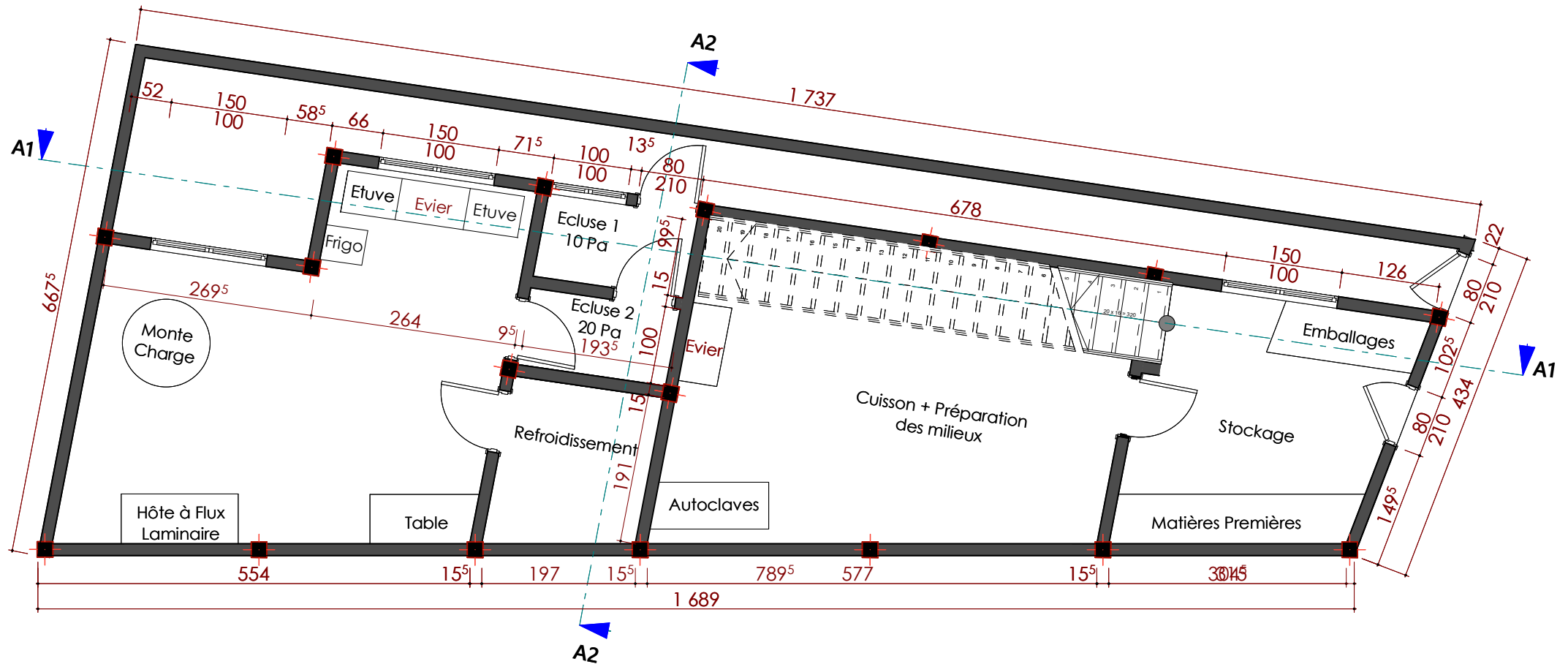
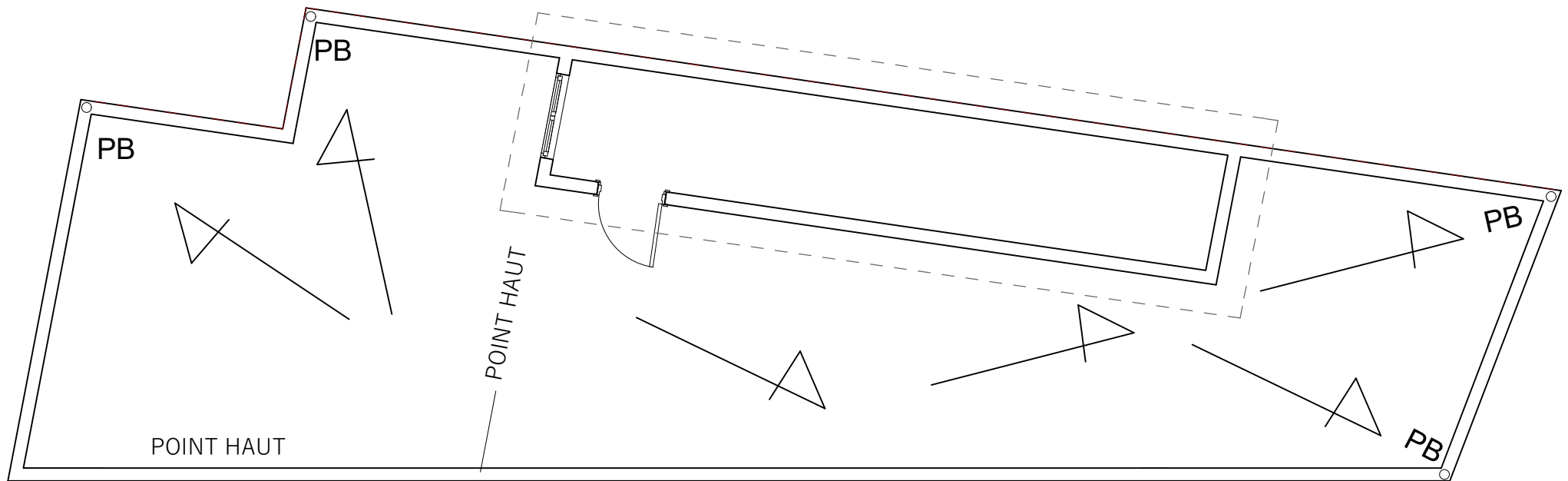


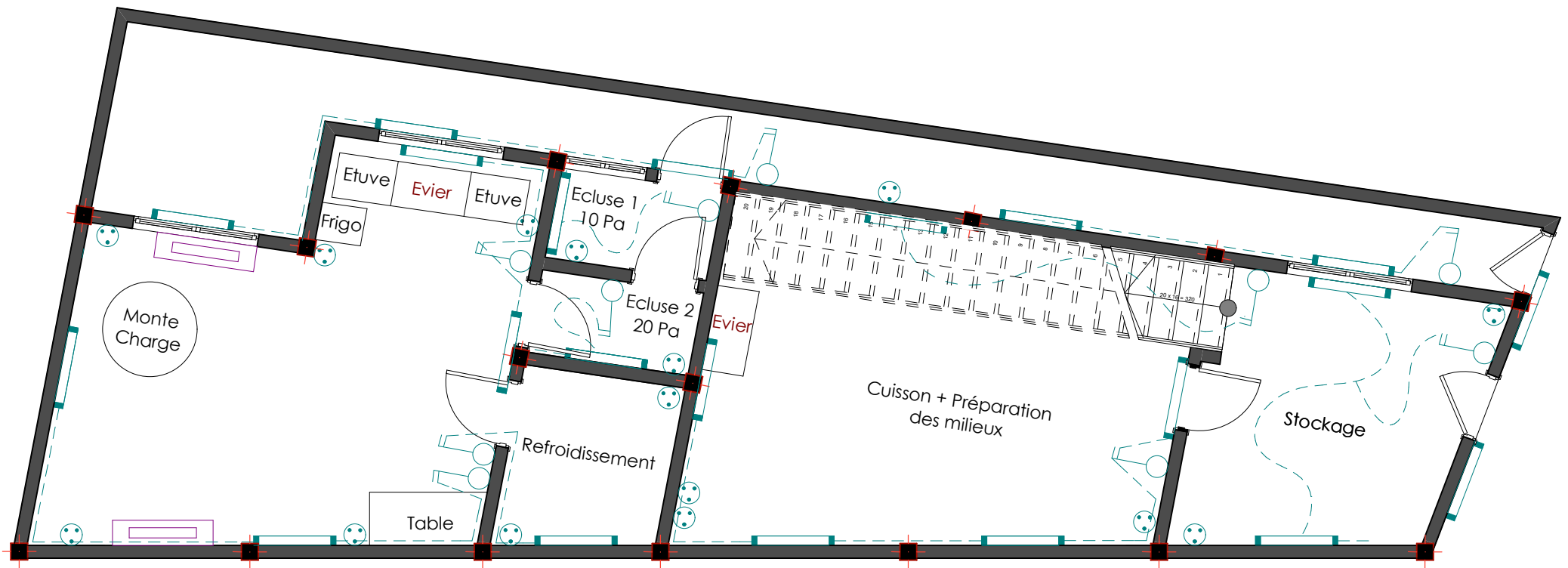
LABORATOIR DE PRODUCTION DE SEMENCES DE CHAMPIGNONS



LABORATOIR DE PRODUCTION DE SEMENCES DE CHAMPIGNONS



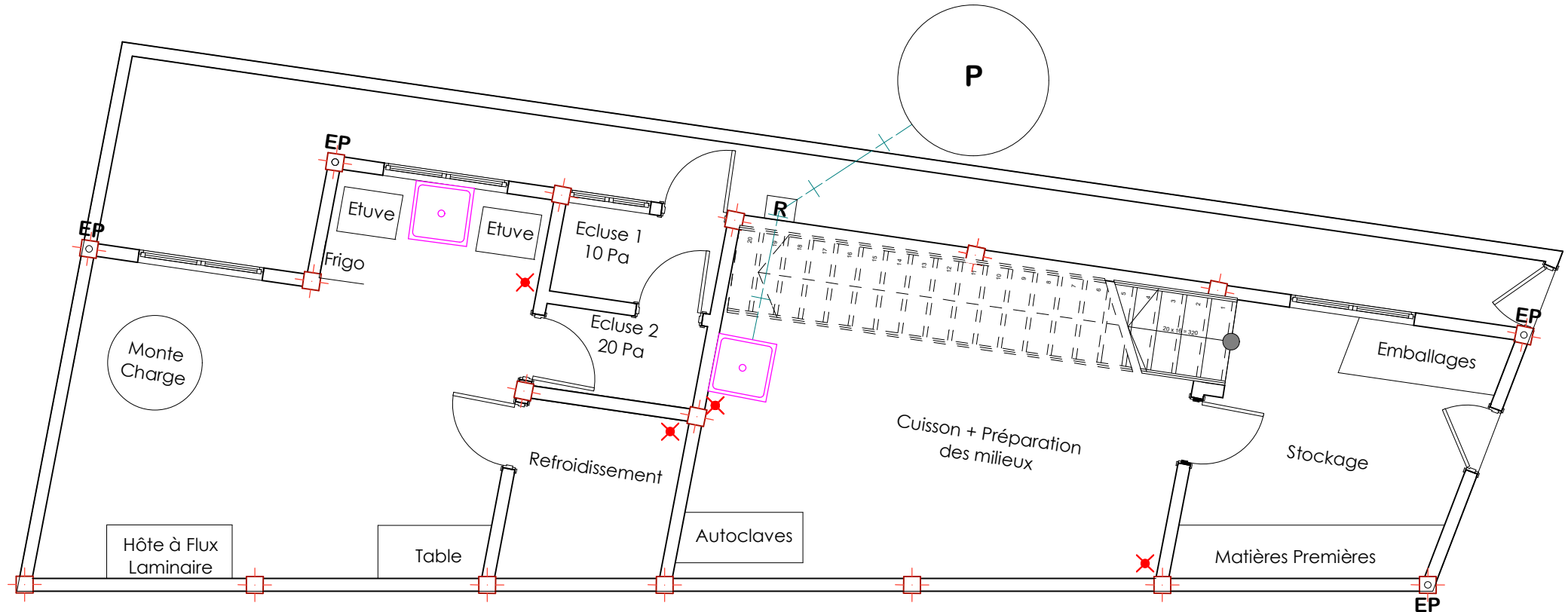
LABORATOIRE DE PRODUCTION DE SEMENCES DE CHAMPIGNONS



LEGENDE

-  Interrupteur double allumage
-  Lampe fluorescente 1.20
-  Prise courant
-  Evaporateur split

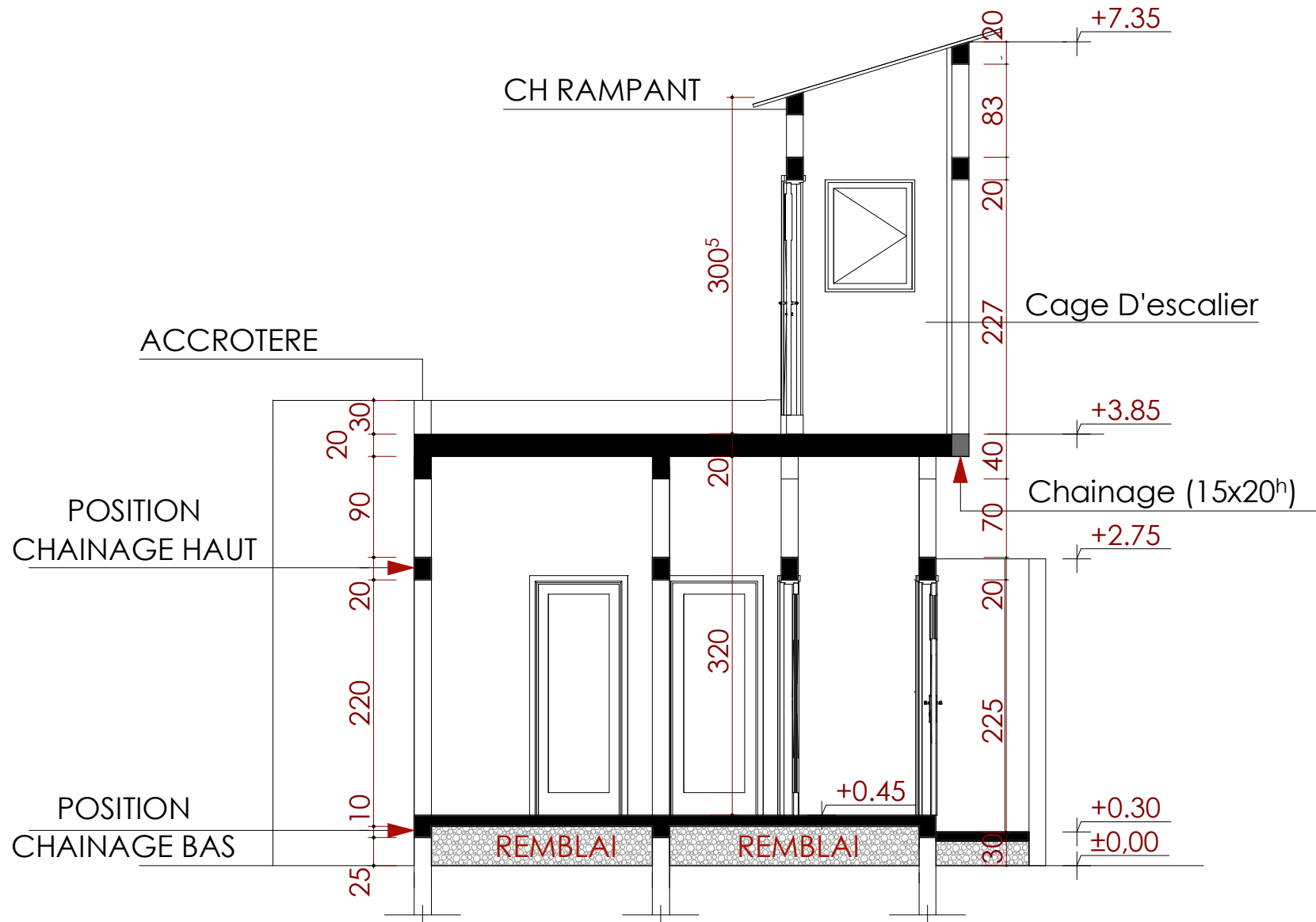
LABORATOIRE DE PRODUCTION DE SEMENCES DE CHAMPIGNONS



LEGENDE

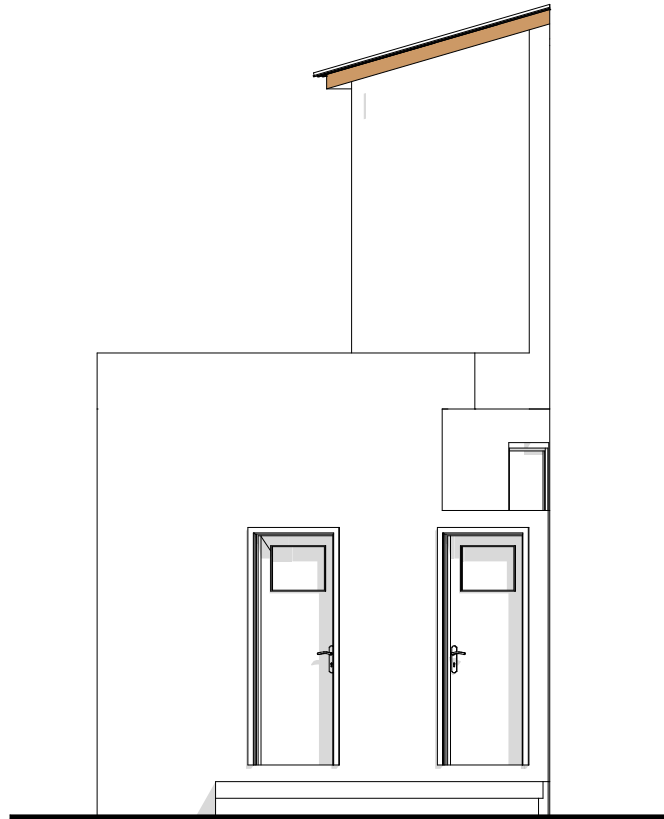
FS	Fosse Septique 05 usagers	—+—	PVC 75 Eaux Useés	R	Regard
P	Puisard de section 100	EP	Eaux pluviales	X	Siphon

LABORATOIR DE PRODUCTION DE SEMENCES DE CHAMPIGNONS

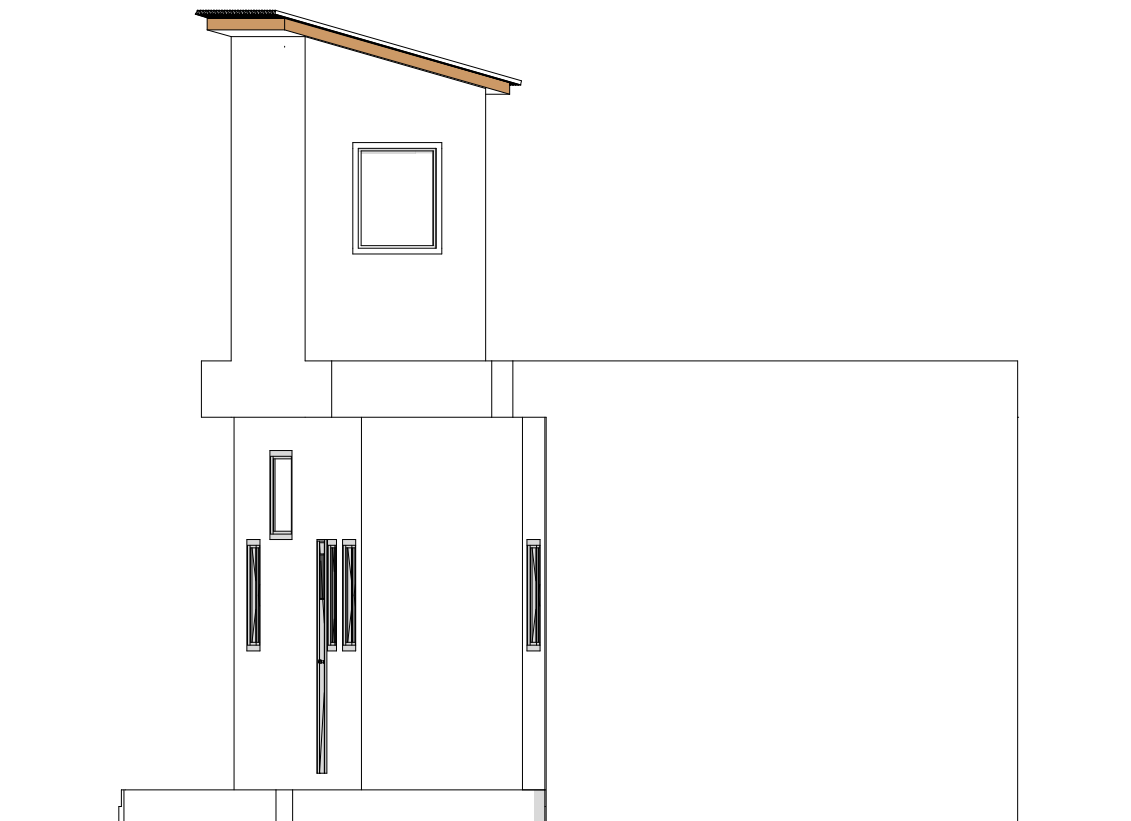


COUPE A2

LABORATOIR DE PRODUCTION DE SEMENCES DE CHAMPIGNONS

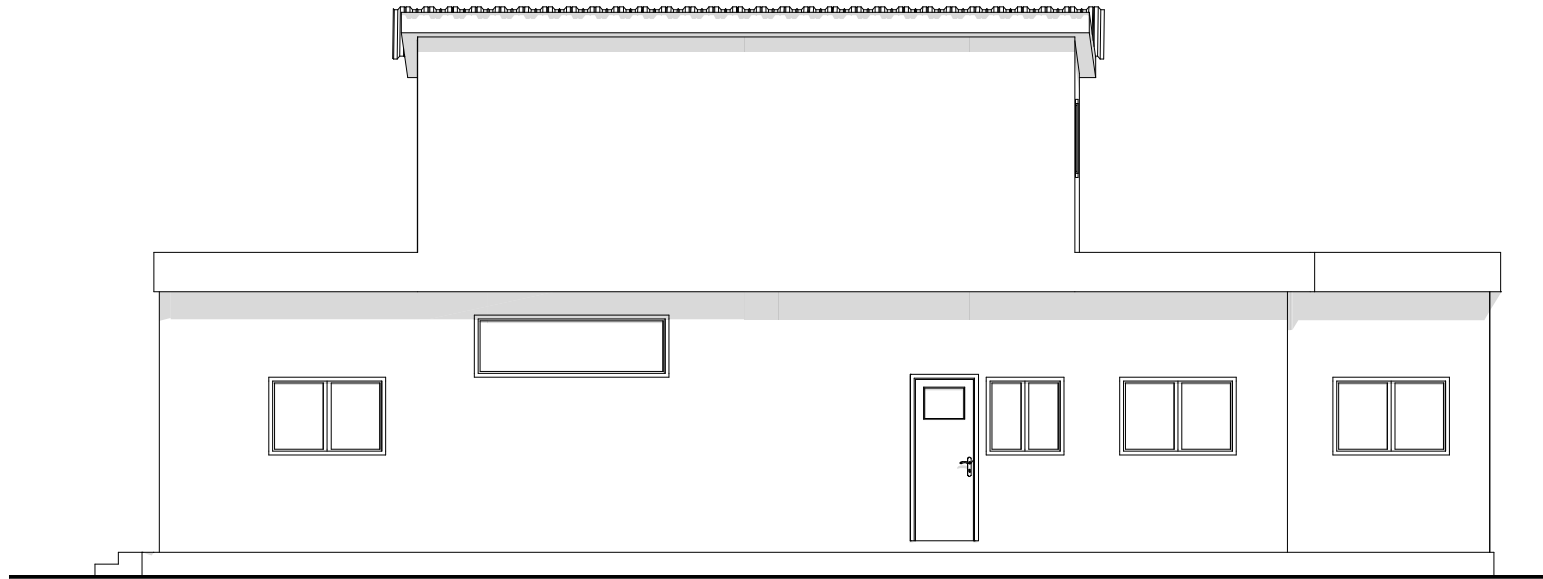


FACADE PRINCIPALE

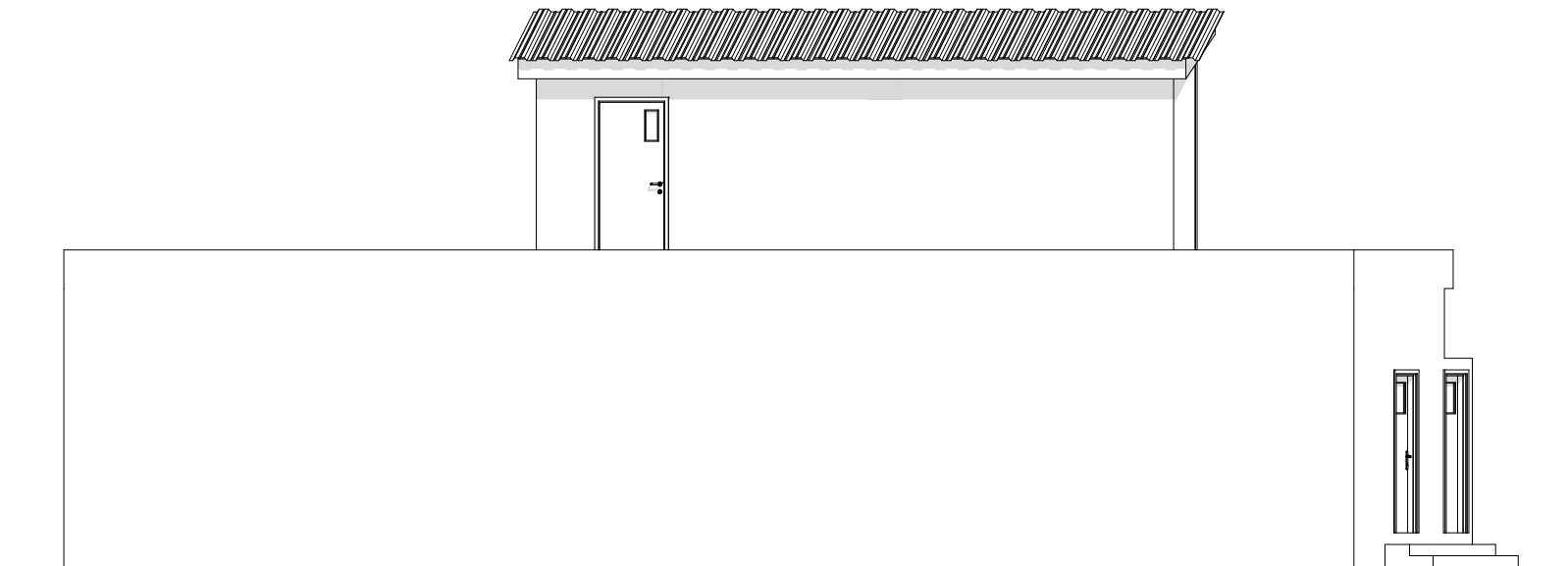


FACADE POSTERIEURE

**LABORATOIR DE PRODUCTION DE
SEMENCES DE CHAMPIGNONS**

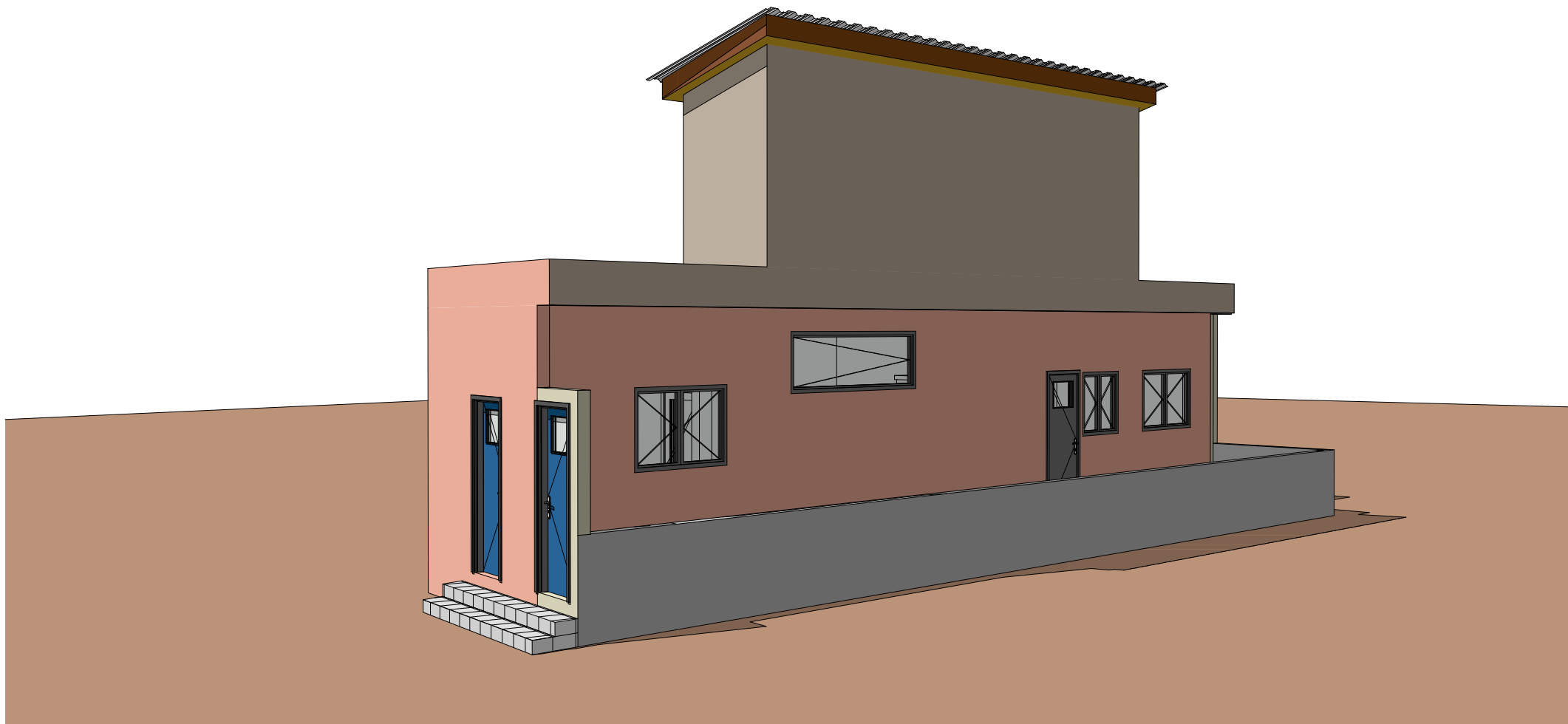


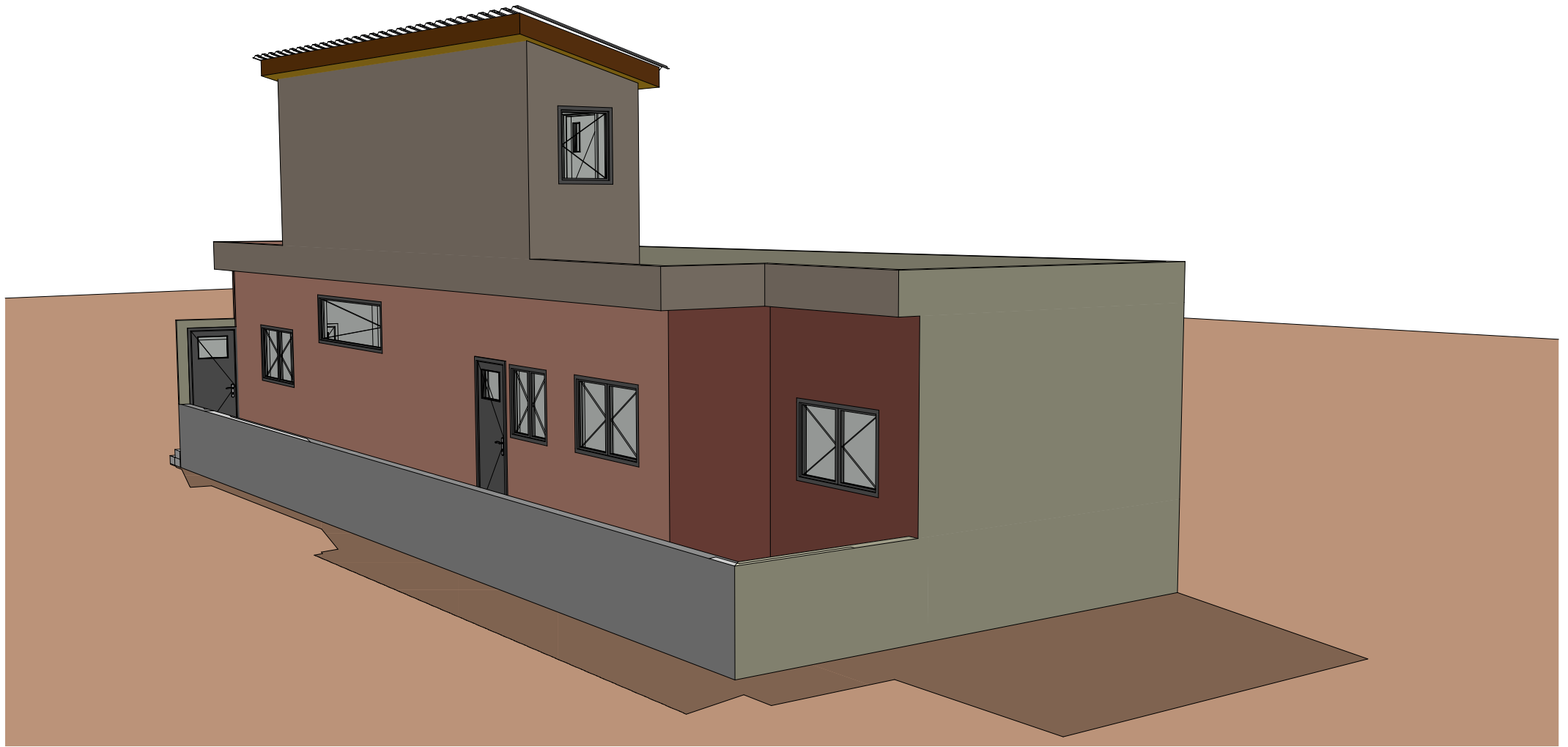
FACADE LATERALE DROITE

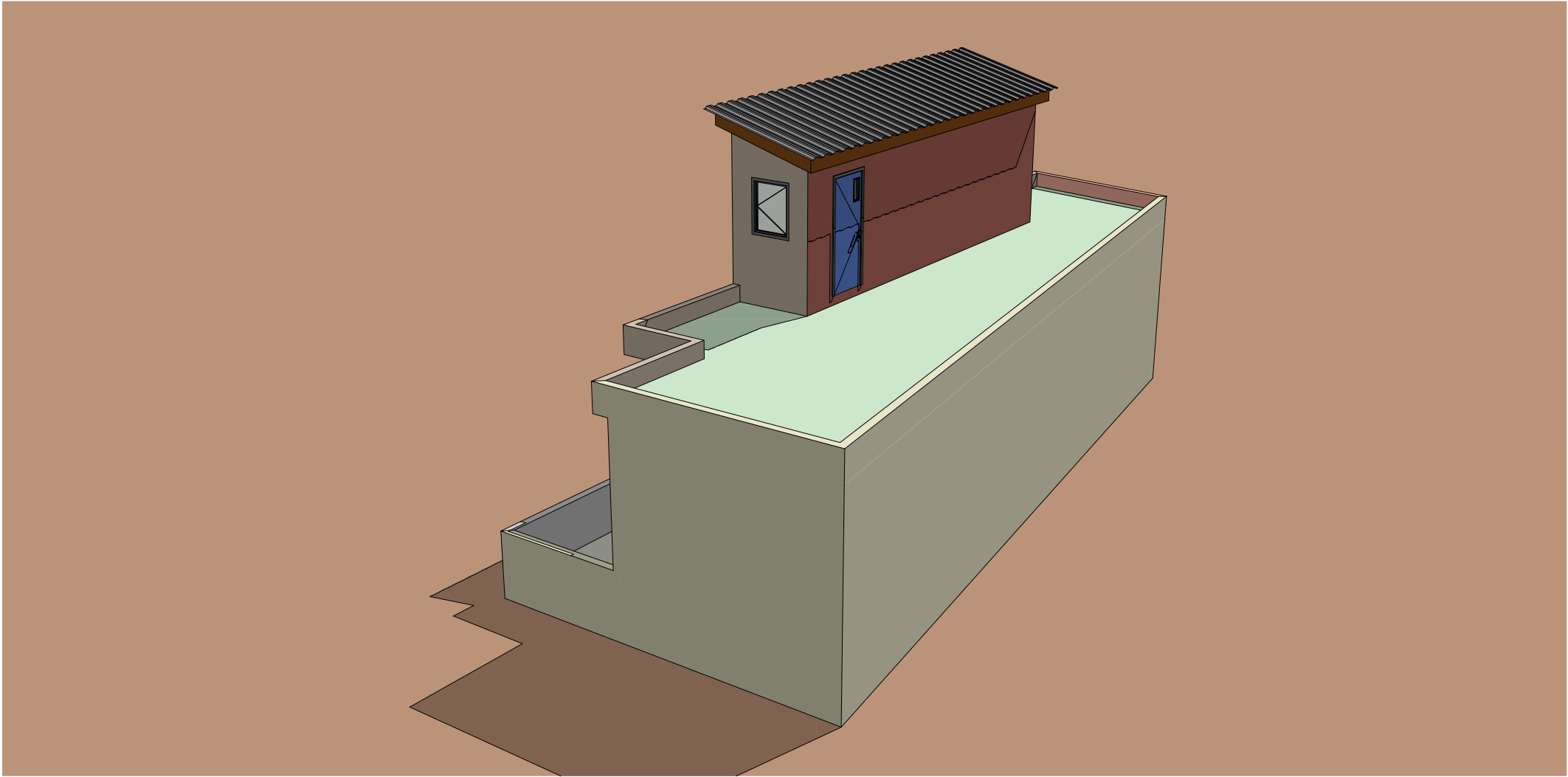


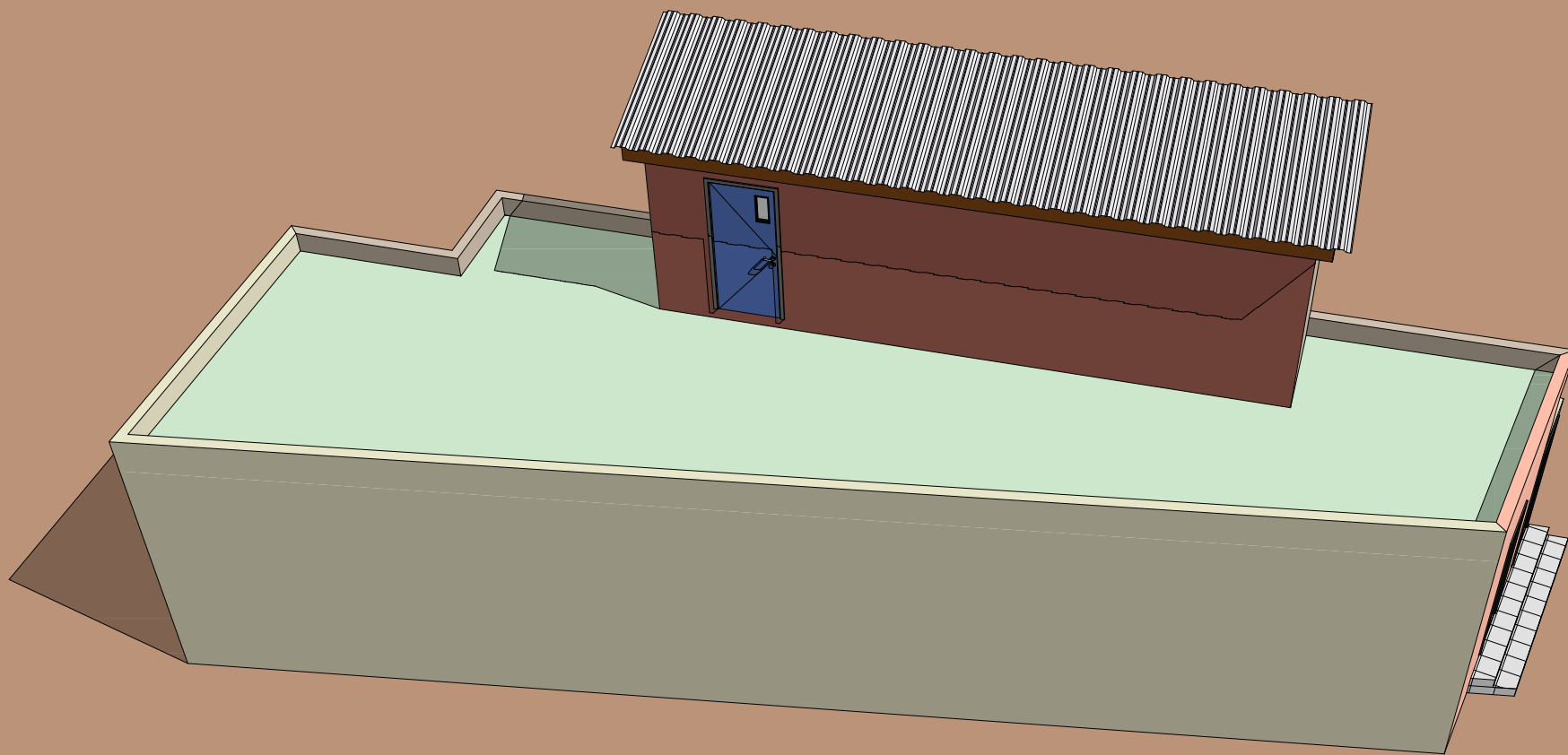
FACADE LATERALE GAUCHE

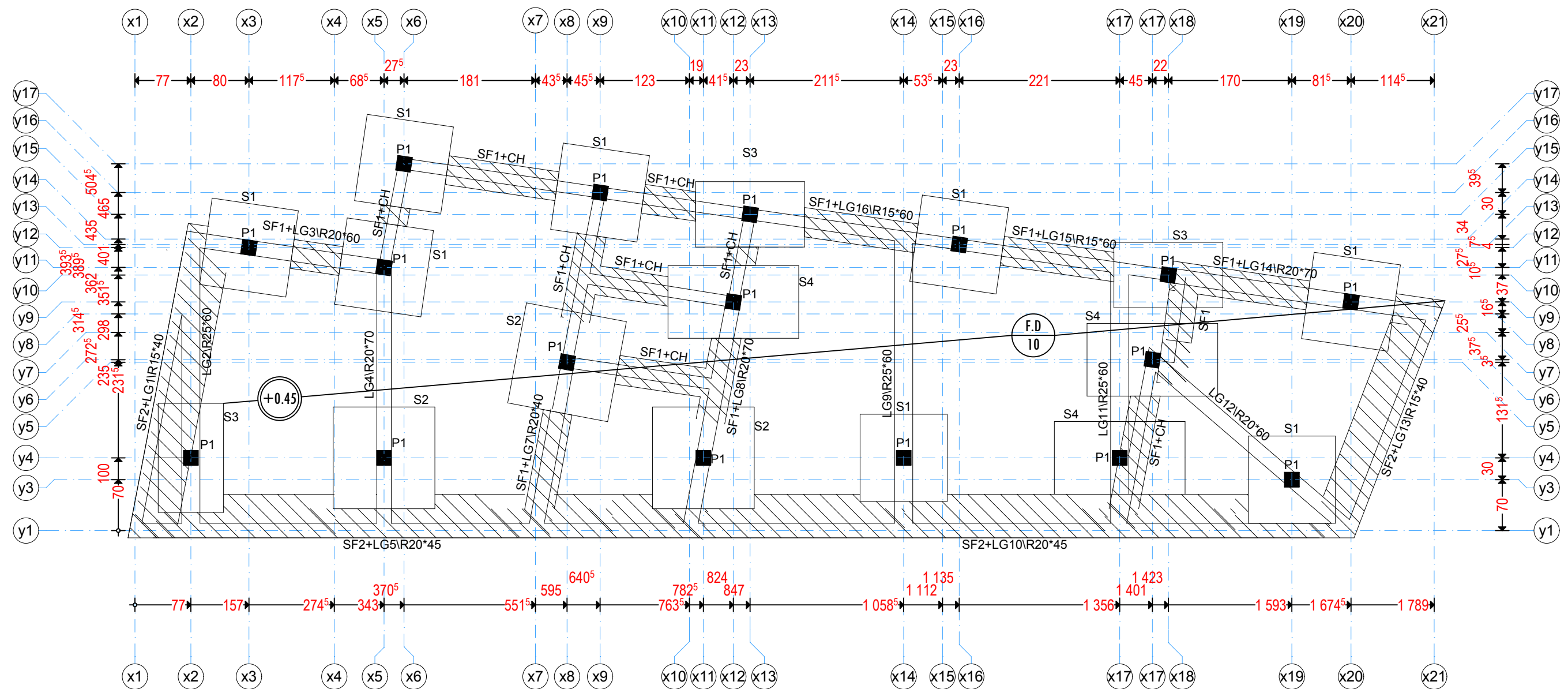












LEGENDE

S1	Semelles isolées (120 x 120 x 25 ^h)
S2	Semelles isolées (140x 140 x 30 ^h)
S3	Semelles isolées (90 x 150 x 30 ^h)
S4	Semelles isolées (100 x 180 x 40 ^h)
SF	Semelles filantes (40 x 20 ^h)
SF1	Semelles filantes (60 x 20 ^h)
P1	Poteaux (20 x 20)
CH	Chaînage haut (15 x 20 ^h)

Profondeur de fouille

= 0.80 m

Contrainte admissible du sol

= 1.0 bar

Poteau s'arrêtant en fondation



Poteau démarrant sur longrine



Poteau changeant de section



Poteau continu



**PROJET DE CONSTRUCTION D'UN BÂTIMENT
DE TYPE RDC EXTENSIBLE A R+1 A USAGE DE
LABORATOIRE**

Etudes de structure : Ing.

Maître d'oeuvre : Arch.

Adresse projet :

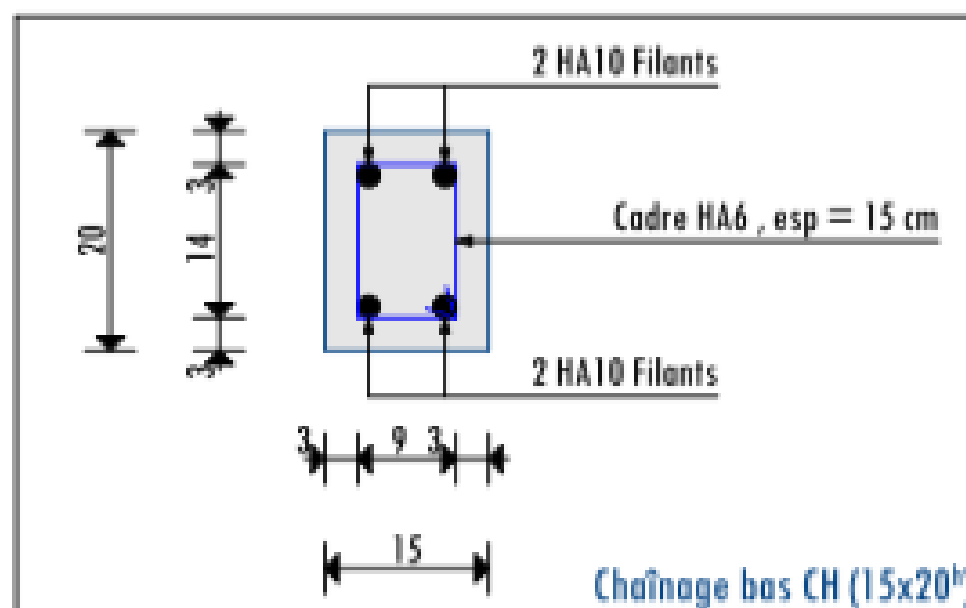
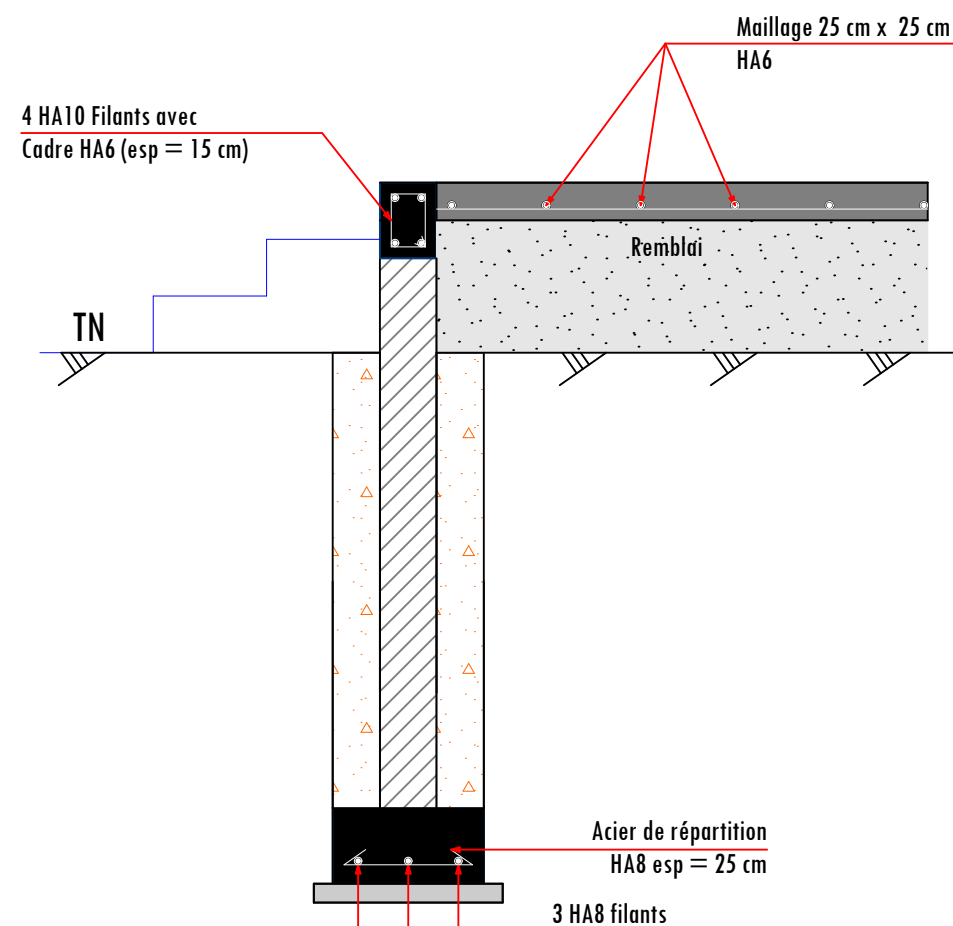
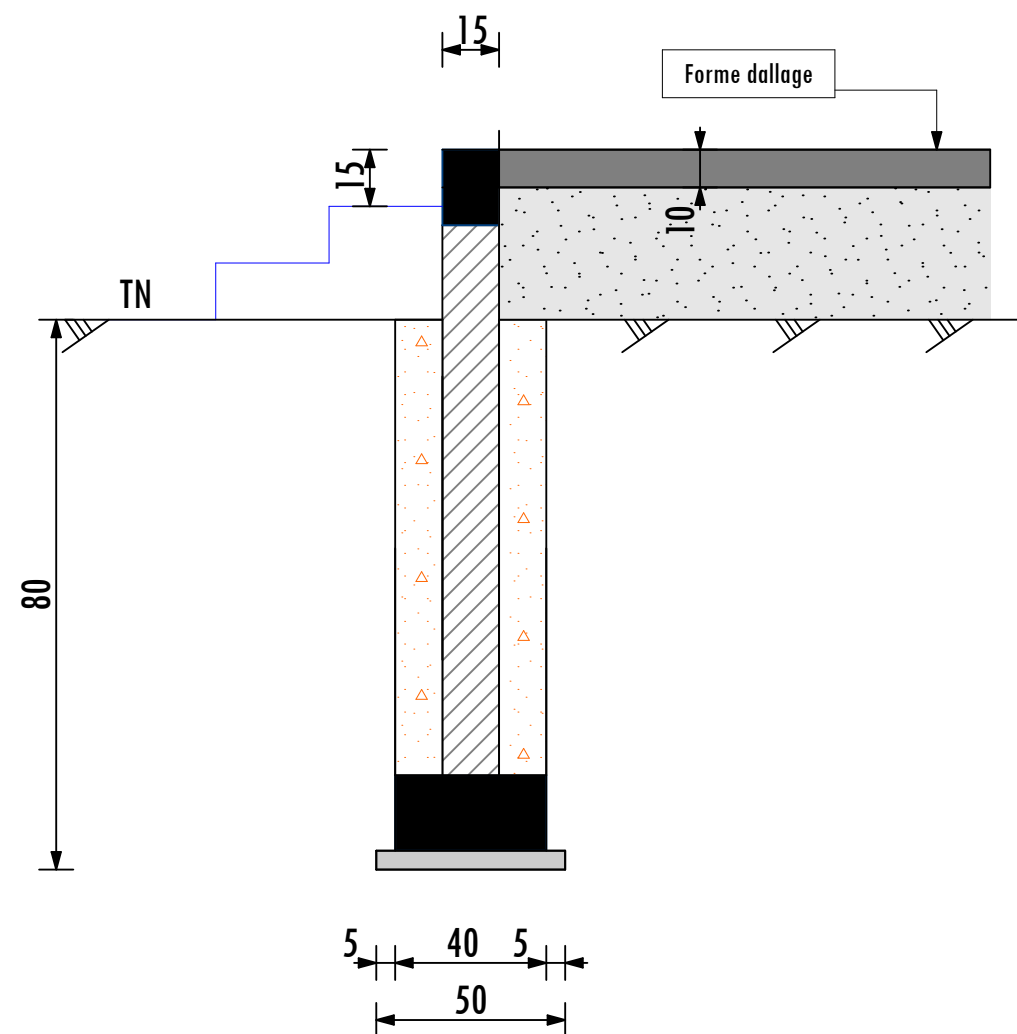
PLAN DE FONDATION

Statut :	Exécution
Date :	Dcembre 2022
Dessiné par :	Ingénieur
Vérifié par :	Ingénieur

P i è c e n °

0 0 1

E c h e l l e : 1 / 6 0



Dallage :

- Epaisseur 10 cm
- Armature quadrillage : HA6, esp = 25cm x 25cm
- Couche sur forme convenablement compactée par couche de 20 cm ($OPM \leq 95\%$)
- Exécution du damier $S \leq 25 \text{ m}^2$ et diagonale $\leq 8 \text{ m}$

**PROJET DE CONSTRUCTION D'UN BÂTIMENT
DE TYPE RDC EXTENSIBLE A R+1 A USAGE DE
LABORATOIRE**

Etudes de structure : Ing.

Maître d'oeuvre : Arch.

Adresse projet :

DETAIL SUR FONDATION

Statut : Exécution

Date : Décembre 2022

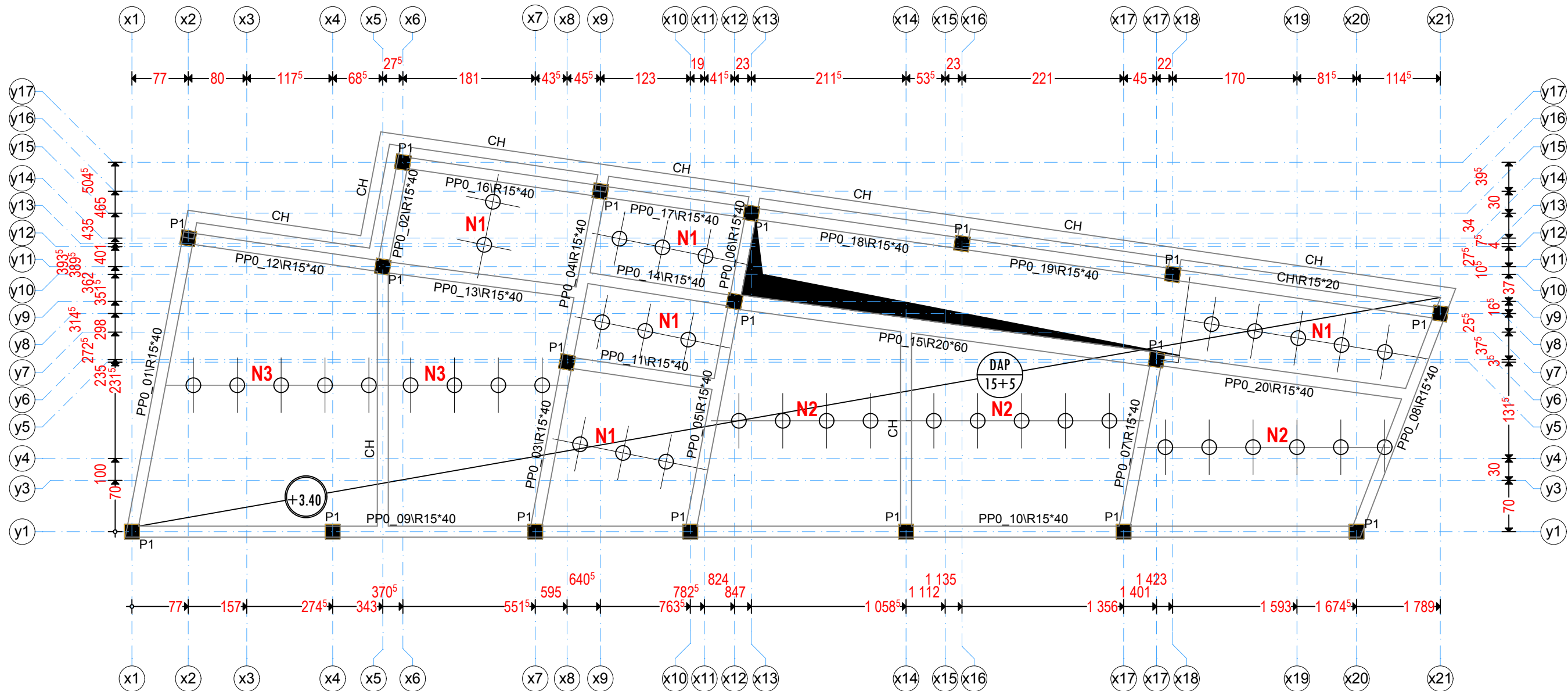
Dessiné par : Ingénieur

Vérifié par : Ingénieur

P i è c e n °

0 0 2

E c h e l l e : 1 / 2 0



L E G E N D E	
PP0	Poutres (de section variable)
BP	Bandes pleine (de section variable)
N	Nervures (de section variable)
P1	Poteaux (20 x 20)
■	Raidisseurs (15 x 15)
CH	Chaînage haut (15 x 20 ^h)

Poteau s'arrêtant sous ce plancher haut	
Poteau démarrant sur ce plancher	
Poteau changeant de section sur ce plancher	
Poteau continu	

**PROJET DE CONSTRUCTION D'UN BÂTIMENT
DE TYPE RDC EXTENSIBLE A R+1 A USAGE DE
LABORATOIRE**

Etudes de structure : Ing.

Maître d'oeuvre : Arch.

Adresse projet :

PLAN DE COFFRAGE REZ DE CHAUSSEE

Statut : Exécution

Date : Décembre 2022

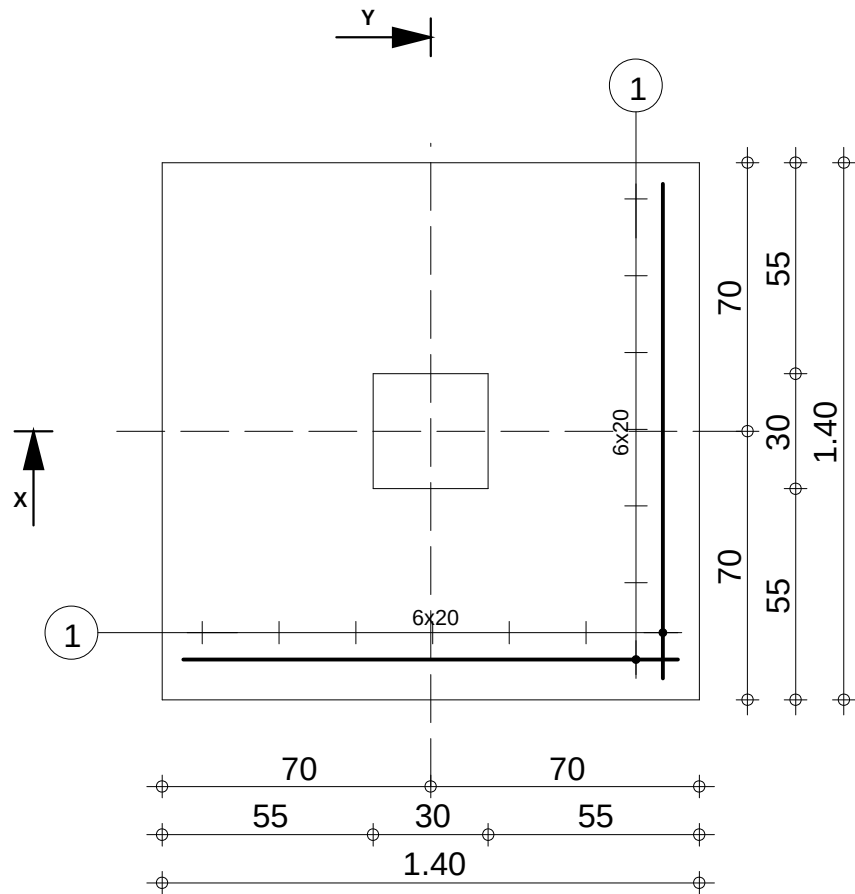
Dessiné par : Ingénieur

Vérifié par : Ingénieur

P i è c e n °

0 0 3

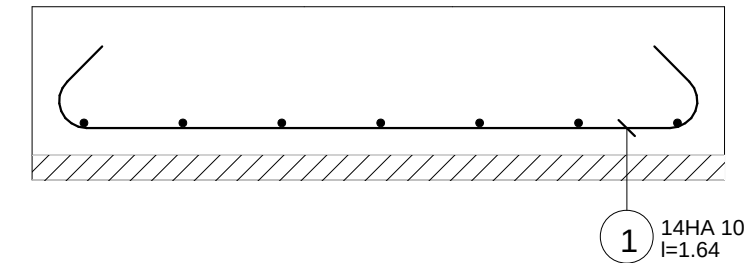
E c h e l l e : 1 / 6 0



-45

-80

X-X



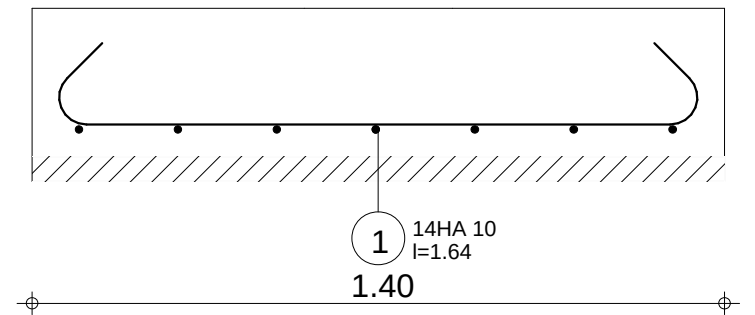
30
5

1.40

-45

-80

Y-Y



30
5

1.40

Pos.	Armature	Code	Forme
1	14HA 10 l=1.64	00	1.30

Tél.

Fax

Acier HA 400 = 14.1 kg

Fissuration préjudiciable

SEMELLE

S2

Nombre 1

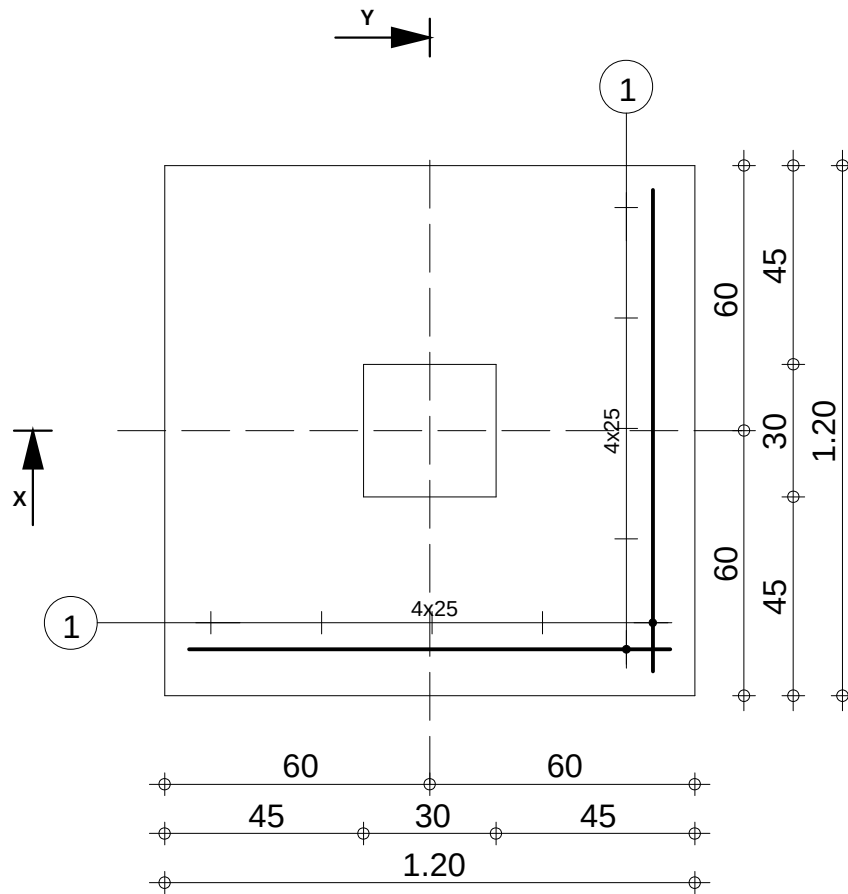
Surface du coffrage = 1.68 m²
Densité = 23.98 kg/ m³

Enrobage c1 = 5 cm, c2 = 3 cm

Echelle pour la vue 5.08cm/m

Page 1/4

PROJET LABORATOIRE



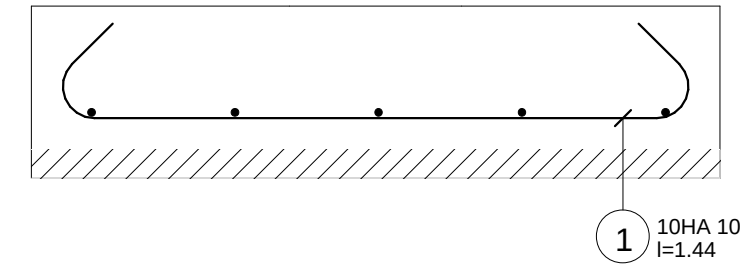
-50

-80

-50

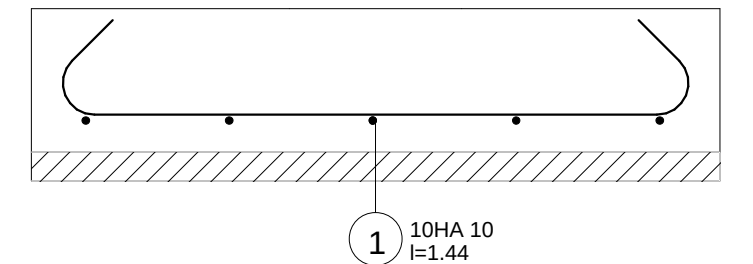
-80

X-X



1.20

Y-Y



1.20

Pos.	Armature	Code	Forme
1	10HA 10 l=1.44	00	1.10

Tél.

Fax

Acier HA 400 = 8.87 kg

Fissuration préjudiciable

SEMELLE

S1

Nombre 1

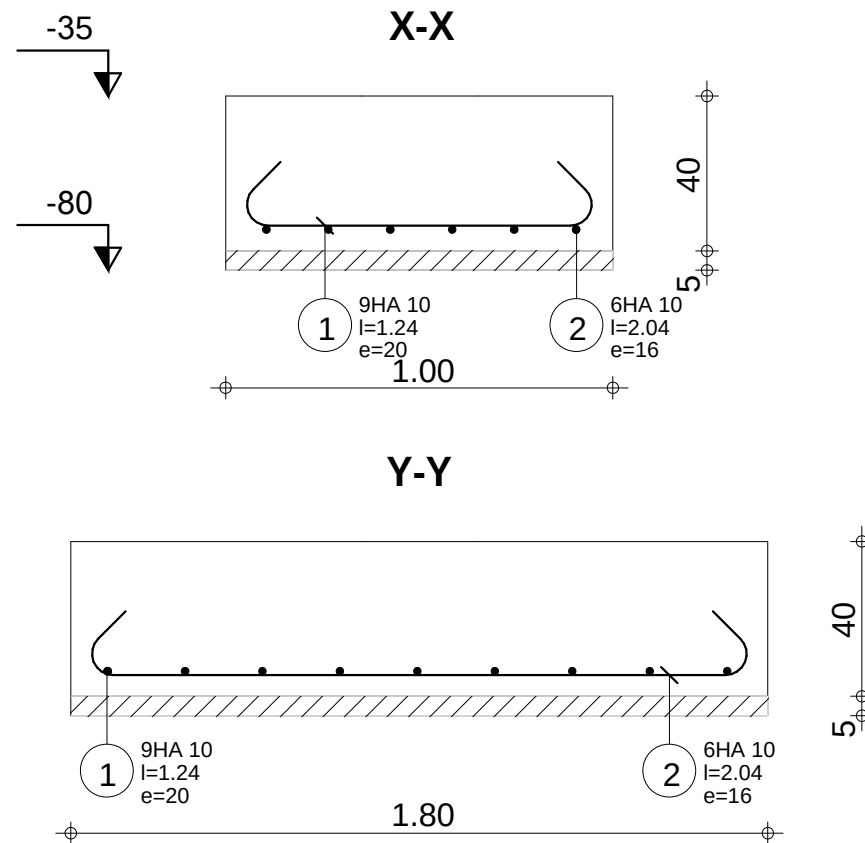
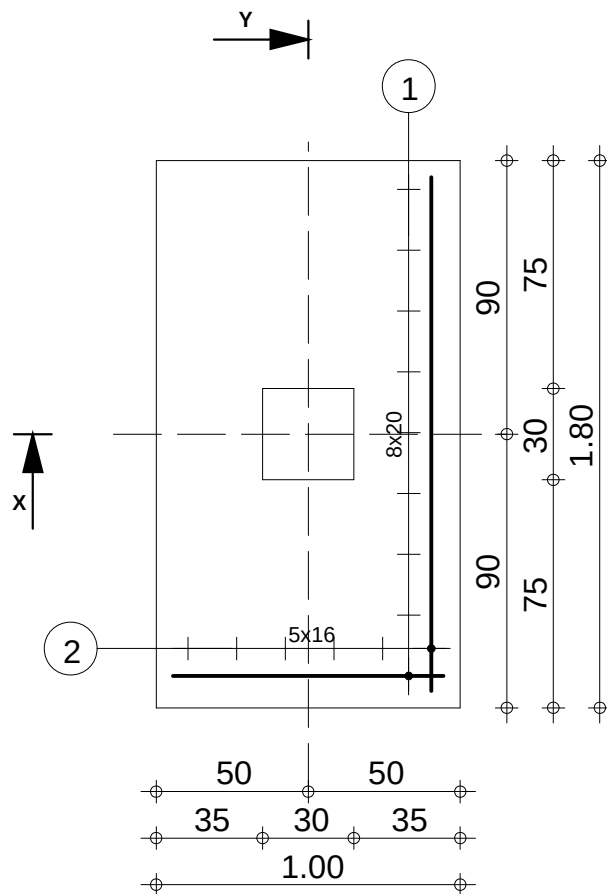
Surface du coffrage = 1.2 m²
Densité = 24.64 kg/ m³

Enrobage c1 = 5 cm, c2 = 3 cm

Echelle pour la vue 5.85cm/m

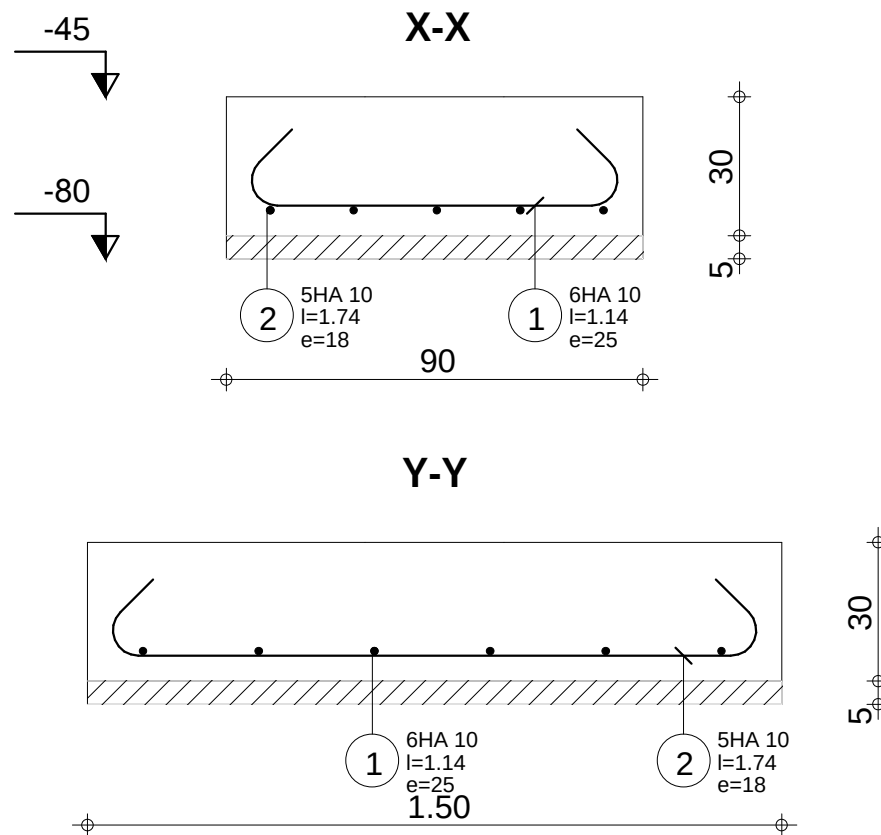
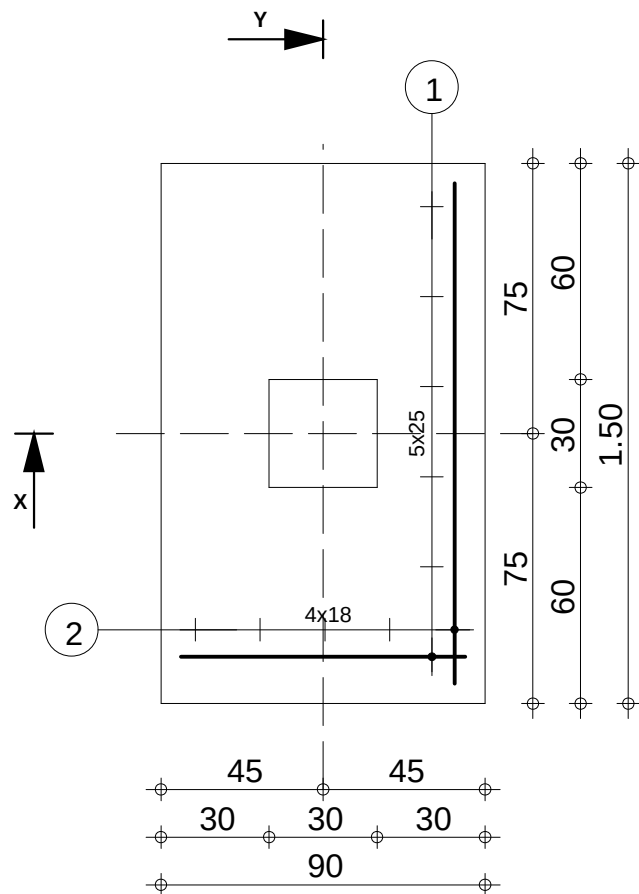
Page 2/4

PROJET LABORATOIRE



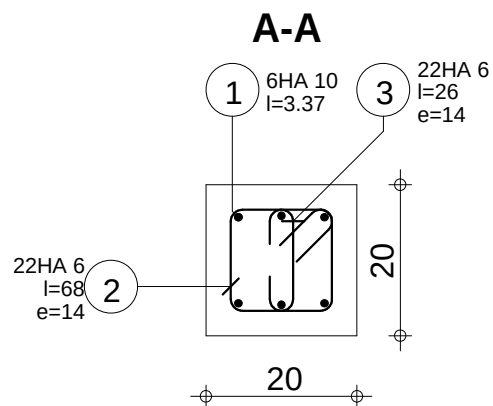
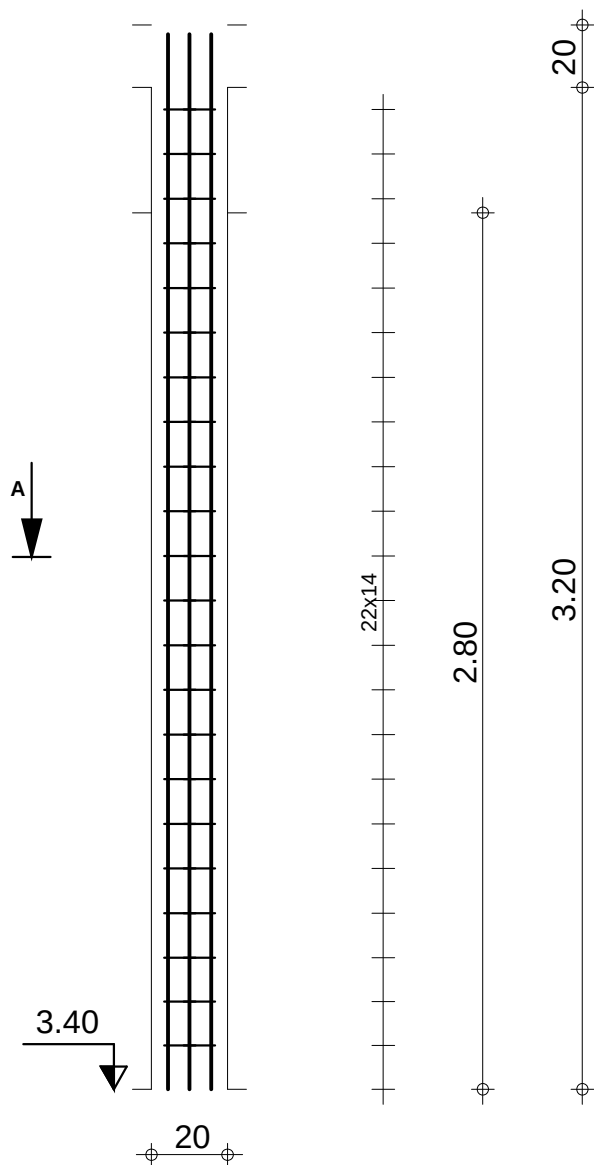
Pos.	Armature		Code	Forme
①	9HA 10	l=1.24	00	90
②	6HA 10	l=2.04	00	1.70

Tél.		Fax			Acier HA 400 = 14.4 kg	
Fissuration préjudiciable						
SEMELLE PROJET LABORATOIRE		S4		Nombre 1	Surface du coffrage = 2.24 m2	
					Enrobage c1 = 5 cm, c2 = 3 cm	
					Densité = 20 kg/ m3	
					Echelle pour la vue 4.03cm/m	
					Page 3/4	



Pos.	Armature		Code	Forme
①	6HA 10	l=1.14	00	
②	5HA 10	l=1.74	00	

Tél.		Fax			Acier HA 400 = 9.58 kg	
Fissuration préjudiciable						
SEMELLE PROJET LABORATOIRE	S3	Nombre 1	Surface du coffrage = 1.44 m2	Enrobage c1 = 5 cm, c2 = 3 cm		
			Densité = 23.65 kg/ m3			
				Echelle pour la vue 4.77cm/m	Page 4/4	



Pos.	Armature		Code	Forme
①	6HA 10	l=3.37	00	3.37
②	22HA 6	l=68	31	14 8
③	22HA 6	l=26	00	5 14

POTEAU
PROJET LABORATOIRE

P1
Section 20x20

Tél.

Fax

Acier HA 400 = 12.5 kg

Acier HA 400 = 4.58 kg Surface du coffrage = 2.24 m2

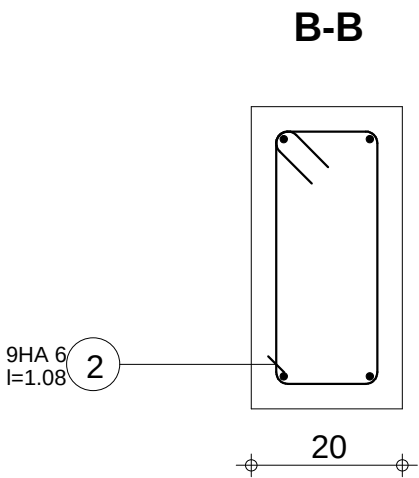
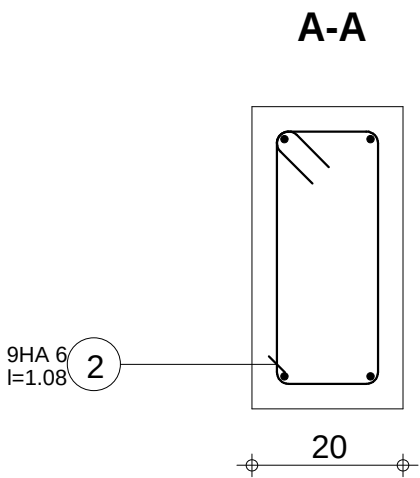
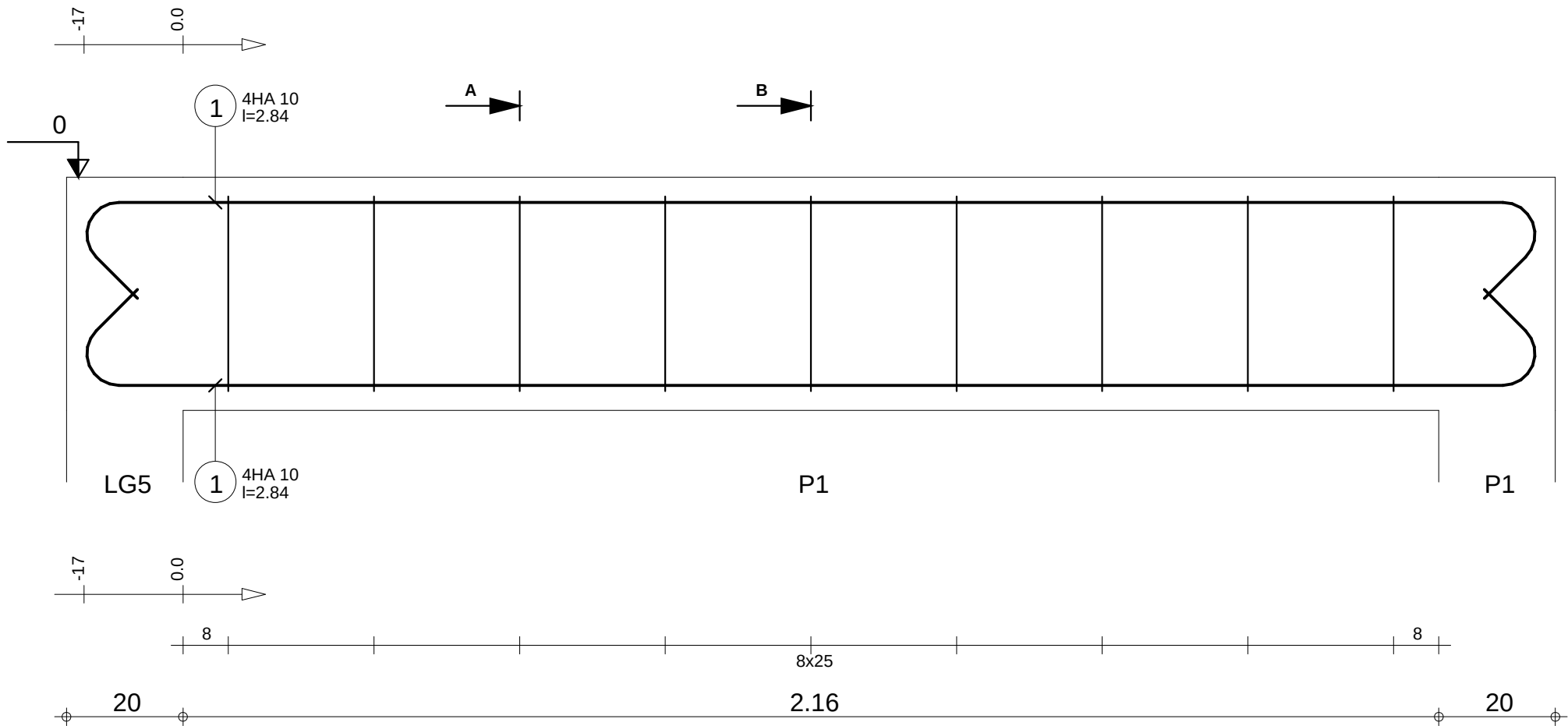
Enrobage 3 cm

Echelle pour la vue 5.03cm/m x 4.15cm/m

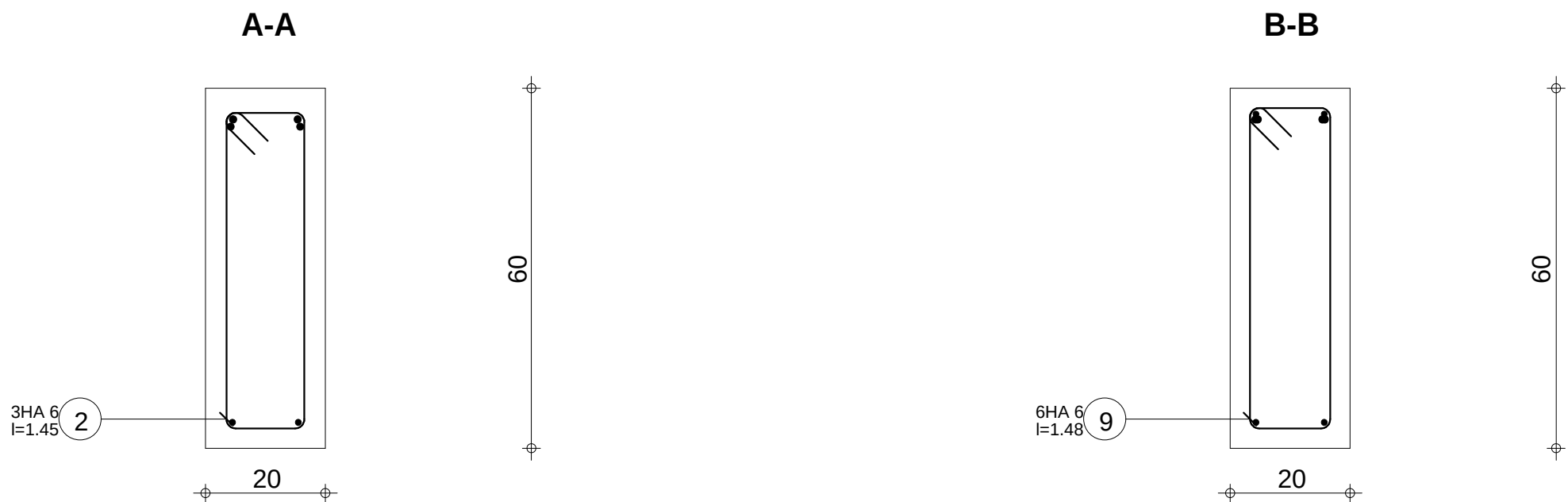
Echelle pour la section 1/10

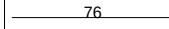
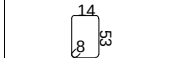
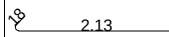
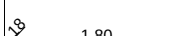
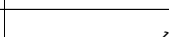
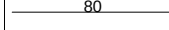
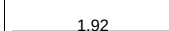
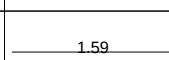
Page 1/1

Pos.	Armature		Code	Forme
①	4HA 10	l=2.84	00	
②	9HA 6	l=1.08	31	

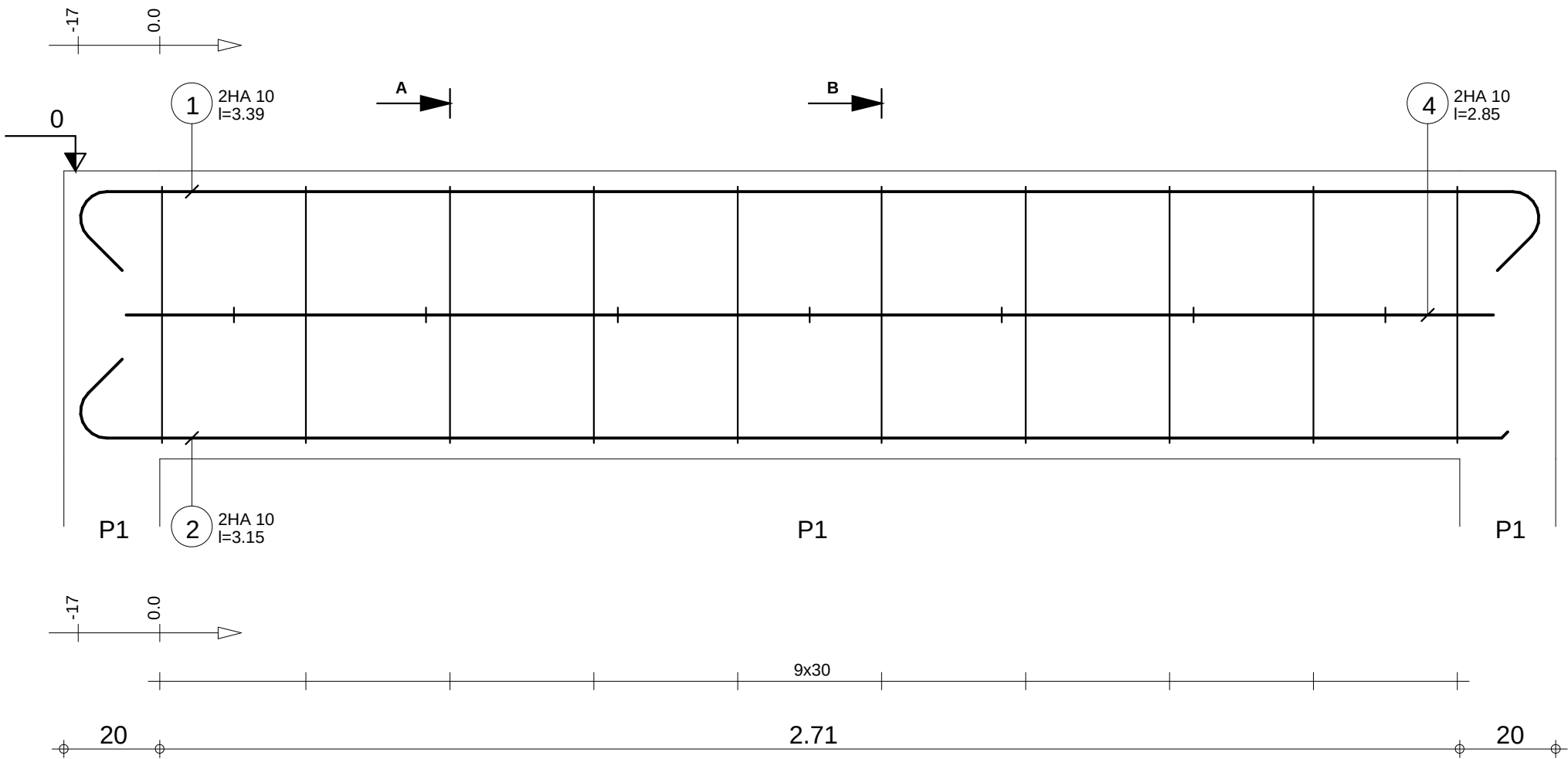


Tél.		Fax			Acier HA 400 = 6.99 kg		
Tenue au feu 0h		Fissuration peu préjudiciable			Acier HA 400 = 2.15 kg		
LONGRINE PROJET LABORATOIRE	LG7 : P1 Section 20x40		Nombre 1	Surface du coffrage = 2.64 m2		Enrobage inférieur 3 cm	Enrobage supérieur 3 cm
				Densité = 44.8 kg/ m3 Diamètre moyen = 8.16mm		Enrobage latéral 3 cm	
						Echelle pour la vue 9.89cm/m	

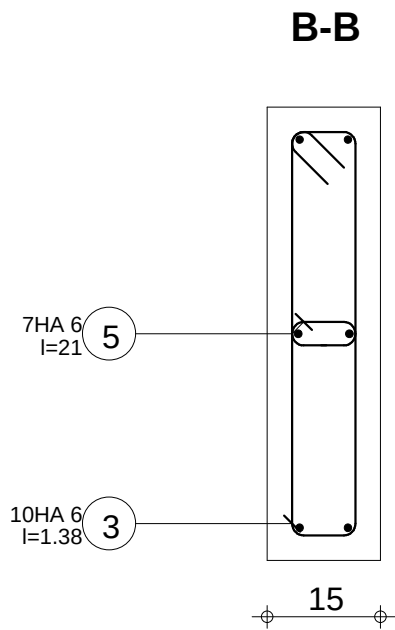
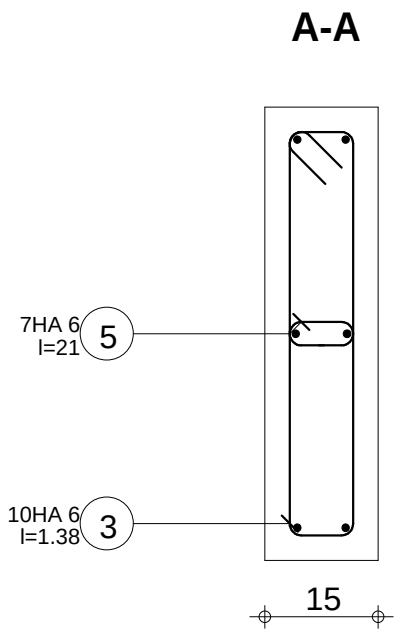


Pos.	Armature	Code	Forme
①	2HA 8 $l=76$	00	
②	3HA 6 $l=1.45$	31	
③	2HA 12 $l=2.32$	00	
④	2HA 12 $l=1.99$	00	
⑤	2HA 12 $l=1.78$	00	
⑥	2HA 12 $l=80$	00	
⑦	2HA 8 $l=1.92$	00	
⑧	2HA 8 $l=1.59$	00	
⑨	6HA 6 $l=1.47^*$	31	

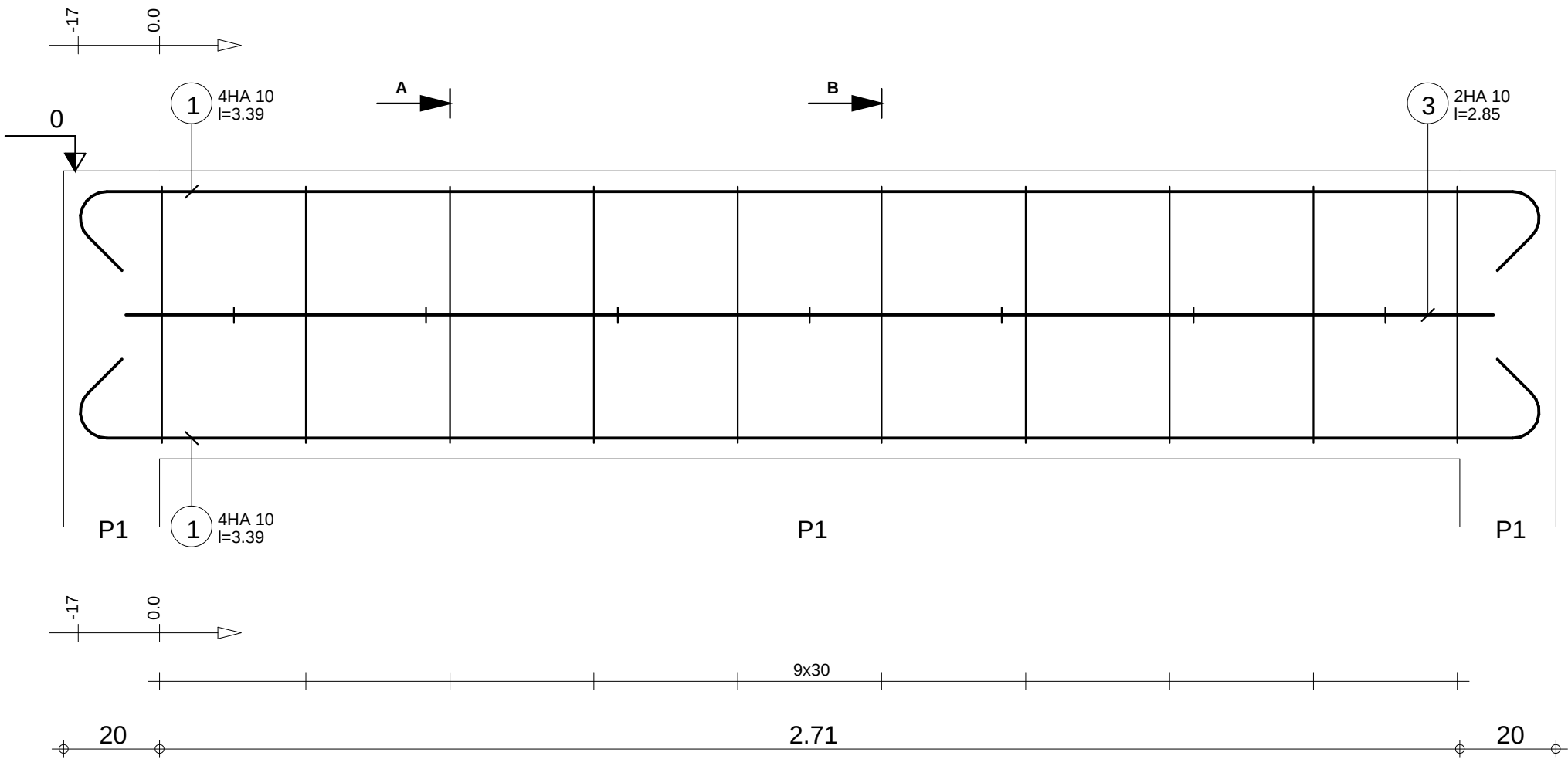
Tél.		Fax				Acier HA 500 = 15.6 kg	
Tenue au feu 0h		Fissuration peu préjudiciable		Reprise de bétonnage : Non		Acier HA 500 = 2.93 kg	
LONGRINE PROJET LABORATOIRE		LG3 Section 20x60		Nombre 1		Béton : BETON = 0.335 m3	
						Acier HA 500 = 2.93 kg	
				Surface du coffrage = 4.06 m2		Enrobage inférieur 3 cm	
						Enrobage supérieur 3 cm	
						Enrobage latéral 3 cm	
						Densité = 55.22 kg/ m3	
						Diamètre moyen = 8.81mm	
						Echelle pour la vue 9.05cm/m	
						Page 2/15	



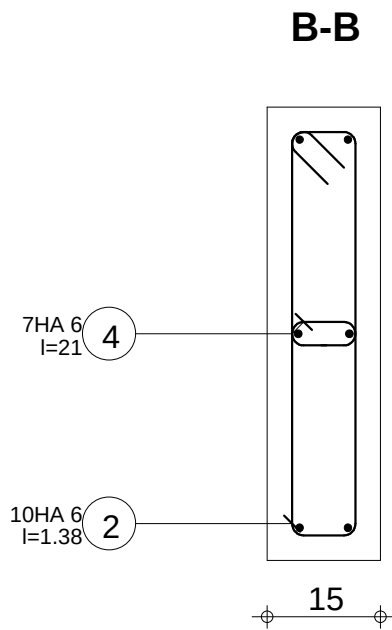
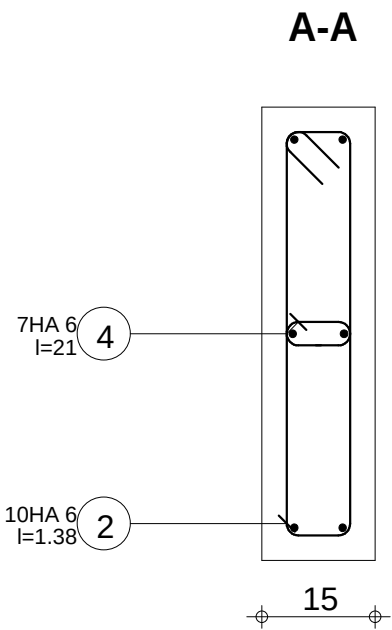
Pos.	Armature		Code	Forme
①	2HA 10	l=3.39	00	
②	2HA 10	l=3.15	00	
③	10HA 6	l=1.38	31	
④	2HA 10	l=2.85	00	
⑤	7HA 6	l=21	00	



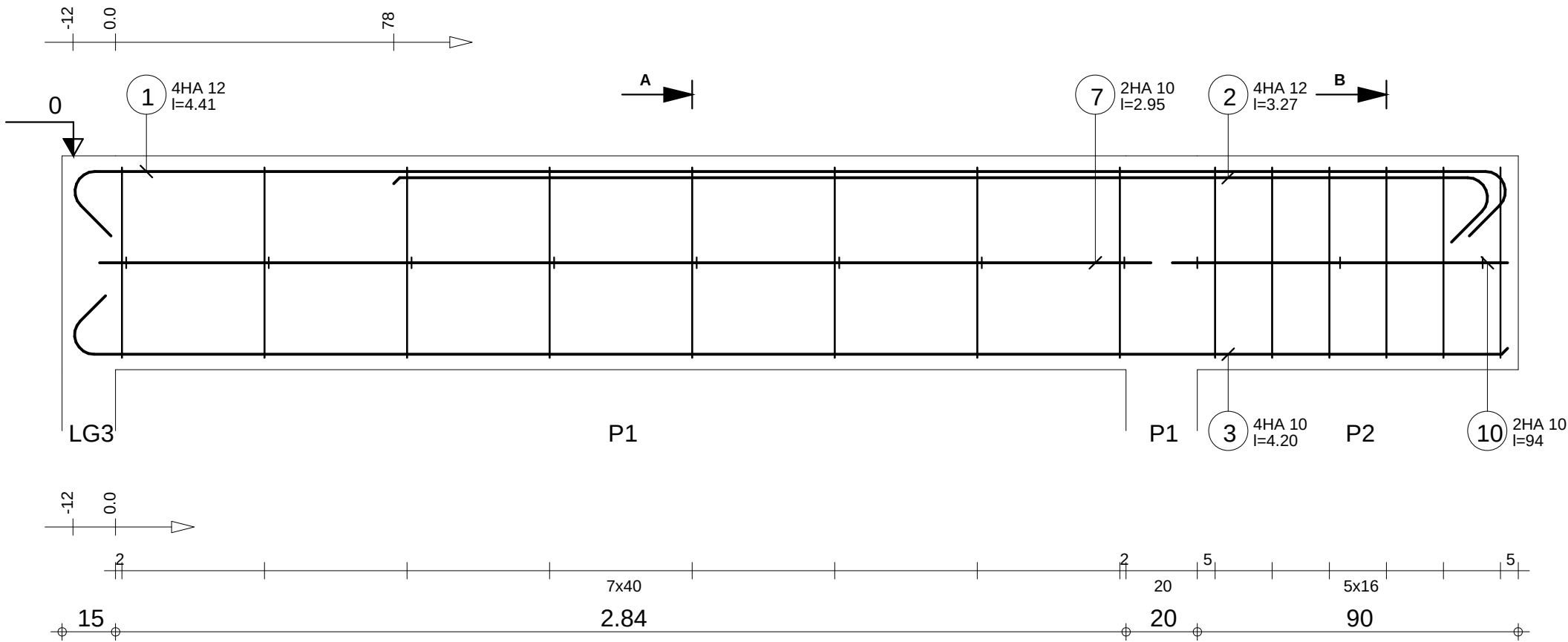
Tél.		Fax		Acier HA 400 = 8.06 kg	
Tenue au feu 0h		Fissuration peu préjudiciable		Acier HA 400 = 6.9 kg	
LONGRINE PROJET LABORATOIRE		LG16 : P1 Section 15x60		Nombre 1	
				Surface du coffrage = 4.32 m2	
				Densité = 53.57 kg/ m3 Diamètre moyen = 8.21mm	
				Enrobage inférieur 3 cm Enrobage latéral 3 cm	
				Echelle pour la vue 8.22cm/m	
				Page 3/15	



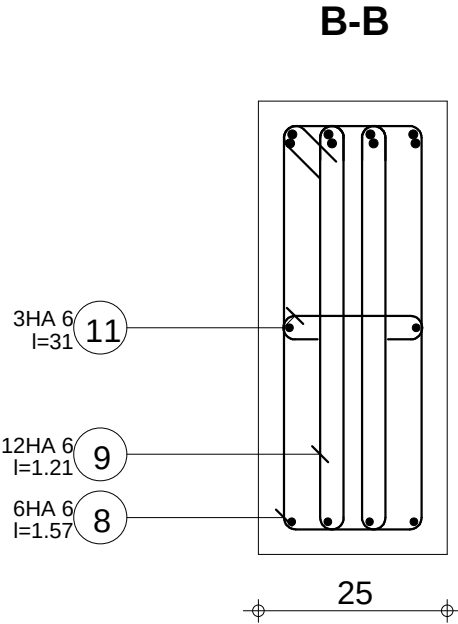
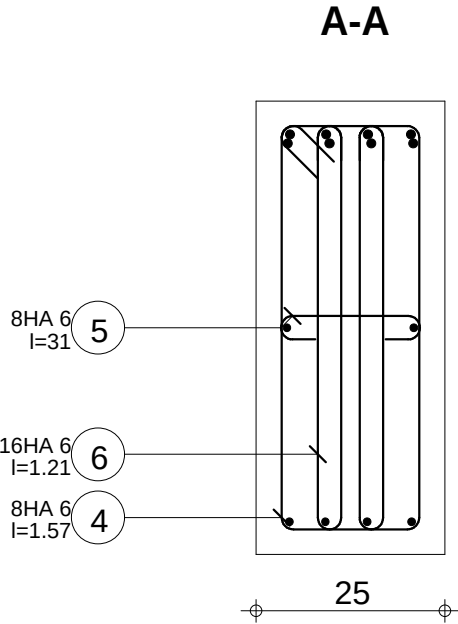
Pos.	Armature		Code	Forme
①	4HA 10	l=3.39	00	
②	10HA 6	l=1.38	31	
③	2HA 10	l=2.85	00	
④	7HA 6	l=21	00	



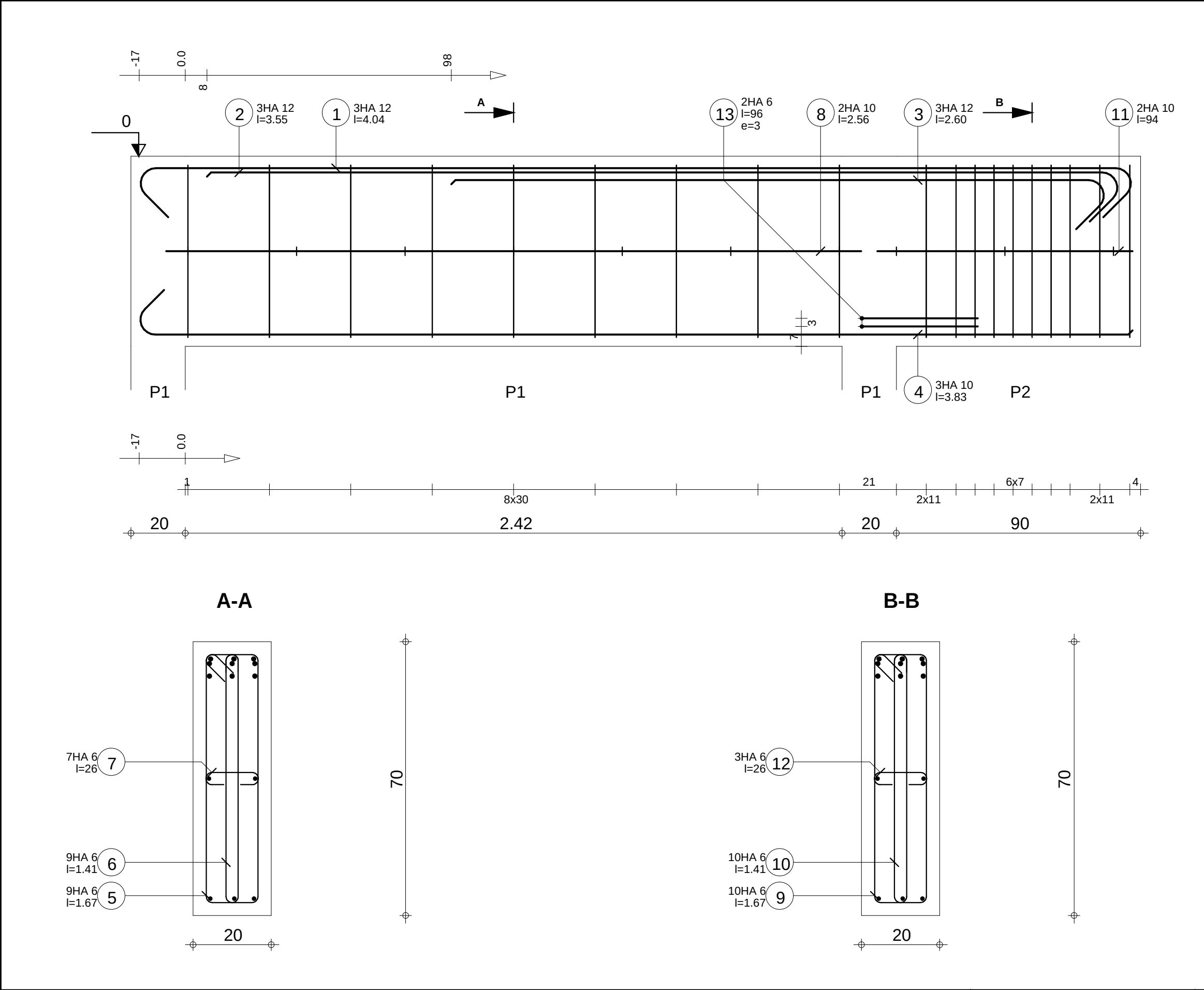
Tél.		Fax				Acier HA 400 = 8.36 kg					
Tenue au feu 0h		Fissuration peu préjudiciable				Reprise de bétonnage : Oui		Acier HA 400 = 6.9 kg			
LONGRINE		LG15 : P1		Nombre 1		Surface du coffrage = 4.32 m2		Enrobage inférieur 3 cm		Enrobage supérieur 3 cm	
						Densité = 54.64 kg/ m3		Enrobage latéral 3 cm			
PROJET LABORATOIRE		Section 15x60				Diamètre moyen = 8.23mm		Echelle pour la vue 8.22cm/m		Page 4/15	



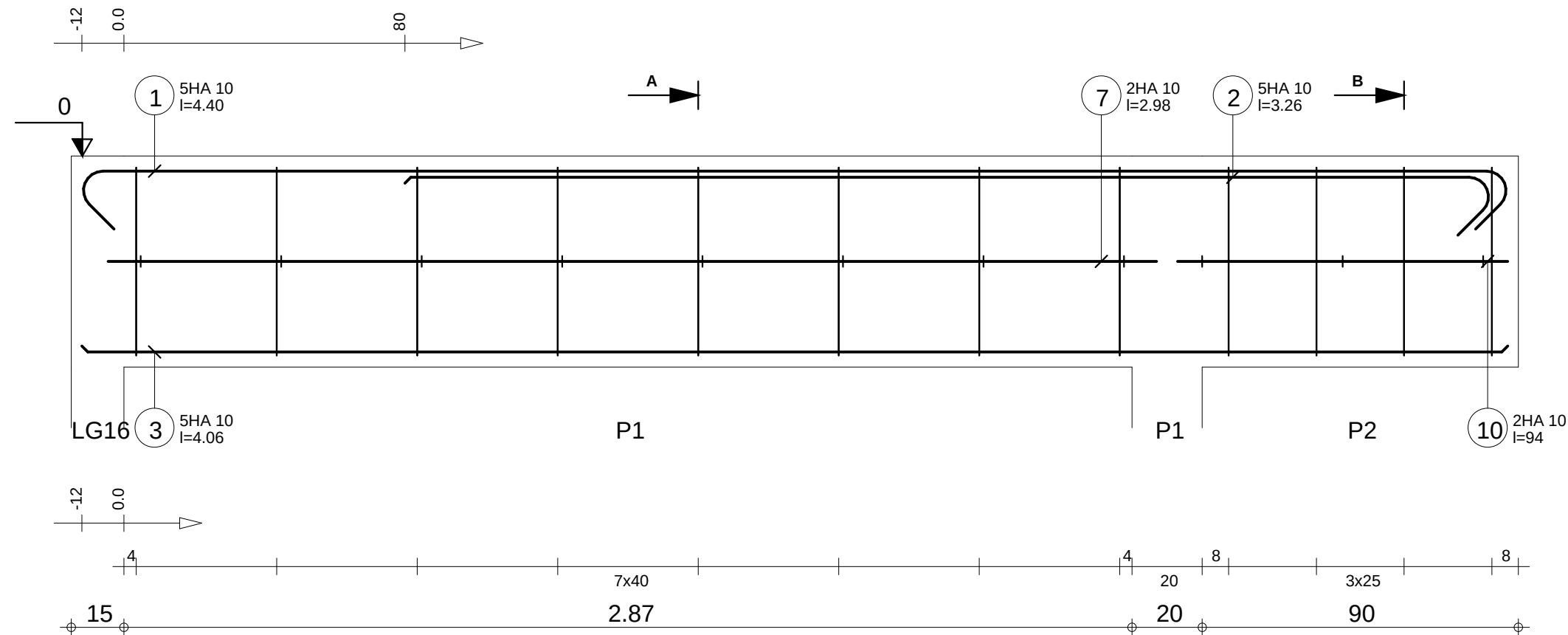
Pos.	Armature		Code	Forme
①	4HA 12	l=4.41	00	
②	4HA 12	l=3.27	00	
③	4HA 10	l=4.20	00	
④	8HA 6	l=1.57	31	
⑤	8HA 6	l=31	00	
⑥	16HA 6	l=1.21		
⑦	2HA 10	l=2.95	00	
⑧	6HA 6	l=1.57	31	
⑨	12HA 6	l=1.21		
⑩	2HA 10	l=94	00	
⑪	3HA 6	l=31	00	



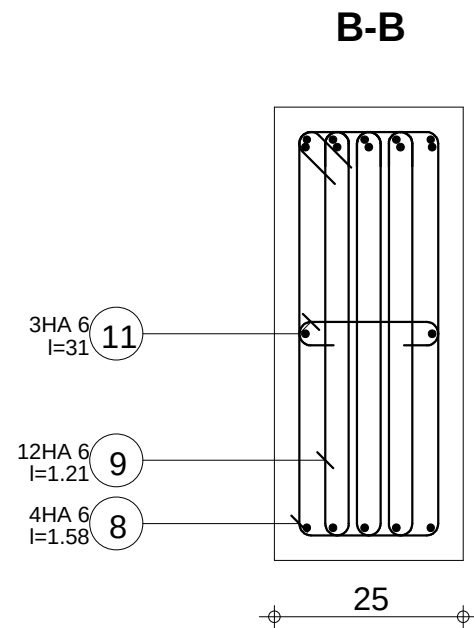
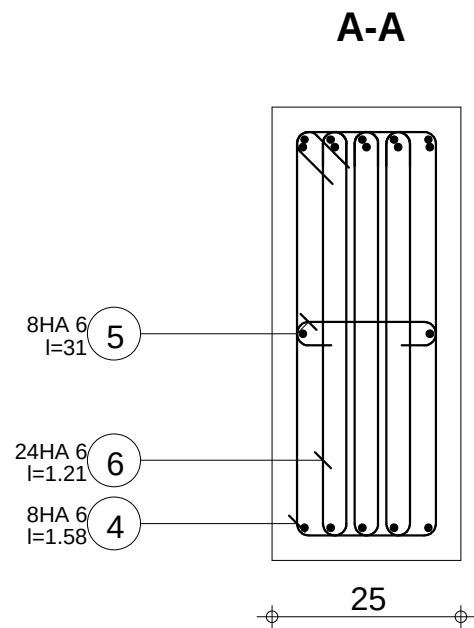
Tél.		Fax		Acier HA 400 = 37.6 kg	
Tenue au feu 0h		Fissuration peu préjudiciable		Acier HA 400 = 18 kg	
LONGRINE PROJET LABORATOIRE		LG2 Section 25x60		Enrobage inférieur 3 cm	
				Enrobage supérieur 3 cm	
		Nombre 1		Surface du coffrage = 6.14 m2	
				Densité = 90.7 kg/ m3	
				Diamètre moyen = 8.46mm	
				Echelle pour la vue 6.36cm/m	
				Page 5/15	

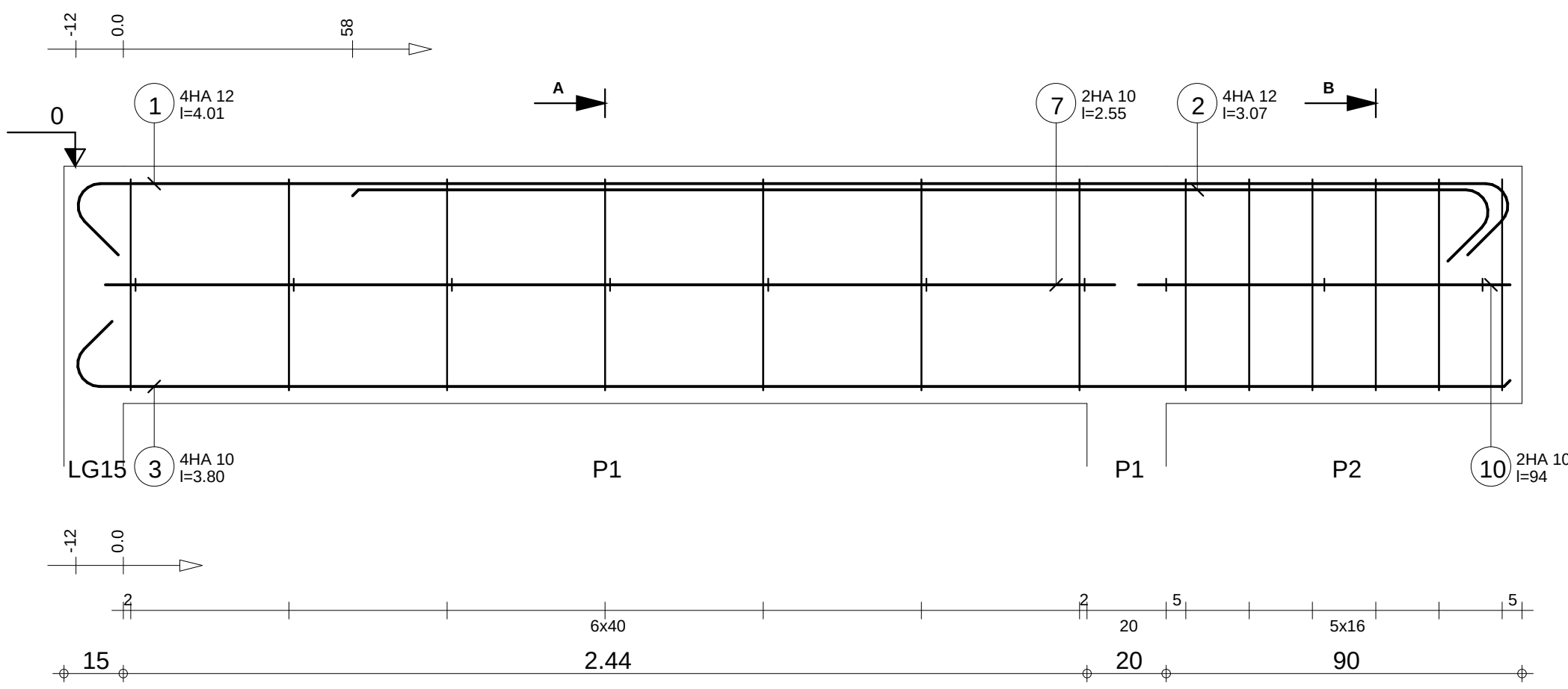


Tél.		Fax		Acier HA 400 = 34.2 kg	
Tenue au feu 0h		Reprise de bétonnage : Oui		Acier HA 400 = 18.3 kg	
Fissuration peu préjudiciable		Nombre 1		Enrobage inférieur 3 cm	
Enrobage latéral 3 cm		Surface du coffrage = 6.15 m2		Enrobage supérieur 3 cm	
Densité = 101 kg/ m3		Diamètre moyen = 8.29mm		Echelle pour la vue 6.94cm/m	
Diamètre moyen = 8.29mm				Page 6/15	



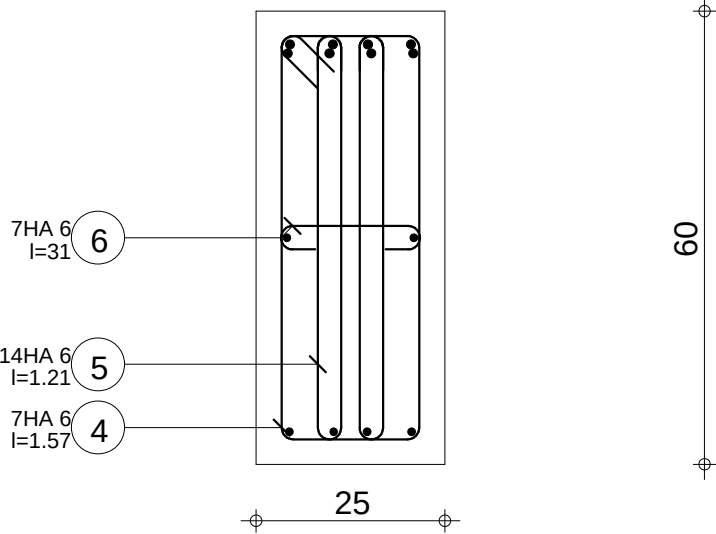
Pos.	Armature		Code	Forme
①	5HA 10	l=4.40	00	
②	5HA 10	l=3.26	00	
③	5HA 10	l=4.06	00	
④	8HA 6	l=1.58	31	
⑤	8HA 6	l=31	00	
⑥	24HA 6	l=1.21		
⑦	2HA 10	l=2.98	00	
⑧	4HA 6	l=1.58	31	
⑨	12HA 6	l=1.21		
⑩	2HA 10	l=94	00	
⑪	3HA 6	l=31	00	



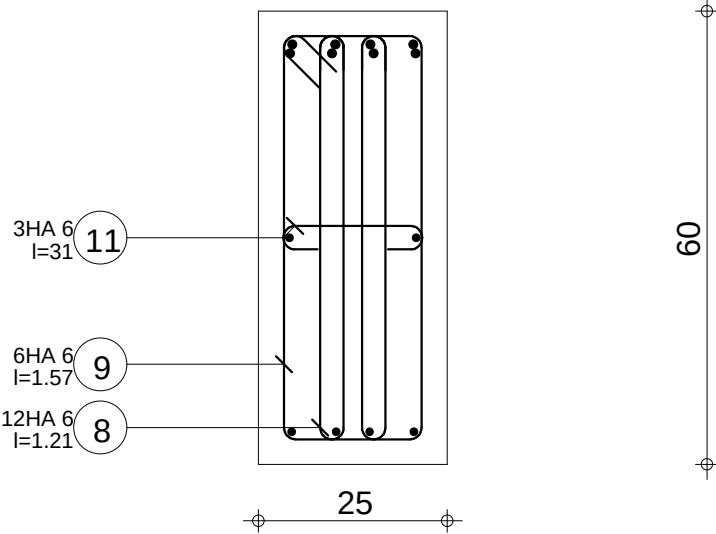


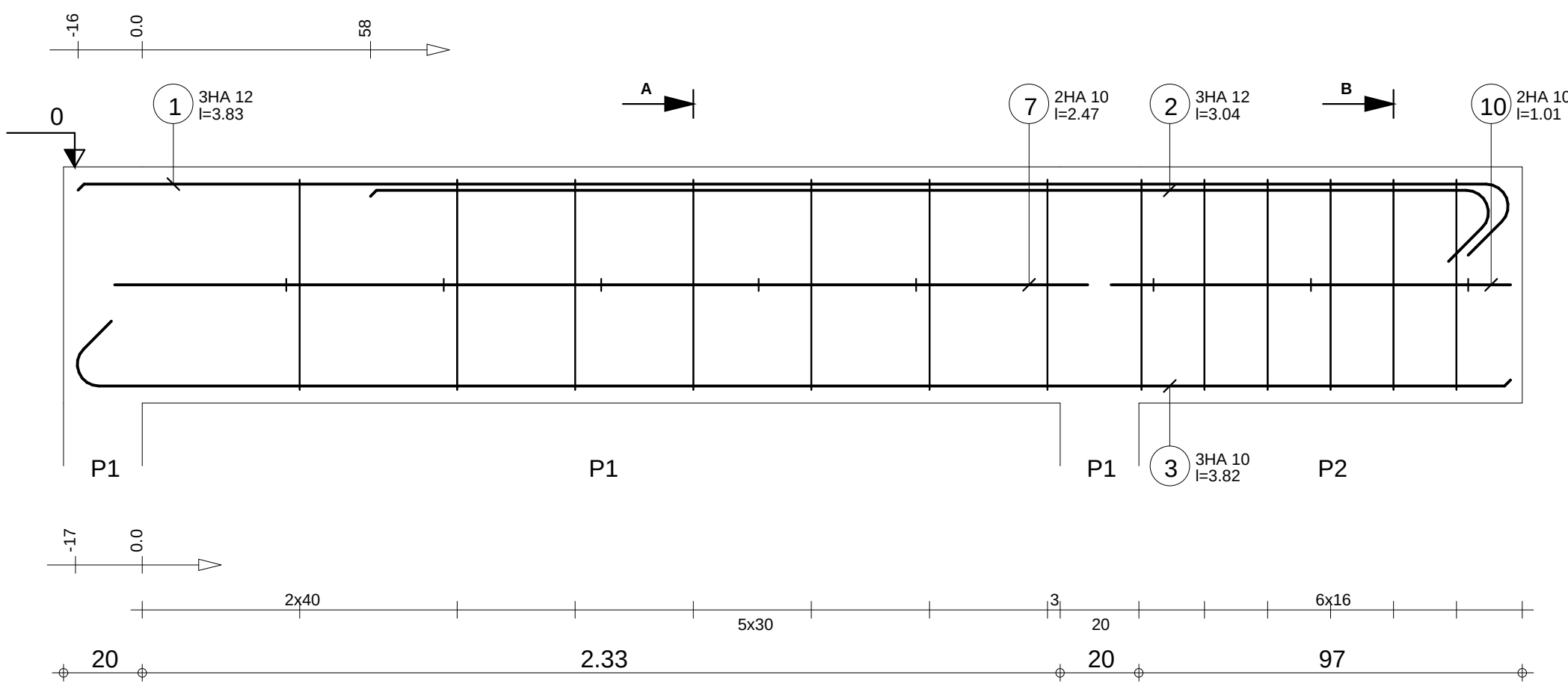
Pos.	Armature		Code	Forme
①	4HA 12	l=4.01	00	
②	4HA 12	l=3.07	00	
③	4HA 10	l=3.80	00	
④	7HA 6	l=1.57	31	
⑤	14HA 6	l=1.21		
⑥	7HA 6	l=31	00	
⑦	2HA 10	l=2.55	00	
⑧	12HA 6	l=1.21		
⑨	6HA 6	l=1.57	31	
⑩	2HA 10	l=94	00	
⑪	3HA 6	l=31	00	

A-A

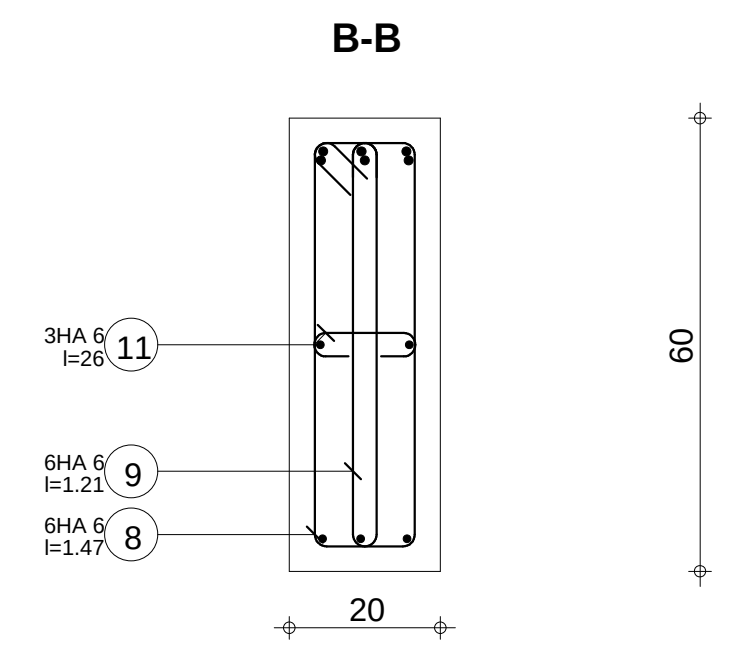
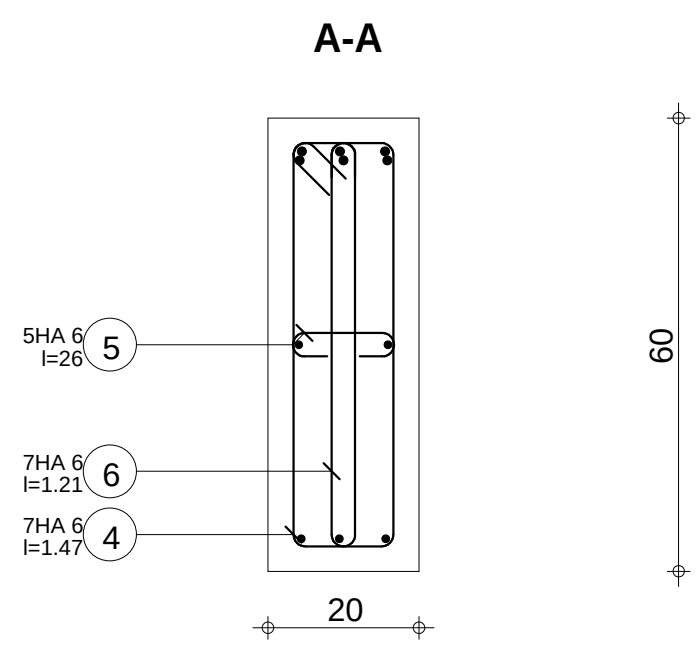


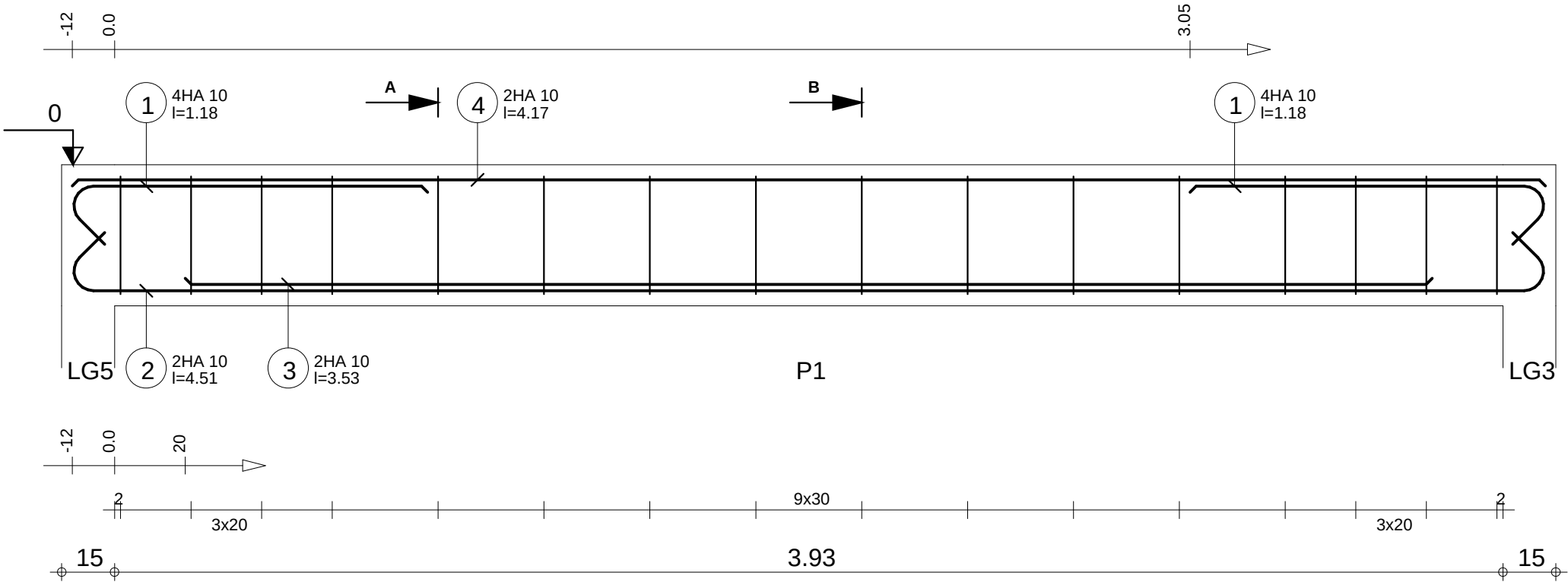
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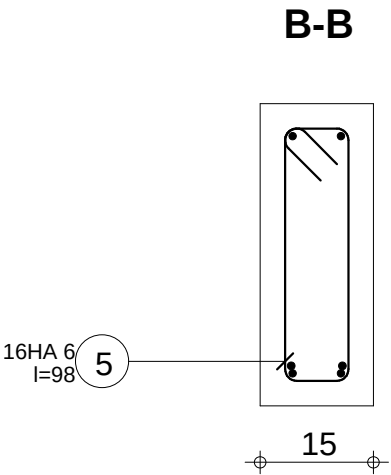
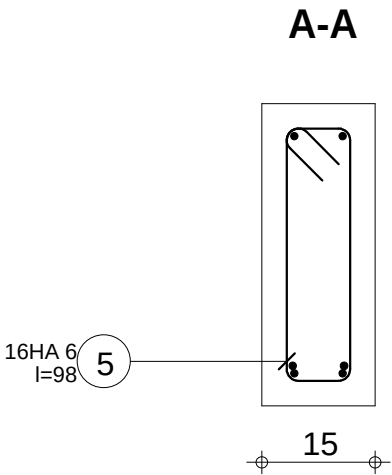


Pos.	Armature		Code	Forme
①	3HA 12	l=3.83	00	3.64
②	3HA 12	l=3.04	00	2.85
③	3HA 10	l=3.82	00	3.65
④	7HA 6	l=1.47	31	14
⑤	5HA 6	l=26	00	14
⑥	7HA 6	l=1.21		0.0
⑦	2HA 10	l=2.47	00	2.47
⑧	6HA 6	l=1.47	31	14
⑨	6HA 6	l=1.21		0.0
⑩	2HA 10	l=1.01	00	1.01
⑪	3HA 6	l=26	00	14

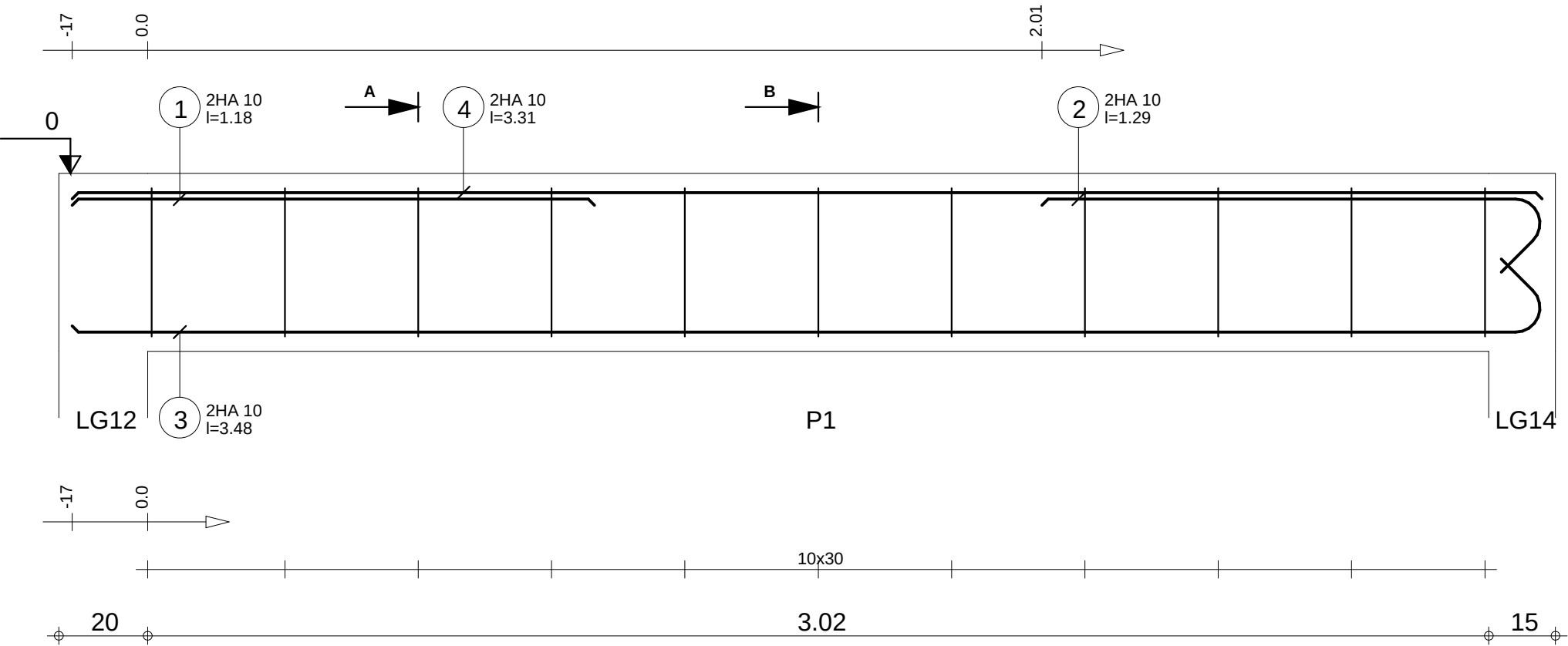




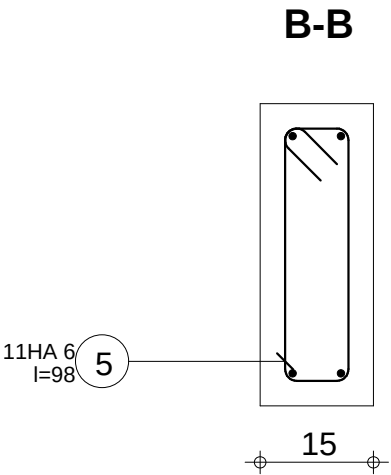
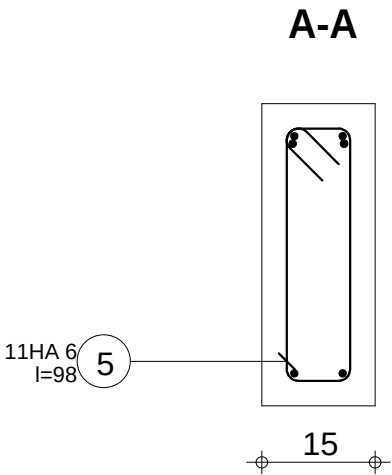
Pos.	Armature		Code	Forme
①	4HA 10	l=1.18	00	
②	2HA 10	l=4.51	00	
③	2HA 10	l=3.53	00	
④	2HA 10	l=4.17	00	
⑤	16HA 6	l=98	31	



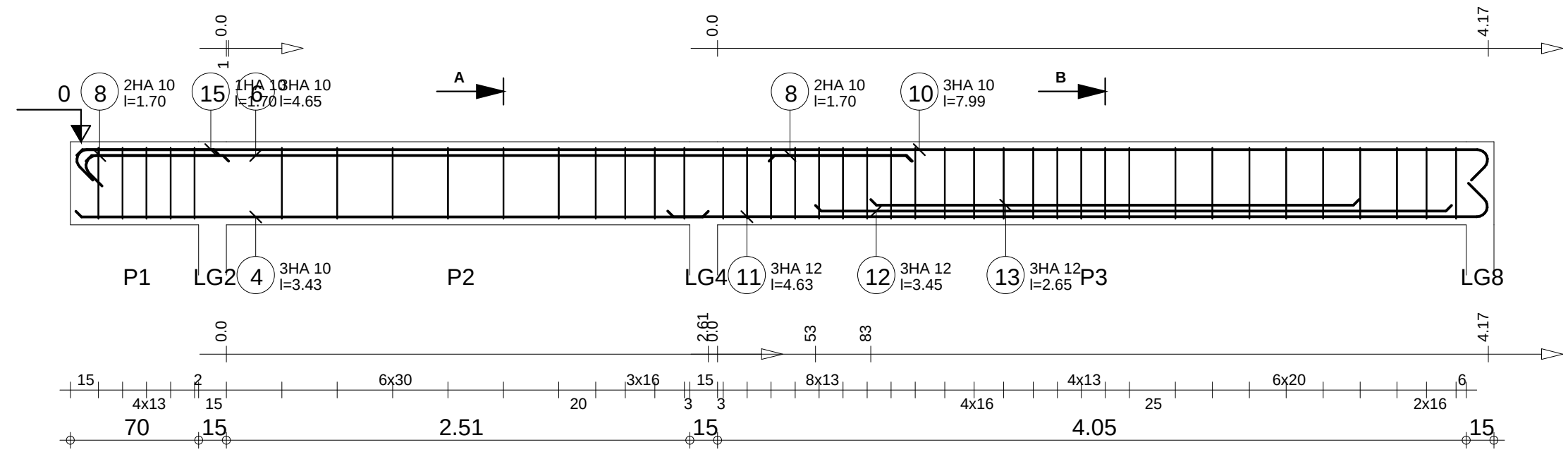
Tél.		Fax		Acier HA 400 = 18 kg	
Tenue au feu 0h		Fissuration peu préjudiciable		Acier HA 400 = 3.47 kg	
LONGRINE PROJET LABORATOIRE		LG1 : P1 Section 15x40		Nombre 1	
				Surface du coffrage = 4.1 m2	
				Densité = 84.25 kg/ m3 Diamètre moyen = 8.6mm	
				Enrobage inférieur 3 cm Enrobage latéral 3 cm	
				Echelle pour la vue 6.15cm/m	
				Page 10/15	



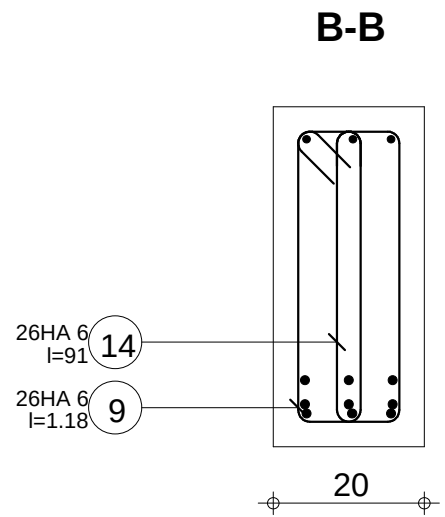
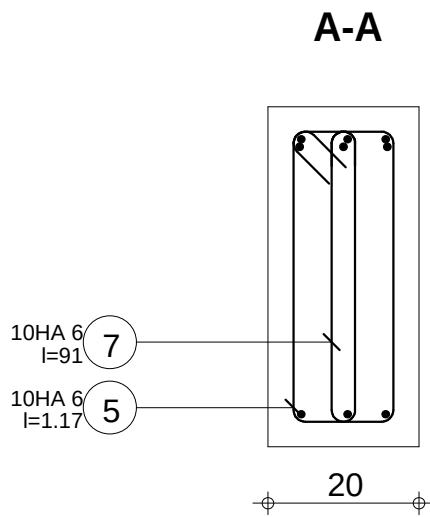
Pos.	Armature		Code	Forme
①	2HA 10	l=1.18	00	1.18
②	2HA 10	l=1.29	00	1.13
③	2HA 10	l=3.48	00	3.31
④	2HA 10	l=3.31	00	3.31
⑤	11HA 6	l=98	31	



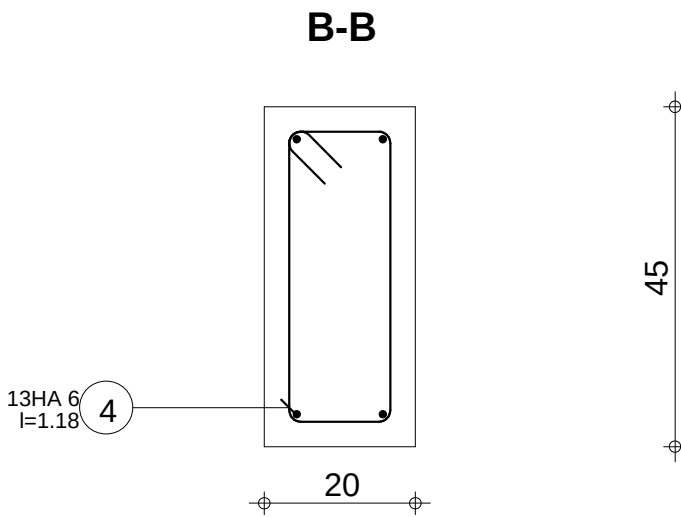
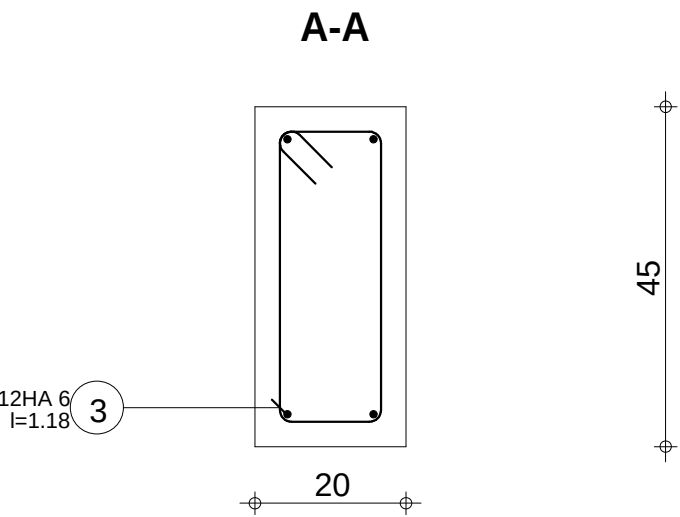
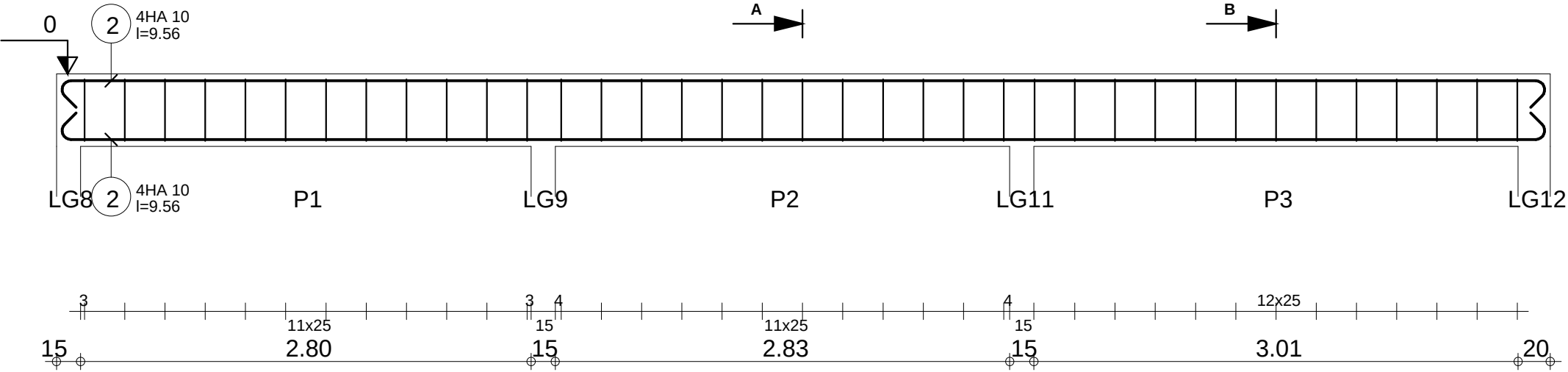
Tél.		Fax		Acier HA 400 = 11.4 kg	
Tenue au feu 0h		Fissuration peu préjudiciable		Acier HA 400 = 2.39 kg	
LONGRINE PROJET LABORATOIRE		LG13 : P1 Section 15x40		Reprise de bétonnage : Oui	
				Surface du coffrage = 3.27 m2	Enrobage inférieur 3 cm Enrobage supérieur 3 cm Enrobage latéral 3 cm
		Nombre 1		Densité = 68.32 kg/ m3 Diamètre moyen = 8.53mm	Echelle pour la vue 7.63cm/m
				Page 11/15	



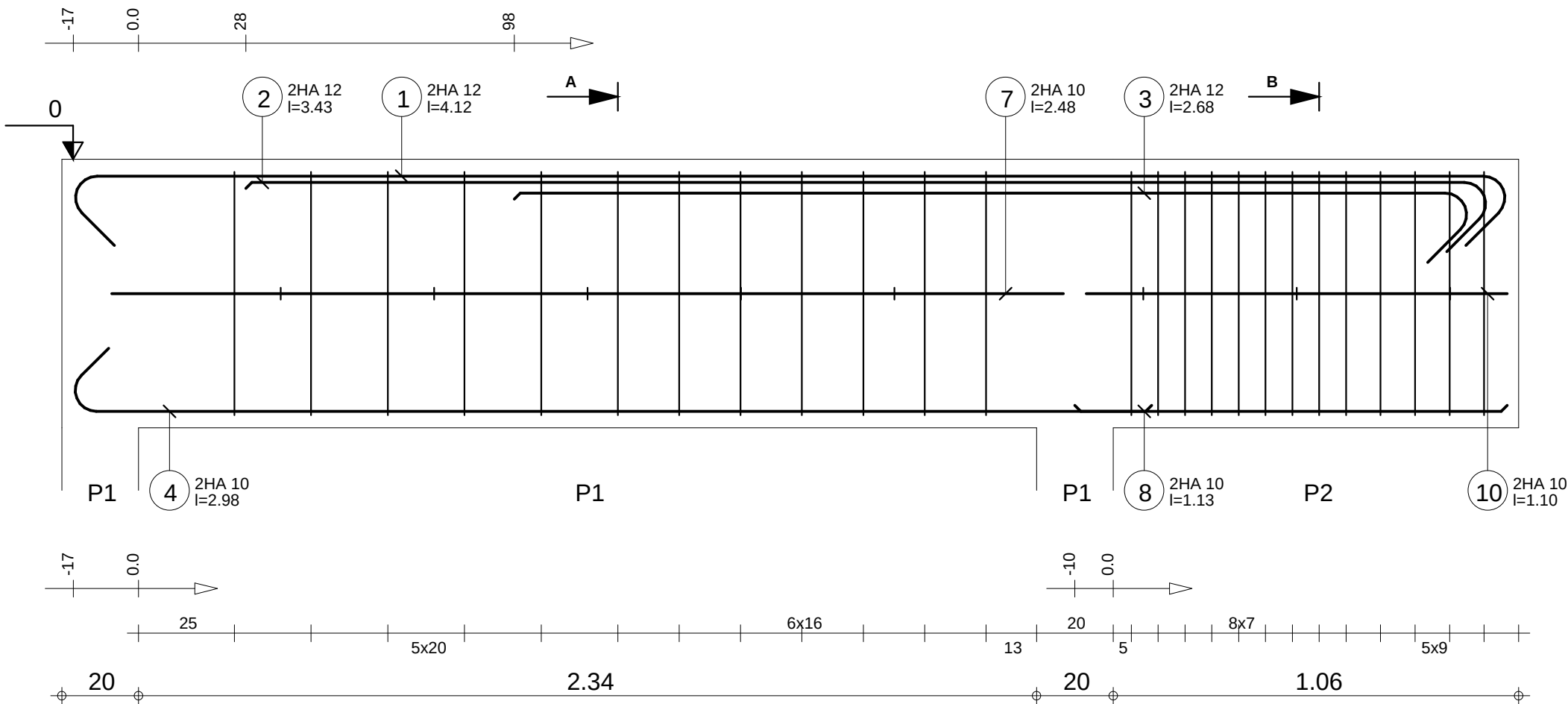
Pos.	Armature		Code	Forme
①	5HA 6	l=1.17	31	
②	5HA 6	l=91		
④	3HA 10	l=3.43	00	
⑤	10HA 6	l=1.17*	31	
⑥	3HA 10	l=4.65	00	
⑦	10HA 6	l=91		
⑧	2HA 10	l=1.70		
⑨	26HA 6	l=1.18	31	
⑩	3HA 10	l=7.99	00	
⑪	3HA 12	l=4.63	00	
⑫	3HA 12	l=3.45	00	
⑬	3HA 12	l=2.65	00	
⑭	26HA 6	l=91		
⑮	1HA 10	l=1.70		



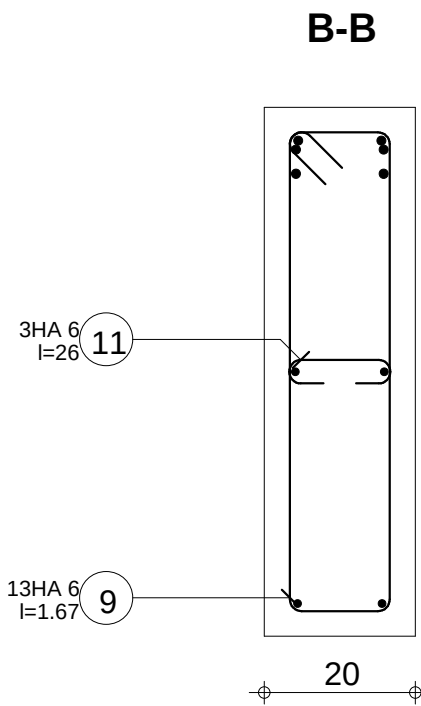
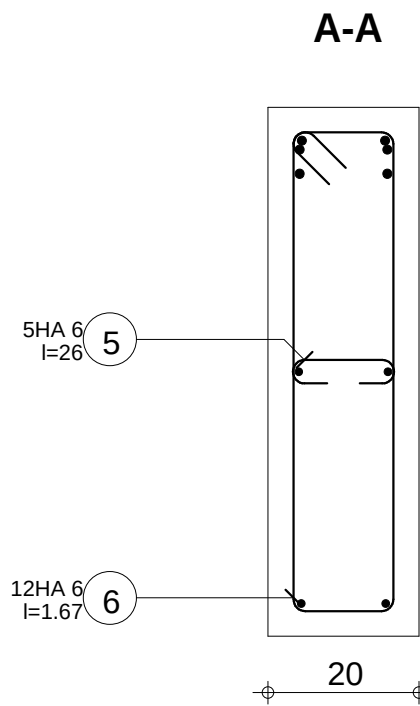
Pos.	Armature		Code	Forme
①	12HA 6	l=1.18	31	
②	4HA 10	l=9.56	00	
③	12HA 6	l=1.18	31	
④	13HA 6	l=1.18	31	



Tél.		Fax		Acier HA 400 = 23.6 kg	
Tenue au feu 0h		Fissuration peu préjudiciable		Acier HA 400 = 9.67 kg	
LONGRINE PROJET LABORATOIRE		LG10 Section 20x45		Nombre 1	
				Surface du coffrage = 10.3 m2	
				Densité = 39.83 kg/ m3 Diamètre moyen = 7.87mm	
				Enrobage inférieur 3 cm Enrobage latéral 3 cm	
				Echelle pour la vue 2.9cm/m	
				Page 14/15	

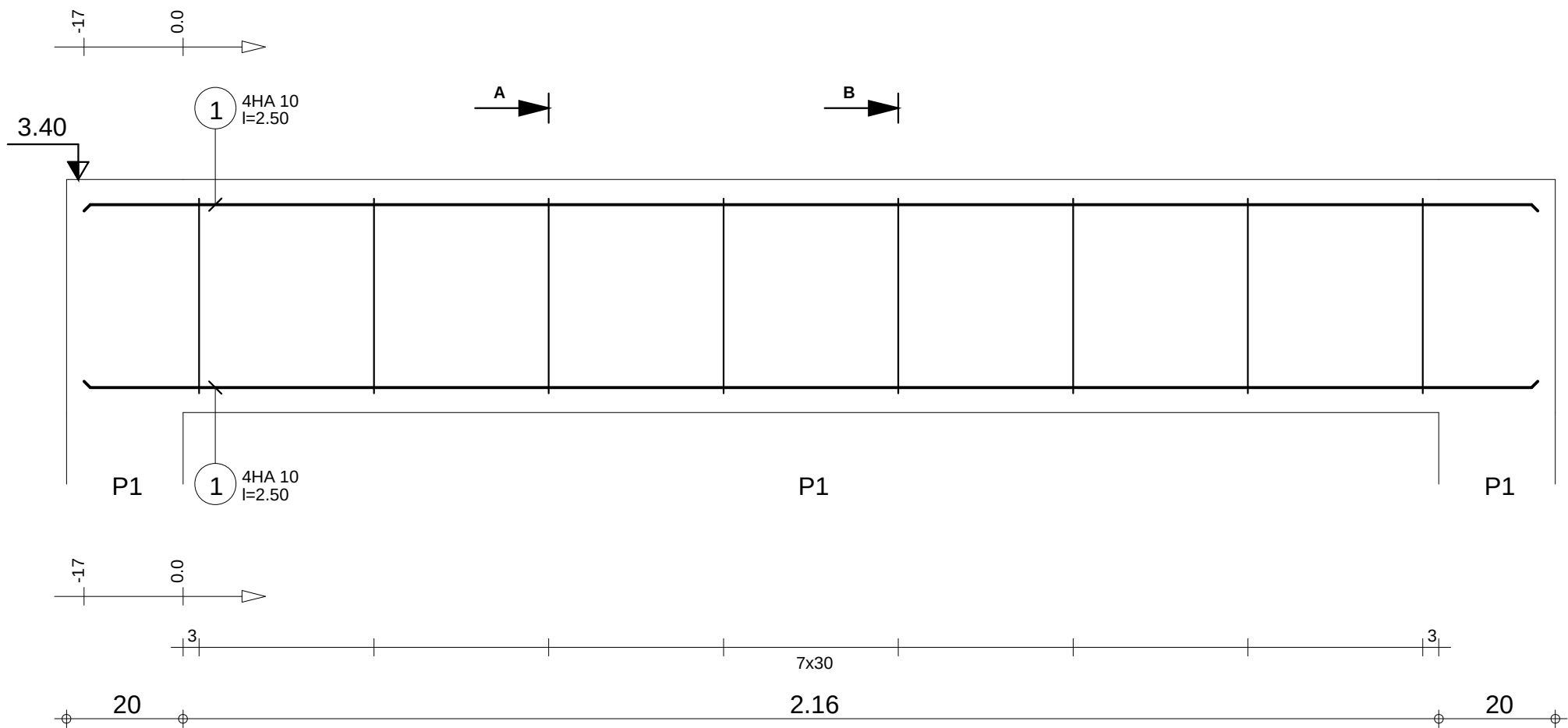


Pos.	Armature		Code	Forme
①	2HA 12	l=4.12	00	3.74
②	2HA 12	l=3.43	00	3.24
③	2HA 12	l=2.68	00	2.49
④	2HA 10	l=2.98	00	2.81
⑤	5HA 6	l=26	00	14
⑥	12HA 6	l=1.67	31	14
⑦	2HA 10	l=2.48	00	2.48
⑧	2HA 10	l=1.13	00	1.13
⑨	13HA 6	l=1.67	31	14
⑩	2HA 10	l=1.10	00	1.10
⑪	3HA 6	l=26	00	14

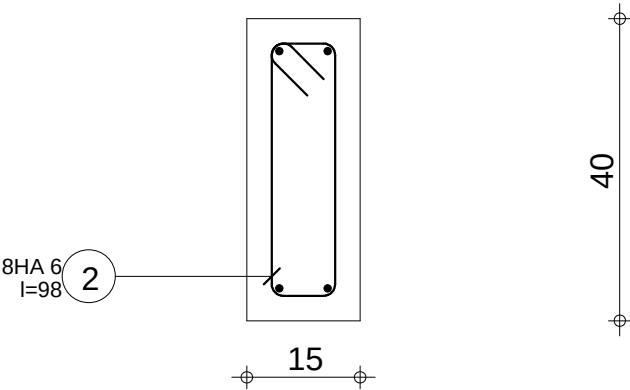


Tél.		Fax			Acier HA 400 = 23.2 kg	
Tenue au feu 0h		Fissuration peu préjudiciable			Acier HA 400 = 14.2 kg	
LONGRINE	LG14	Nombre 1	Section 20x70	Surface du coffrage = 6.28 m2	Enrobage inférieur 3 cm Enrobage supérieur 3 cm	
				Densité = 70.3 kg/ m3 Diamètre moyen = 8.31mm	Echelle pour la vue 6.81cm/m	Page 15/15
PROJET LABORATOIRE						

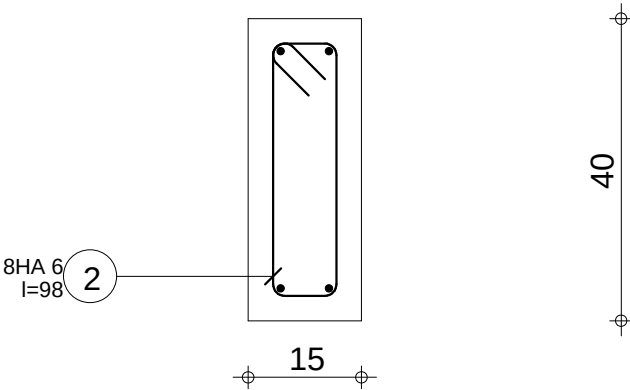
Pos.	Armature		Code	Forme
①	4HA 10	l=2.50	00	2.50
②	8HA 6	l=98	31	



A-A

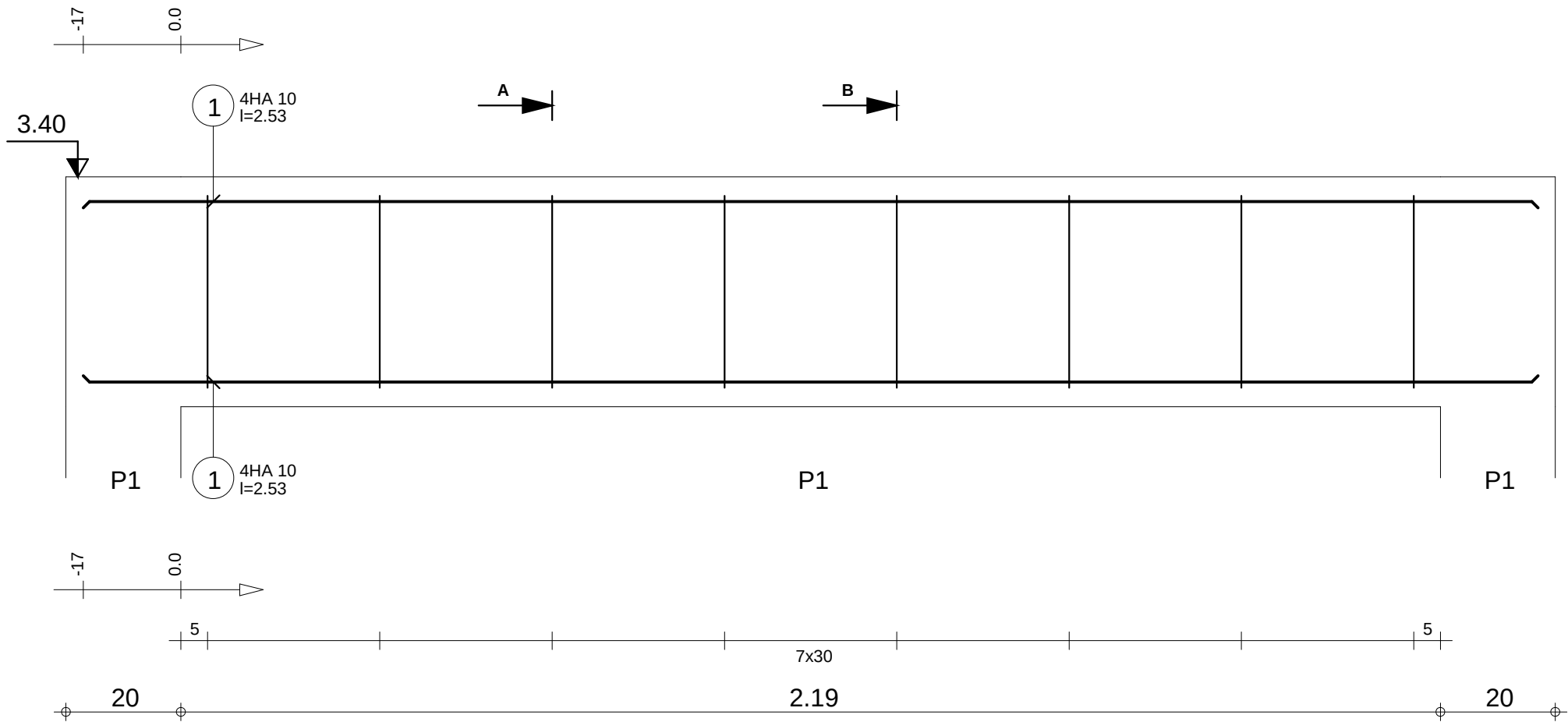


B-B

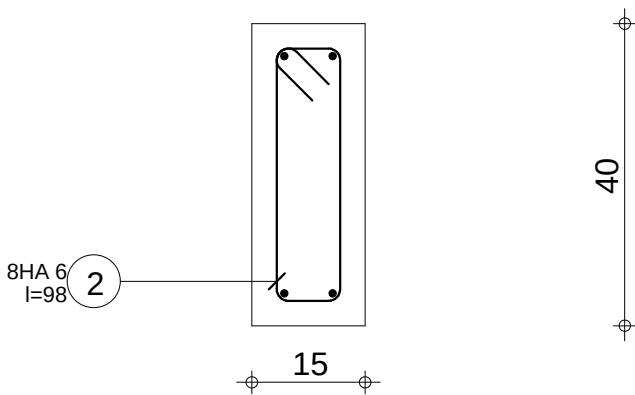


Tél.		Fax		Acier HA 400 = 6.15 kg	
Tenue au feu 0h		Fissuration peu préjudiciable		Acier HA 400 = 1.74 kg	
POUTRE REZ DE CHAUSSEE PROJET LABORATOIRE		2_PP0_03 : P1 Section 15x40		Nombre 1	
				Surface du coffrage = 2.49 m2	
				Densité = 51.57 kg/ m3 Diamètre moyen = 8.24mm	
				Enrobage inférieur 3 cm Enrobage latéral 3 cm	
				Echelle pour la vue 9.89cm/m	
				Page 3/22	

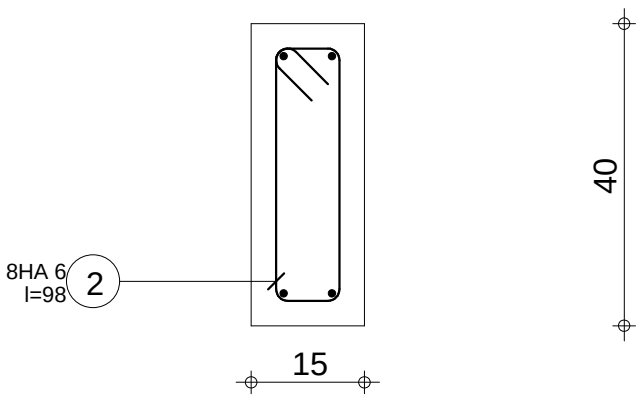
Pos.	Armature		Code	Forme
①	4HA 10	l=2.53	00	2.53
②	8HA 6	l=98	31	



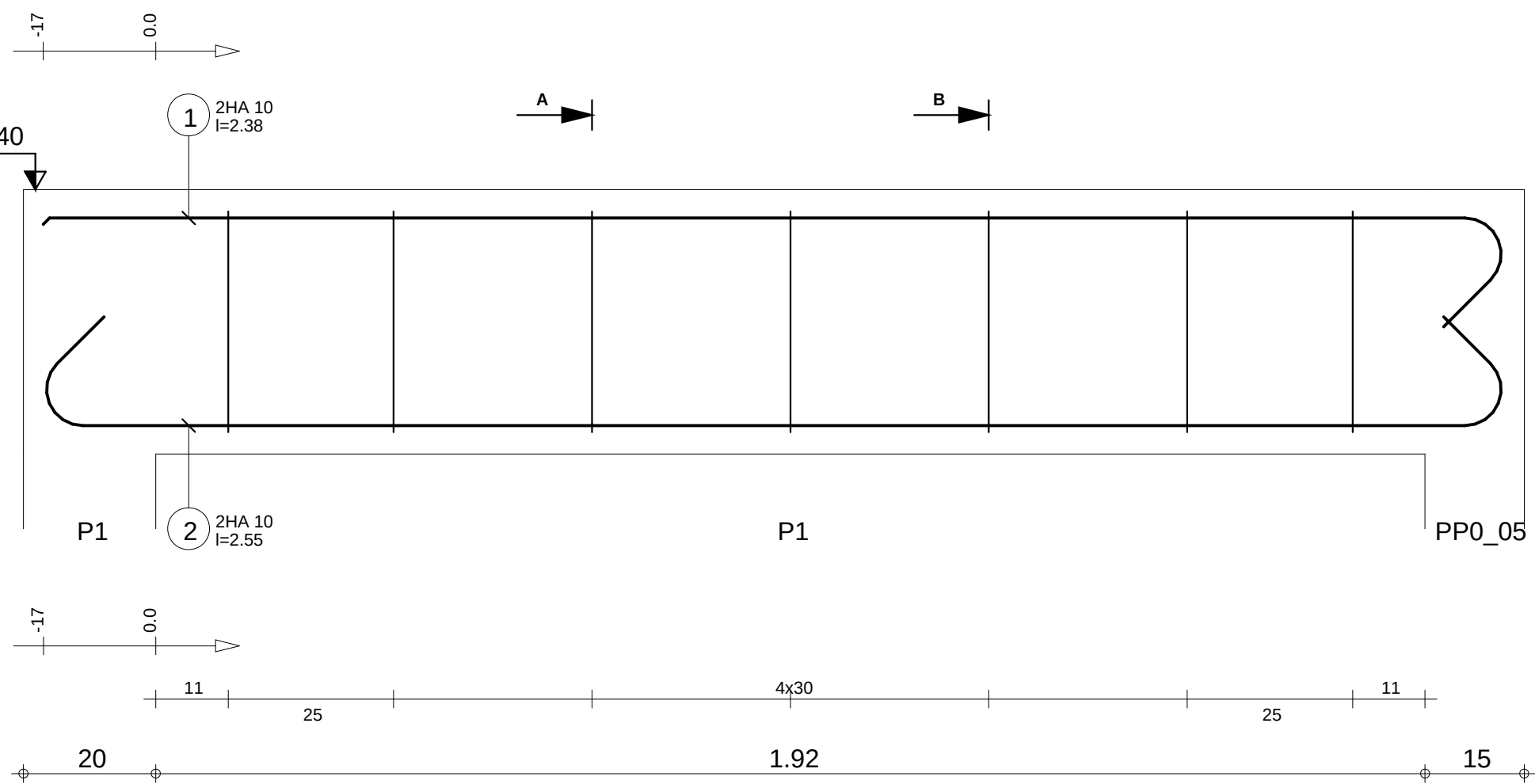
A-A



B-B

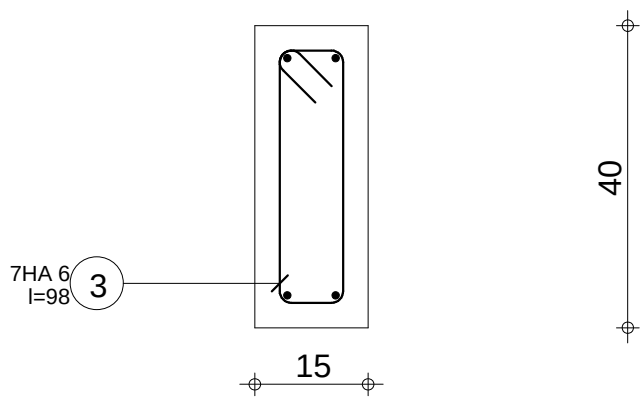


Tél.		Fax		Acier HA 400 = 6.25 kg	
Tenue au feu 0h		Fissuration peu préjudiciable		Acier HA 400 = 1.74 kg	
POUTRE REZ DE CHAUSSEE PROJET LABORATOIRE		2_PP0_07 : P1 Section 15x40		Nombre 1	
				Surface du coffrage = 2.52 m2	
				Densité = 51.15 kg/ m3 Diamètre moyen = 8.26mm	
				Enrobage inférieur 3 cm Enrobage latéral 3 cm	
				Echelle pour la vue 9.76cm/m	
				Page 4/22	

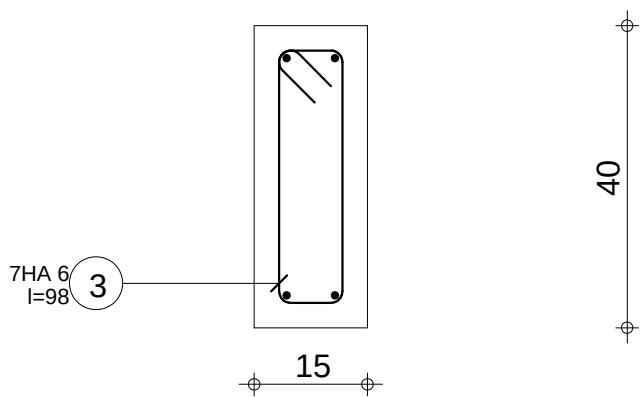


Pos.	Armature		Code	Forme
①	2HA 10	l=2.38	00	2.21
②	2HA 10	l=2.55	00	2.21
③	7HA 6	l=98	31	3.4

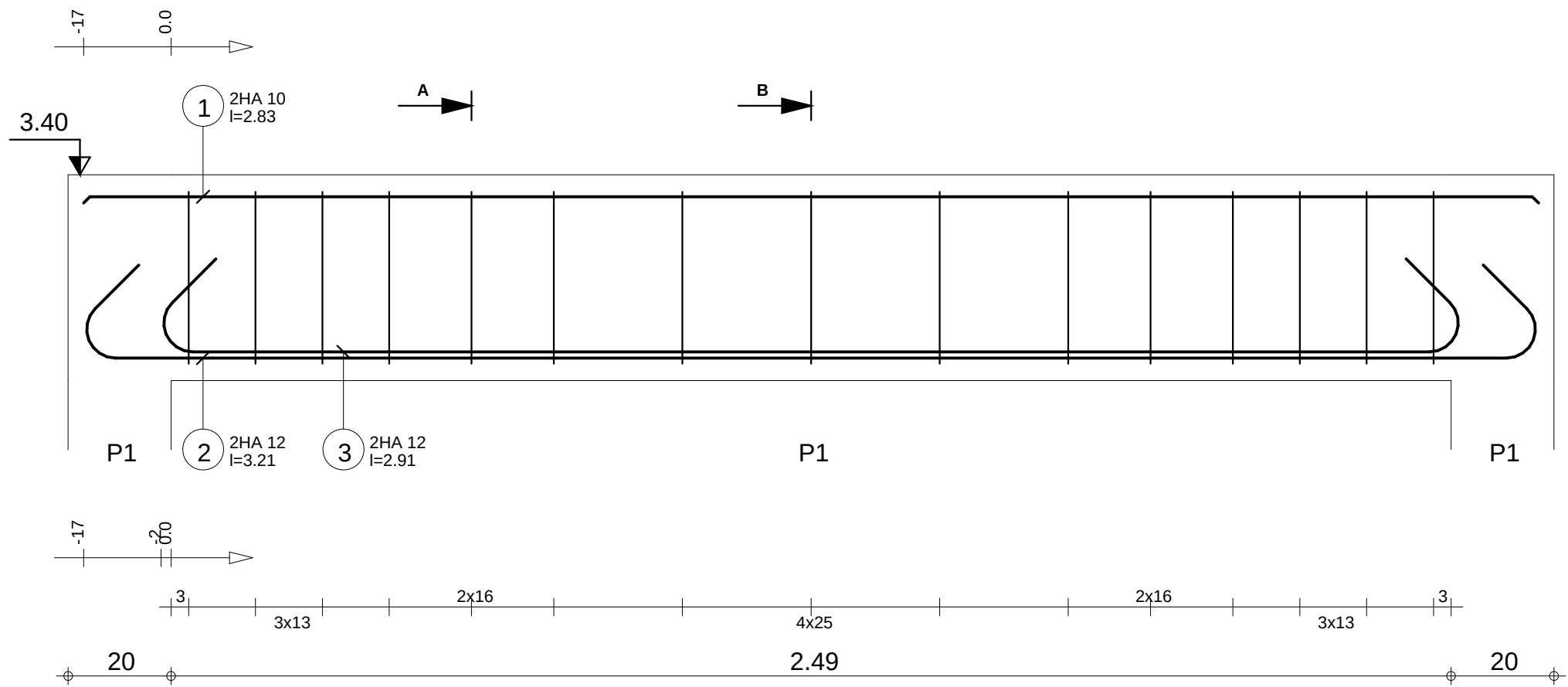
A-A



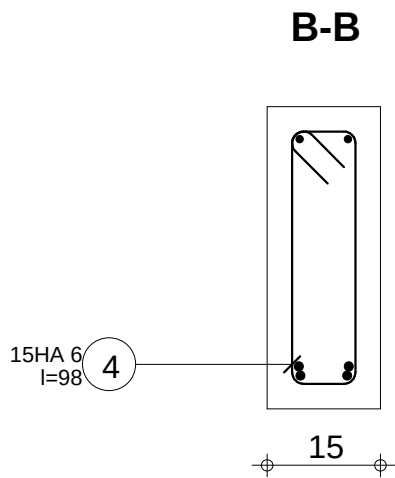
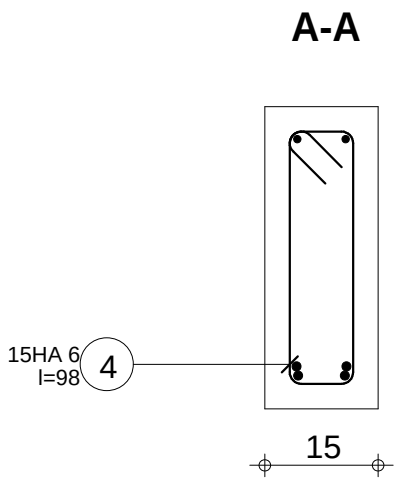
B-B



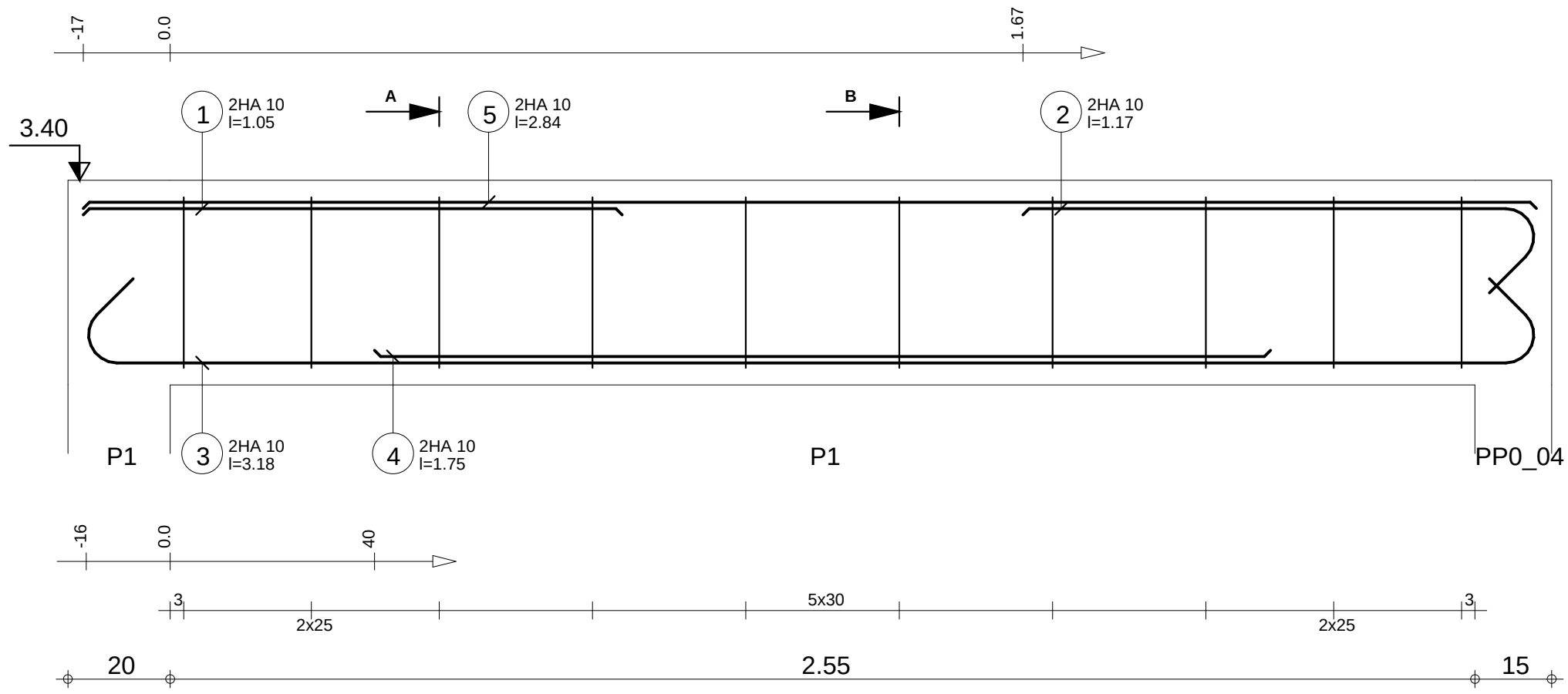
Tél.		Fax		Acier HA 400 = 6.07 kg	
Tenue au feu 0h		Fissuration peu préjudiciable		Acier HA 400 = 1.52 kg	
POUTRE REZ DE CHAUSSEE PROJET LABORATOIRE		2_PP0_11 : P1 Section 15x40		Nombre 1	
				Surface du coffrage = 2.22 m2	
				Densité = 55.81 kg/ m3 Diamètre moyen = 8.36mm	
				Enrobage inférieur 3 cm Enrobage latéral 3 cm	
				Echelle pour la vue 11.1cm/m	
				Page 5/22	



Pos.	Armature		Code	Forme
①	2HA 10	l=2.83	00	2.83
②	2HA 12	l=3.21	00	2.83
③	2HA 12	l=2.91	00	2.53
④	15HA 6	l=98	31	98

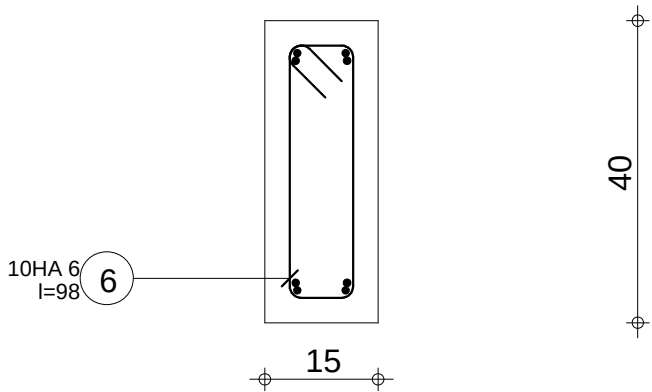


Tél.		Fax				Acier HA 400 = 14.3 kg					
Tenue au feu 0h		Fissuration peu préjudiciable				Reprise de bétonnage : Oui		Acier HA 400 = 3.26 kg			
POUTRE REZ DE CHAUSSEE		2_PP0_12 : P1		Nombre 1		Surface du coffrage = 2.8 m2		Enrobage inférieur 3 cm		Enrobage supérieur 3 cm	
						Densité = 101.7 kg/ m3 Diamètre moyen = 8.95mm		Enrobage latéral 3 cm		Page 6/22	
PROJET LABORATOIRE		Section 15x40				Echelle pour la vue 8.82cm/m					

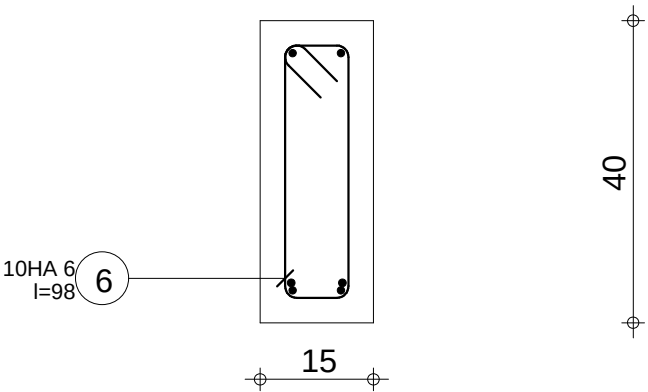


Pos.	Armature		Code	Forme
①	2HA 10	l=1.05	00	1.05
②	2HA 10	l=1.17	00	1.00
③	2HA 10	l=3.18	00	2.84
④	2HA 10	l=1.75	00	1.75
⑤	2HA 10	l=2.84	00	2.84
⑥	10HA 6	l=98	31	

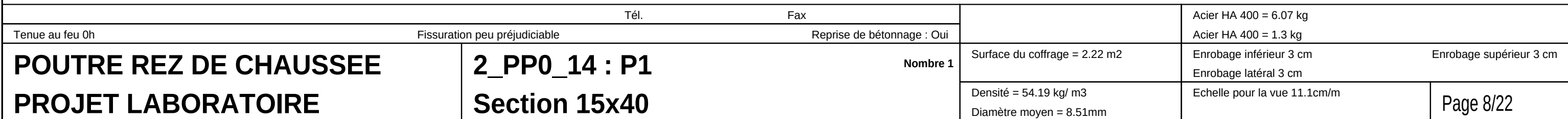
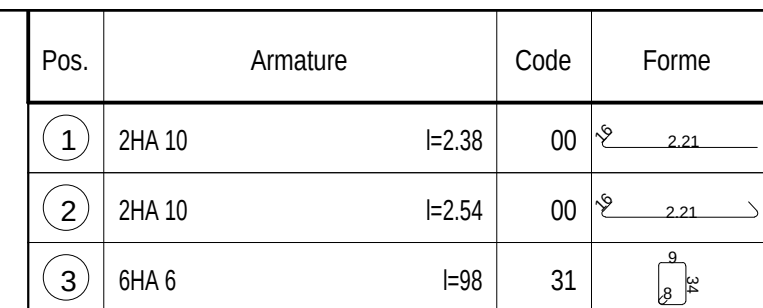
A-A



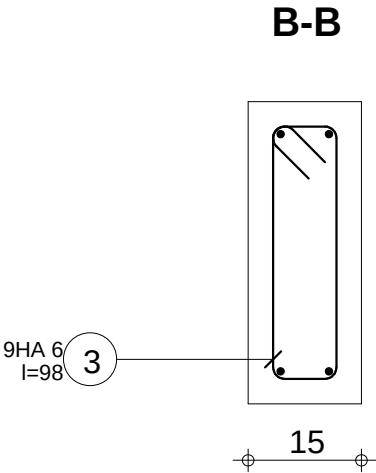
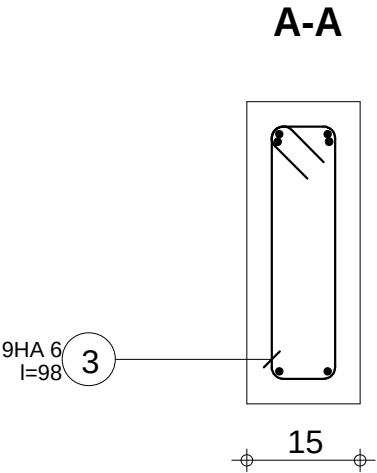
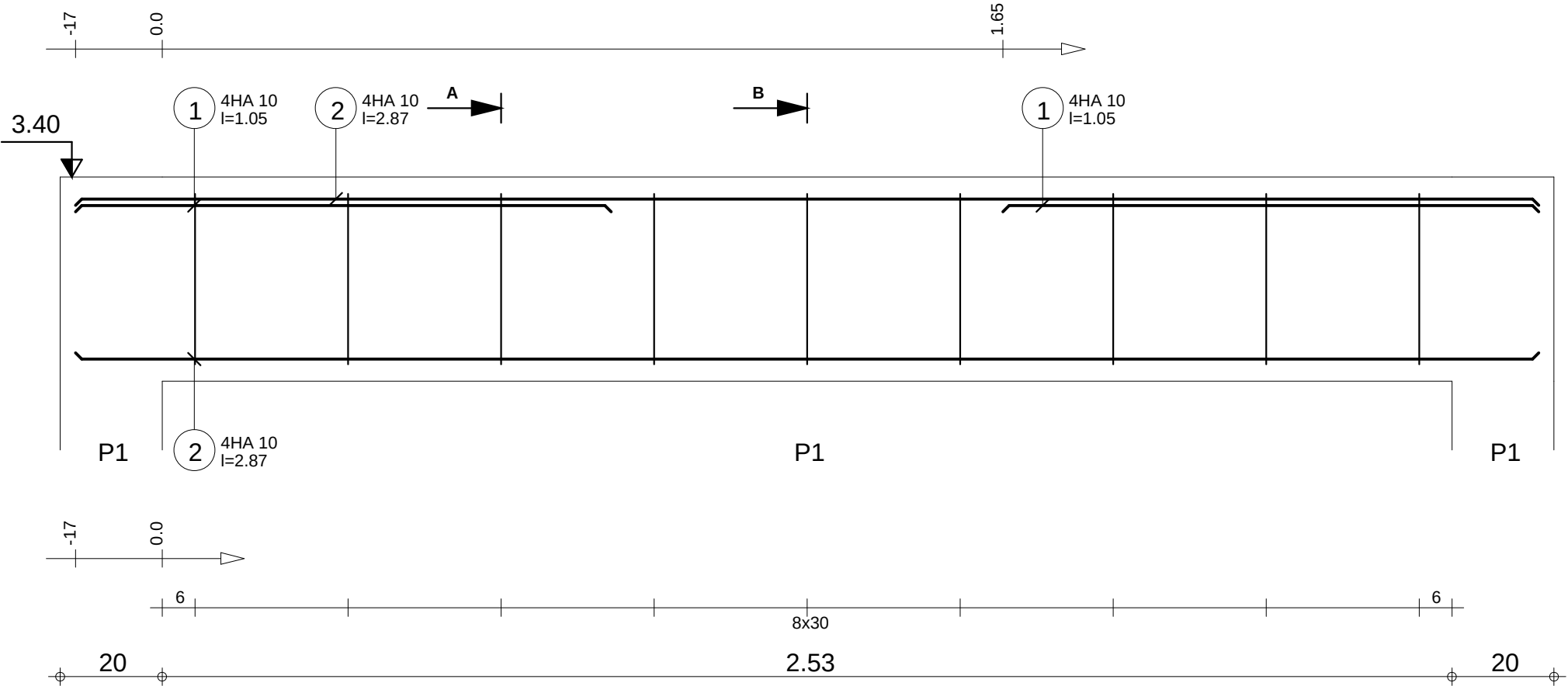
B-B



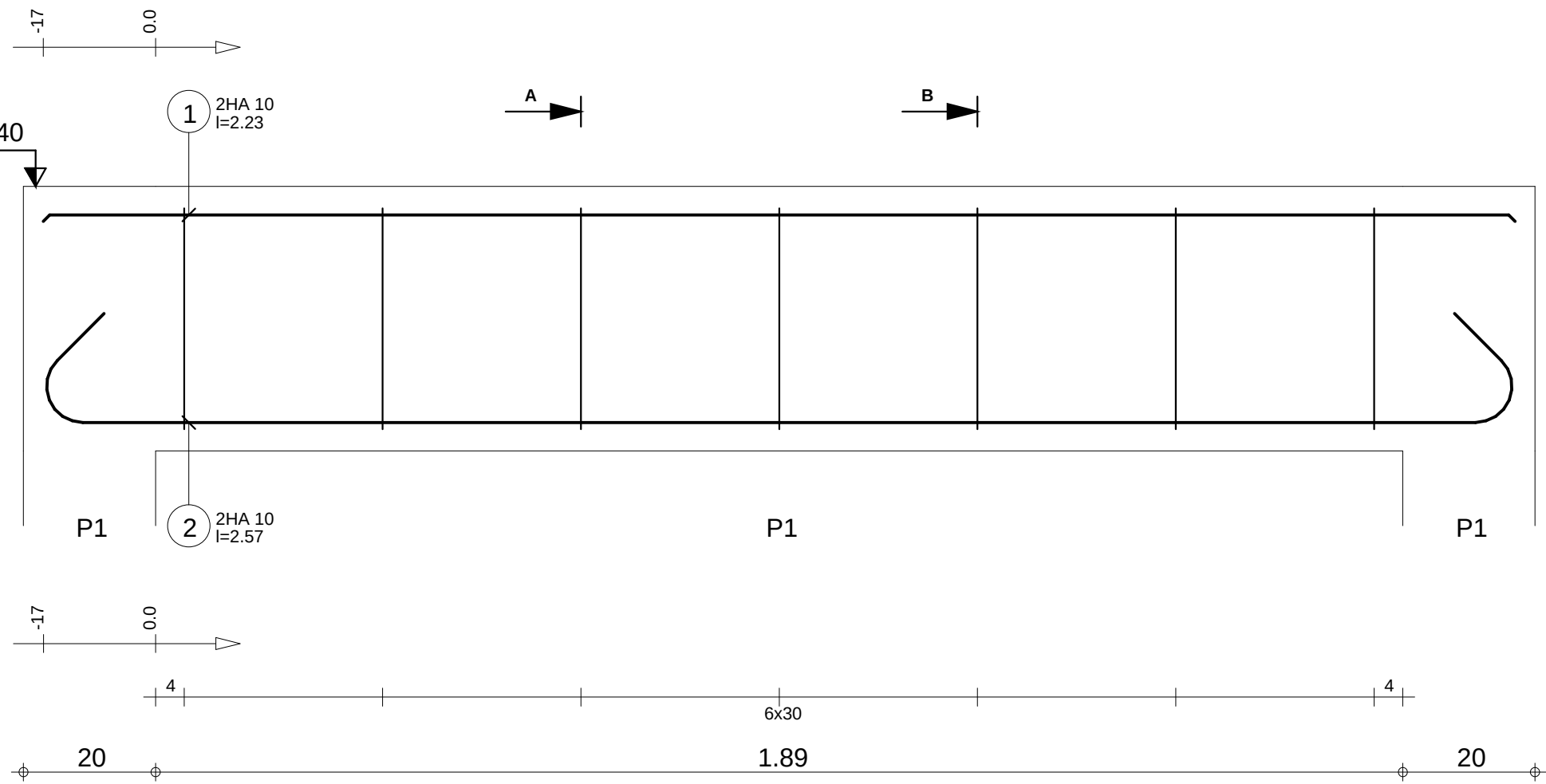
Tél.		Fax		Acier HA 400 = 12.3 kg	
Tenue au feu 0h		Fissuration peu préjudiciable		Acier HA 400 = 2.17 kg	
POUTRE REZ DE CHAUSSEE PROJET LABORATOIRE		2_PP0_13 : P1 Section 15x40		Nombre 1	
				Surface du coffrage = 2.83 m2	
				Densité = 83.33 kg/ m3 Diamètre moyen = 8.69mm	
				Enrobage inférieur 3 cm Enrobage latéral 3 cm	
				Echelle pour la vue 8.78cm/m	
				Page 7/22	



Pos.	Armature		Code	Forme
①	4HA 10	l=1.05	00	1.05
②	4HA 10	l=2.87	00	2.87
③	9HA 6	l=98	31	

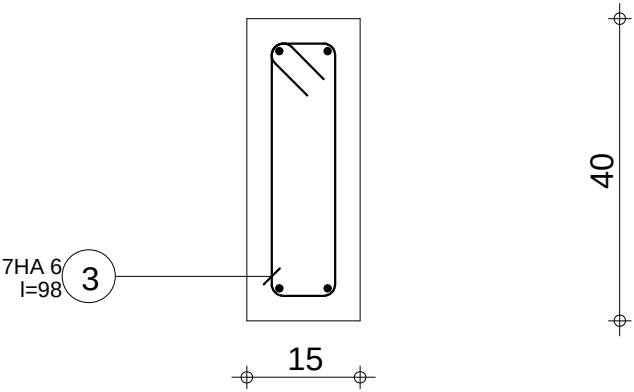


Tél.		Fax			Acier HA 400 = 9.66 kg		
Tenue au feu 0h		Fissuration peu préjudiciable			Acier HA 400 = 1.95 kg		
POUTRE REZ DE CHAUSSEE PROJET LABORATOIRE	2_PP0_16 : P1 Section 15x40		Nombre 1	Surface du coffrage = 2.84 m2		Enrobage inférieur 3 cm	Enrobage supérieur 3 cm
				Densité = 65.91 kg/ m3 Diamètre moyen = 8.56mm		Enrobage latéral 3 cm	
						Echelle pour la vue 8.7cm/m	

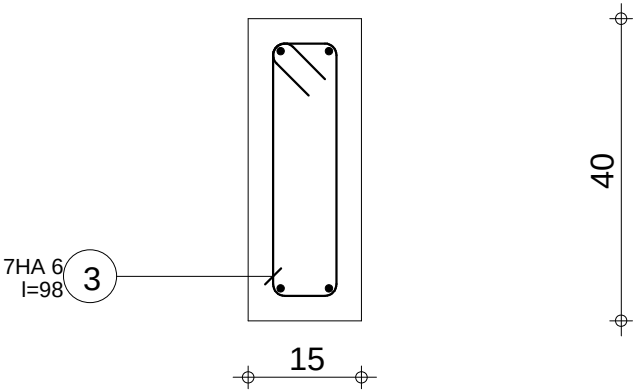


Pos.	Armature		Code	Forme
①	2HA 10	l=2.23	00	
②	2HA 10	l=2.57	00	
③	7HA 6	l=98	31	

A-A

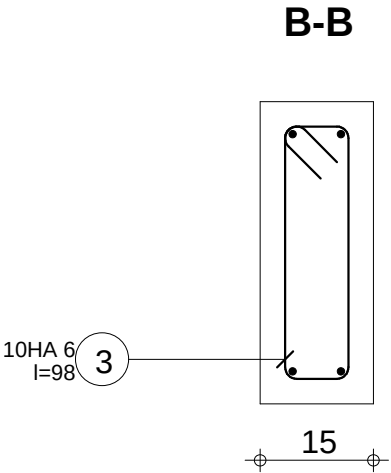
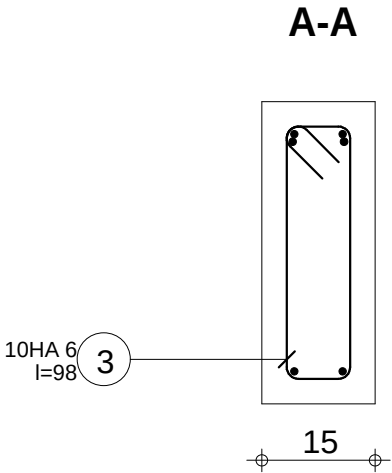
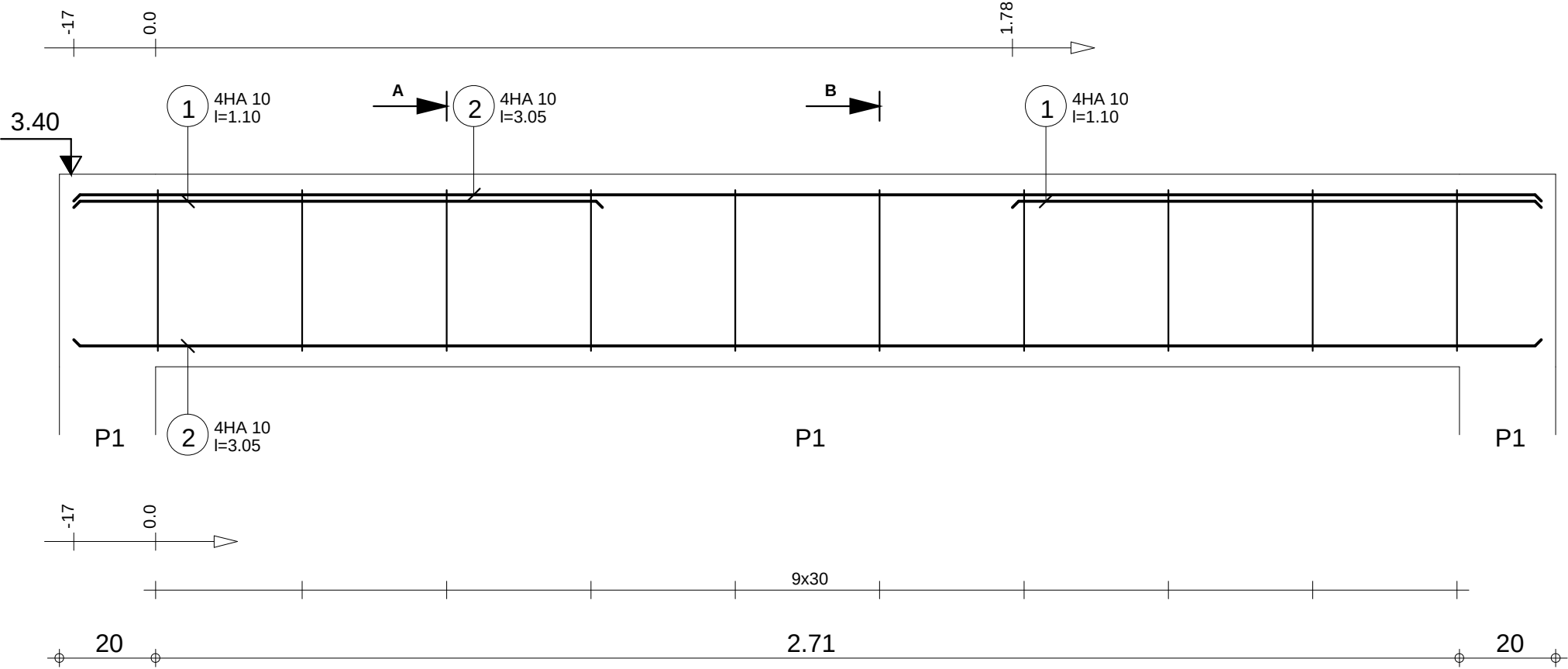


B-B



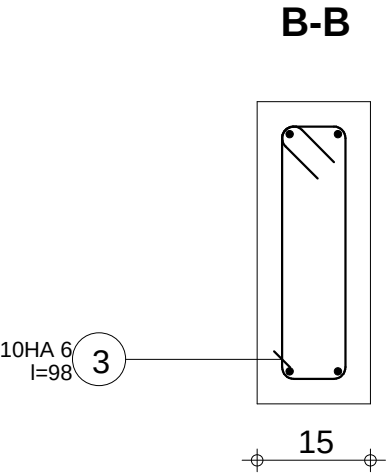
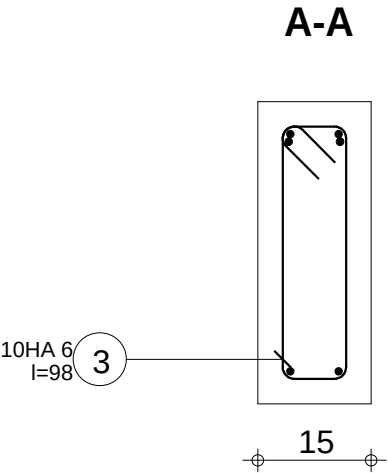
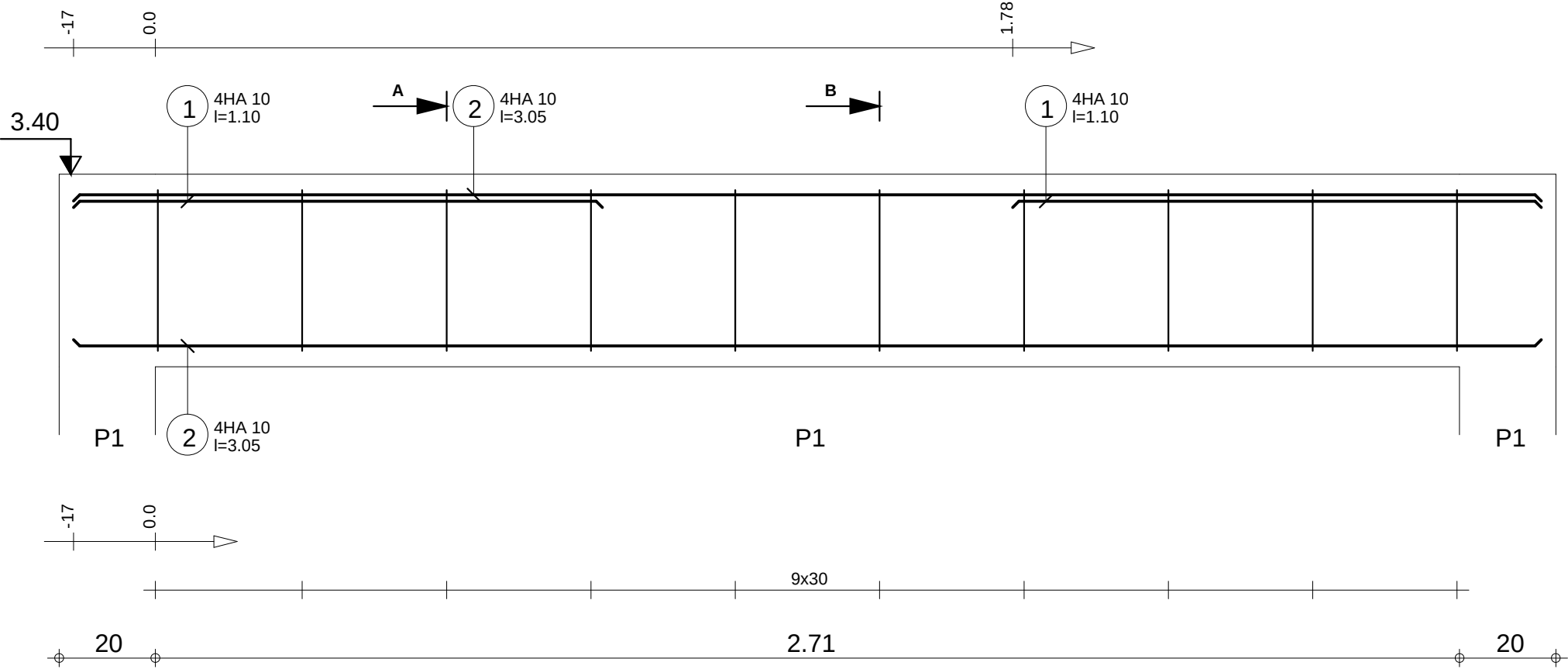
Tél.		Fax		Acier HA 400 = 5.91 kg	
Tenue au feu 0h		Fissuration peu préjudiciable		Acier HA 400 = 1.52 kg	
POUTRE REZ DE CHAUSSEE PROJET LABORATOIRE		2_PP0_17 : P1 Section 15x40		Nombre 1	
				Surface du coffrage = 2.23 m2	
				Densité = 54.23 kg/ m3 Diamètre moyen = 8.33mm	
				Enrobage inférieur 3 cm Enrobage latéral 3 cm	
				Echelle pour la vue 11cm/m	
				Page 10/22	

Pos.	Armature		Code	Forme
①	4HA 10	l=1.10	00	1.10
②	4HA 10	l=3.05	00	3.05
③	10HA 6	l=98	31	

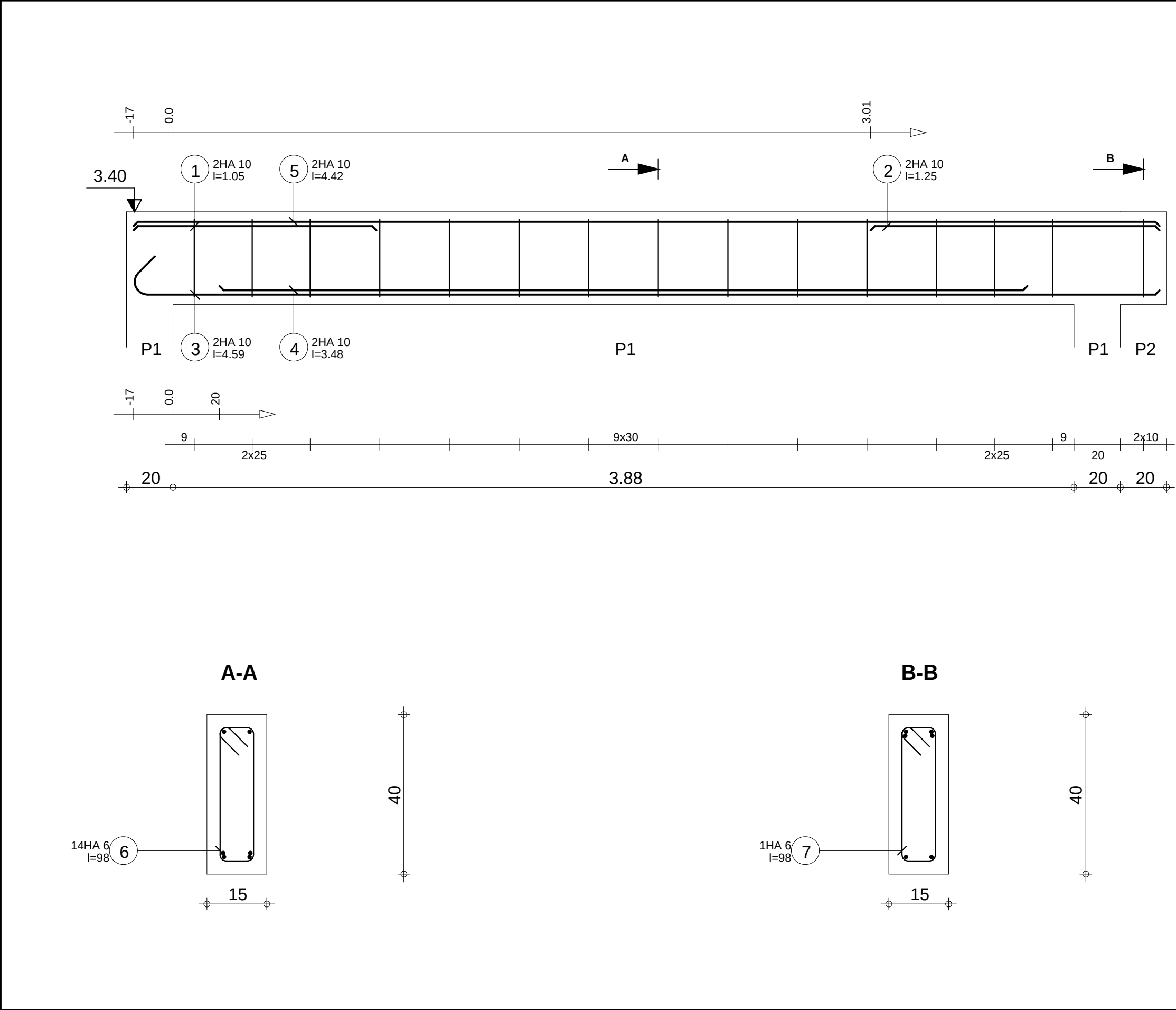


Tél.		Fax		Acier HA 400 = 10.2 kg	
Tenue au feu 0h		Fissuration peu préjudiciable		Acier HA 400 = 2.17 kg	
POUTRE REZ DE CHAUSSEE PROJET LABORATOIRE		2_PP0_18 : P1 Section 15x40		Nombre 1	
				Surface du coffrage = 3.01 m2	
				Densité = 66.31 kg/ m3 Diamètre moyen = 8.52mm	
				Enrobage inférieur 3 cm Enrobage latéral 3 cm	
				Echelle pour la vue 8.22cm/m	
				Page 11/22	

Pos.	Armature		Code	Forme
①	4HA 10	l=1.10	00	1.10
②	4HA 10	l=3.05	00	3.05
③	10HA 6	l=98	31	

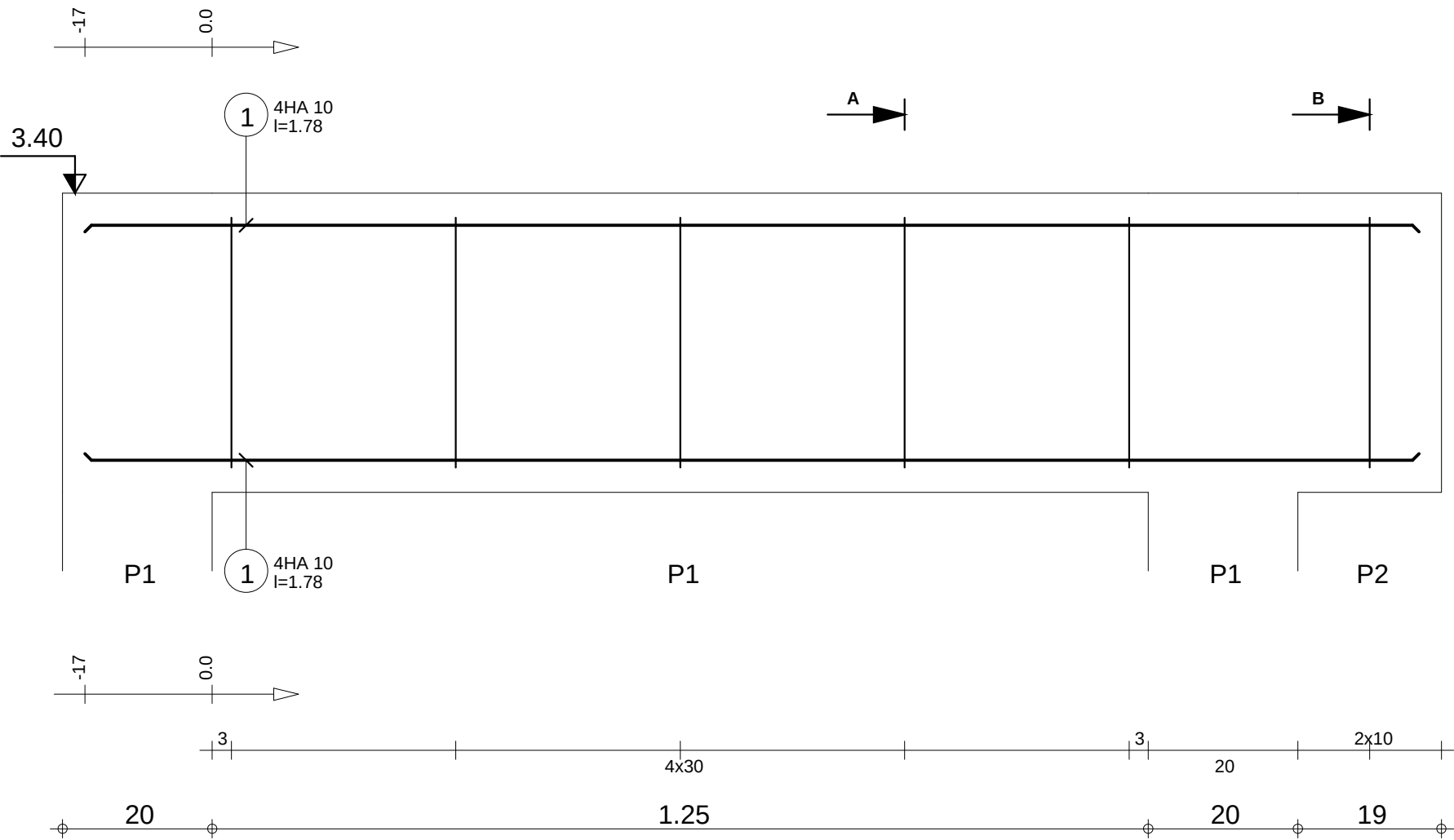


Tél.		Fax		Acier HA 400 = 10.2 kg	
Tenue au feu 0h		Fissuration peu préjudiciable		Acier HA 400 = 2.17 kg	
POUTRE REZ DE CHAUSSEE PROJET LABORATOIRE		2_PP0_19 : P1 Section 15x40		Nombre 1	
				Surface du coffrage = 3.01 m2	
				Densité = 66.31 kg/ m3 Diamètre moyen = 8.52mm	
				Enrobage inférieur 3 cm Enrobage latéral 3 cm	
				Echelle pour la vue 8.22cm/m	
				Page 12/22	



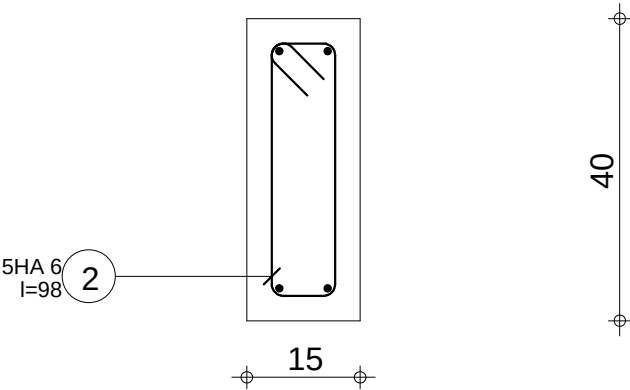
Pos.	Armature		Code	Forme
①	2HA 10	l=1.05	00	1.05
②	2HA 10	l=1.25	00	1.25
③	2HA 10	l=4.59	00	4.42
④	2HA 10	l=3.48	00	3.48
⑤	2HA 10	l=4.42	00	4.42
⑥	14HA 6	l=98	31	
⑦	1HA 6	l=98	31	

Tél.		Fax		Acier HA 400 = 18.2 kg	
Tenue au feu 0h		Fissuration peu préjudiciable		Acier HA 400 = 3.26 kg	
POUTRE REZ DE CHAUSSEE PROJET LABORATOIRE		2_PP0_01 Section 15x40		Nombre 1	
				Surface du coffrage = 4.32 m2	
				Densité = 79.93 kg/ m3 Diamètre moyen = 8.67mm	
				Enrobage inférieur 3 cm Enrobage latéral 3 cm	
				Echelle pour la vue 5.82cm/m	
				Page 13/22	

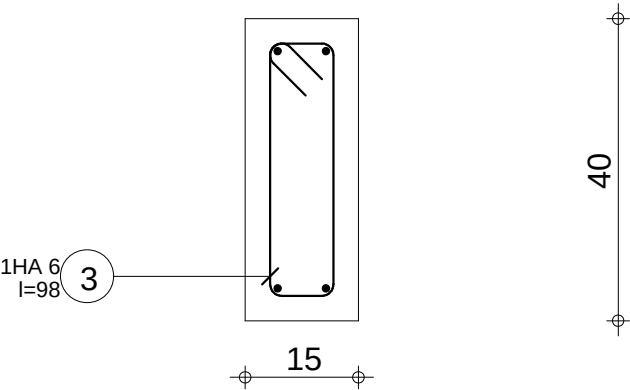


Pos.	Armature		Code	Forme
①	4HA 10	l=1.78	00	1.78
②	5HA 6	l=98	31	
③	1HA 6	l=98	31	

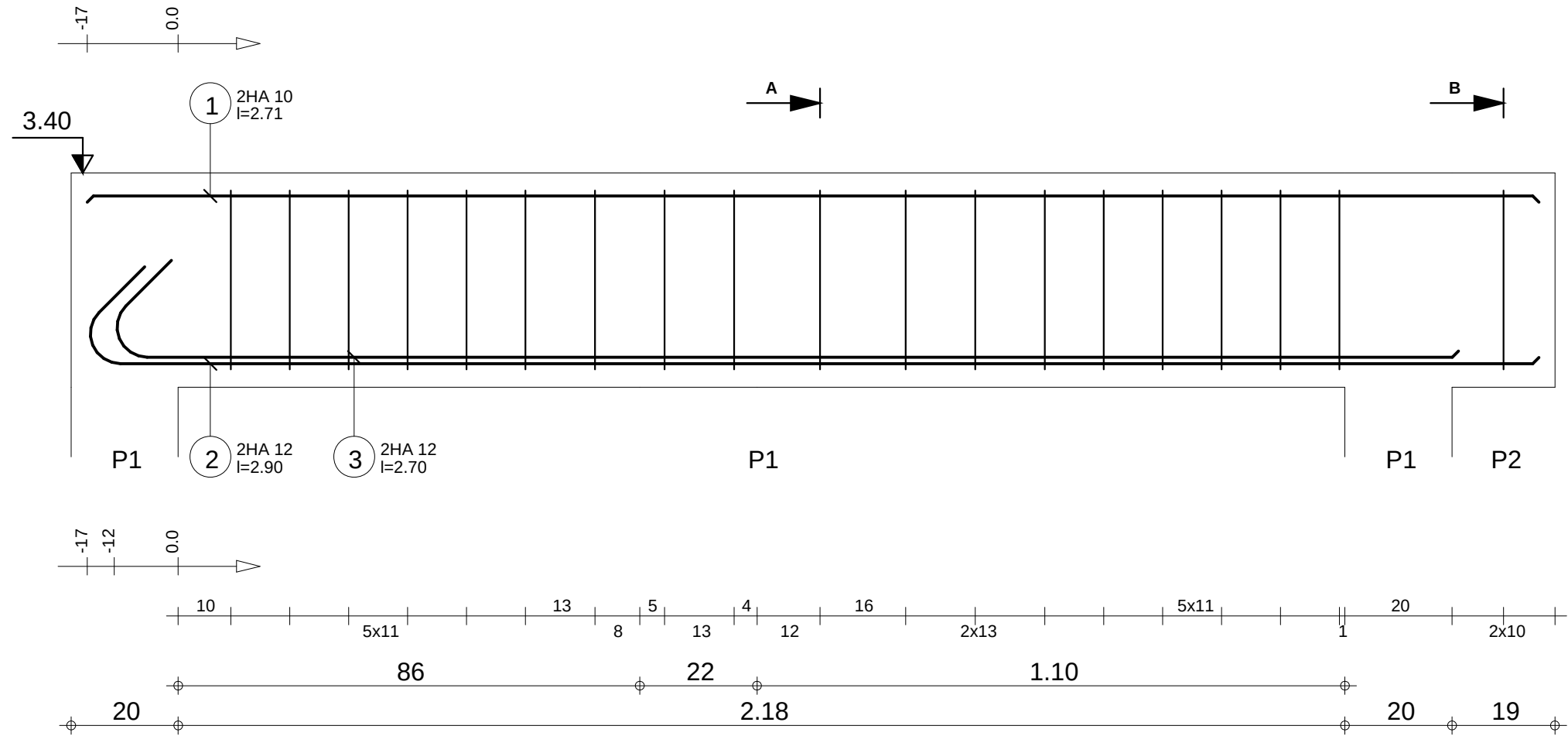
A-A



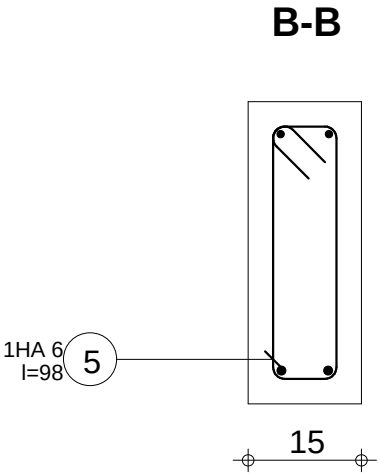
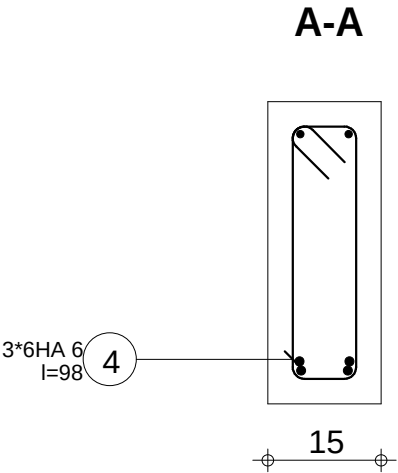
B-B



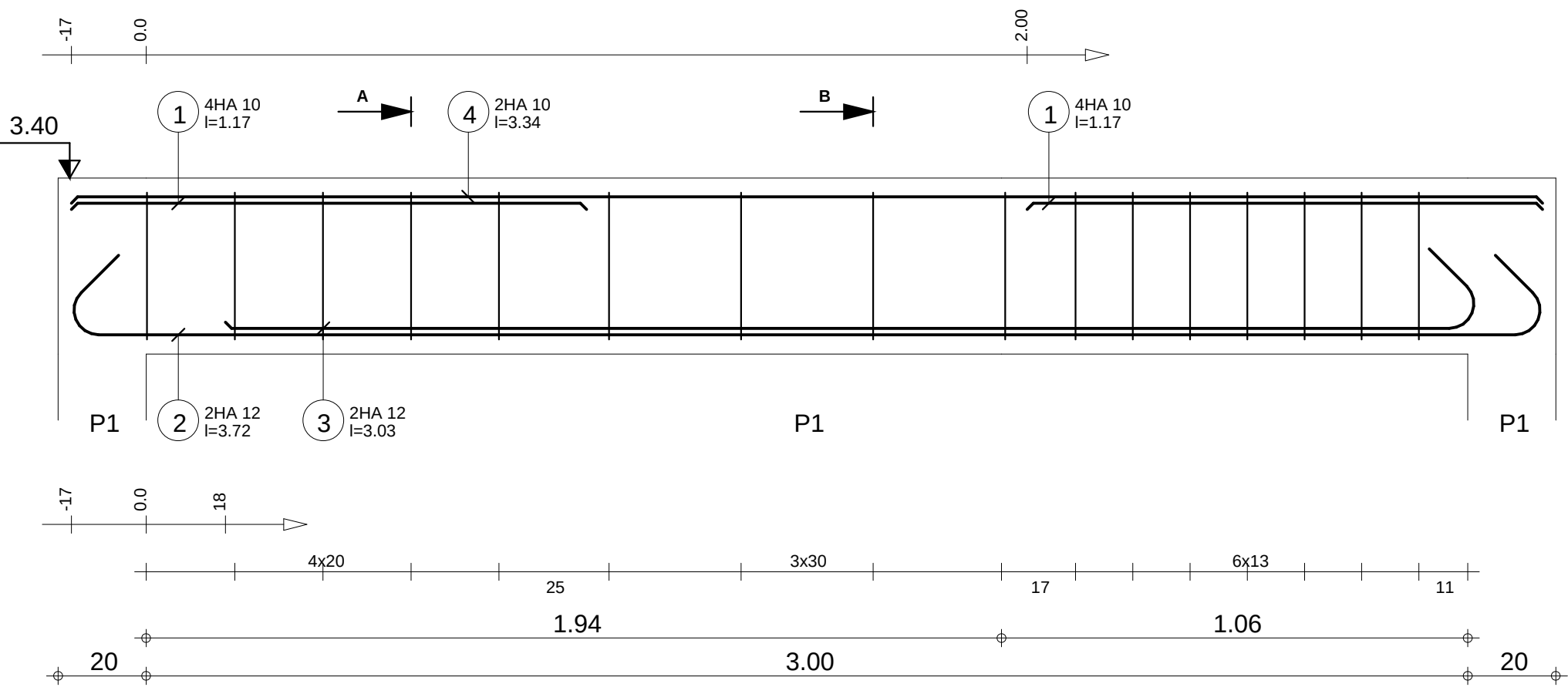
Tél.		Fax		Acier HA 400 = 4.4 kg	
Tenue au feu 0h		Fissuration peu préjudiciable		Acier HA 400 = 1.3 kg	
POUTRE REZ DE CHAUSSEE PROJET LABORATOIRE		2_PP0_02 Section 15x40		Nombre 1	
				Surface du coffrage = 1.81 m2	
				Densité = 51.35 kg/ m3 Diamètre moyen = 8.19mm	
				Enrobage inférieur 3 cm Enrobage latéral 3 cm	
				Echelle pour la vue 12.1cm/m	
				Page 14/22	



Pos.	Armature		Code	Forme
①	2HA 10	l=2.71	00	2.71
②	2HA 12	l=2.90	00	2.71
③	2HA 12	l=2.70	00	2.51
④	3*6HA 6	l=98	31	9
⑤	1HA 6	l=98	31	9

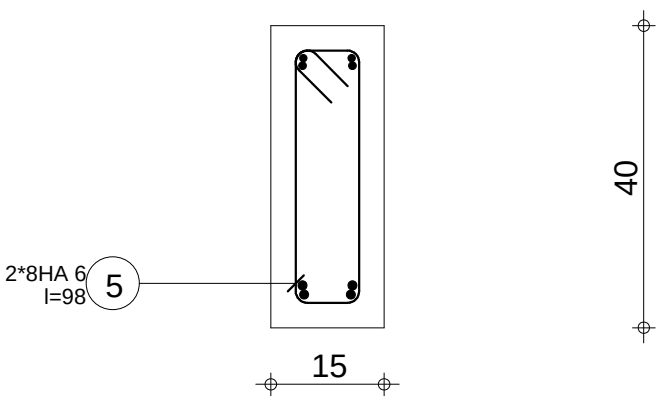


Tél.		Fax		Acier HA 400 = 13.3 kg	
Tenue au feu 0h		Fissuration peu préjudiciable		Acier HA 400 = 4.12 kg	
POUTRE REZ DE CHAUSSEE PROJET LABORATOIRE		2_PP0_04 Section 15x40		Nombre 1	
				Surface du coffrage = 2.69 m2	
				Densité = 104.8 kg/ m3 Diamètre moyen = 8.53mm	
				Enrobage inférieur 3 cm Enrobage latéral 3 cm	
				Echelle pour la vue 9.17cm/m	
				Page 15/22	

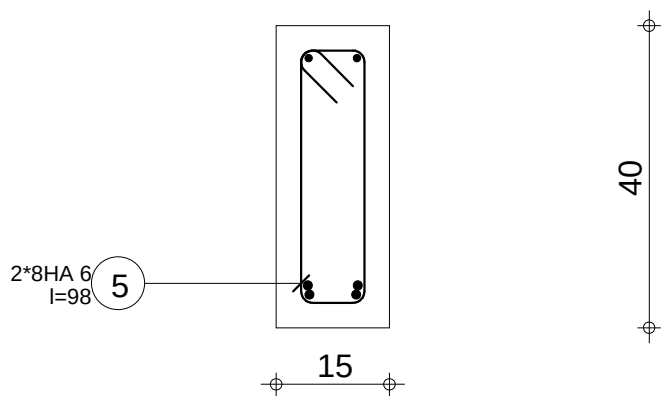


Pos.	Armature		Code	Forme
①	4HA 10	l=1.17	00	1.17
②	2HA 12	l=3.72	00	3.34
③	2HA 12	l=3.03	00	2.84
④	2HA 10	l=3.34	00	3.34
⑤	2*8HA 6	l=98	31	9 8

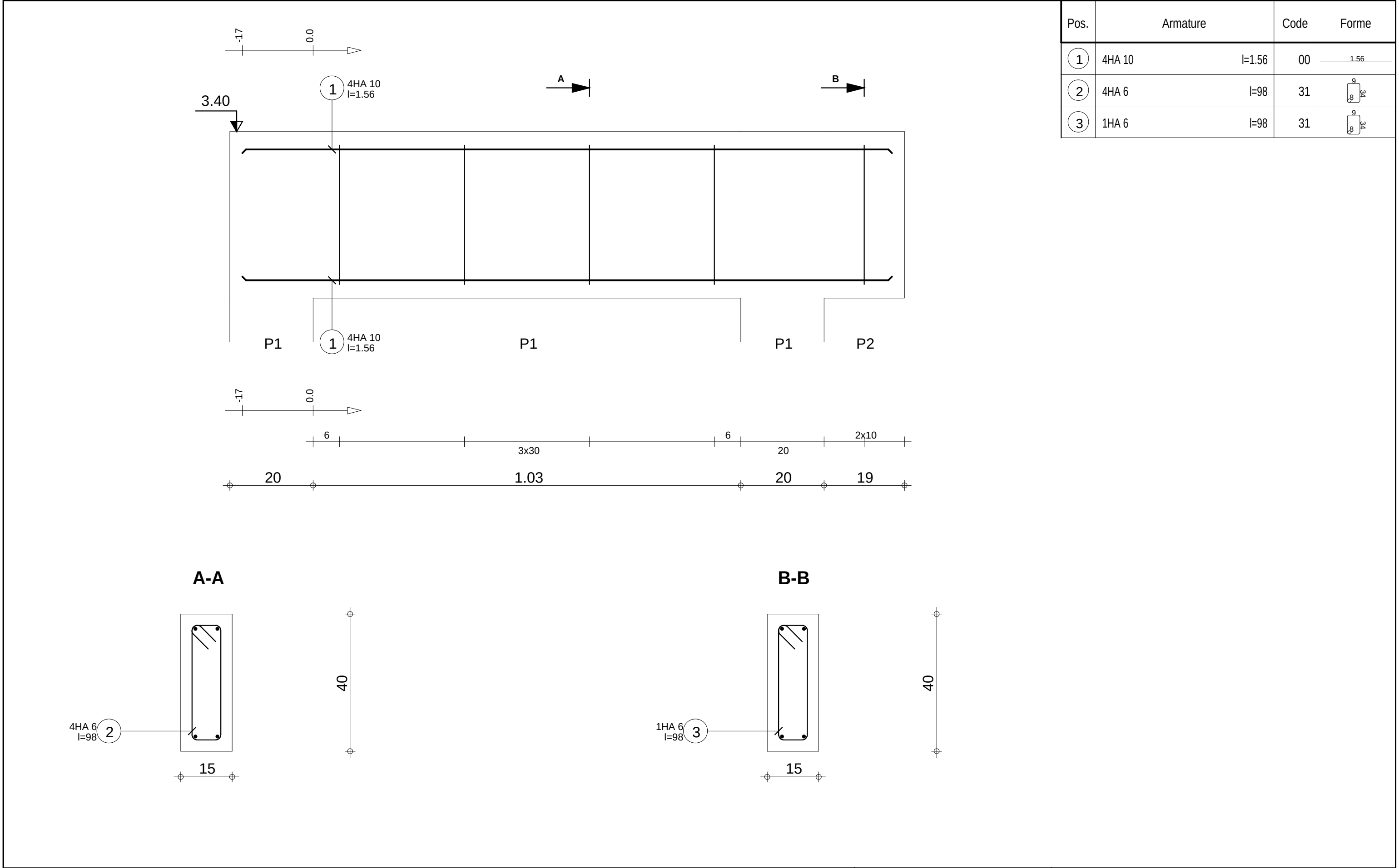
A-A



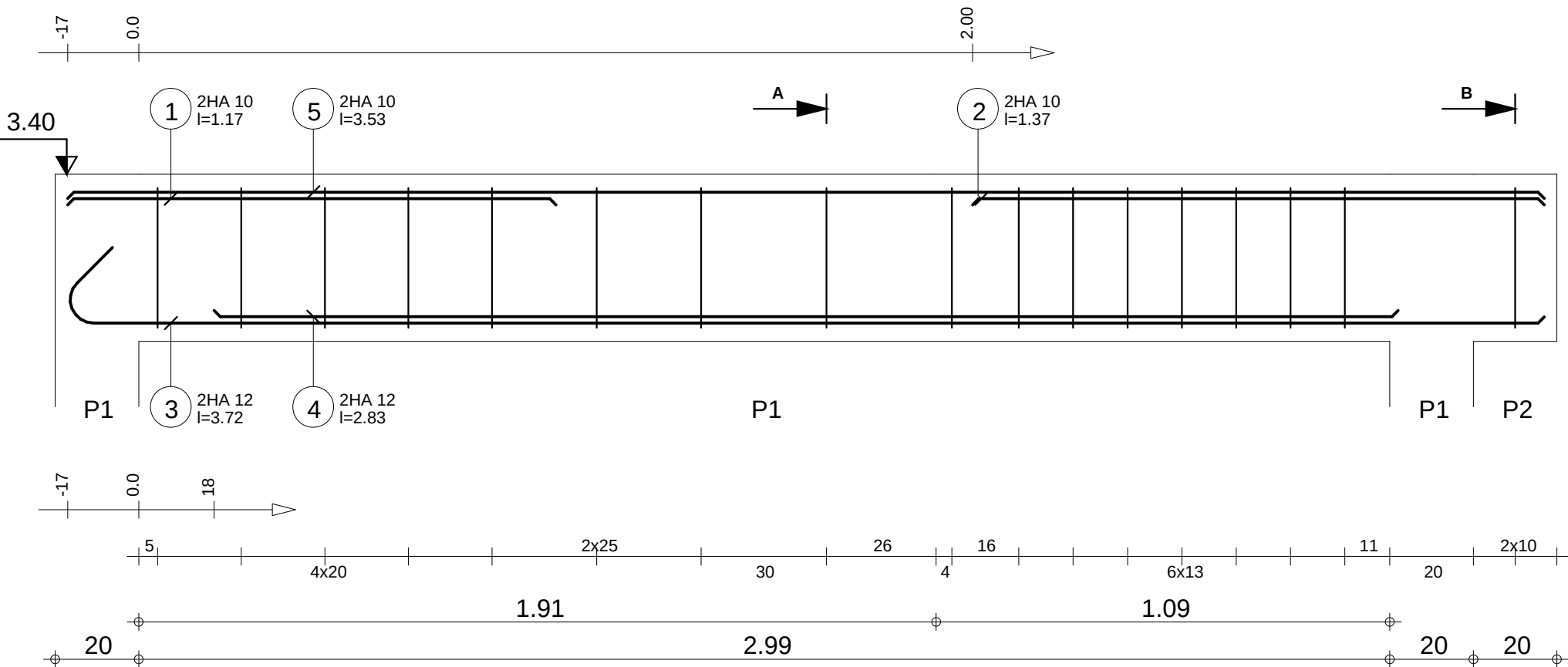
B-B



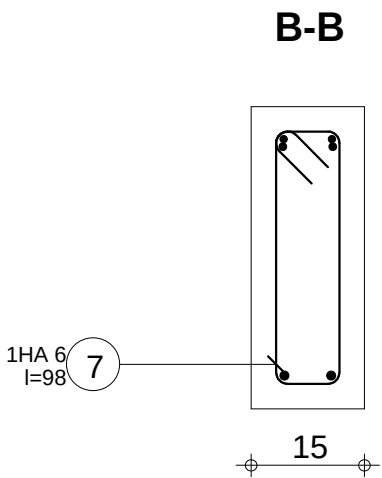
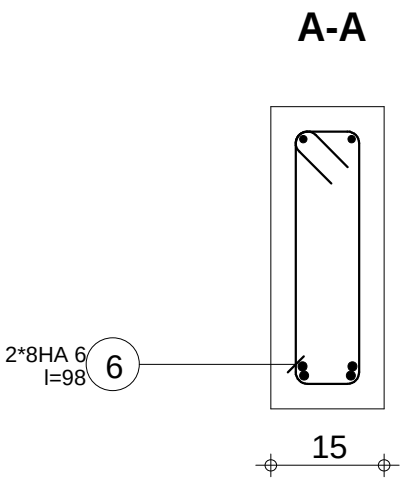
Tél.		Fax		Acier HA 400 = 19 kg	
Tenue au feu 0h		Fissuration peu préjudiciable		Acier HA 400 = 3.47 kg	
POUTRE REZ DE CHAUSSEE PROJET LABORATOIRE		2_PP0_05 : P1 Section 15x40		Nombre 1	
				Surface du coffrage = 3.29 m2	
				Densité = 110.3 kg/ m3 Diamètre moyen = 9.12mm	
				Enrobage inférieur 3 cm Enrobage latéral 3 cm	
				Echelle pour la vue 7.56cm/m	
				Page 16/22	



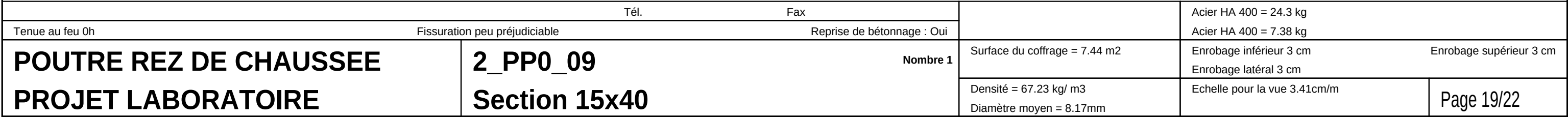
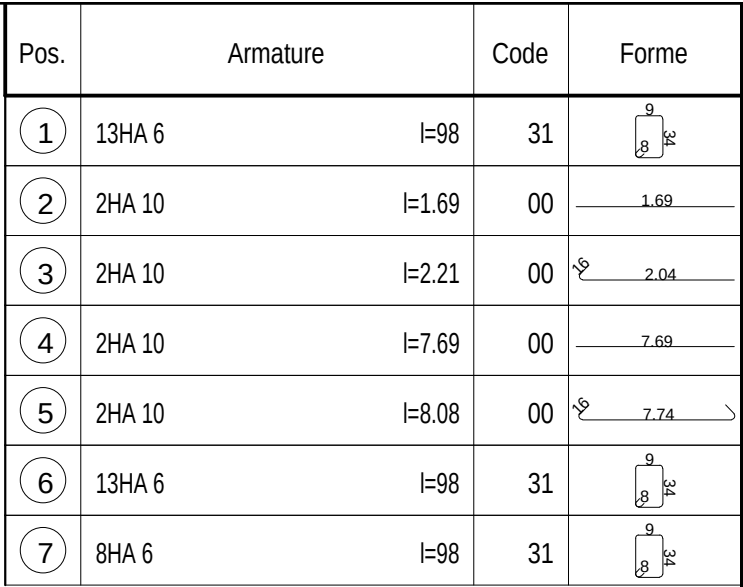
Tél.		Fax		Acier HA 400 = 3.85 kg	
Tenue au feu 0h		Fissuration peu préjudiciable		Acier HA 400 = 1.09 kg	
POUTRE REZ DE CHAUSSEE PROJET LABORATOIRE		2_PP0_06 Section 15x40		Nombre 1	
				Surface du coffrage = 1.6 m2	
				Densité = 50.72 kg/ m3 Diamètre moyen = 8.24mm	
				Enrobage inférieur 3 cm Enrobage latéral 3 cm	
				Echelle pour la vue 12.1cm/m	
				Page 17/22	

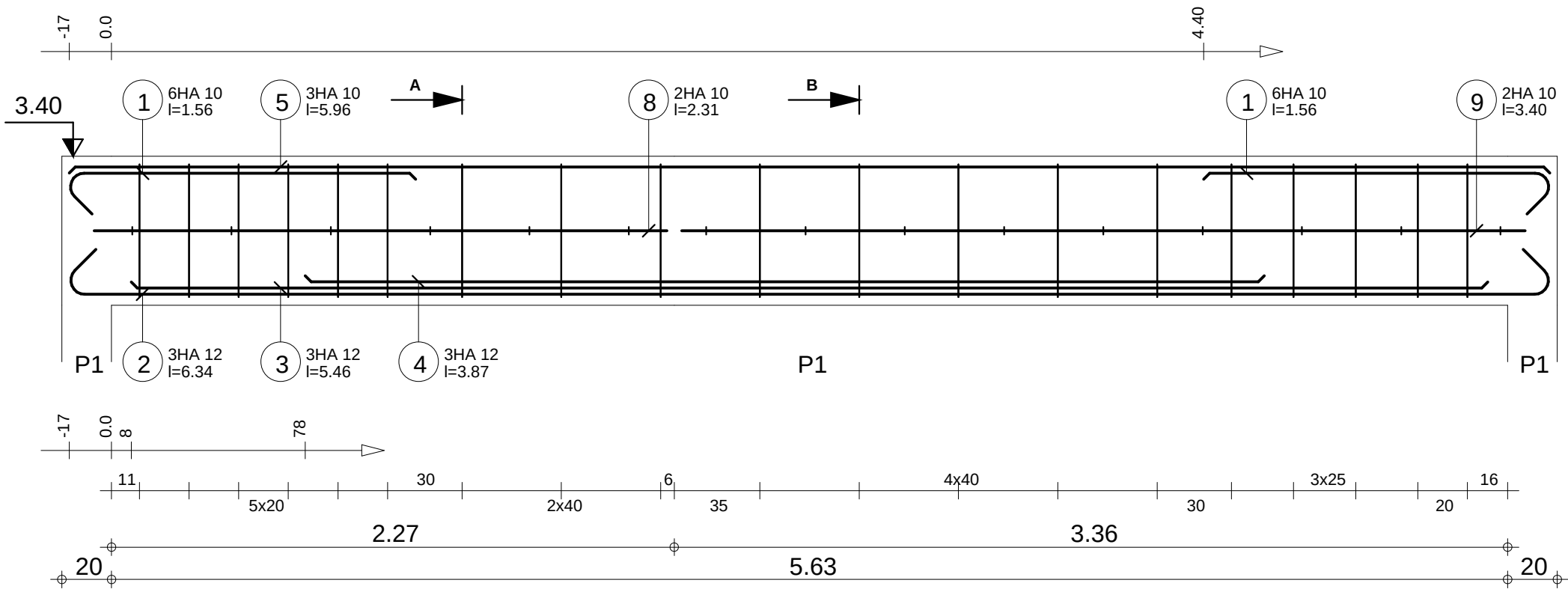


Pos.	Armature		Code	Forme
①	2HA 10	l=1.17	00	1.17
②	2HA 10	l=1.37	00	1.37
③	2HA 12	l=3.72	00	3.53
④	2HA 12	l=2.83	00	2.83
⑤	2HA 10	l=3.53	00	3.53
⑥	2*8HA 6	l=98	31	
⑦	1HA 6	l=98	31	

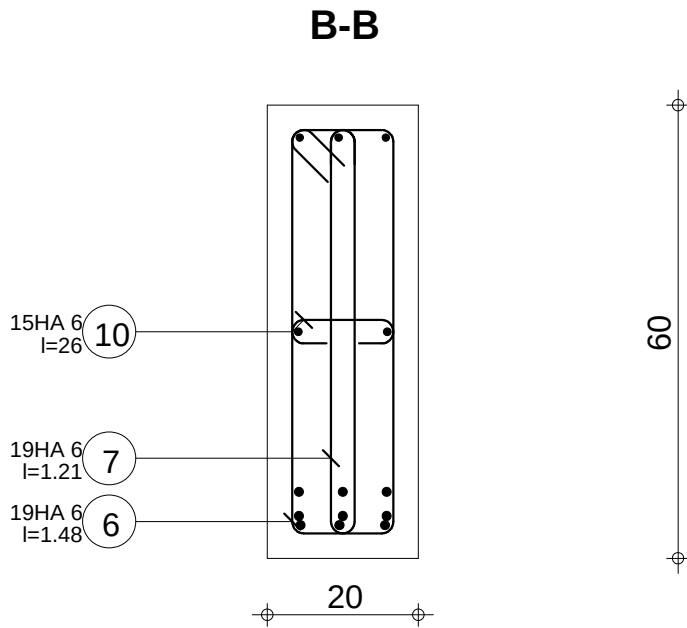
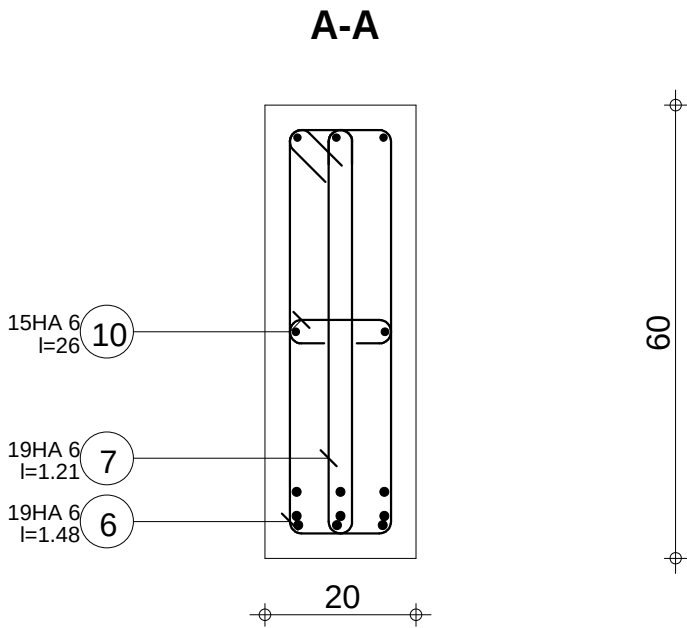


Tél.		Fax		Acier HA 400 = 19.1 kg	
Tenue au feu 0h		Fissuration peu préjudiciable		Acier HA 400 = 3.69 kg	
POUTRE REZ DE CHAUSSEE		2_PP0_08		Surface du coffrage = 3.47 m2	Enrobage inférieur 3 cm
				Densité = 105.6 kg/ m3	Enrobage supérieur 3 cm
PROJET LABORATOIRE		Section 15x40		Echelle pour la vue 7.18cm/m	
		Nombre 1		Page 18/22	
				Reprise de bétonnage : Oui	
				Diamètre moyen = 9.04mm	

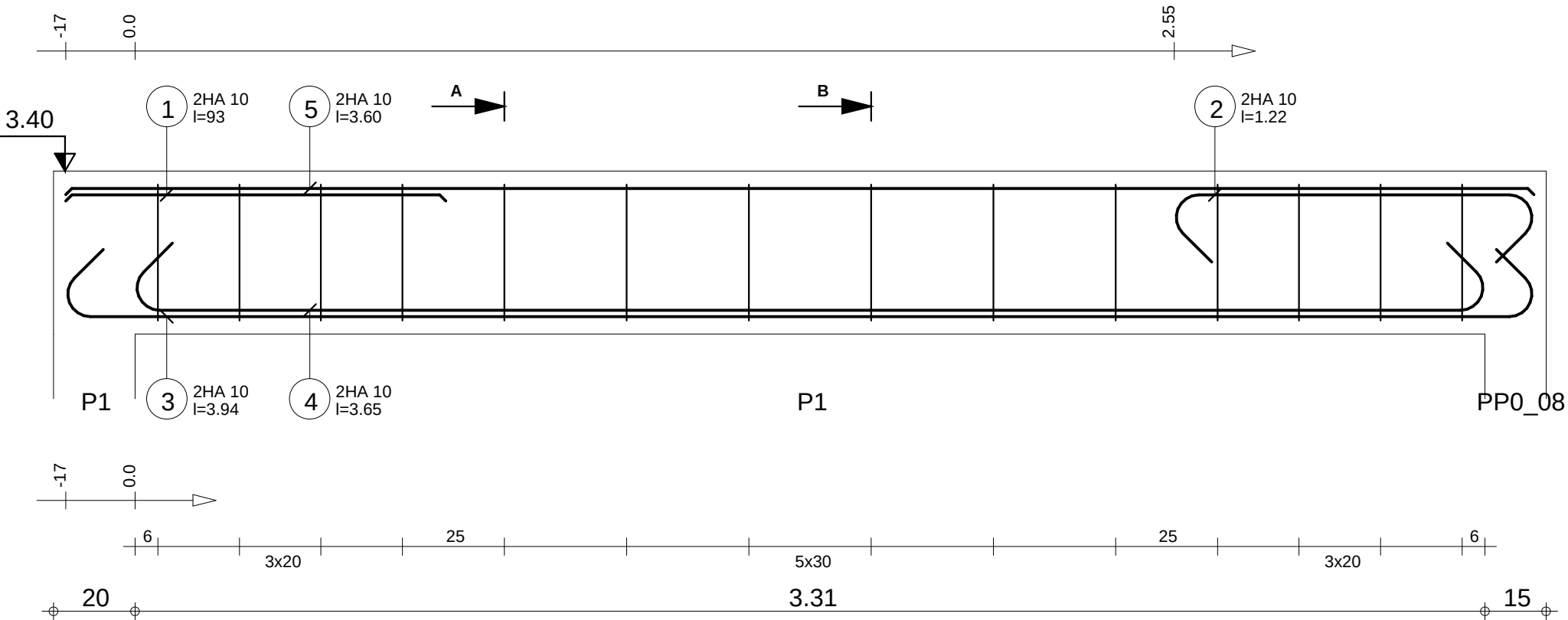




Pos.	Armature		Code	Forme
①	6HA 10	l=1.56	00	1.39
②	3HA 12	l=6.34	00	5.96
③	3HA 12	l=5.46	00	5.46
④	3HA 12	l=3.87	00	3.86
⑤	3HA 10	l=5.96	00	5.96
⑥	19HA 6	l=1.48	31	14
⑦	19HA 6	l=1.21		0.0
⑧	2HA 10	l=2.31	00	2.31
⑨	2HA 10	l=3.40	00	3.40
⑩	15HA 6	l=26	00	5 14

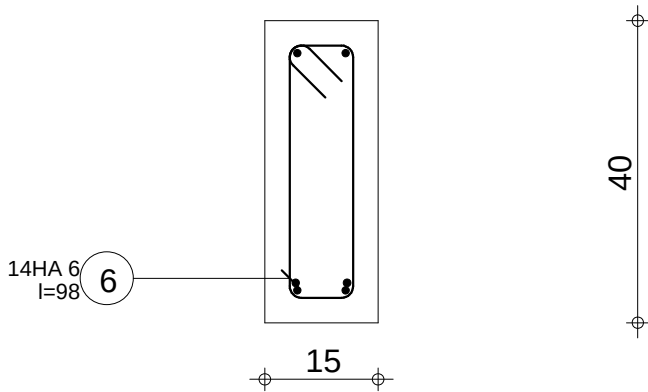


Tél.		Fax		Acier HA 400 = 58.6 kg	
Tenue au feu 0h		Fissuration peu préjudiciable		Acier HA 400 = 19.2 kg	
POUTRE REZ DE CHAUSSEE		2_PP0_15 : P1		Surface du coffrage = 8.59 m2	Enrobage inférieur 3 cm Enrobage supérieur 3 cm
				Densité = 107.6 kg/ m3 Diamètre moyen = 9.1mm	Echelle pour la vue 4.39cm/m Page 21/22
PROJET LABORATOIRE		Section 20x60		Nombre 1	

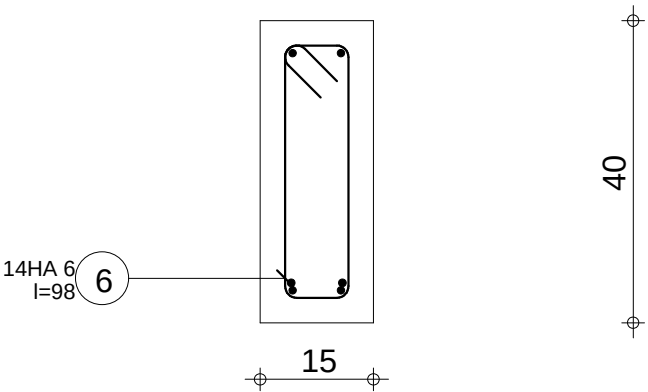


Pos.	Armature		Code	Forme
①	2HA 10	l=93	00	93
②	2HA 10	l=1.22	00	88
③	2HA 10	l=3.94	00	3.60
④	2HA 10	l=3.65	00	3.31
⑤	2HA 10	l=3.60	00	3.60
⑥	14HA 6	l=98	31	9

A-A



B-B



Tél.		Fax		Acier HA 400 = 16.5 kg	
Tenue au feu 0h		Fissuration peu préjudiciable		Acier HA 400 = 3.04 kg	
POUTRE REZ DE CHAUSSEE PROJET LABORATOIRE		2_PP0_20 : P1 Section 15x40		Nombre 1	
				Surface du coffrage = 3.55 m2	
				Densité = 88.64 kg/ m3 Diamètre moyen = 8.64mm	
				Enrobage inférieur 3 cm Enrobage latéral 3 cm	
				Echelle pour la vue 7.05cm/m	
				Page 22/22	

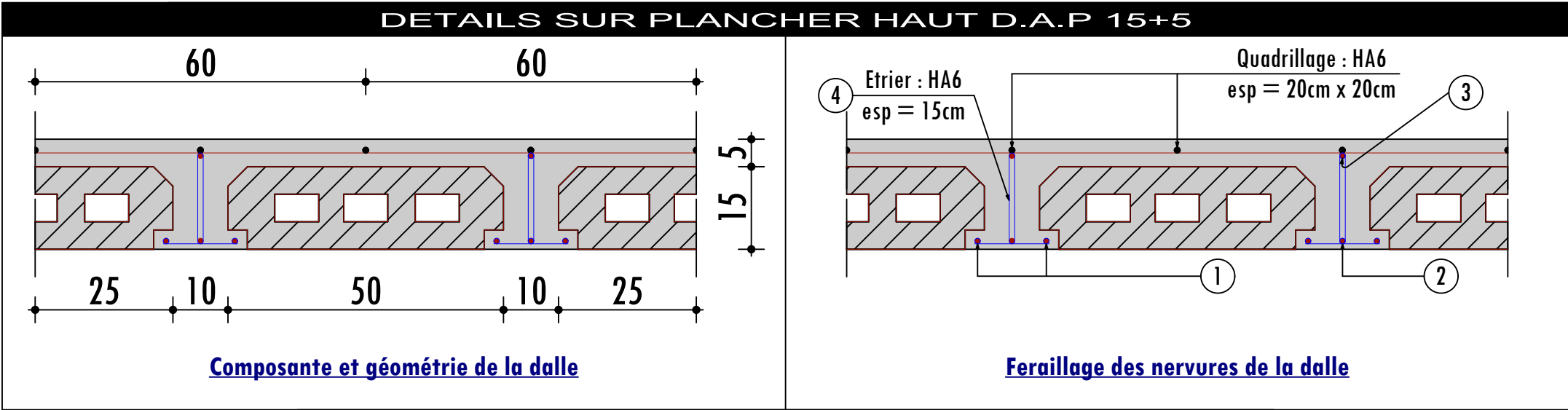
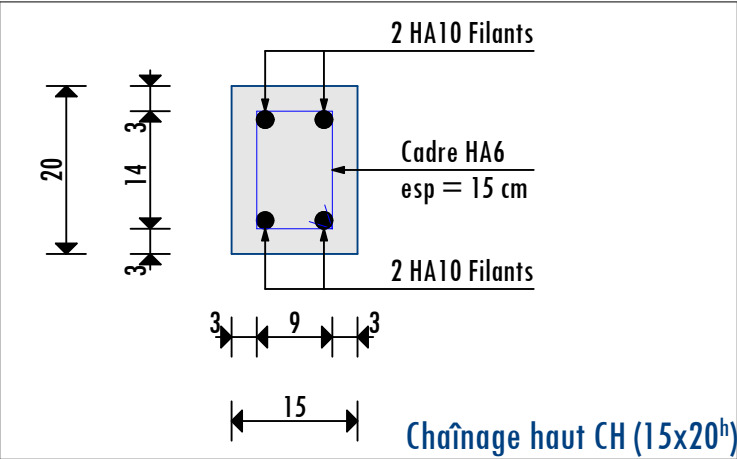


TABLEAU DES NERVURES					
Nervures	Armatures inférieures ①	Armatures inférieures ②	Armatures supérieures ③	Etrier ④	Portée
N1	2 HA 8	1 HA 10	1 HA 8	HA 6	303
N2	2 HA 10	1 HA 8	1 HA 8	HA 6	320
N3	2 HA 10	1 HA 12	1 HA 8	HA 6	410

Dalle de compression :

- Quadrillage HA6, esp = 20cm x 20cm
- Réaliser la continuité des aciers type ① et ② avec HA10 x 100 100 et en rive avec des HA8 x 71 105
- Chapeau avec HA12 x 85 73 12



PROJET DE CONSTRUCTION D'UN BÂTIMENT
DE TYPE RDC EXTENSIBLE A R+1 A USAGE DE
LABORATOIRE

Etudes de structure : Ing.

Maître d'oeuvre : Arch.

Adresse projet :

TABLEAU DES NERVURES

Statut : Exécution

Date : Décembre 2022

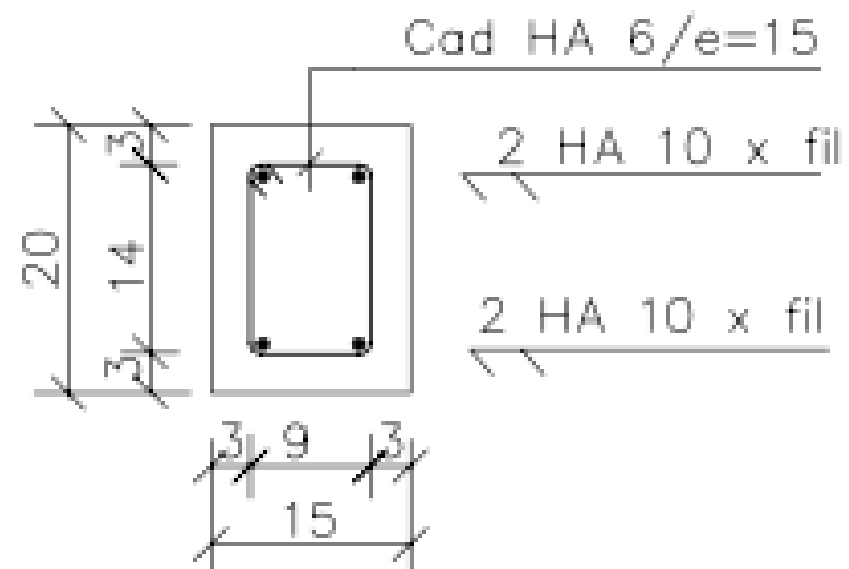
Dessiné par : Ingénieur

Vérifié par : Ingénieur

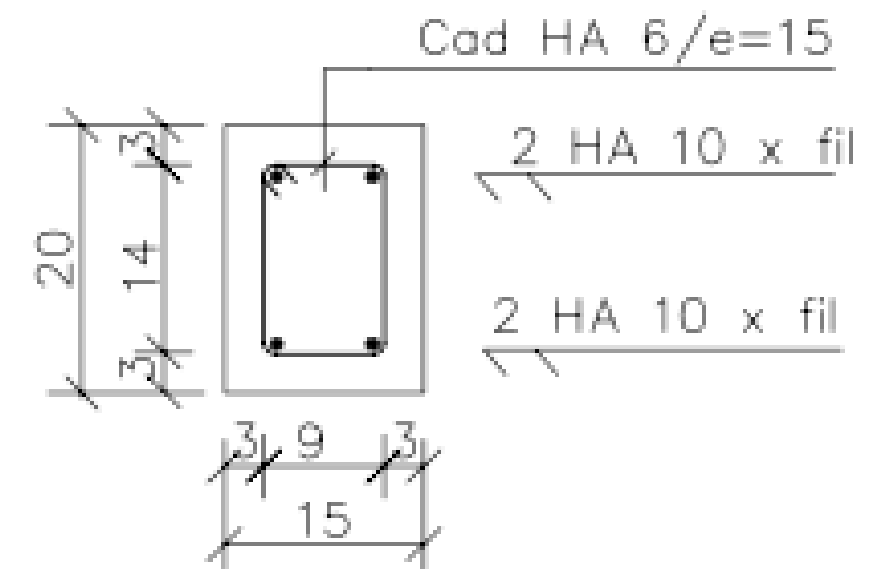
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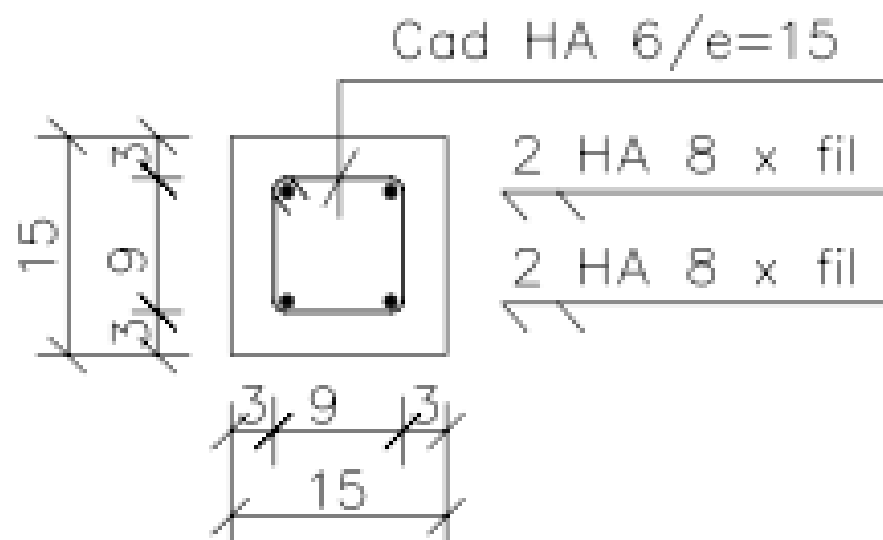
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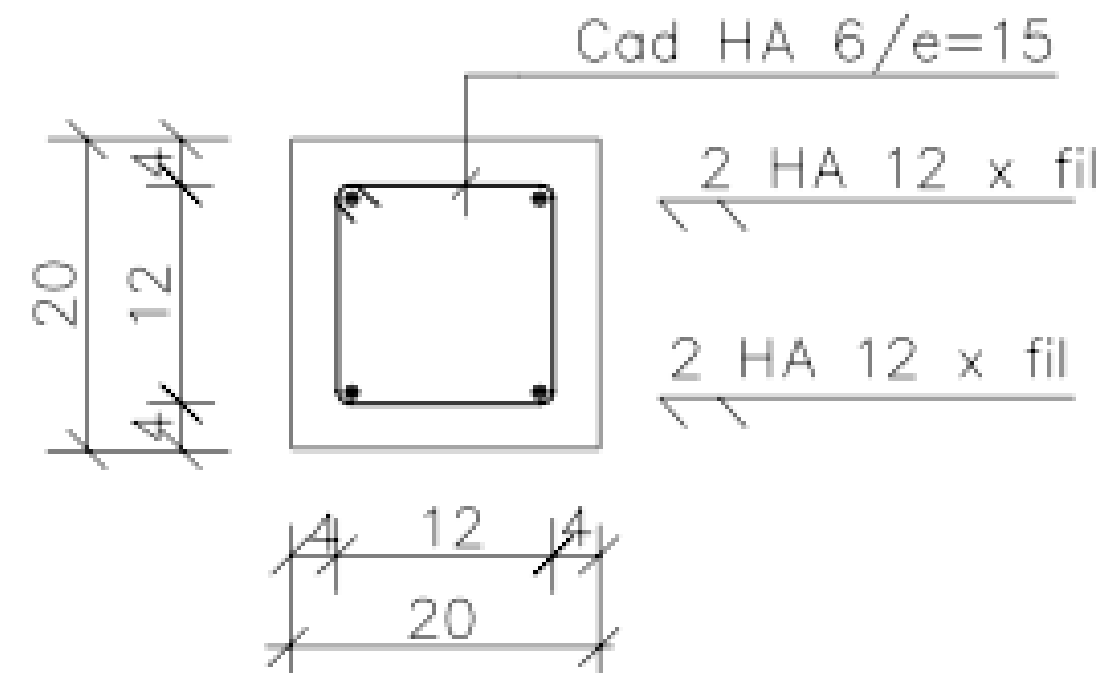
COUPE SUR CHAÎNAGE BAS
CH (15x20)



COUPE SUR CHAÎNAGE HAUT
CH (15x20)



COUPE SUR POTEAU RAIDISSEUR
R (15x15)



COUPE SUR BANDE PLEINE
BP (20x20)

**PROJET DE CONSTRUCTION D'UN BÂTIMENT
DE TYPE RDC EXTENSIBLE A R+1 A USAGE DE
LABORATOIRE**

Etudes de structure :

Maître d'oeuvre : Arch.

Adresse projet :

AUTRES DETAILS

Statut : Exécution

Date : Décembre 2022

Dessiné par : Ingénieur

Vérifié par : Ingénieur

P i è c e n °

0 0 5

E c h e l l e : 1 / 1 5