Zpráva o analýze rámové konstrukce

Analyzovaný soubor:	Rám.iam
Verze:	2017.3 (Build 213256000, 256)
Datum vyhotovení:	20.6.2017, 19:27
Autor simulace:	Vítězslav Kadlec

Informace o projektu (iVlastnosti)

Fyzické

Hmotnost	14,376 kg
Plocha	56161,024 mm^2
Objem	5324,354 mm^3
Těžiště	x=289,767 mm y=109,046 mm z=1120,056 mm

Analýza rámové konstrukce

Obecné cíle a nastavení:

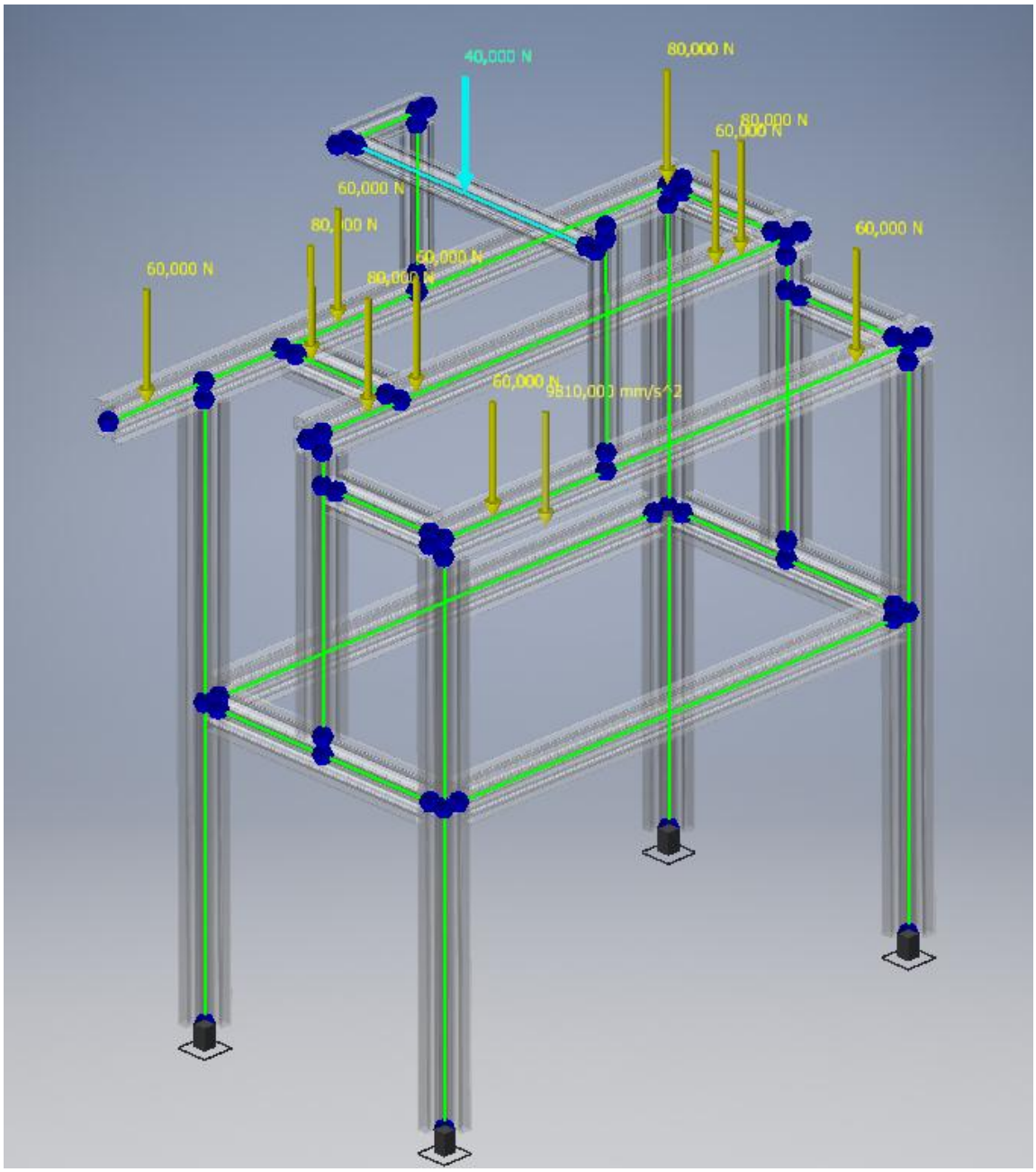
Typ simulace	Statická analýza
Datum poslední úpravy	20.6.2017, 19:23

Materiály

Název	Hliník 6061	
Obecné	Měrná hmotnost	2,700 g/cm^3
	Mez kluzu v tahu	275,000 MPa
	Mez pevnosti v tahu	310,000 MPa
Napětí	Youngův modul	68,900 GPa
	Poissonova konstanta	0,330 ul

Provozní podmínky

Rozložení sil v rámu



Výsledky

Reakční síla a moment na vazbách

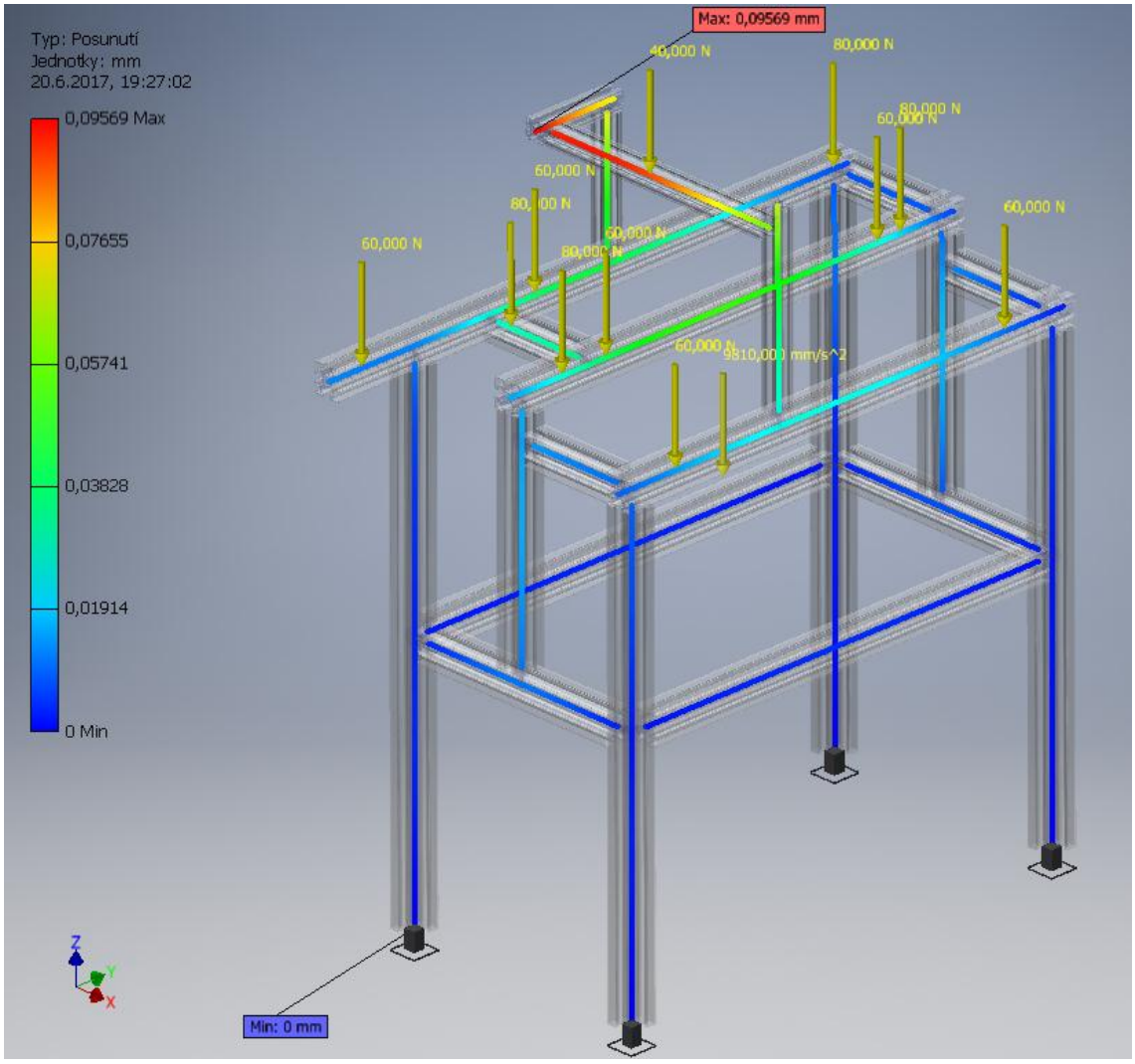
Název vazby	Reakční síla		Reakční moment	
	Velikost	Komponenty (Fx, Fy, Fz)	Velikost	Komponenty (Mx, My, Mz)
Pevná vazba:1	287,988 N	11,564 N	1704,884 N mm	609,854 N mm
		-4,216 N		1591,968 N mm
		287,725 N		18,606 N mm
Pevná vazba:2	186,738 N	-11,628 N	1562,956 N mm	436,752 N mm
		-3,411 N		-1500,609 N mm
		186,344 N		-15,896 N mm
Pevná vazba:4	170,325 N	-5,705 N	854,720 N mm	-425,182 N mm
		3,519 N		-741,221 N mm
		170,193 N		18,899 N mm
Pevná vazba:3	216,879 N	5,769 N	909,492 N mm	-439,073 N mm
		4,109 N		796,316 N mm
		216,763 N		-16,495 N mm

Statický souhrn výsledků

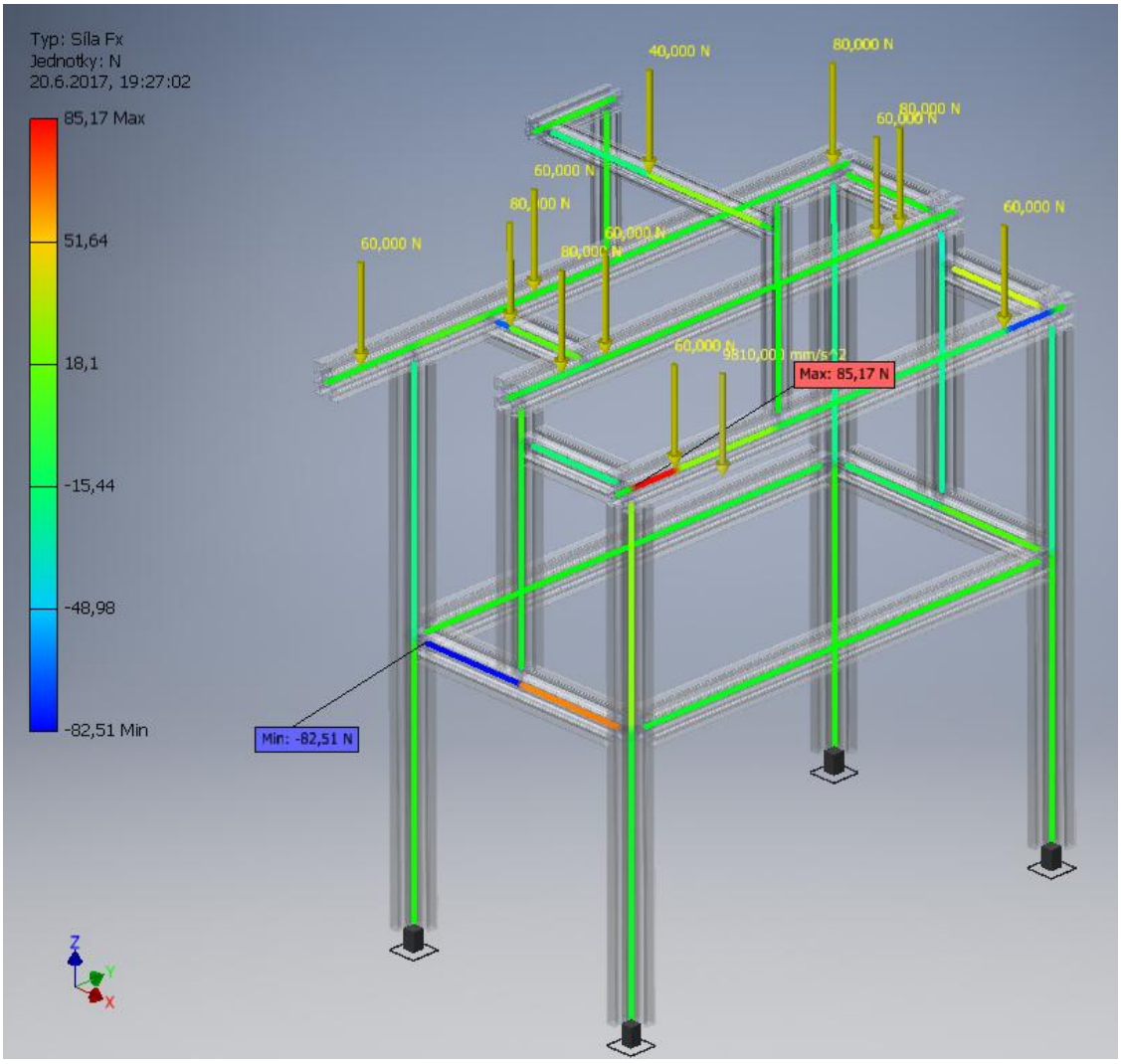
Název		Minimální	Maximální
Posunutí		0,000 mm	0,096 mm
Síly	Fx	-82,514 N	85,173 N
	Fy	-154,237 N	151,714 N
	Fz	-37,767 N	287,725 N
Momenty	Mx	-8989,787 N mm	10582,475 N mm
	My	-8391,010 N mm	9213,273 N mm
	Mz	-370,673 N mm	471,229 N mm
Normálová napětí	Smax	-0,490 MPa	2,433 MPa
	Smin	-2,848 MPa	-0,000 MPa
	Smax(Mx)	0,000 MPa	2,172 MPa
	Smin(Mx)	-2,172 MPa	-0,000 MPa
	Smax(My)	0,000 MPa	1,885 MPa
	Smin(My)	-1,885 MPa	-0,000 MPa
	Saxial	-0,504 MPa	0,066 MPa
Smyková napětí	Tx	-0,660 MPa	0,640 MPa
	Ty	-1,184 MPa	1,204 MPa
Napětí v krutu	T	0,000 MPa	0,000 MPa

Obrázky

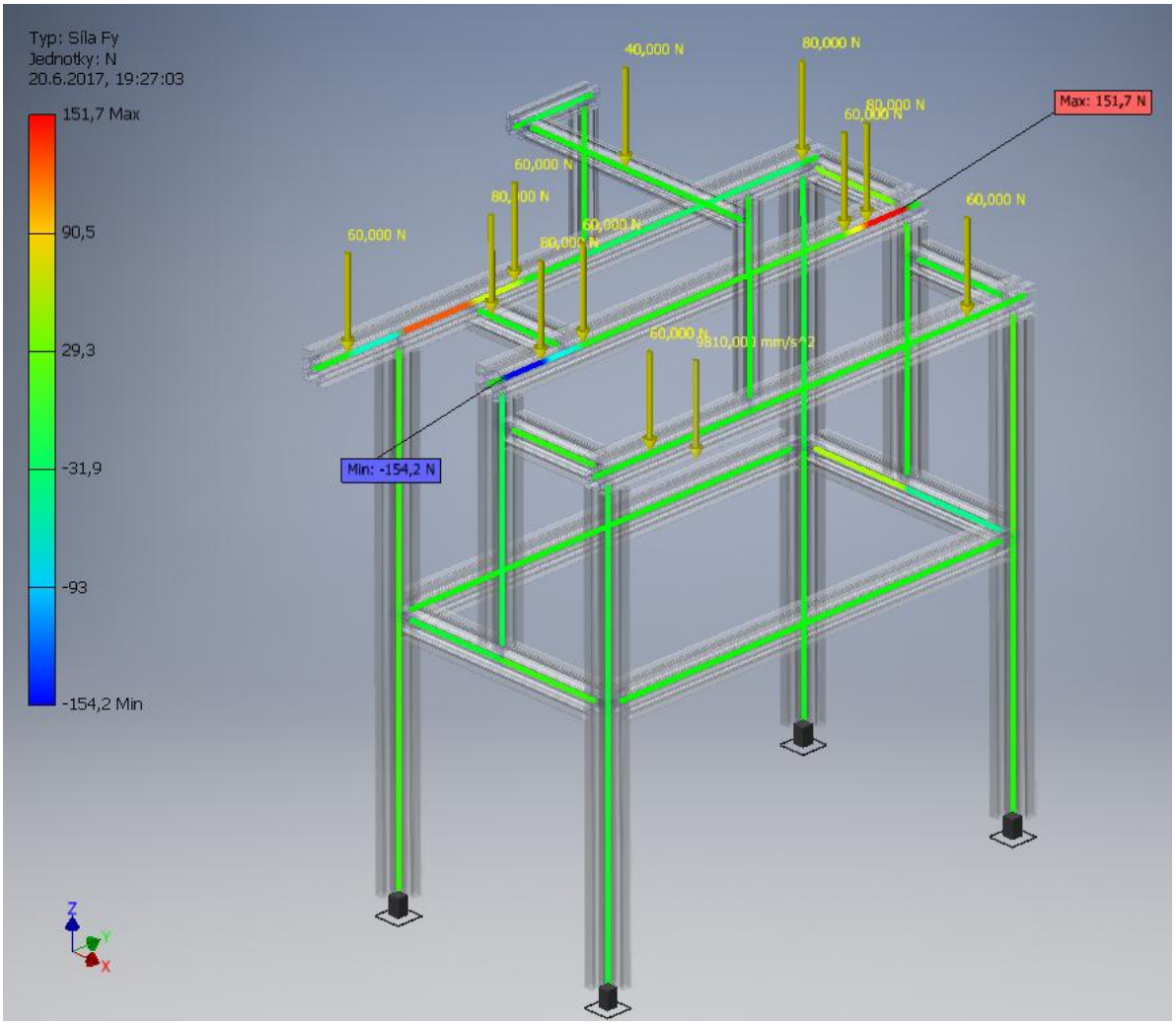
Posunutí



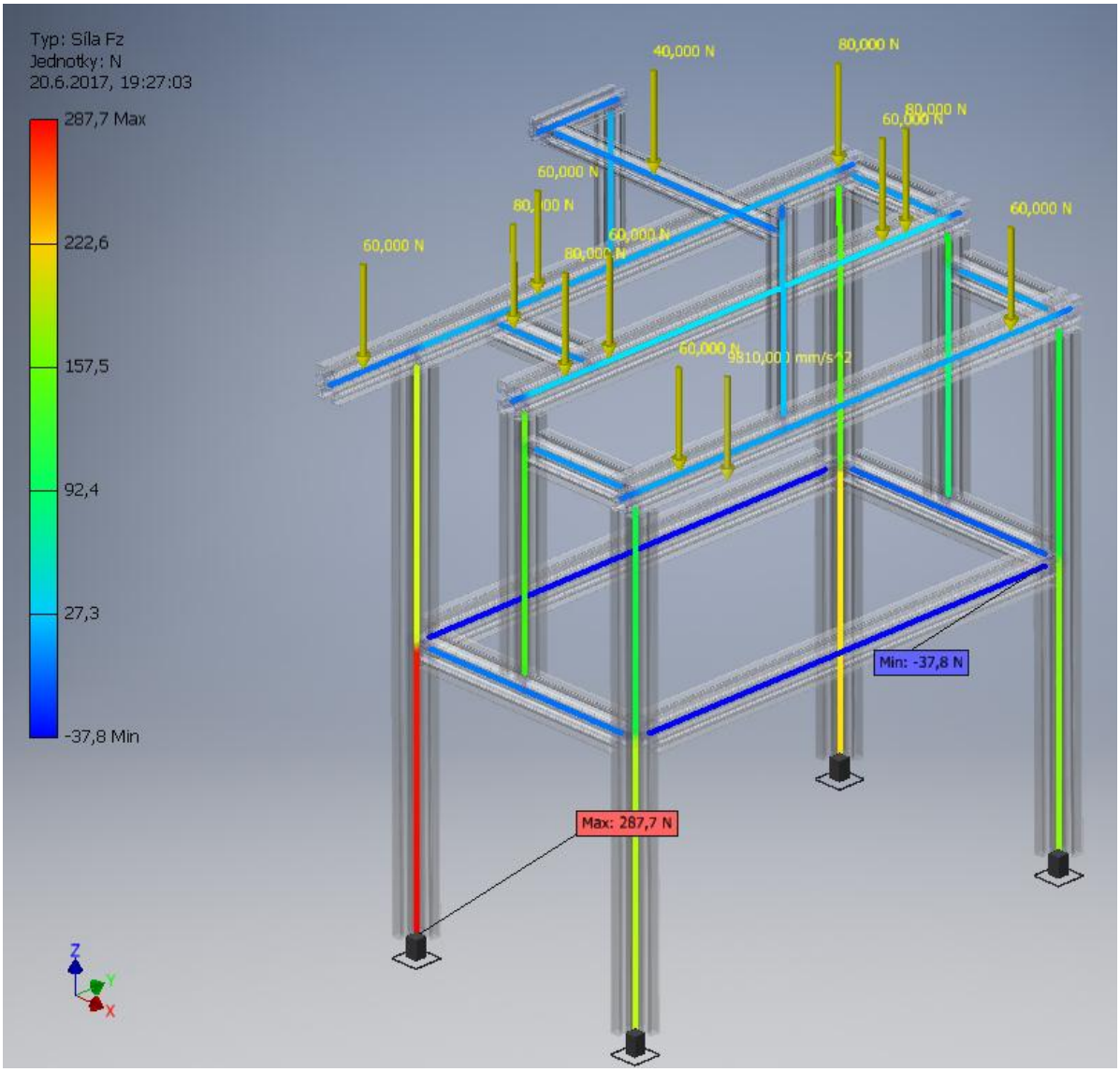
Síla Fx


Typ: Síla Fx
Jednotky: N
20.6.2017, 19:27:02
85,17 Max
51,64
18,1
-15,44
-48,98
-82,51 Min
40,000 N
80,000 N
60,000 N
Max: 85,17 N
Min: -82,51 N

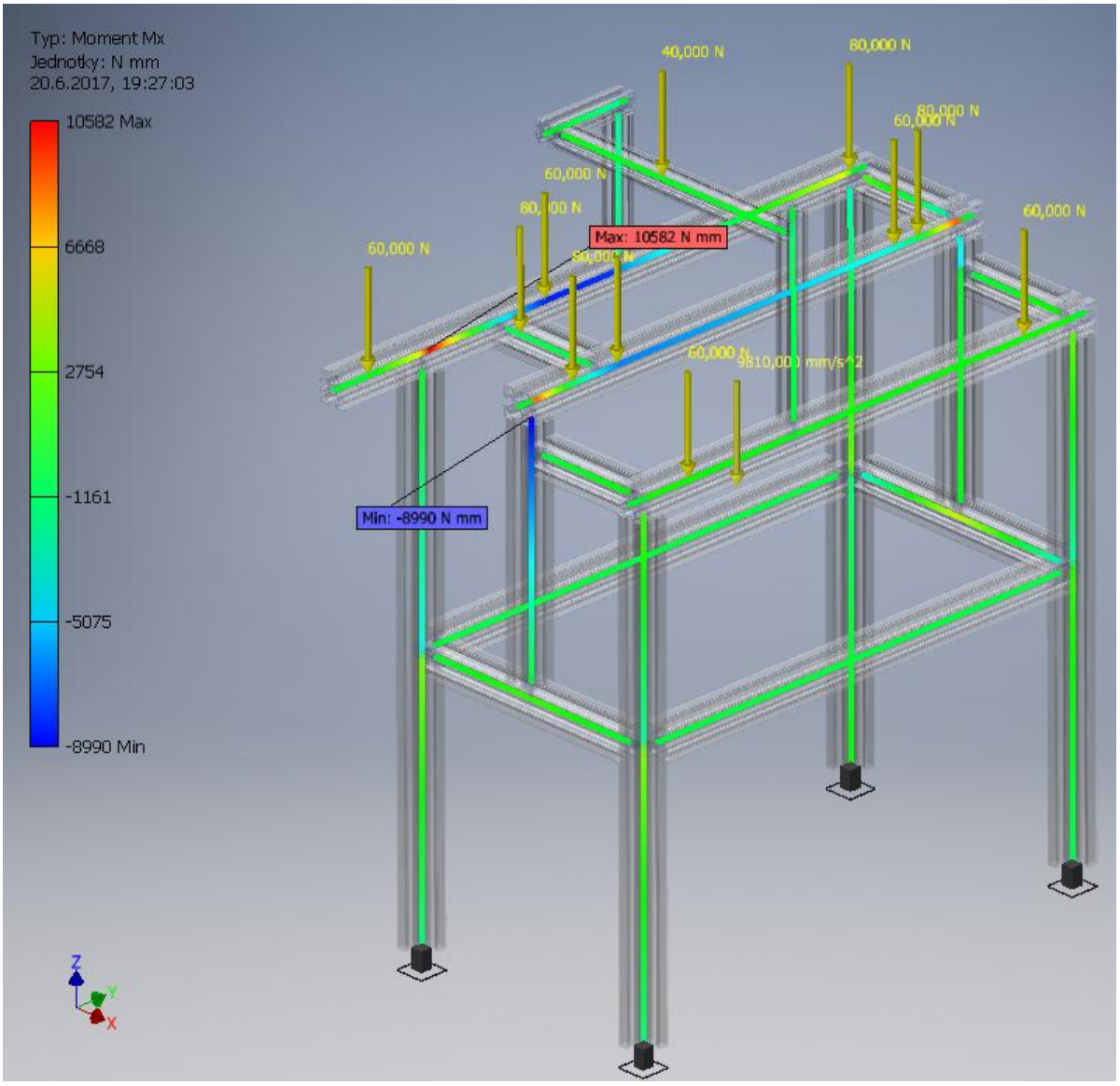
Síla Fy


Typ: Síla Fy
Jednotky: N
20.6.2017, 19:27:03
151,7 Max
90,5
29,3
-31,9
-93
-154,2 Min
Max: 151,7 N
Min: -154,2 N
40,000 N
80,000 N
60,000 N
9810,00 mm/s^2

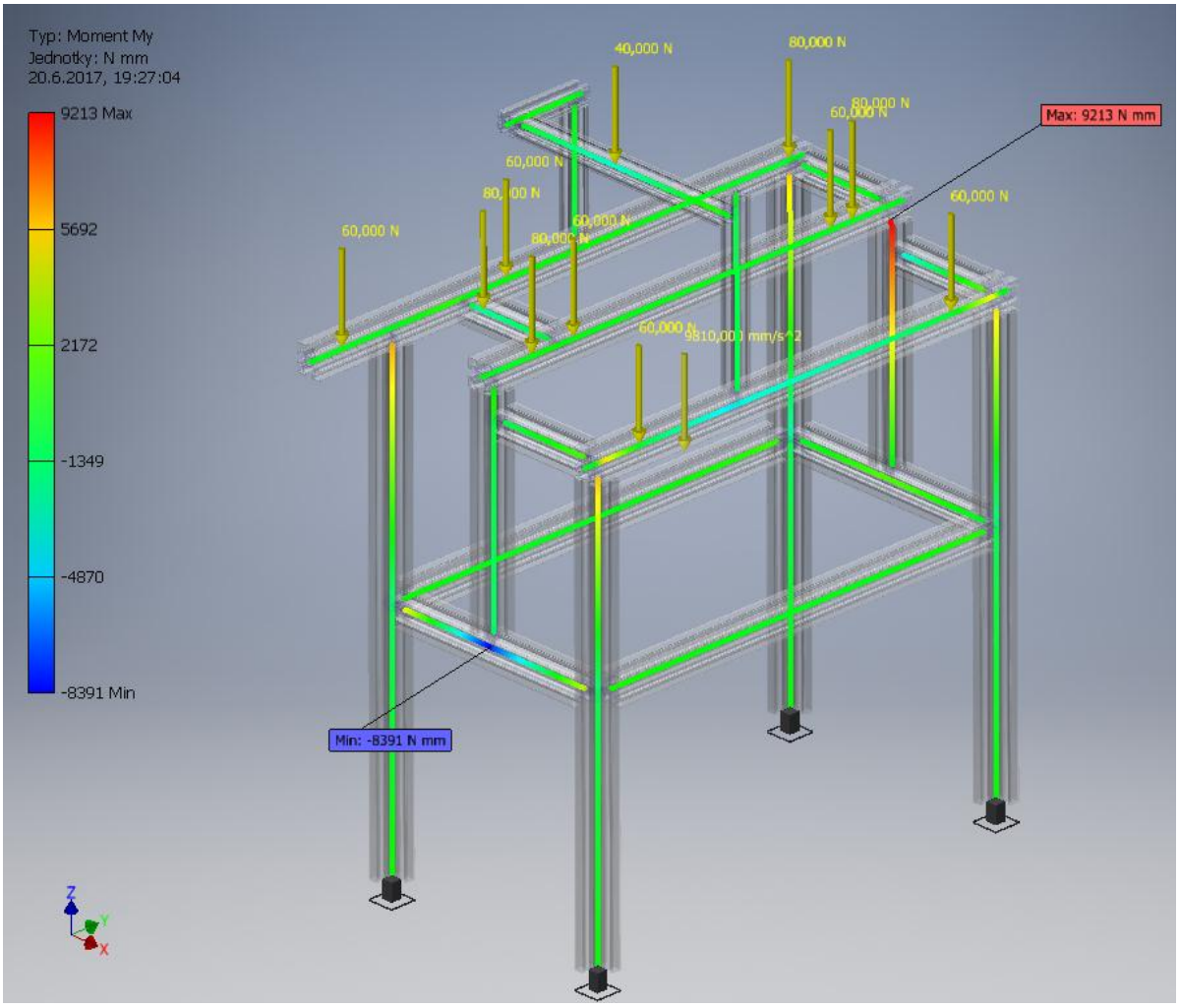
Síla Fz


Typ: Síla Fz
Jednotky: N
20.6.2017, 19:27:03
287,7 Max
222,6
157,5
92,4
27,3
-37,8 Min
40,000 N
80,000 N
60,000 N
60,000 N
60,000 N
Min: -37,8 N
Max: 287,7 N

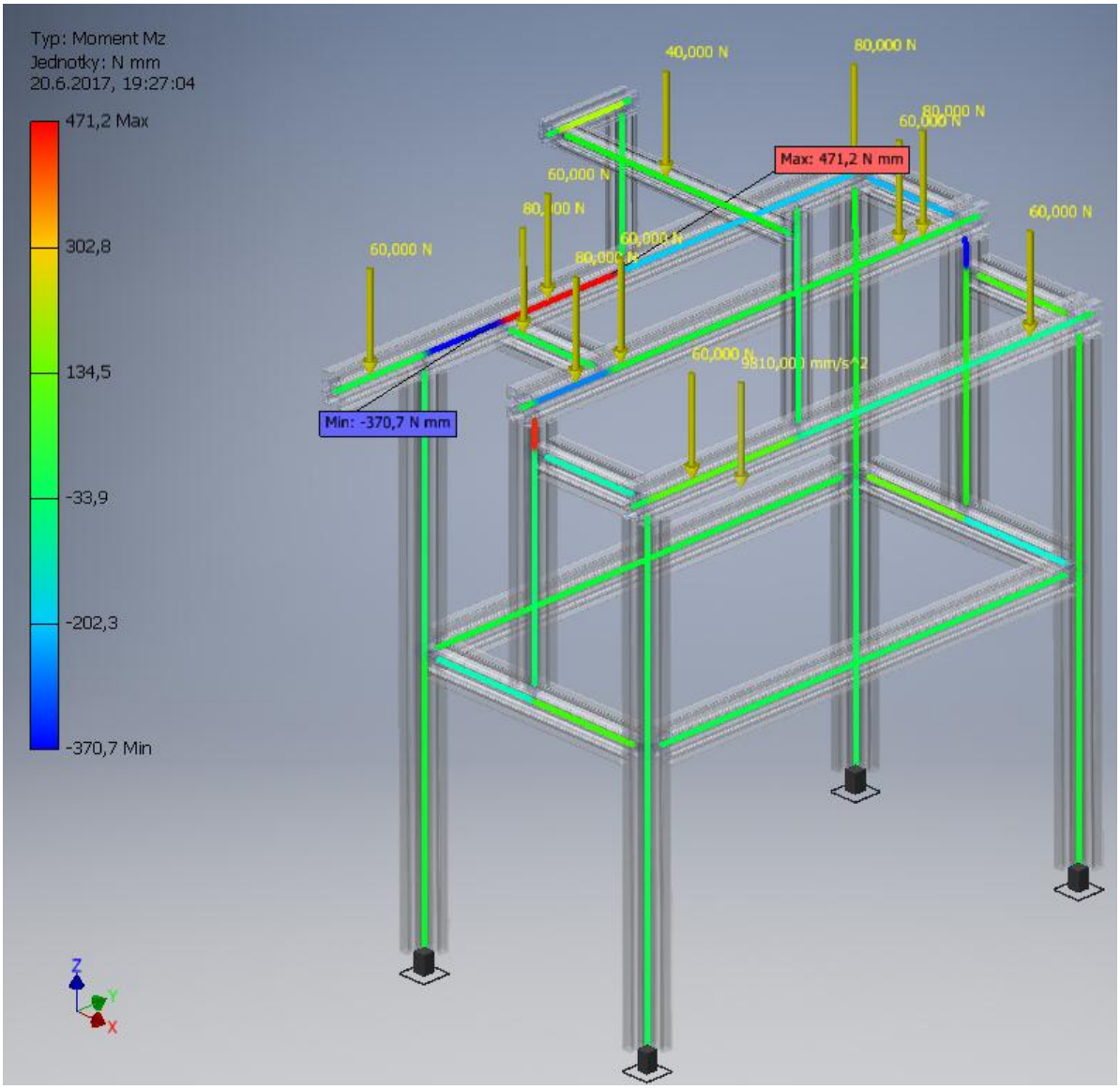
Moment Mx


Typ: Moment Mx
Jednotky: N mm
20.6.2017, 19:27:03
10582 Max
6668
2754
-1161
-5075
-8990 Min
40,000 N
80,000 N
60,000 N
60,000 N
60,000 N
Max: 10582 N mm
Min: -8990 N mm
9810,000 mm/s^2
Z
Y
X

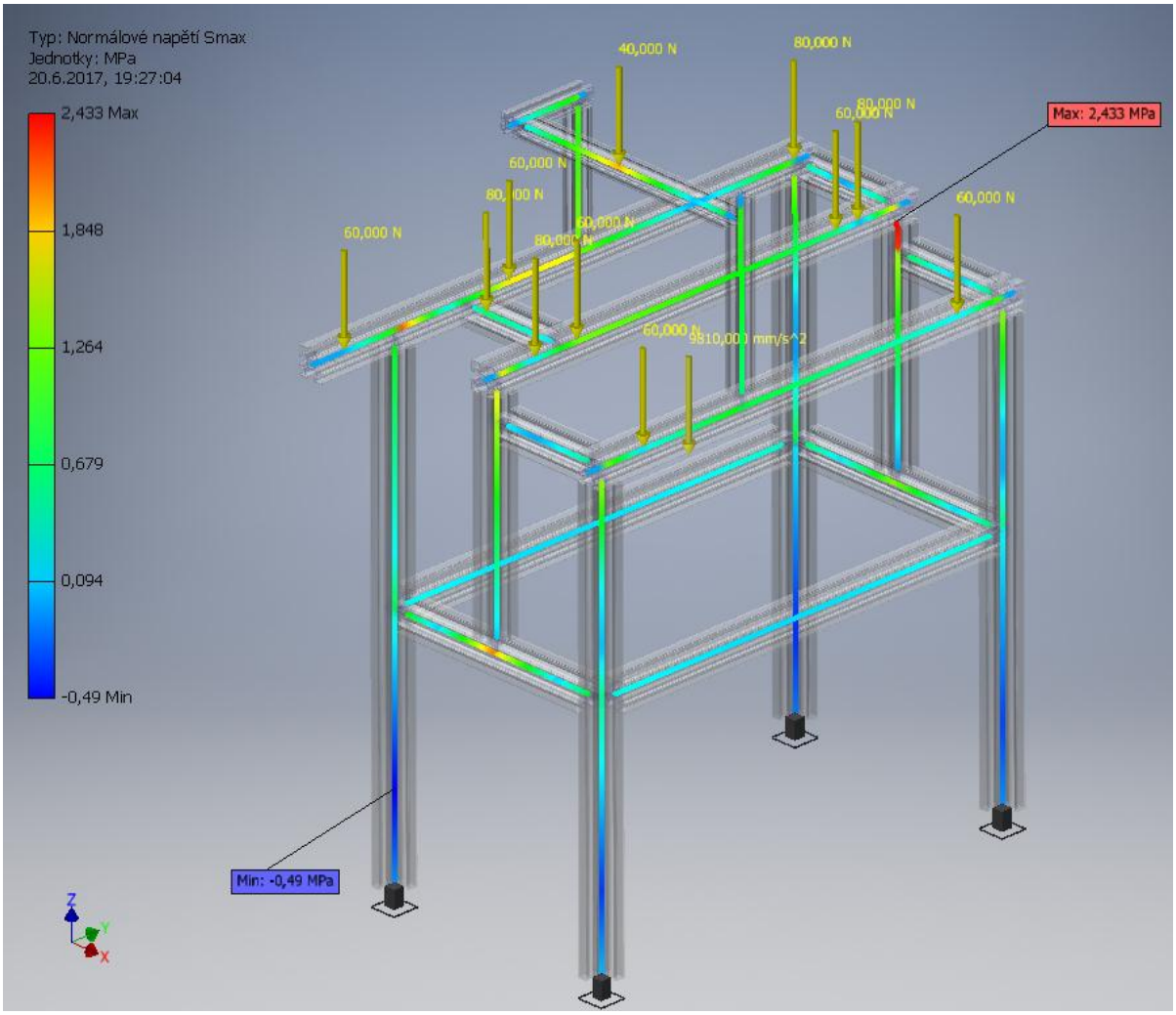
Moment My


Typ: Moment My
Jednotky: N mm
20.6.2017, 19:27:04
9213 Max
5692
2172
-1349
-4870
-8391 Min
Max: 9213 N mm
Min: -8391 N mm
40,000 N
80,000 N
60,000 N
9810,000 mm/s^2

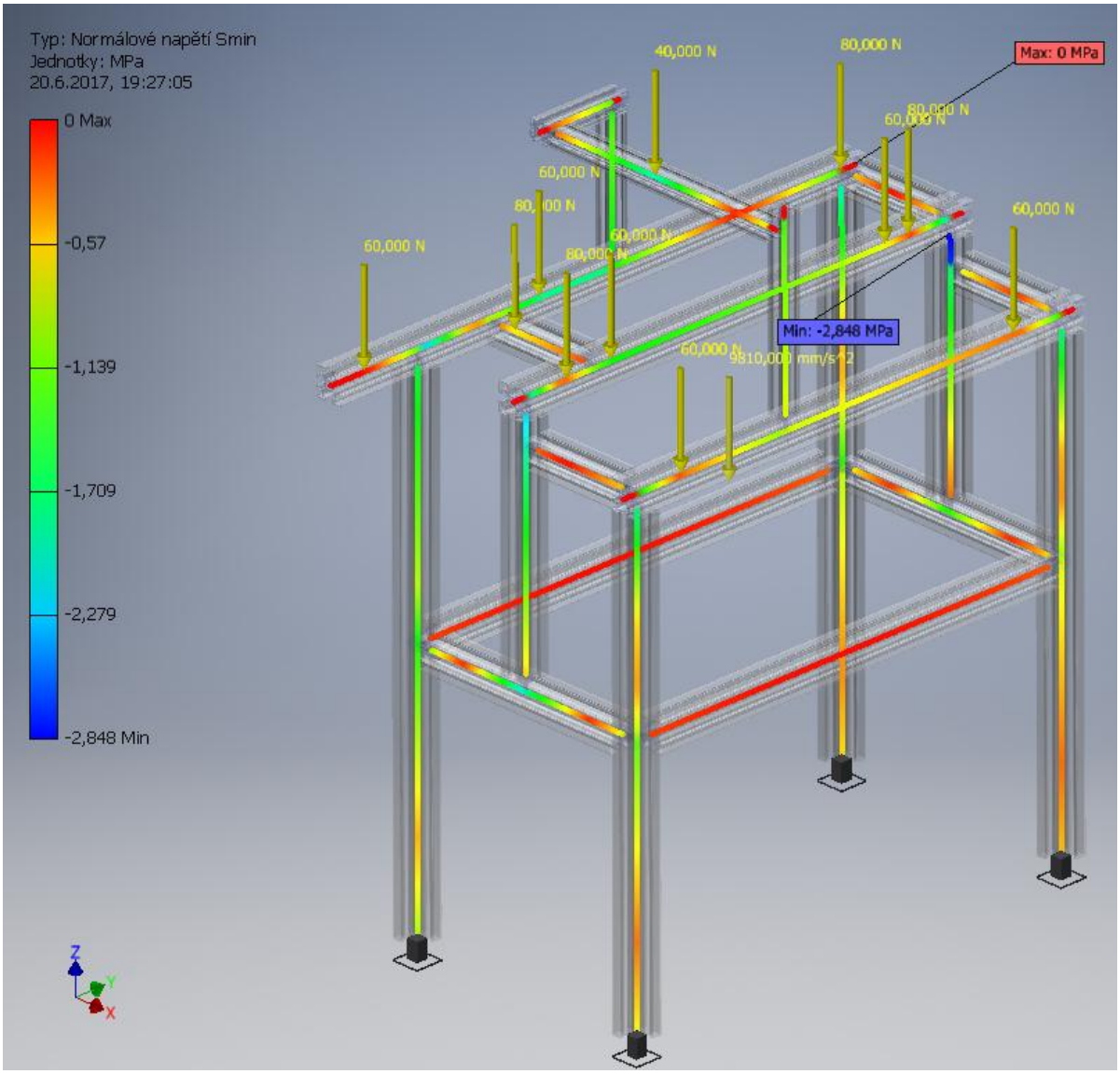
Moment Mz


Typ: Moment Mz
Jednotky: N mm
20.6.2017, 19:27:04
471,2 Max
302,8
134,5
-33,9
-202,3
-370,7 Min
Max: 471,2 N mm
Min: -370,7 N mm
40,000 N
80,000 N
60,000 N
9810,000 mm/s^2

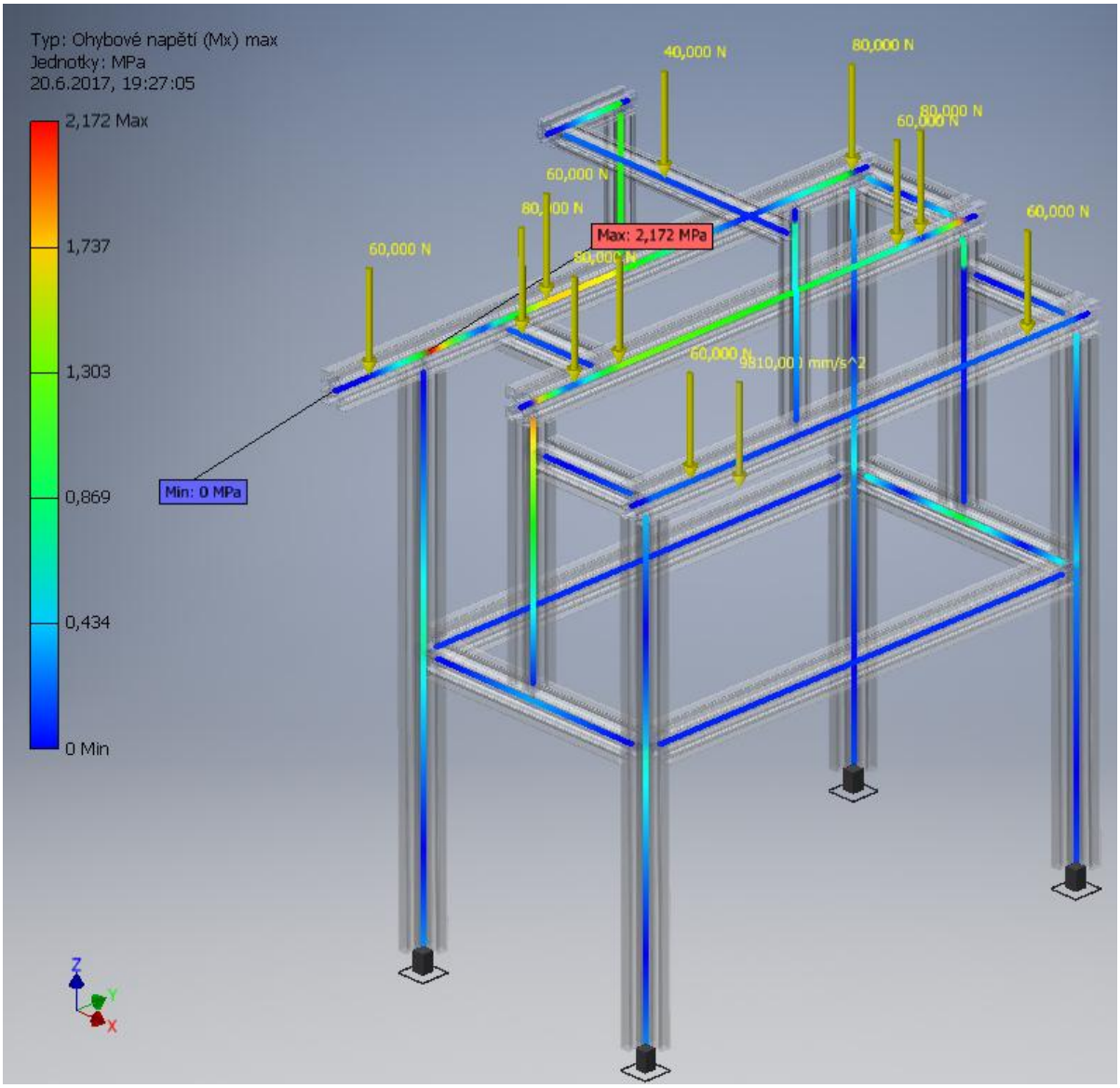
Normálové napětí Smax



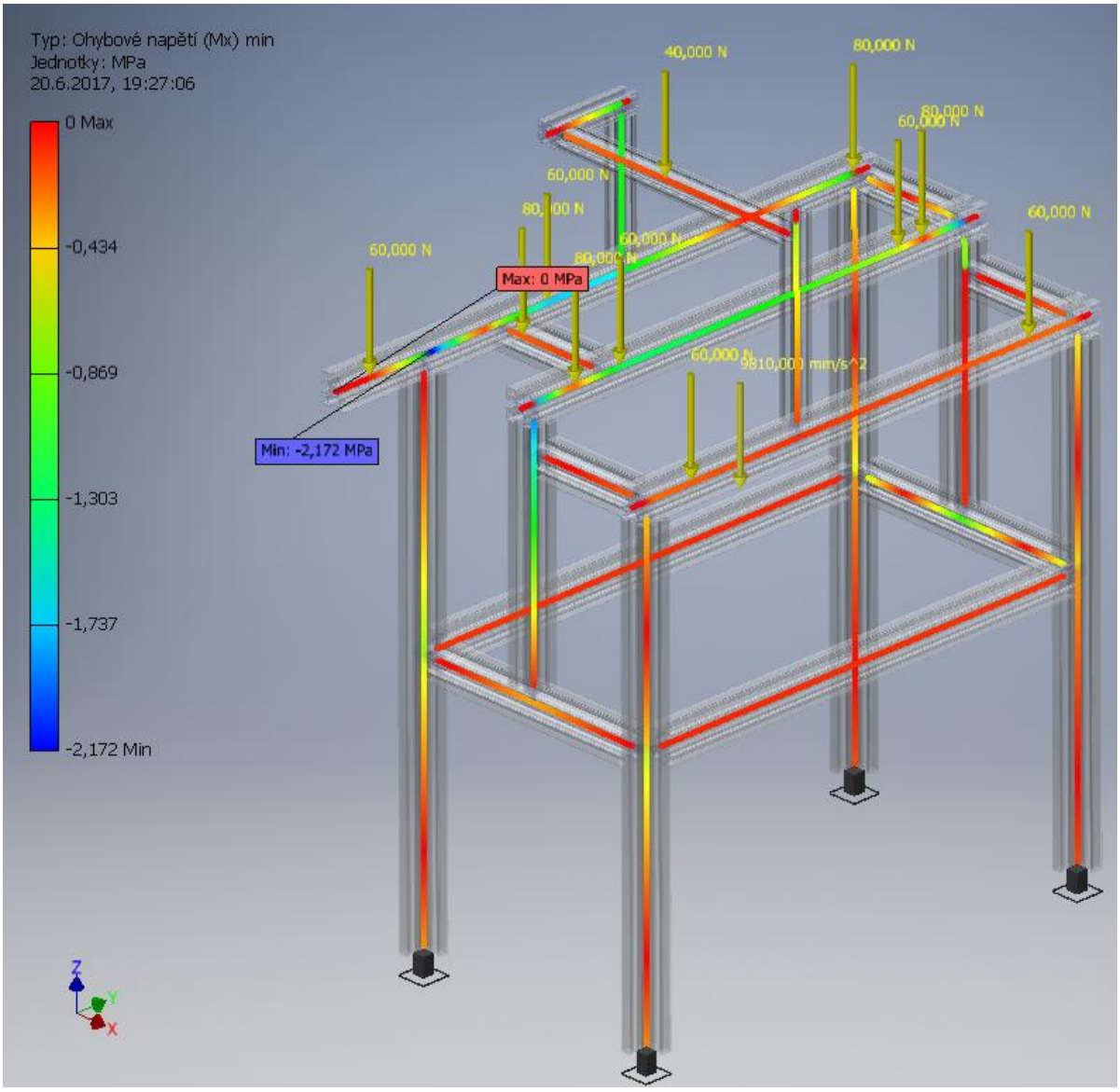
Normálové napětí Smin



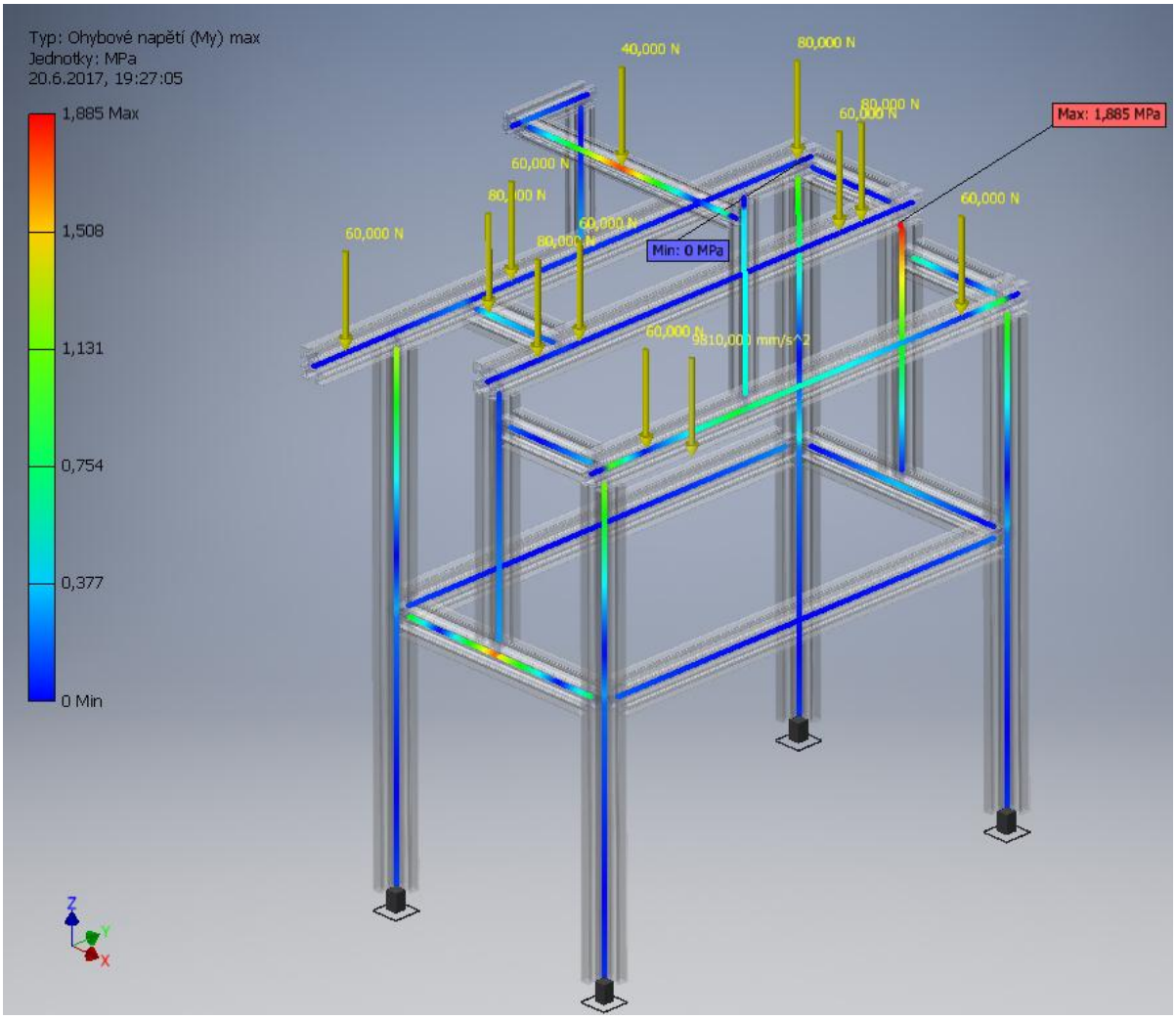
Normálové napětí Smax(Mx)



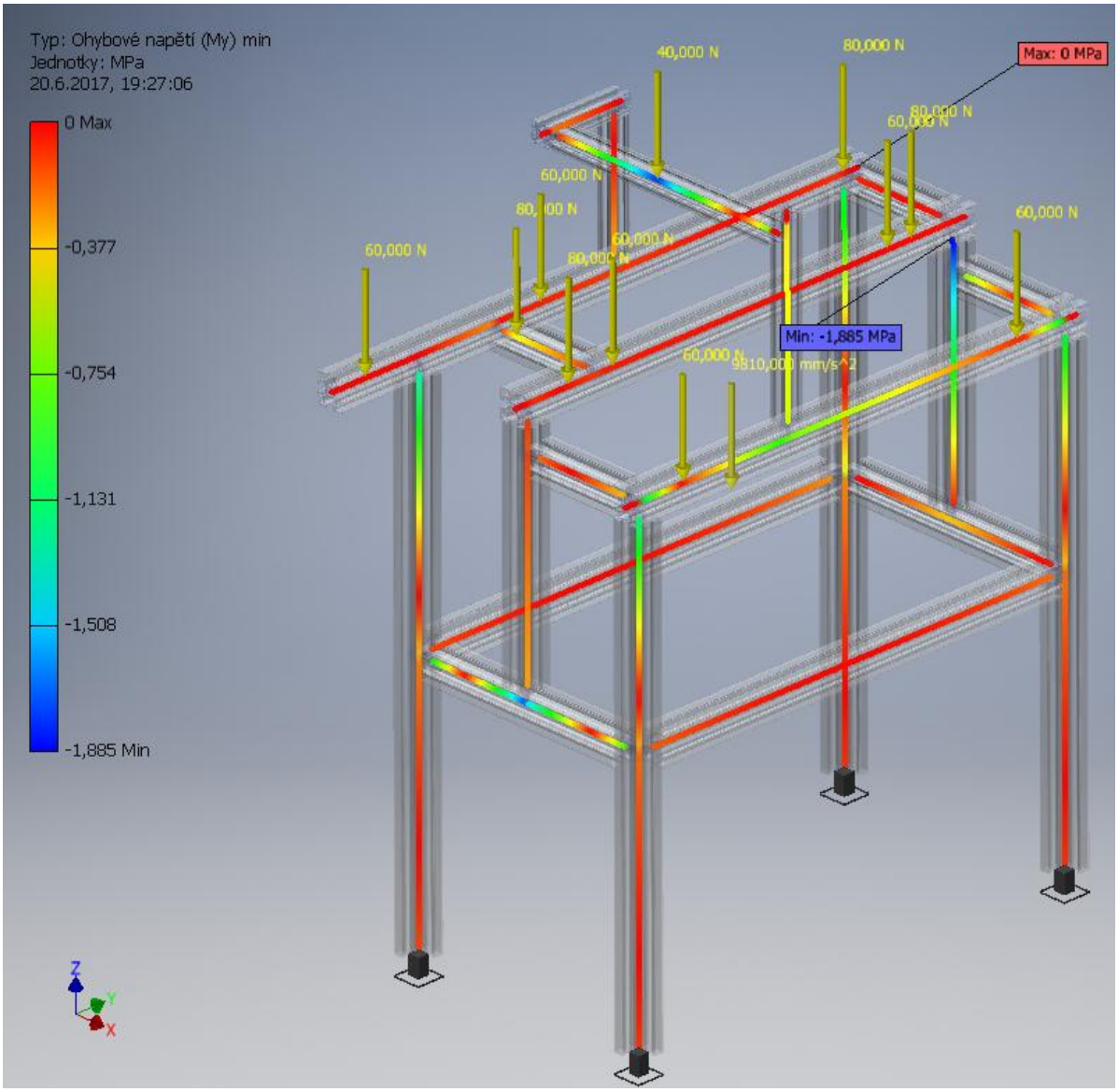
Normálové napětí Smin(Mx)



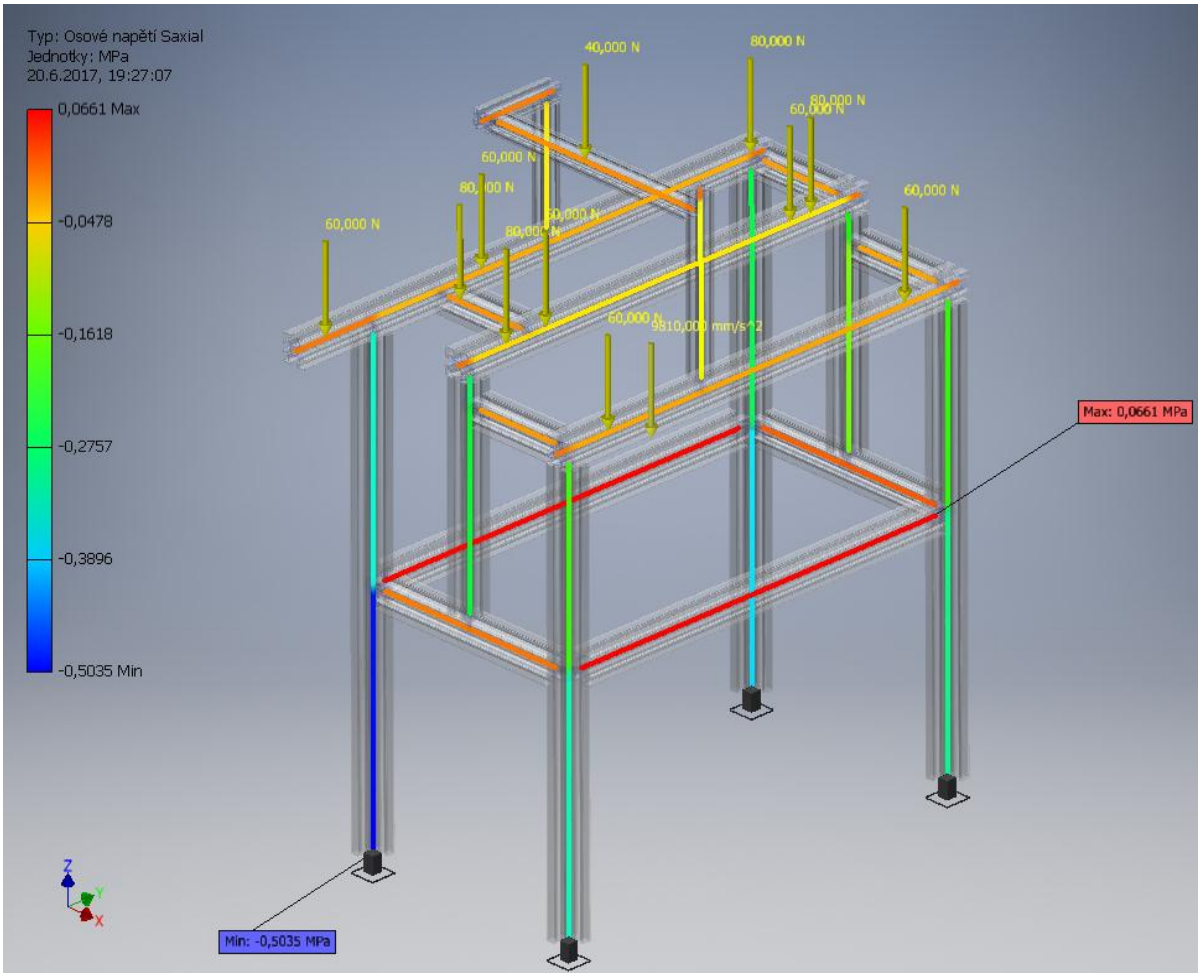
Normálové napětí Smax(My)



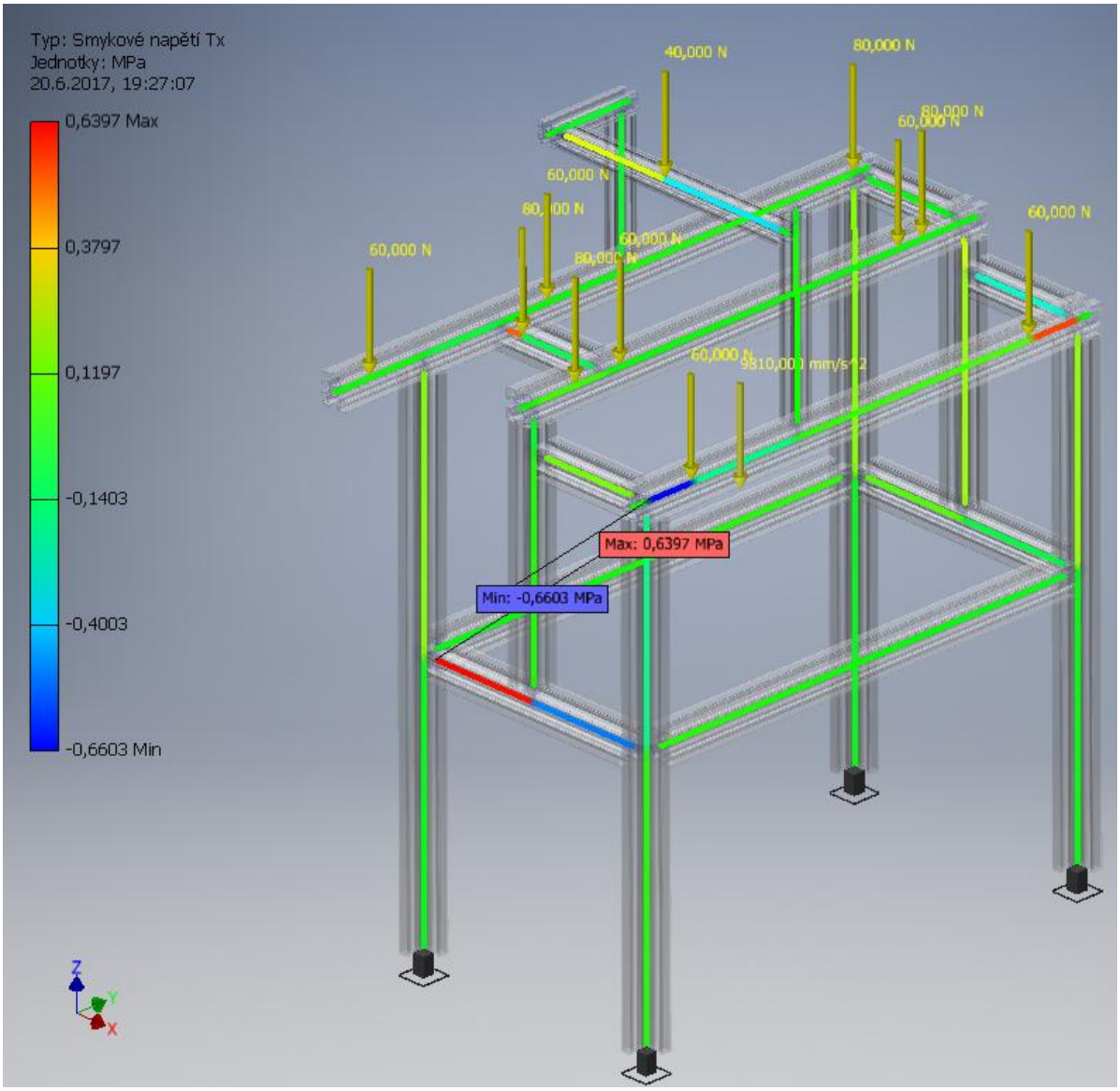
Normálové napětí Smin(My)



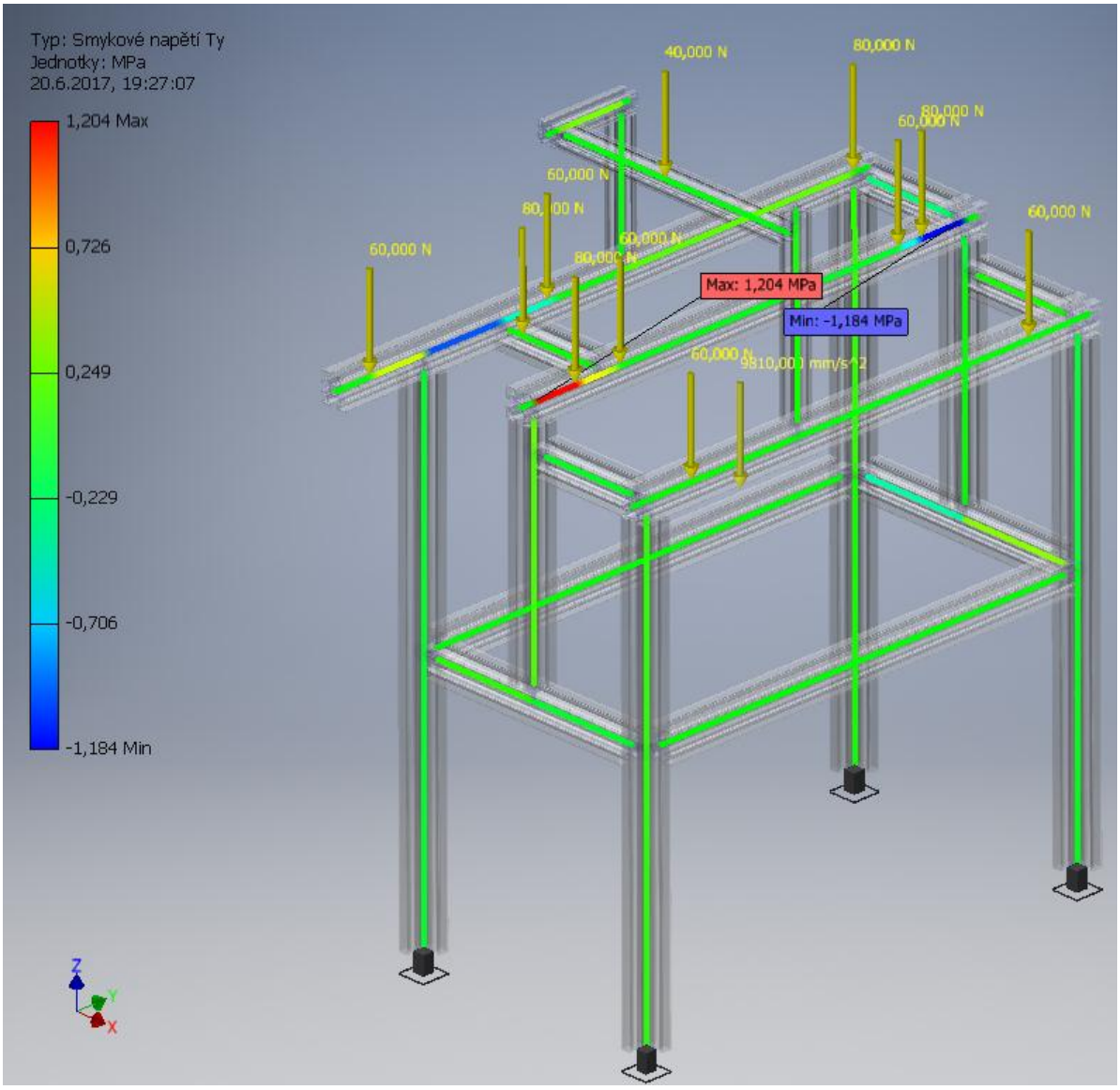
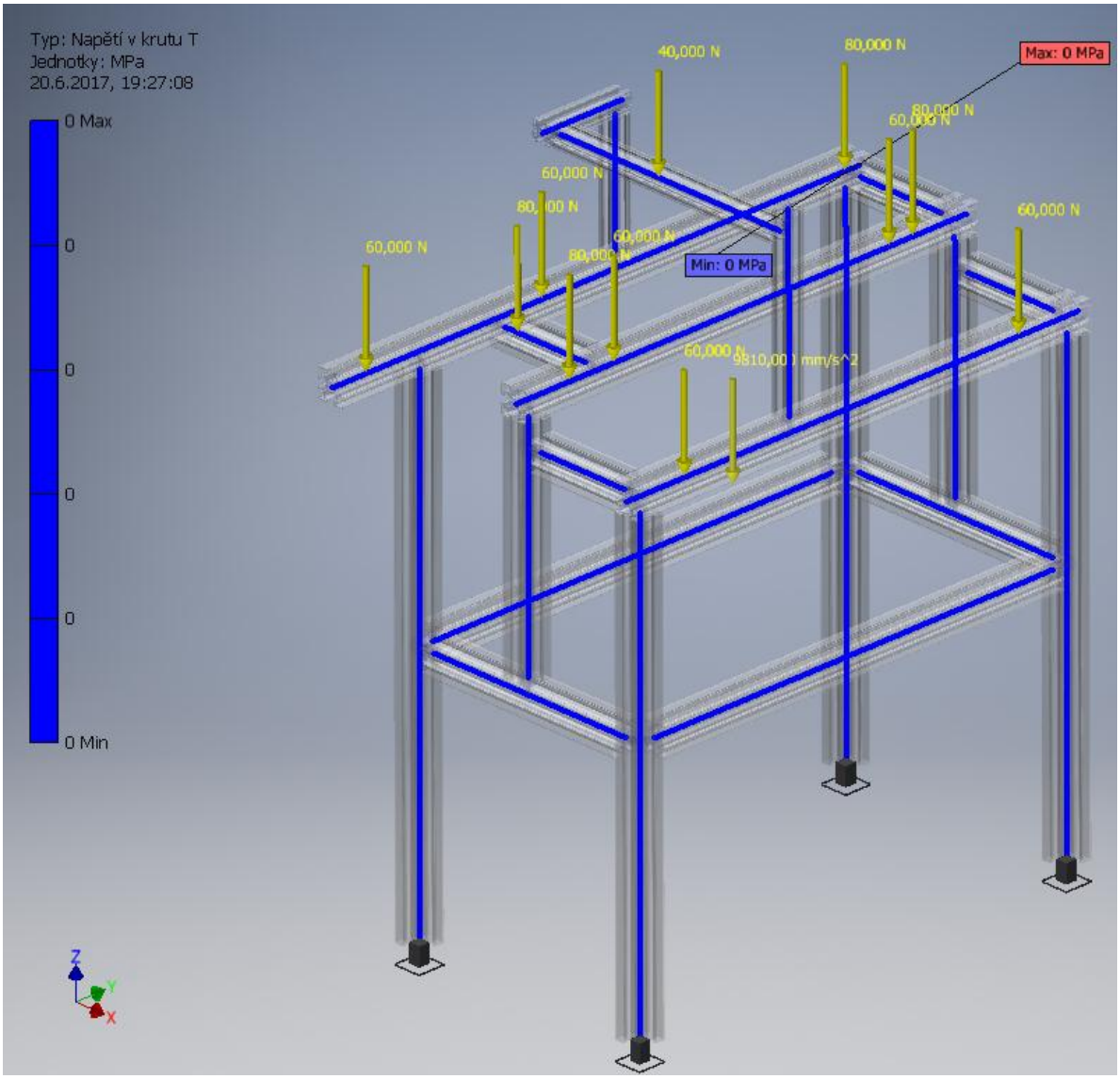
Normálové napětí Saxial



Smykové napětí Tx



Smykové napětí Ty



Napětí v krutu T