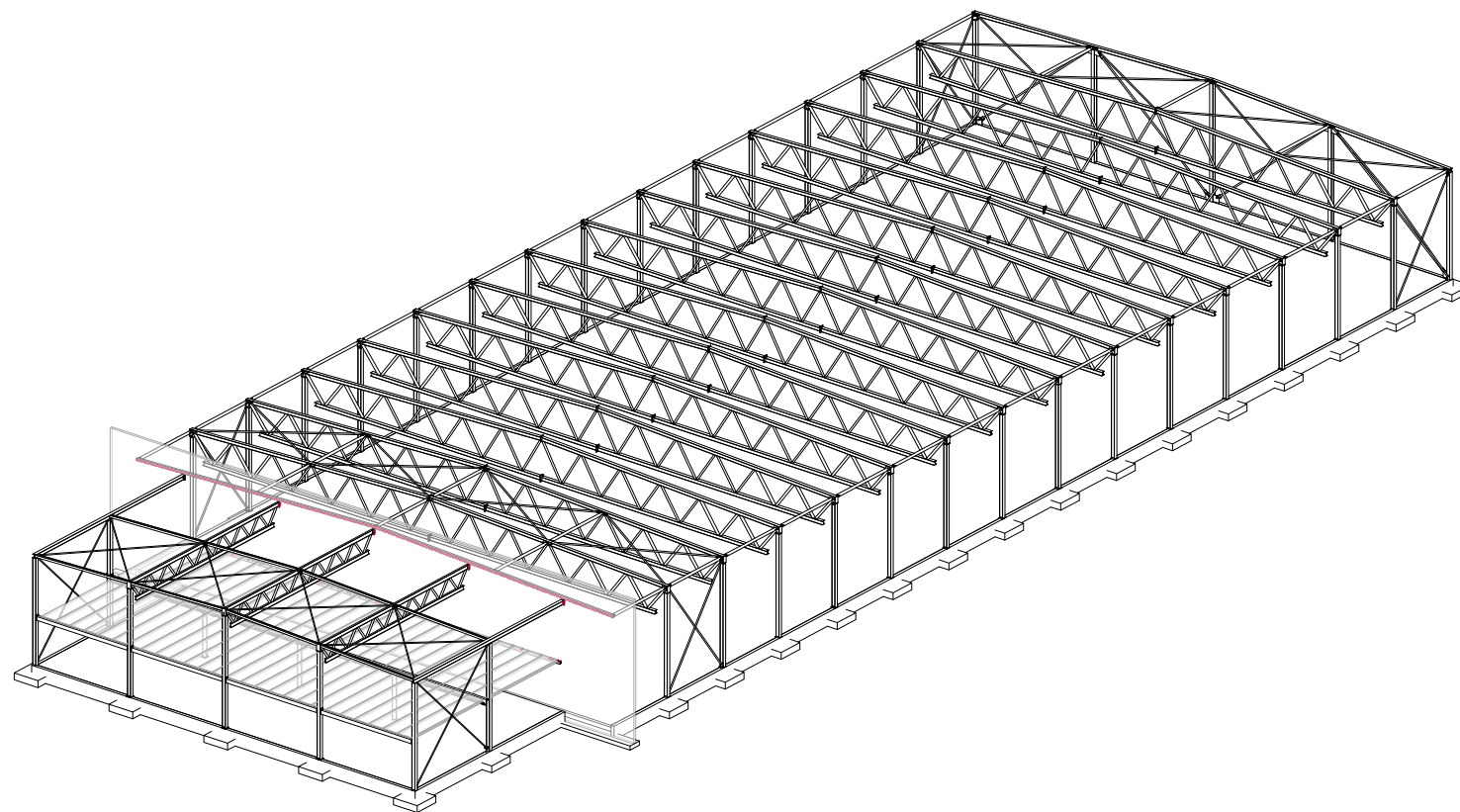


# BURÐARÞOLS- OG BRUNAHÖNNUN STÁLGRINDAR

## Örn Jóhannesson

### Lokaverkefni í byggingartæknifræði BSc

### 2014



Stálgeð þversniða og samfering skulu vera S275 skv. EN 1993-1-1, tafla 3.1.  
Stálgeð bolt skulu vera 8.8 skv. EN 1993-1-8, tafla 3.1

#### BRUNAHÖLFUN

Lágmarks mótstada meðbrunahölfun er ákveðin skv. löfu 9.03 í byggingareglum. Byggingin skiptist í tvo megin brunahölf, annars vegar lagarhluti og hins vegar skífstífu-ventilarnám. Skífstífu-ventilarnámni skiptast upp í tvo brunahölf á hvort hendi megin brunahölf og því má tákna þau brunahölf um einn flokk. Lágmarks mótstada brunahölfun verður því eftirfarandi:

- Vöruski: E30
- Skífstífulur: E30
- Ventilar: E30

#### BRUNAMÓTSTADA

Brunamótstada burðarvirkni er ákveðin skv. löfu 9.11 í byggingareglum. Brunabáa í öllum brunahölfum er umfið 600 kúlm. Skv. löfu 6.03 í byggingareglum má tákna brunamótstöðu um einn flokk í byggingum með stálvirkni útskipti. Brunamótstada burðarvirkni skal uppfylla eftirfarandi brunastig:

- Vöruski: R 60
- Skífstífulur: R 60
- Ventilar: R 60

#### HÖNNUN

Burðarvirkni er reiknað skv. EC 1993-1-1. Festingar skv. EC 1993-1-8.

Ákvörðun brunavarna er skv. EC 1991-1-2 og EC 1993-1-2

HR

Krókháls

Forsiða

Project number BT LOK1012

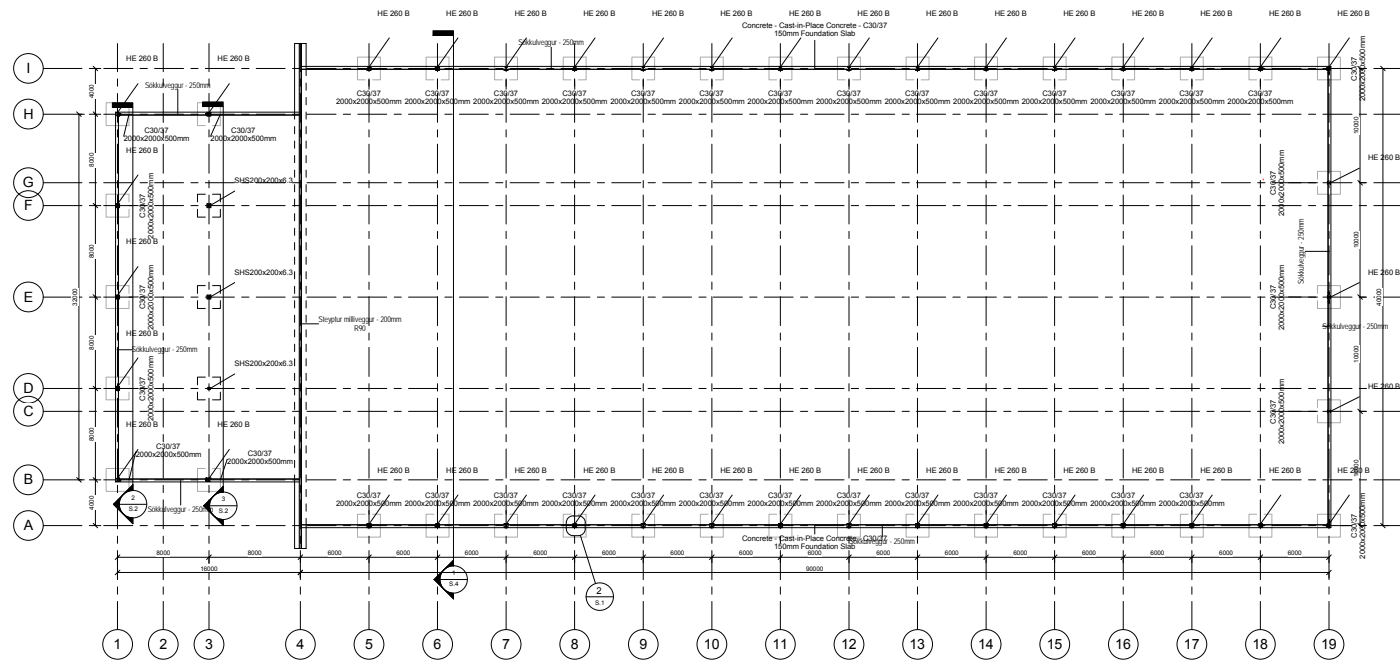
Date 10.12.2014

Drawn by ÖJ

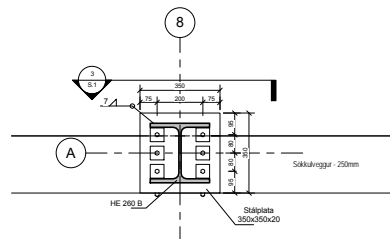
Checked by XX

S.0

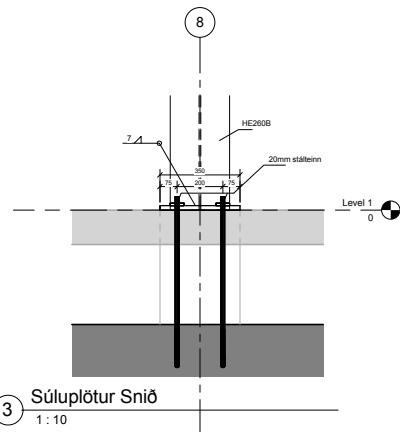
Scale



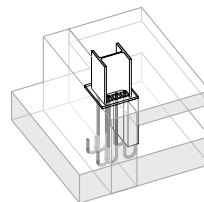
1 Undirstöður-Grunnmynd  
1 : 200



2 Súluplötur planteikning  
1 : 10



3 Súluplötur Sníð  
1 : 10



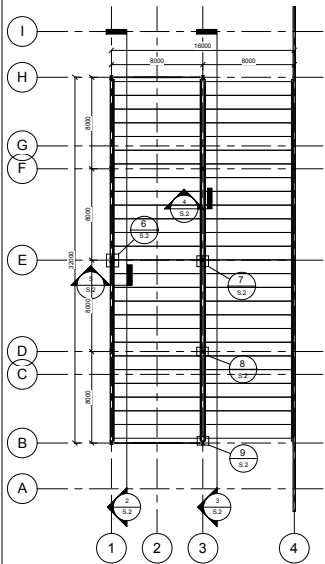
4 Súlufötur

Stálsúlur						
Burðarvirka hlúti	Type	Length	Count	Structural Material	Volume	kg
Stálsúlur	HE 260 B	7580	29	Stál - S275	0.09 m <sup>3</sup>	19585.4
7580: 29						19585.4
Stálsúlur	HE 260 B	8000	2	Stál - S275	0.09 m <sup>3</sup>	1400.2
8000: 2						1400.2
Stálsúlur	HE 260 B	8300	4	Stál - S275	0.09 m <sup>3</sup>	2799.4
8300: 4						2799.4
Stálsúlur	HE 260 B	9000	3	Stál - S275	0.09 m <sup>3</sup>	2134.8
9000: 3						2134.8
Stálsúlur	HE 260 B	10000	3	Stál - S275		2243.3
10000: 3						2243.3
HE 260 B: 41						28163.1
Stálsúlur	SHS200x200x6.3	3310	3	Stál - S275	0.02 m <sup>3</sup>	379.3
3310: 3						379.3
SHS200x200x6.3: 3						379.3
Grand total						28542.5

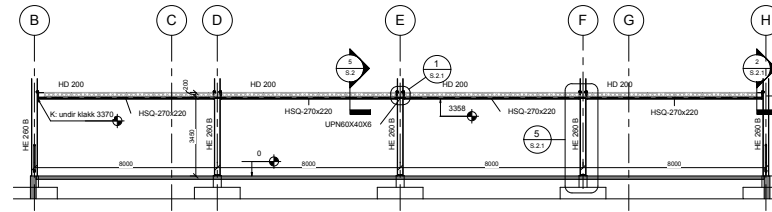
HR  
Krókháls  
Undirstöður

Project number: BT LOK1012  
Date: 10.12.2014  
Drawn by: ÖJ  
Checked by: XX

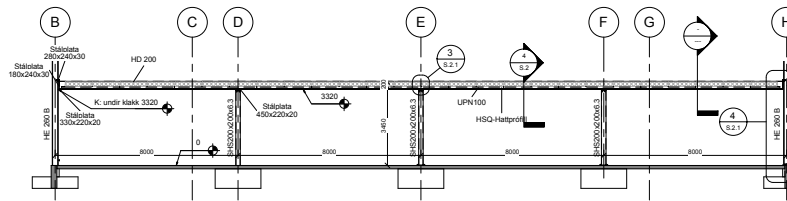
S.1  
Scale: As indicated



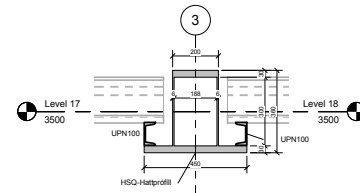
1 Burðarvirki verslun 1.hæð  
1 : 200



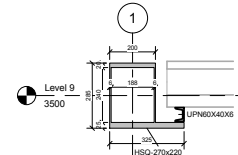
2 Snið gafis verslun 1.hæð  
1 : 100



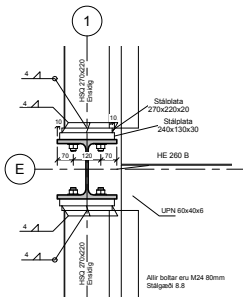
3 Snið miðramma verslun 1.hæð  
1 : 100



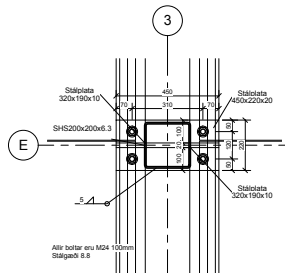
4 Hattprófill  
1 : 10



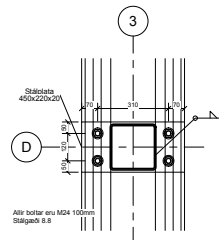
5 HSQ-Ensidig  
1 : 10



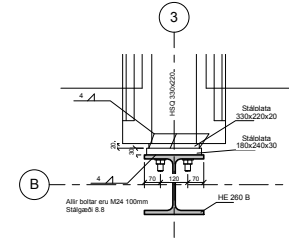
6 Tenging HSQ endabita  
1 : 10



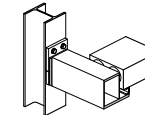
7 Tenging HSQ bita  
1 : 10



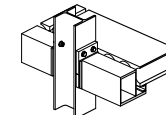
8 Tenging HSQ bita á burðarsúlu  
1 : 10



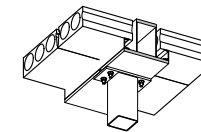
9 Tenging HSQ bita við útveggjasúlu  
1 : 10



10 Einfaldur klakkur



11 Tvöfaldur klakkur



12 Áseta HSQ 330x220



HR

Krókháls

Burðarvirki  
verslun

Project number BT LOK1012

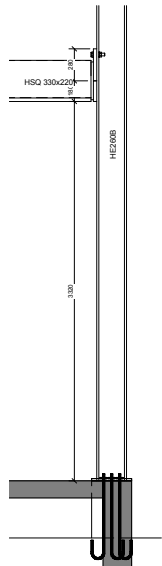
Date 10.12.2014

Drawn by ÖJ

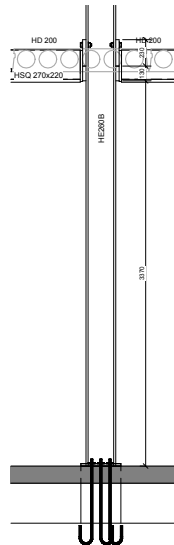
Checked by XX

S.2

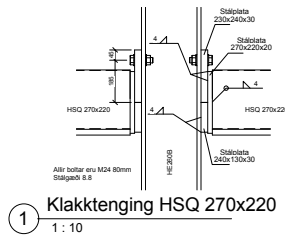
Scale As indicated



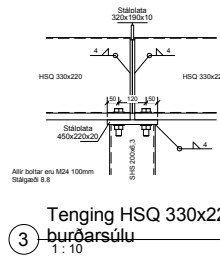
4 Klakk tenging HSQ 330x220  
1 : 20



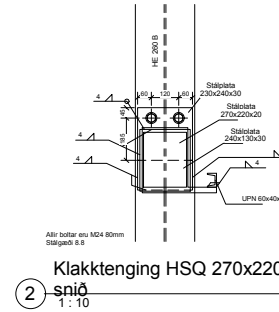
5 Tenging HSQ 270x220  
1 : 20



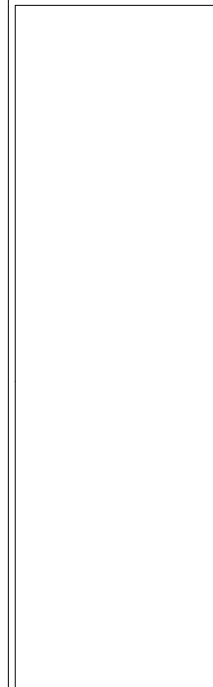
1 Klakktenging HSQ 270x220  
1 : 10



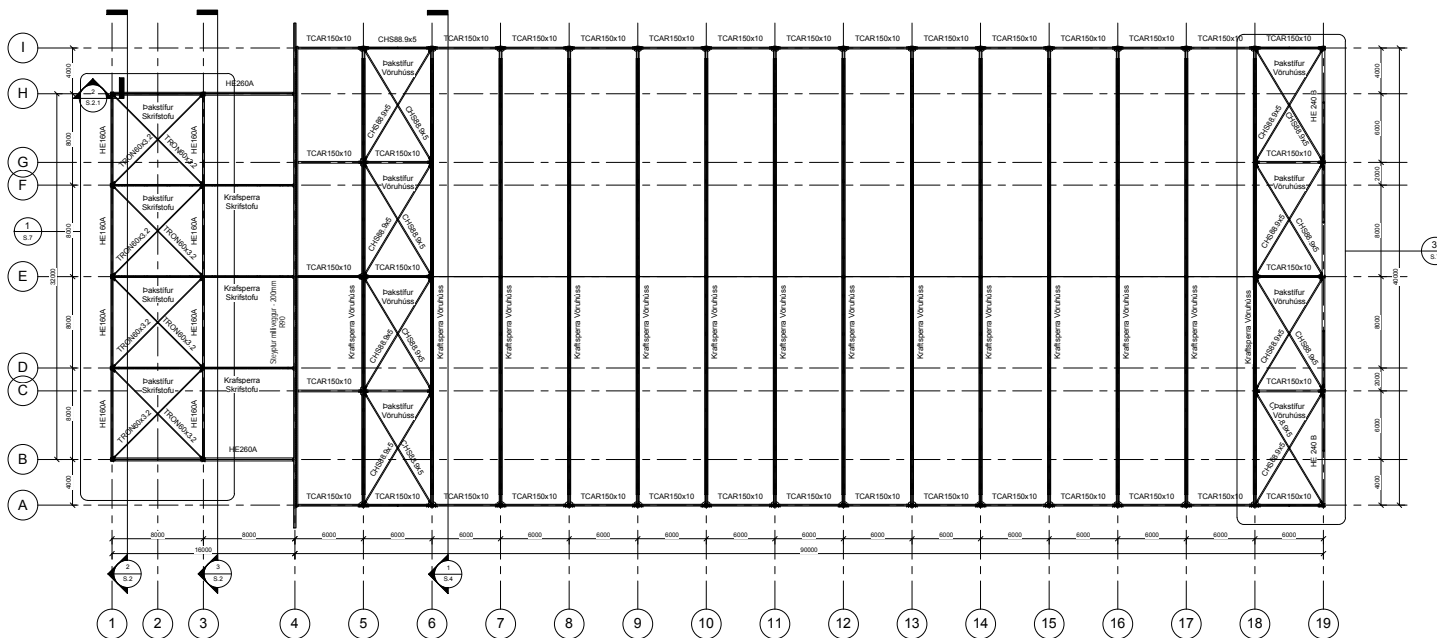
3 Tenging HSQ 330x220 við burðarsúlu  
1 : 10



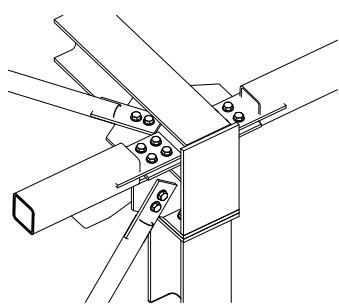
2 Klakktenging HSQ 270x220 snið  
1 : 10



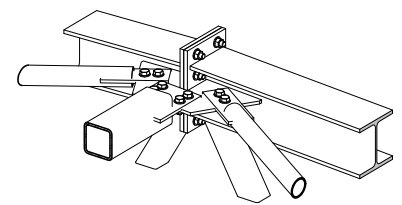
<b>HR</b>	
<b>Krókháls</b>	
<b>Burðarvirki verslun</b>	
Project number	BT LOK1012
Date	10.12.2014
Drawn by	ÖJ
Checked by	XX
<b>S.2.1</b>	
Scale	As indicated



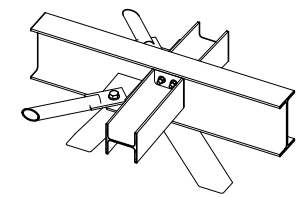
1 Þakvirki  
1 : 200



2 Tenging stífinga 1

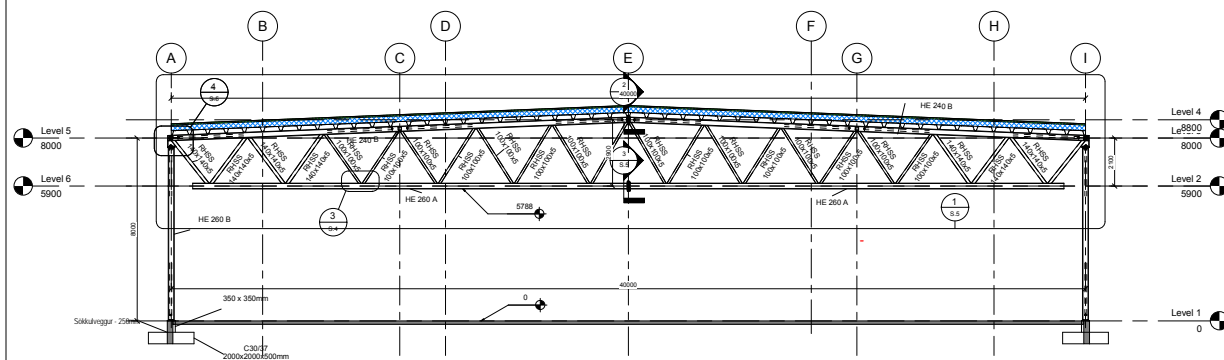


3 Tenging stífinga 2

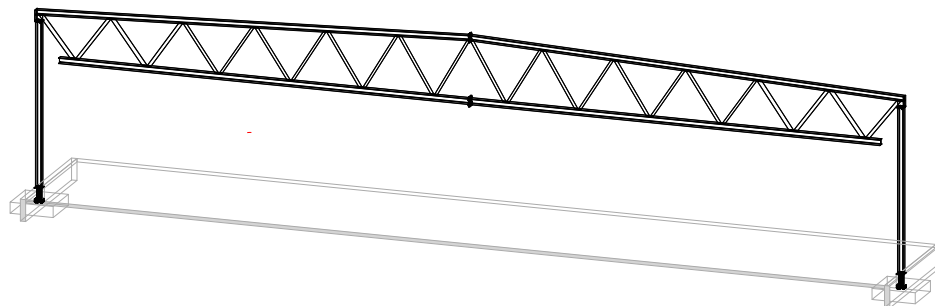


4 Tenging stífinga 3

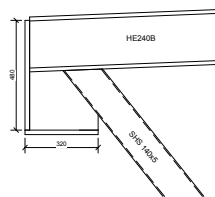
HR	
Krókháls	
Þakvirki	
Project number	BT LOK1012
Date	10.12.2014
Drawn by	ÖJ
Checked by	XX
<b>S.3</b>	
Scale	1 : 200



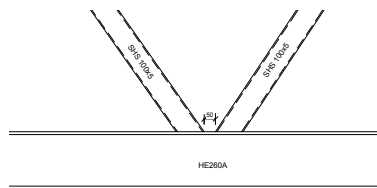
1 Sniðmynd vöruhúss  
1 : 100



4 Rammi vöruhúss



2 Áseta kraftsperru á súlu  
1 : 10



3 Kroppssúlu Vöruhúss  
1 : 10

HR

Krókháls

Rammi vöruhúss

Project number BT LOK1012

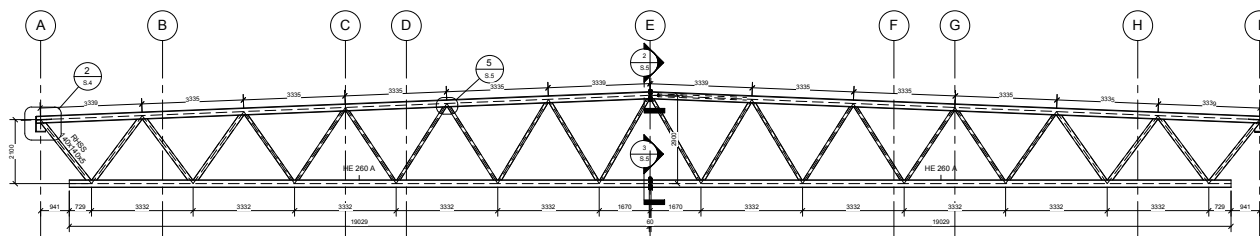
Date 10.12.2014

Drawn by ÖJ

Checked by XX

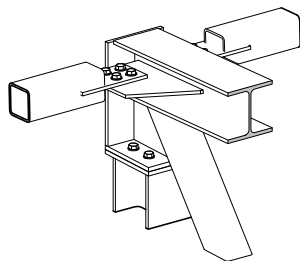
S.4

Scale As indicated

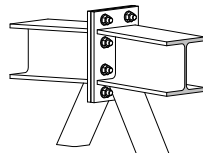


Setja tag á allar stangir

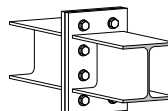
1 Kraftsperra í sal  
1:75



6 Áseta kraftsperru vörhús

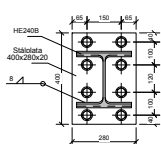


7 Tenging þrýstibands

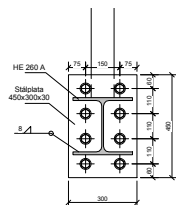


8 Tenging togbands

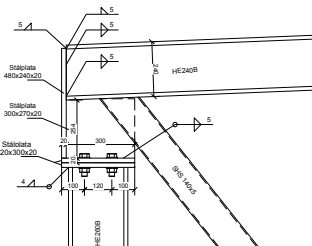
Kraftsperrur í vörhúsi					
Burðarvirkjahluti	Type	Cut Length	Count	Volume	kg
Kraftsperrur í vörhúsi	HE 240 B	20146	27	5.56 m <sup>3</sup>	43617.4
20146: 27				5.56 m <sup>3</sup>	43617.4
Kraftsperrur í vörhúsi	HE 240 B	20166	1	0.21 m <sup>3</sup>	1617.1
20166: 1				0.21 m <sup>3</sup>	1617.1
Kraftsperrur í vörhúsi	HE 260 A	19029	28	4.36 m <sup>3</sup>	34244.5
19029: 28				4.36 m <sup>3</sup>	34244.5
Kraftsperrur í vörhúsi	RHSS 100x100x5	2666	28	0.14 m <sup>3</sup>	1085.2
2666: 28				0.14 m <sup>3</sup>	1085.2
Kraftsperrur í vörhúsi	RHSS 100x100x5	2775	28	0.14 m <sup>3</sup>	1130.0
2775: 28				0.14 m <sup>3</sup>	1130.0
Kraftsperrur í vörhúsi	RHSS 100x100x5	2777	28	0.14 m <sup>3</sup>	1133.2
2777: 28				0.14 m <sup>3</sup>	1133.2
Kraftsperrur í vörhúsi	RHSS 100x100x5	2888	28	0.15 m <sup>3</sup>	1178.7
2888: 28				0.15 m <sup>3</sup>	1178.7
Kraftsperrur í vörhúsi	RHSS 100x100x5	2890	28	0.15 m <sup>3</sup>	1181.7
2890: 28				0.15 m <sup>3</sup>	1181.7
Kraftsperrur í vörhúsi	RHSS 100x100x5	3003	28	0.16 m <sup>3</sup>	1227.8
3003: 28				0.16 m <sup>3</sup>	1227.8
Kraftsperrur í vörhúsi	RHSS 100x100x5	3004	28	0.16 m <sup>3</sup>	1230.6
3004: 28				0.16 m <sup>3</sup>	1230.6
Kraftsperrur í vörhúsi	RHSS 100x100x5	3116	28	0.16 m <sup>3</sup>	1276.9
3116: 28				0.16 m <sup>3</sup>	1276.9
Kraftsperrur í vörhúsi	RHSS 140x140x5	2482	28	0.18 m <sup>3</sup>	1409.3
2482: 28				0.18 m <sup>3</sup>	1409.3
Kraftsperrur í vörhúsi	RHSS 140x140x5	2585	56	0.38 m <sup>3</sup>	2944.1
2585: 56				0.38 m <sup>3</sup>	2944.1
Kraftsperrur í vörhúsi	RHSS 140x140x5	2693	28	0.20 m <sup>3</sup>	1537.2
2693: 28				0.20 m <sup>3</sup>	1537.2
Grand total: 392				12.08 m <sup>3</sup>	94813.5



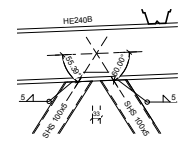
2 Tenging þrýstibands  
1:10



3 Tenging togbands  
1:10



4 Áseta kraftsperru  
1:10



5 Suður kroppsúlna  
1:10

HR

Krókháls

Kraftsperra í vörhúsi

Project number BT LOK1012

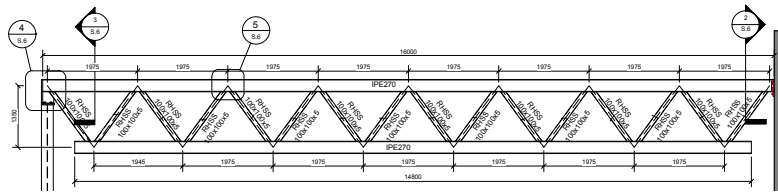
Date 10.12.2014

Drawn by ÖJ

Checked by XX

S.5

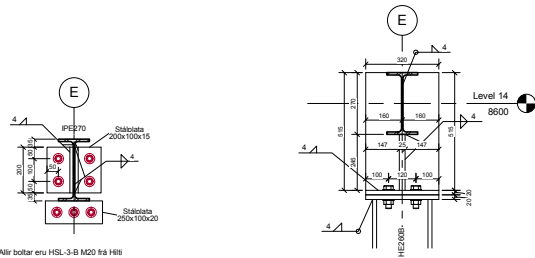
Scale As indicated



Kraftsperrur í skrifstofu					
Burðarvirðjahluti	Type	Cut Length	Count	Volume	kg
Kraftsperrur í skrifstofu	IPE270	14800	3	0.20 m³	1534.0
14800: 3				0.20 m³	1534.0
Kraftsperrur í skrifstofu	IPE270	16000	1	0.07 m³	552.8
16000: 1				0.07 m³	552.8
Kraftsperrur í skrifstofu	IPE270	16020	2	0.14 m³	1107.0
16020: 2				0.14 m³	1107.0
Kraftsperrur í skrifstofu	RHSS 100x100x5	1411	48	0.12 m³	958.0
1411: 48				0.12 m³	958.0
Grand total: 54				0.53 m³	4151.8



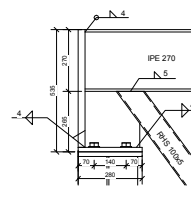
1 Kraftsperra verslun  
1 : 50



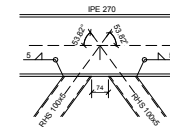
Allir boltar eru HSL-3-B M20 frá Hilti

2 Biti í vegg  
1 : 10

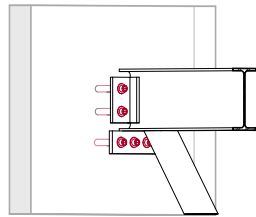
3 Áseta á burðarsúlu  
1 : 10



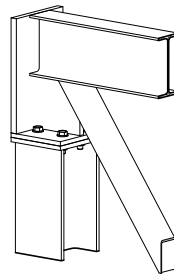
4 Áseta á súlu  
1 : 10



5 Kroppsútur kraftsperru skrifstofu  
1 : 10



6 Tenging kraftsperru við vegg  
1 : 10



7 Áseta kraftsperru skrifstofu  
1 : 10

HR

Krókháls

Kraftsperra  
skrifstofu

Project number BT LOK1012

Date 10.12.2014

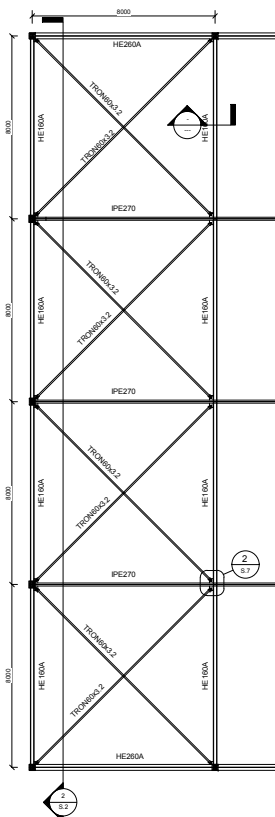
Drawn by ÖJ

Checked by XX

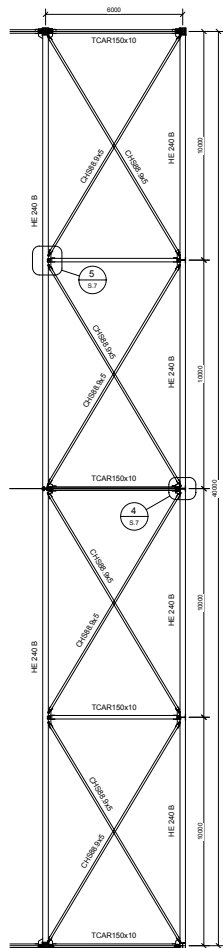
S.6

Scale As indicated

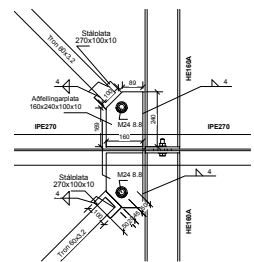




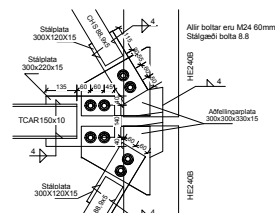
1 Þakstífging skrifstofu  
1 : 100



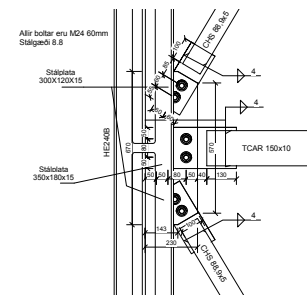
3 Þakstífging Vöruhúss  
1 : 100



2 Tenging þakstífu skrifstofu  
1 : 10



4 Tenging í mæni  
1 : 10



5 Tenging þakstífu VH 2  
1 : 10

Vindstífging						
Burðarvirðjahústi	Type	Structural Material	Cut Length	Count	Volume	kg
Vindstífur	CHS88.9x5	Stál - S275	9241	2	0.02 m³	191.1
9241: 2					0.02 m³	191.1
Vindstífur	CHS88.9x5	Stál - S275	9248	2	0.02 m³	191.2
9248: 2					0.02 m³	191.2
Vindstífur	CHS88.9x5	Stál - S275	9259	2	0.02 m³	191.5
9259: 2					0.02 m³	191.5
Vindstífur	CHS88.9x5	Stál - S275	9269	2	0.02 m³	191.7
9269: 2					0.02 m³	191.7
Vindstífur	CHS88.9x5	Stál - S275	10920	1	0.01 m³	112.9
10920: 1					0.01 m³	112.9
Vindstífur	CHS88.9x5	Stál - S275	10940	5	0.07 m³	565.5
10940: 5					0.07 m³	565.5
Vindstífur	CHS88.9x5	Stál - S275	10941	3	0.04 m³	339.4
10941: 3					0.04 m³	339.4
Vindstífur	CHS88.9x5	Stál - S275	10977	3	0.04 m³	340.5
10977: 3					0.04 m³	340.5
Vindstífur	CHS88.9x5	Stál - S275	10979	3	0.04 m³	340.5
10979: 3					0.04 m³	340.5
Vindstífur	CHS88.9x5	Stál - S275	10981	1	0.01 m³	113.5
10981: 1					0.01 m³	113.5
Vindstífur	TRON60x3.2	Stál - S275	10526	4	0.02 m³	189.5
10526: 4					0.02 m³	189.5
Vindstífur	TRON60x3.2	Stál - S275	10672	3	0.02 m³	144.2
10672: 3					0.02 m³	144.2
Vindstífur	TRON60x3.2	Stál - S275	10673	5	0.03 m³	240.3
10673: 5					0.03 m³	240.3
Vindstífur	TRON101x5	Stál - S275	11646	4	0.07 m³	554.8
11646: 4					0.07 m³	554.8
Grand total: 40					0.47 m³	3706.7

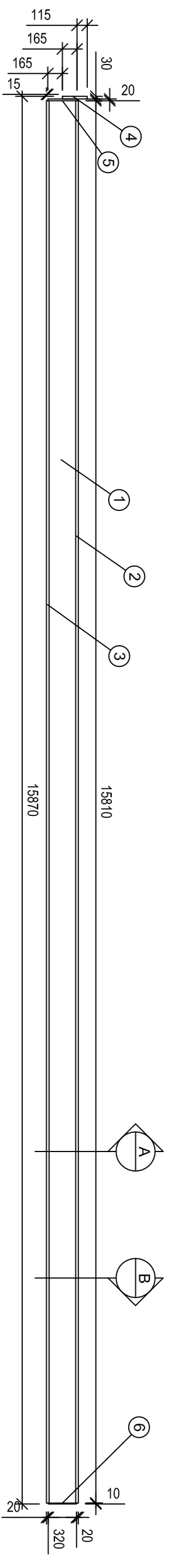
HR  
Krókháls

Þakstífging

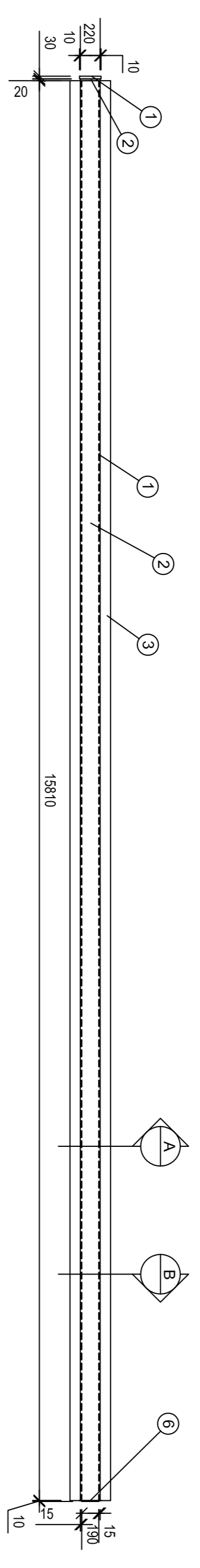
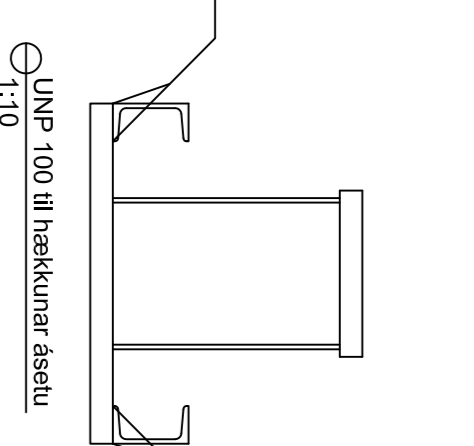
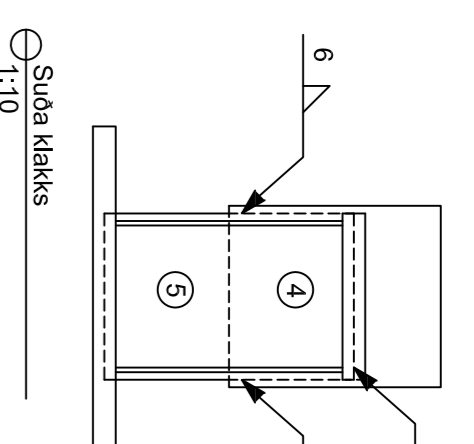
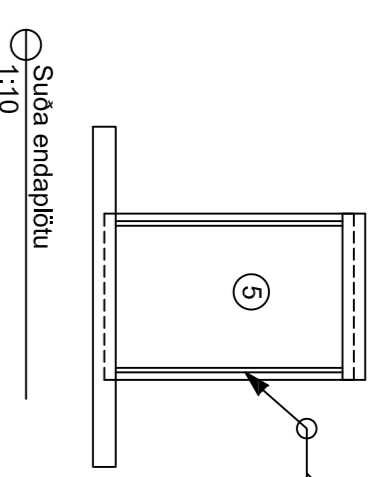
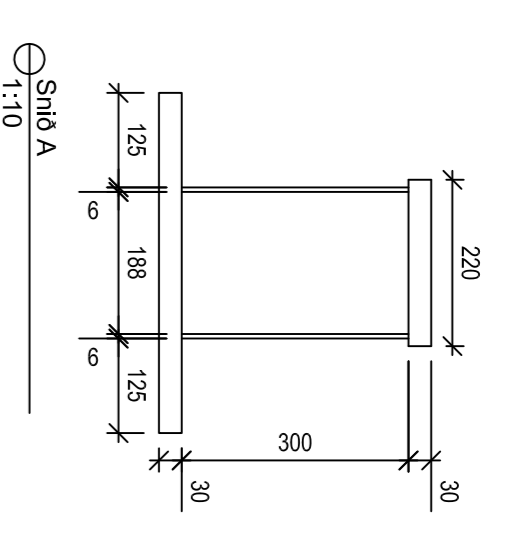
Project number BT LOK1012  
Date 10.12.2014  
Drawn by ÖJ  
Checked by XX

S.7

Scale As indicated

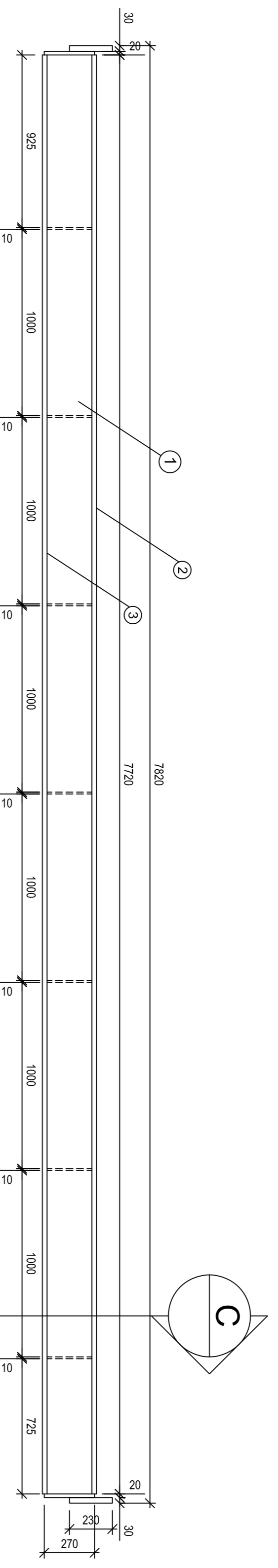
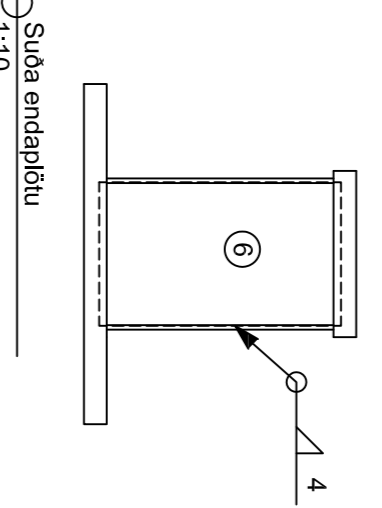
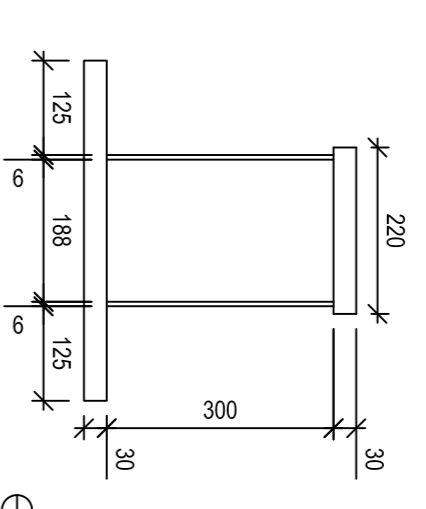


Séð frá hlið  
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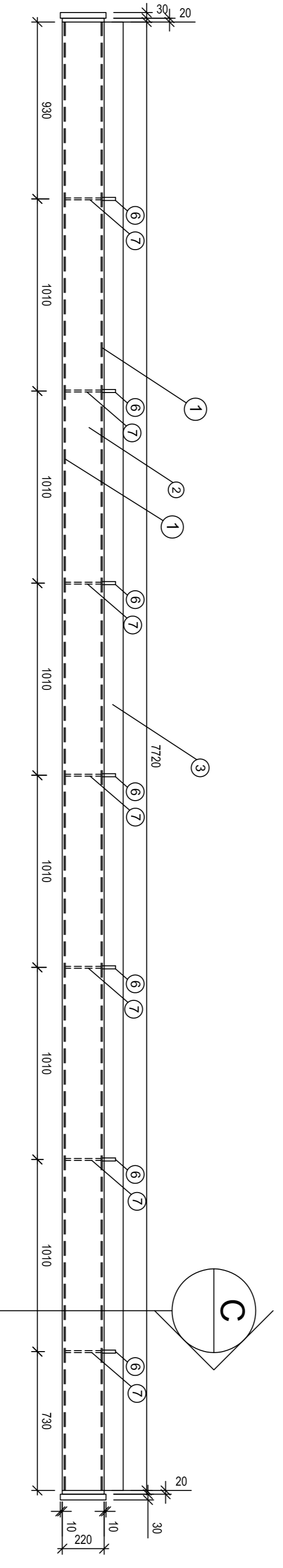
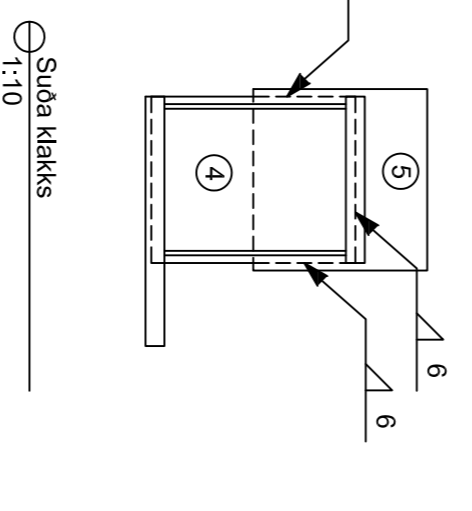
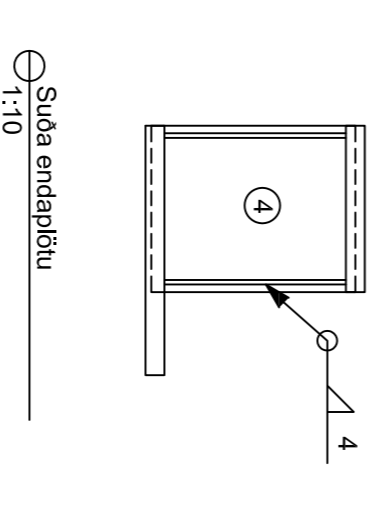
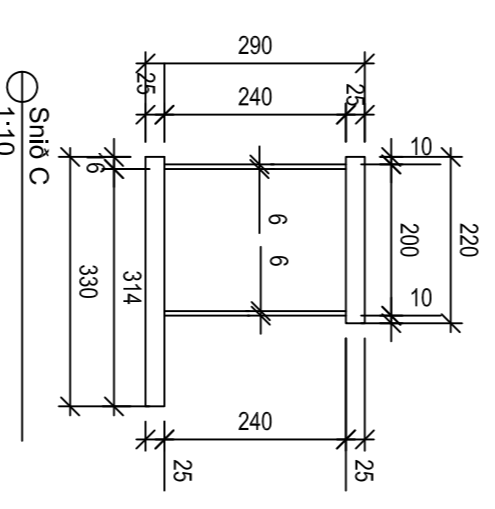


Séð að ofan  
1:50

PL.Nr	Rúmstærð/legund	Magn	Stál	Notagildi
1	PL 300X15810x6	2	S275	Kroppur
2	PL 220X15810x30	1	S275	Eftirfangs
3	PL 450X15810x30	1	S275	Neðri fangsg
4	PL 280X240x20	1	S275	Klakku
5	PL 320X220x20	1	S275	Endaplatá
6	PL 320X190X10	1	S275	Endaplatá

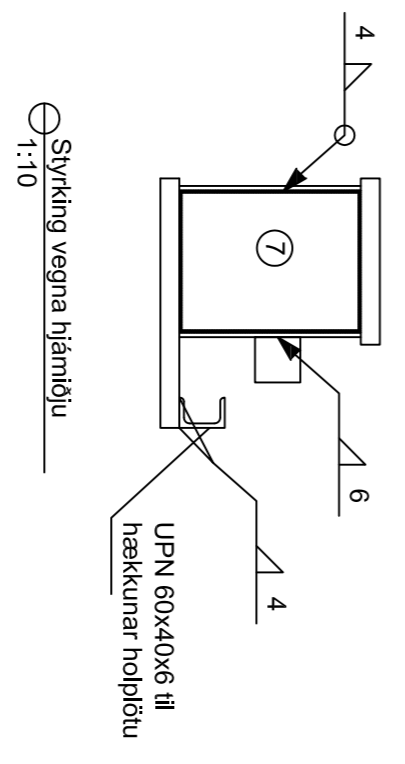


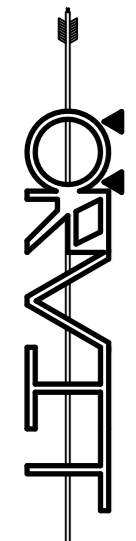
Séð frá hlið  
1:20



Séð að ofan  
1:20

PL.Nr	Rúmstærð/legund	Magn	Stál	Notagildi
1	PL 240X720x6	2	S275	Kroppur
2	PL 220X720x25	1	S275	Eftirfangs
3	PL 330X720x25	1	S275	Neðri fangsg
4	PL 270X220x20	2	S275	Endaplatá
5	PL 240X220x30	2	S275	Klakku
6	PL 60x60x10	7	S275	Sýrking
7	PL 240X188x10	7	S275	Sýrking



 Hamnað svo það hangir			
	Verk nr.	Verkefni	
1	Krókháls BT-LOK2012	ÖJ	Teiknað af
			Dags.
Smíðateikning HSQ bita			10.12.2014