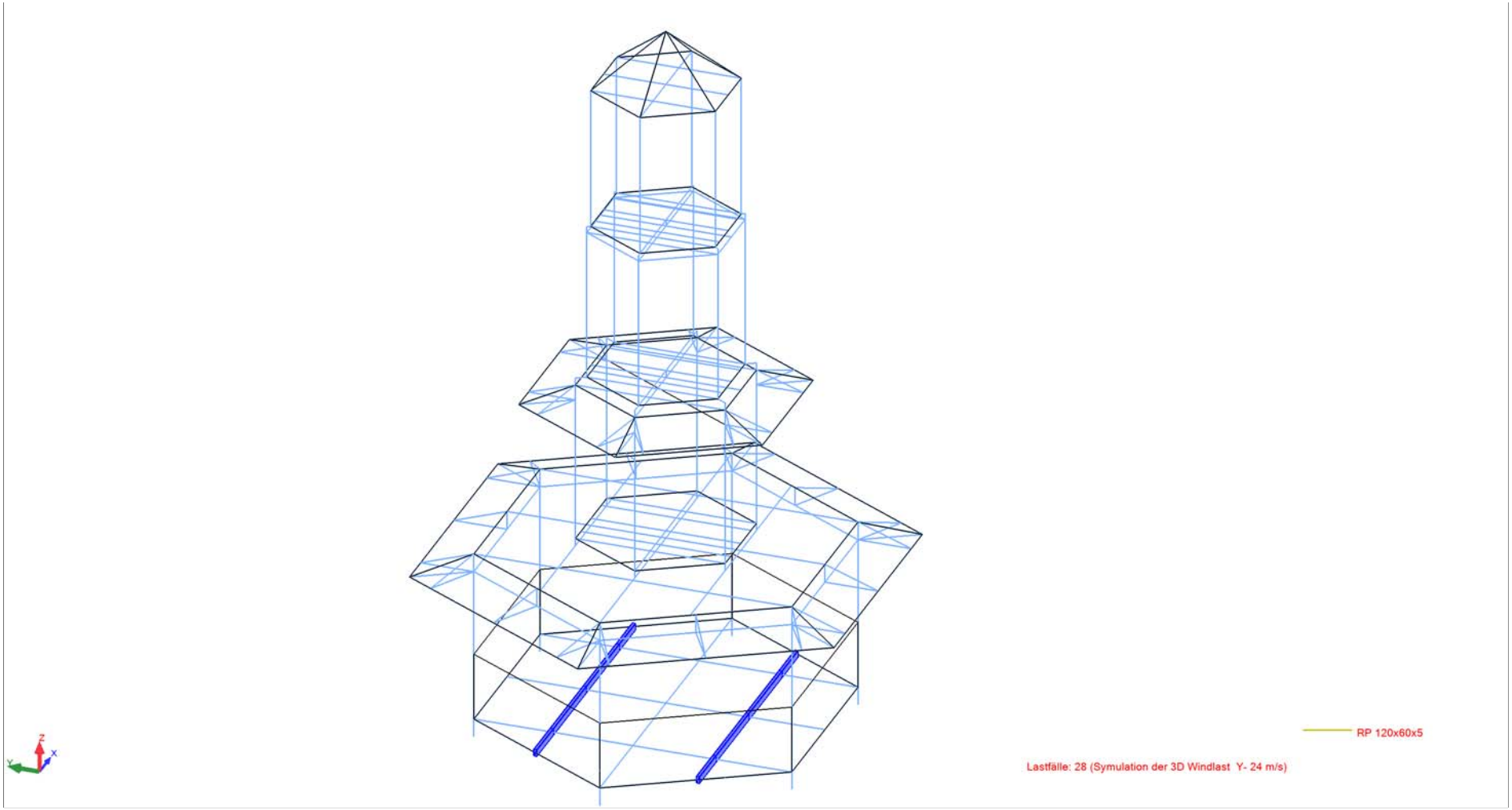
ELEMENTE DES AUFBAUS RK 30x4,5



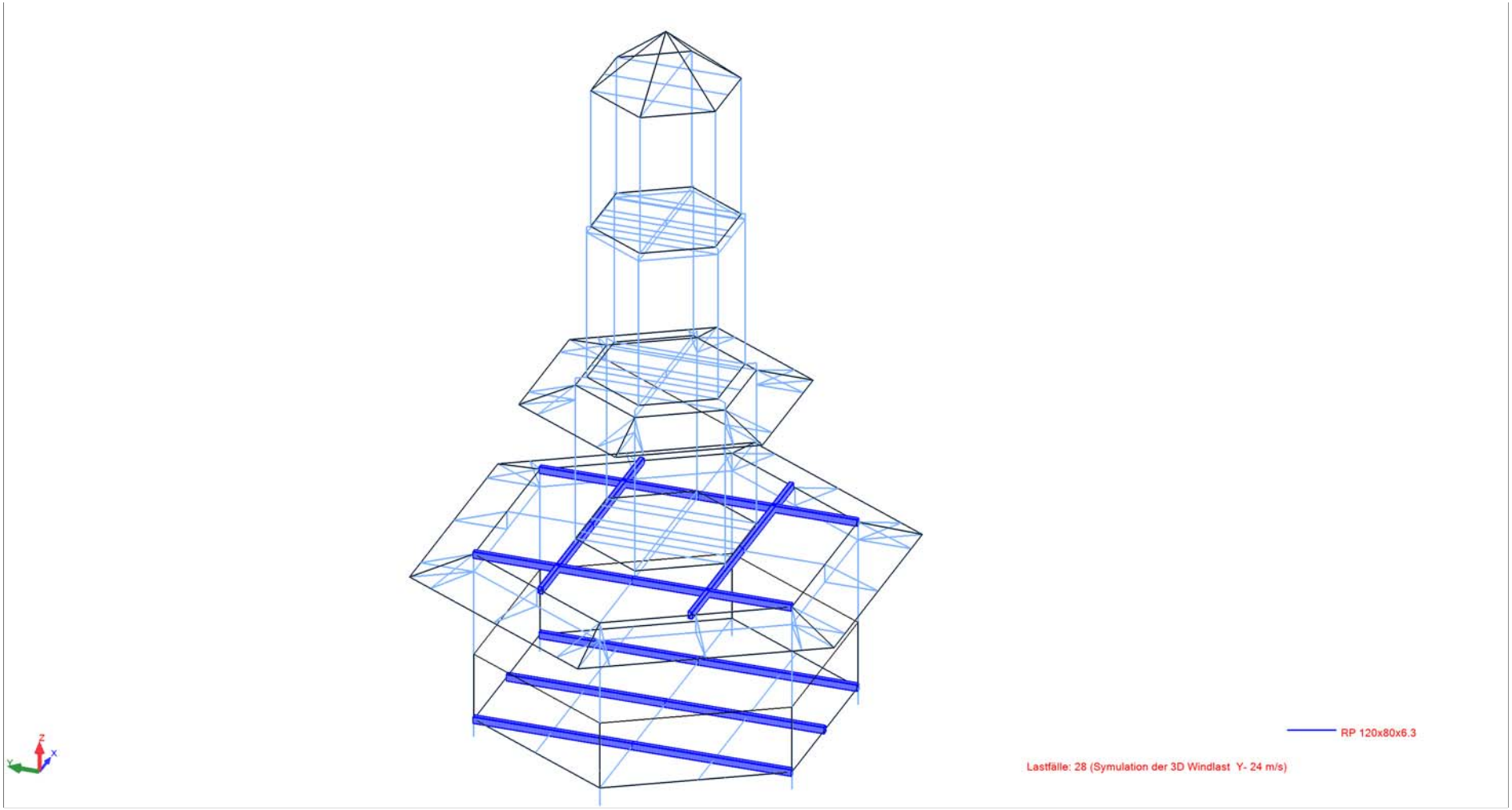
ELEMENTE DES AUFBAUS RP 100x60x5



ELEMENTE DES AUFBAUS RP 120x60x5



ELEMENTE DES AUFBAUS RP 120x80x6,3



ELEMENTE DES AUFBAUS RP 60x30x3

