FINAL PROJECT PRESENTED AT:
KAHO SINT LIEVEN
OPLEIDING PROFESSIONELE BACHELOR BOUW.

BACHELOR FINAL PROJECT
EINDWERK-STAGE (LIVE IT)

SHELTERED AND DAY CARE FLATS THE MOUTERIJ

KaHoSl. - Campus Dirk Martens,
Kwalestraat 154
9320 Aalst-Belgium
Academic schoolyear 2012-2013

ANA SUCH FUSTER
UNIVERSITAT POLITÈCNICA DE VALÈNCIA
KAHO SINT LIEVEN

INDEX:

Part 0: presentation of the building site.

Part 1: site installation plan.

Part 2: principal cross/longitudinal section

Part 3: ADITTIONAL DETAILED DRAWINGS

Part 4: TECHNICAL STUDY

26/28	STEP 28 29 30 31	13/14
27/28	STEP 32 33 34	14/14

Part 5: COMPARATIVE STUDY.

N.plane total	Plane name	n.plane part
28/28	Situation plan	1/1

Part 6: Scheduling and pricing.

6.1. BASE CALENDAR

6.2. RESOURCE USAGE

6.3. GANT

6.4. TASK USAGE

6.5. WHO DOES WHAT

6.6. CASH FLOW

PART 7: TECNICHAL DOCUMENTS

7.1. TOWER CRANE LIEBHERR (154 EC H6 LITRONIC)

7.2. STREMAFORM WATERPROOF (TYPE 3077)

7.3. PREDAL GSS (GILBERT STEEL SOLUTIONS)

7.4. STABOX (TYPE S)

7.5. QUEMICAL ANCHOR HILTI (HIT-HY 200-A)

7.6. VANDERSANDEN MORVAN (ZWART)/ RIJSWAARD ENGELS BONT (ROOD)

BACHELOR FINAL PROJECT/EINDWERK-STAGE (LIVE IT)

Final Project presented at:
KaHo Sint Lieven
Opleiding Professionele Bachelor BOUW.

INTRODUCTION:

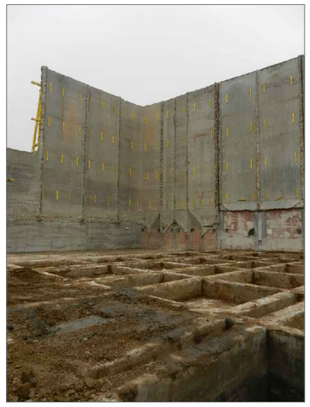
THIS PROJECT IS ABOUT THE CONSTRUCTION OF SHELTERED AND DAY CARE FLATS THE MOUTERIJ, LOCATED IN THE CORNER OF ARBEIDSTRAAT AND NIUWBEEKSTRAAT, 9300, AALST.

THE BUILDING HAVE GROUND FLOOR WHERE WILL BE THE RESTAURANT AND COMMON AREAS, AND 7 FLOORS, WITH FLATS, WITH A SURFACE IN PLANT=756 M2, AND IN TOTAL 5943M2.

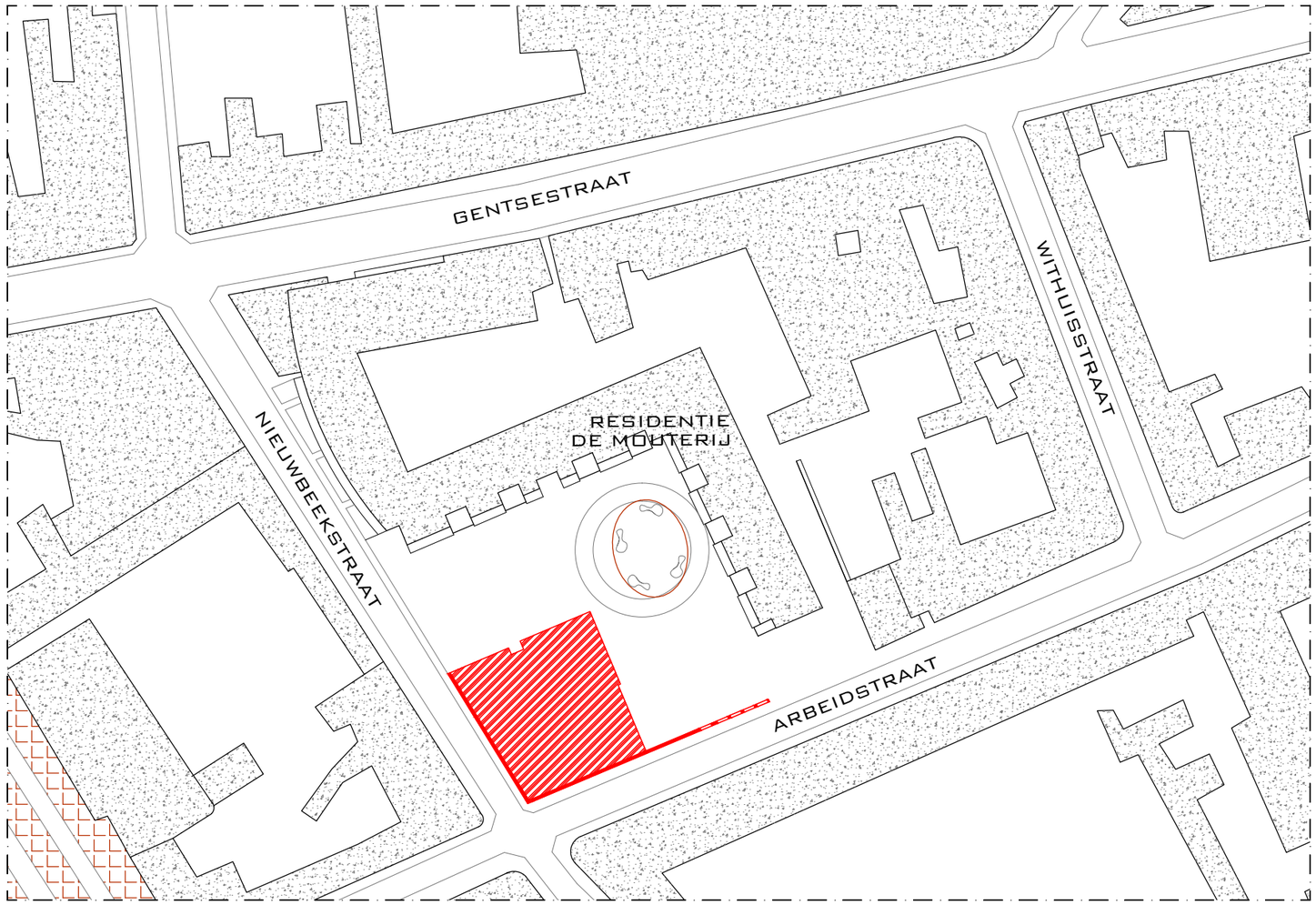
AS A STARTING POINT WE FIND THAT THE BUILDING WILL BE BUILD ABOVE THE FOUNDATION OF AN OLD BUILDING DEMOLISHED LAST YEAR. WE FIND ALSO THE FACADES OF BOTH STREETS, WHICH HAS TO BE PROTECTED.

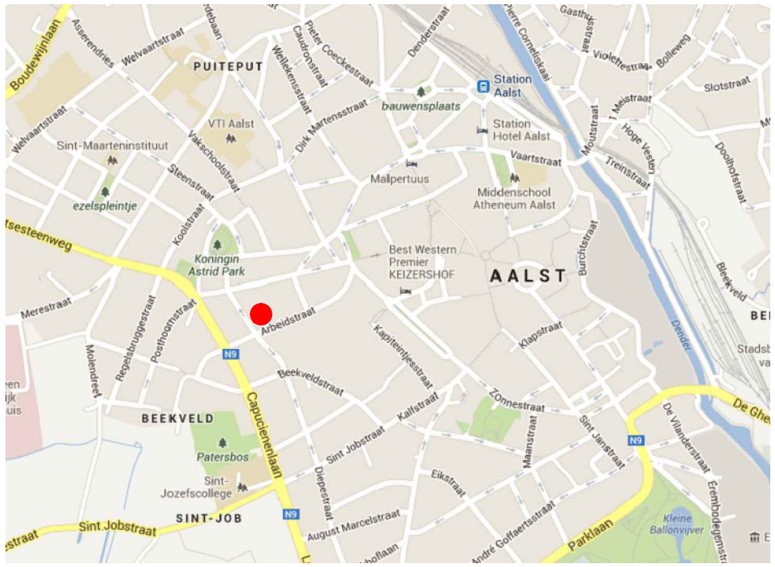
THE WORKS WAS STARTED ON 3-DECEMBER-2012. ONLY SIX MONTHS HAVE PASSED, AND NOW THEY ARE BUILDING THE STRUCTURE OF FLOOR 5,THEY HAVE ALREADY STARTED THE FACADE OF THE FIRST FLOOR, AND THE PARTITIONING AND FACILITIES.

THAT IS POSSIBLE BECAUSE PRACTICALY ALL THE SITE IS PREFABRICATED, AND ALSO THER ARE 15 PEOPLE WORKING AT THE SAME MOMENT.



SITUATION PLAN_S:1/1500





COMMISSONER :
SILVERSTONE NV, WOLUWEDAL 58, 1200 BRUSSEL
KAHO TUTOR:
FRANK VERPLANKEN

CONTRACTOR´S PROJECT MANAGER:

STEVEN SCHYVYNCK , BARREZ IGMAR

CONTRACTOR:
JAN DE NUL NV
TRAGEL 60, 9308 HOFSTADE-AALST
BELGIUM

UNIVERSITAT POLITÈCNICA DE VALÈNCIA
ESCUELA TÉCNICA SUPERIOR INGENIERÍA DE EDIFICACIÓN
Jan De Nul Group
KAHO
KaHoSl. - Campus Dirk Martens,
Kwalestraat 154
9320 Aalst-Belgium
Academic schoolyear 2012-2013

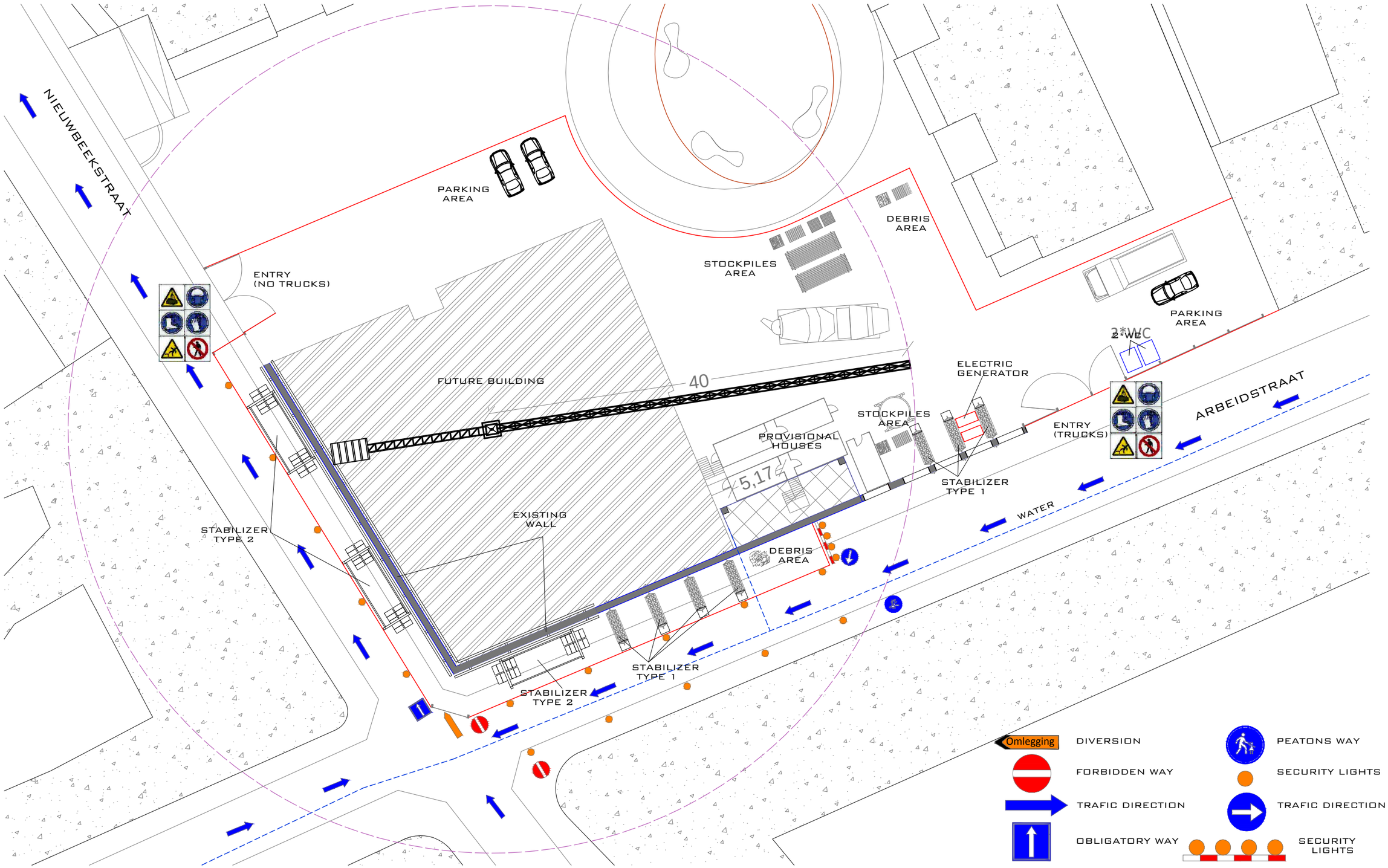
PART 0-PRESENTATION OF THE BUILDING SITE
PLAN Nº 1 / 1 : SITUATION PLAN.

PLAN
1/28

SUCH FUSTER,ANA - UNIVERSITAT POLITÈCNICA DE VALÈNCIA - KAHO SINT LIEVEN

BACHELOR FINAL PROJECT/EINDWERK-STAGE (LIVE IT)

FINAL PROJECT PRESENTED AT:
KAHO SINT LIEVEN
OPLEIDING PROFESSIONELE BACHELOR BOUW.



UNIVERSITAT POLITÈCNICA DE VALÈNCIA

ESCUELA TÉCNICA SUPERIOR INGENIERÍA DE EDIFICACIÓN

Jan De Nul

KAHO

KaHoSl. - Campus Dirk Martens,
Kwalestraat 154
9320 Aalst-Belgium
Academic schoolyear 2012-2013

PART 1-SITE INSTALLATION PLAN
PLAN Nº 1 / 3 : GENERAL PLAN_S:1/350

PLAN 2/28

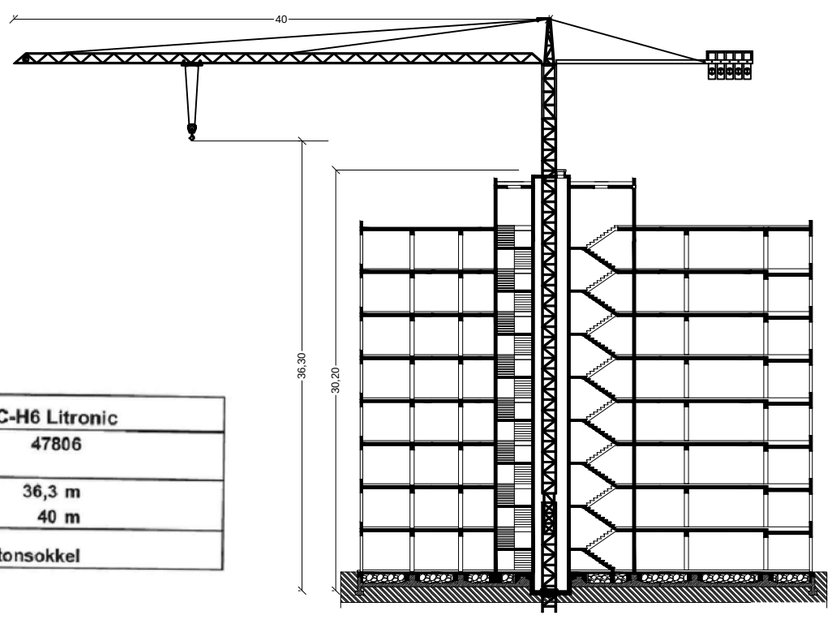
SUCH FUSTER,ANA - UNIVERSITAT POLITÈCNICA DE VALÈNCIA - KAHO SINT LIEVEN

BACHELOR FINAL PROJECT/EINDWERK-STAGE (LIVE IT)

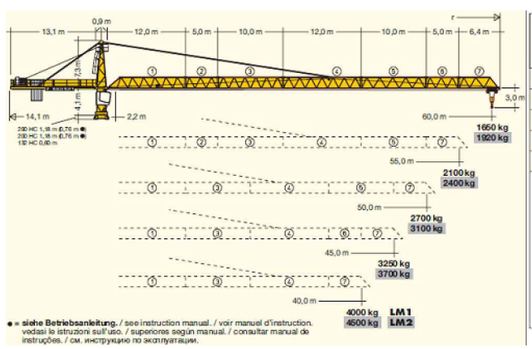
Final Project presented at:
KaHo Sint Lieven
Opleiding Professionele Bachelor BOUW.

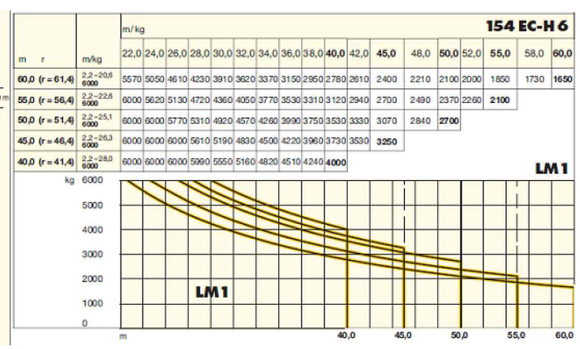
Location of the Construction crane on site

The tower crane is placed inside the future builing,using one of the elevator shafts.
Since the building has three elevator shafts, We has chosen to place it in the most centred of the three.
in this way we need a radius of 40 meters to reach the stockpile area and the debris area.
Secondly, we need at least 34,20 m hight, because our building have 30,20 m. since the foundation of the crane, to the most elevated pont of the building.
we choise the model: liebherr 1 54 ec-hs litronic
finaly, we need to know the lifting capacity and the lift capacity, as we work with precast elements. So LM1=4.000 kg. LM2=4.500 kg. is enought for us.
about the adjacent buildings and their protection, there aren´t any problem, because this buildings have at most 5 floors, and our buildins have 8 floors.



LIEBHERR	154 EC-H6 Litronic
Wn :	47806
HH	36,3 m
Giieklengte:	40 m
Uitvoering :	betonsokkel

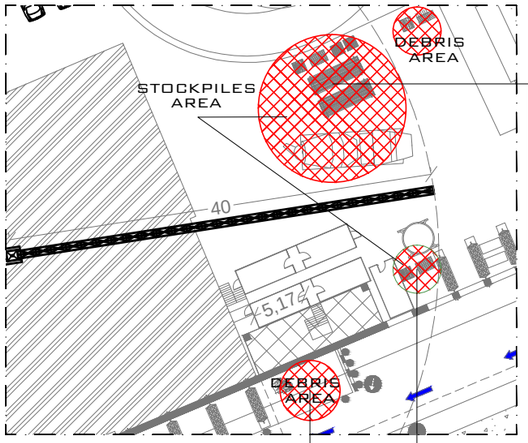


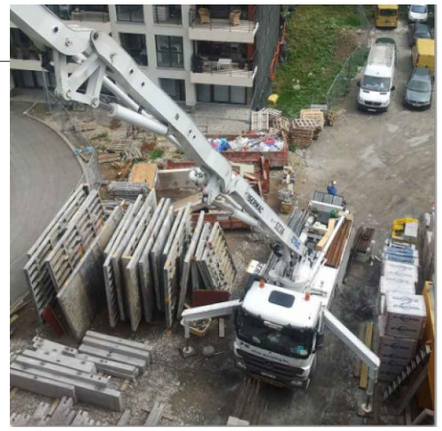


m r	m/kg	22,0	24,0	26,0	28,0	30,0	32,0	34,0	36,0	38,0	40,0	42,0	45,0	48,0	50,0	52,0	55,0	58,0	60,0
60,0 (r = 61,4)	2,2–20,8 6000	5570	5050	4610	4230	3910	3620	3370	3150	2950	2780	2610	2400	2210	2100	2000	1850	1730	1650
55,0 (r = 56,4)	2,2–22,8 6000	6000	5620	5130	4720	4360	4050	3770	3530	3310	3120	2940	2700	2490	2370	2260	2100		
50,0 (r = 51,4)	2,2–25,1 6000	6000	6000	5770	5310	4920	4570	4260	3990	3750	3530	3330	3070	2840	2700				
45,0 (r = 46,4)	2,2–26,3 6000	6000	6000	6000	5610	5190	4830	4500	4220	3960	3730	3530	3250						
40,0 (r = 41,4)	2,2–28,0 6000	6000	6000	6000	5990	5550	5160	4820	4510	4240	4000								

Location for temporary storage of material and consumer goods

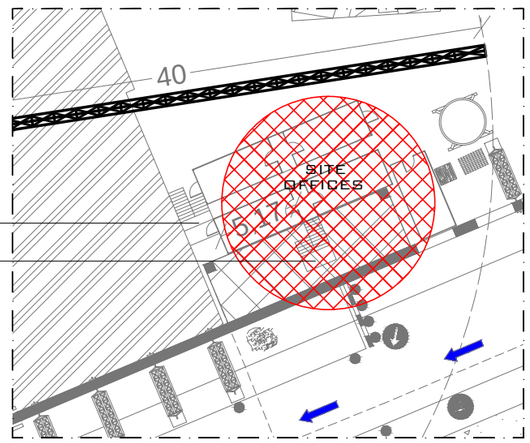
ithe temporary storage of material and consumer goods are located near the truks entry and inside the crane´s radio.





Location of site offices and building supervisor´s offices.

The site offices and building supervisor´s offices are located are located next to the building to be constructed, and an existing structure of the old building which serves to stabilize the protected facade.
In total we have 5 provisionals houses.



UNIVERSITAT POLITÈCNICA DE VALÈNCIA
ESCUELA TÉCNICA SUPERIOR INGENIERÍA DE EDIFICACIÓN
Jan De Nul GROUP
KAHO
KaHoSl. - Campus Dirk Martens,
Kwalestraat 154
9320 Aalst-Belgium
Academic schoolyear 2012-2013

PART 1-SITE INSTALLATION PLAN
PLAN Nº 2 / 3 : CRANE-ORGANIZATION SITE

PLAN 3/28

SUCH FUSTER,ANA - UNIVERSITAT POLITÈCNICA DE VALÈNCIA - KAHO SINT LIEVEN

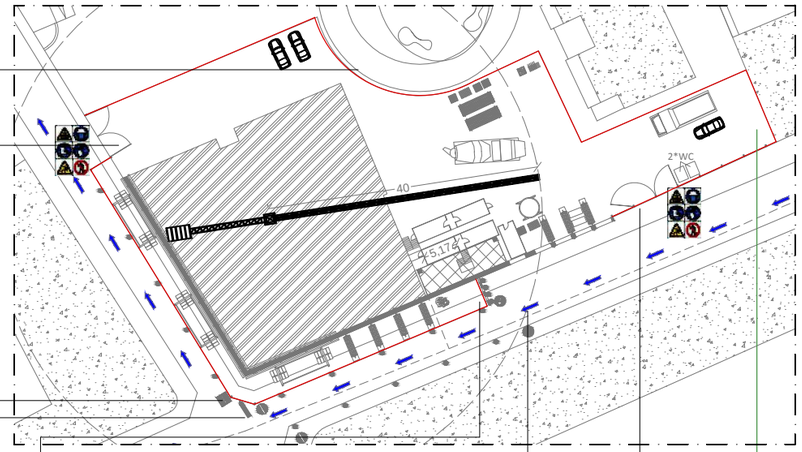
FINAL PROJECT PRESENTED AT:
KAHO SINT LIEVEN
OPLEIDING PROFESSIONELE BACHELOR BOUW.

TEMPORARY SITE ACCESS ROADS, FENCED AND SIGNALING

WE HAVE 2 DIFFERNT ACCESS, ONE FOR WORKER´S CARS TO PARK INSIDE THE SITE, SITUATED IN NIEUWBEEKSTRAAT, AND THE OTHER ONE, SITUATED IN ARBEIDSTRAAT, IS THE TRUKS ENTRY. HERE THERE ARE MORE SPACE FOR MANEUVERING. HOWEVER WE HAVE TO CHANGE THE DIRECTION OF THE STREET AND WE HAVE TO PUT MORE SIGNALING.
WE HAVE OCCUPIED THE SIDEWALK AND PART OF THE ROAD IN AREAS WHERE ARE LOCATED FRONT STABILIZERS, THEREFORE, WE HAD TO ILLUMINATE THE ROAD WITH EMERGENCY LIGHTS FLASHING.










AVAILABLES UTILITIES

WATER: DISCONTINUOUS BLUE MARKING ON THE GENERAL PLAN, IS LOCATED ON ARBEIDSTRAAT, ENTERING TO THE SITE, NEXT TO THE SITE OFFICES. (PICTURE 1)

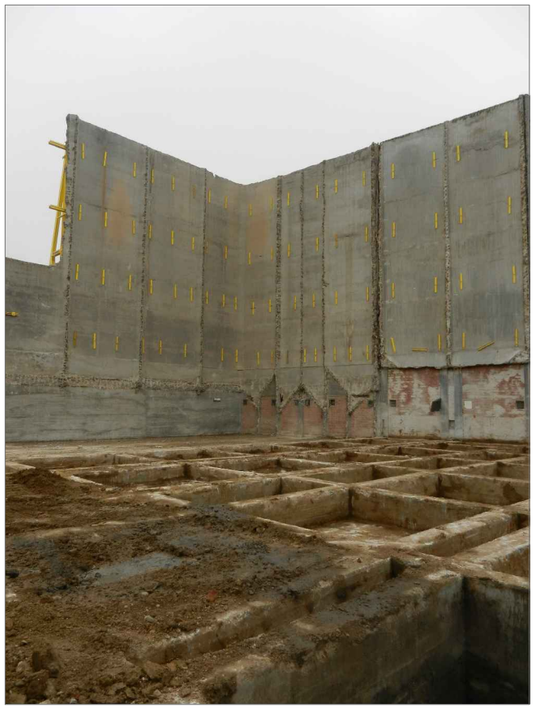
ELECTRICITY: WE USE AN ELECTRIC GENERATOR FOR THE SITE.

SANITATION: WE HAVE TOILETS CABINS WITH THEM OWN EVACUATION SYSTEM. THE REST OF EVACUATION FLOWS DIRECTLY TO THE GROUND.



MEANS OF CONNECTION FOR THE LATTER (UNDERGROUND, AIR SUPPORTED,...): EXISTING FOUNDATIONS

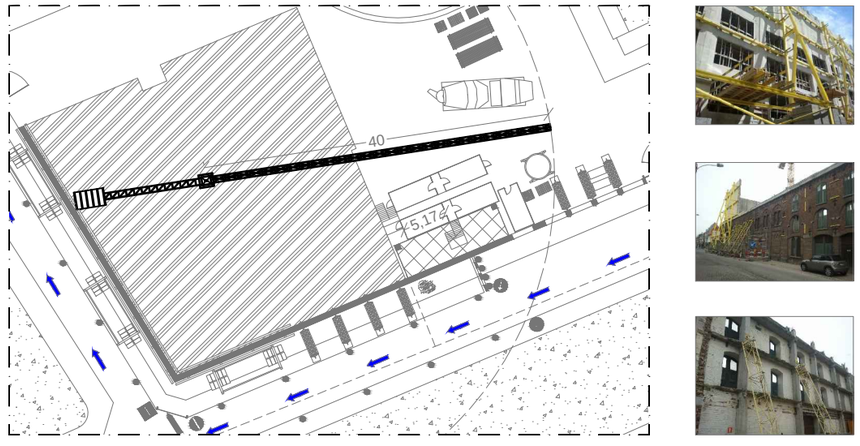
OUR BUILDING WILL BE CONSTRUCTED ABOVE THE FOUNDATIONS OF AN ANCIENT BUILDING.
AFTER CHECKING ITS RESITENCE, WE REINFORCE, WHERE WILL BE NECESSARY, WITH ADDITIONAL FOUNDATION.
WE WILL NEED MORE DEPTH FOR THE FOUNDATIONS OF THE LIFT SHAFTS AND THE TOWER CRANE FOUNDATION. SO HERE, WE WILL PROCEED WITH THE DEMOLITION AND POSTERIOR EXCAVATION.
IN PART 4: TECHNICAL STUDY, WE DESCRIBE, STEP BY STEP, HOW TO PERFORM THIS PROCESS. THE EXISTING FOUNDATION WAS EXPOSED TO THE WEATHER MORE THAN A YEAR, SO WE HAD TO ELIMINATE THE CUMULATIVE WATER OF THE INSIDE, USYING A DRAIN PUMPS.
AFTER THAT WE WOULD PROCEED TO THE CLEANING FOUNDATIONS.



LOCATION OF UTILITIES THAT REQUIRES SPECIAL ATTENTION DURING CONSTRUCTION: PROTECTED WALL TO KEEP

IS IMPORTANT TO KEEP THIS IN MIND FROM THE BEGINNING OF THE ORGANIZATION OF THE WORK, UNTIL THE COMPLETION OF THE STRUCTURE, FACADE AND FINISHES.
BY HAVING DIFFERENT HEIGHT AND FINISHES ON THE WALLS TO MAINTAIN, THEY USED TWO DIFFERENT SYSTEMS FOR THE FRONT STABILIZERS, PLACED BEFORE WE START THE WORK.





UNIVERSITAT POLITÈCNICA DE VALÈNCIA
ESCUELA TÉCNICA SUPERIOR INGENIERÍA DE EDIFICACIÓN
Jan De Nul
KAHO
KaHoSl. - Campus Dirk Martens,
Kwalestraat 154
9320 Aalst-Belgium
Academic schoolyear 2012-2013

SUCH FUSTER,ANA - UNIVERSITAT POLITÈCNICA DE VALÈNCIA - KAHO SINT LIEVEN

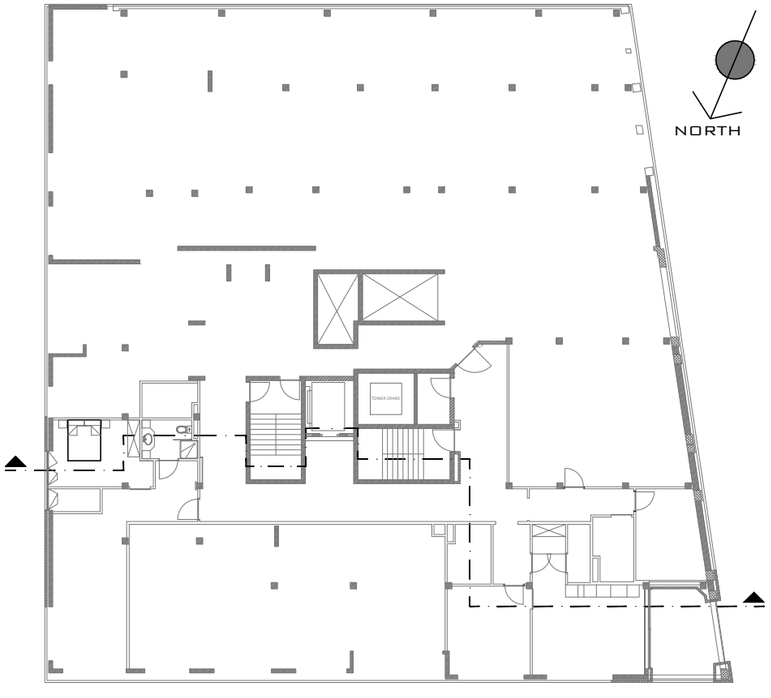
BACHELOR FINAL PROJECT/EINDWERK-STAGE (LIVE IT)

FINAL PROJECT PRESENTED AT:
KAHO SINT LIEVEN
OPLEIDING PROFESSIONELE BACHELOR BOUW.

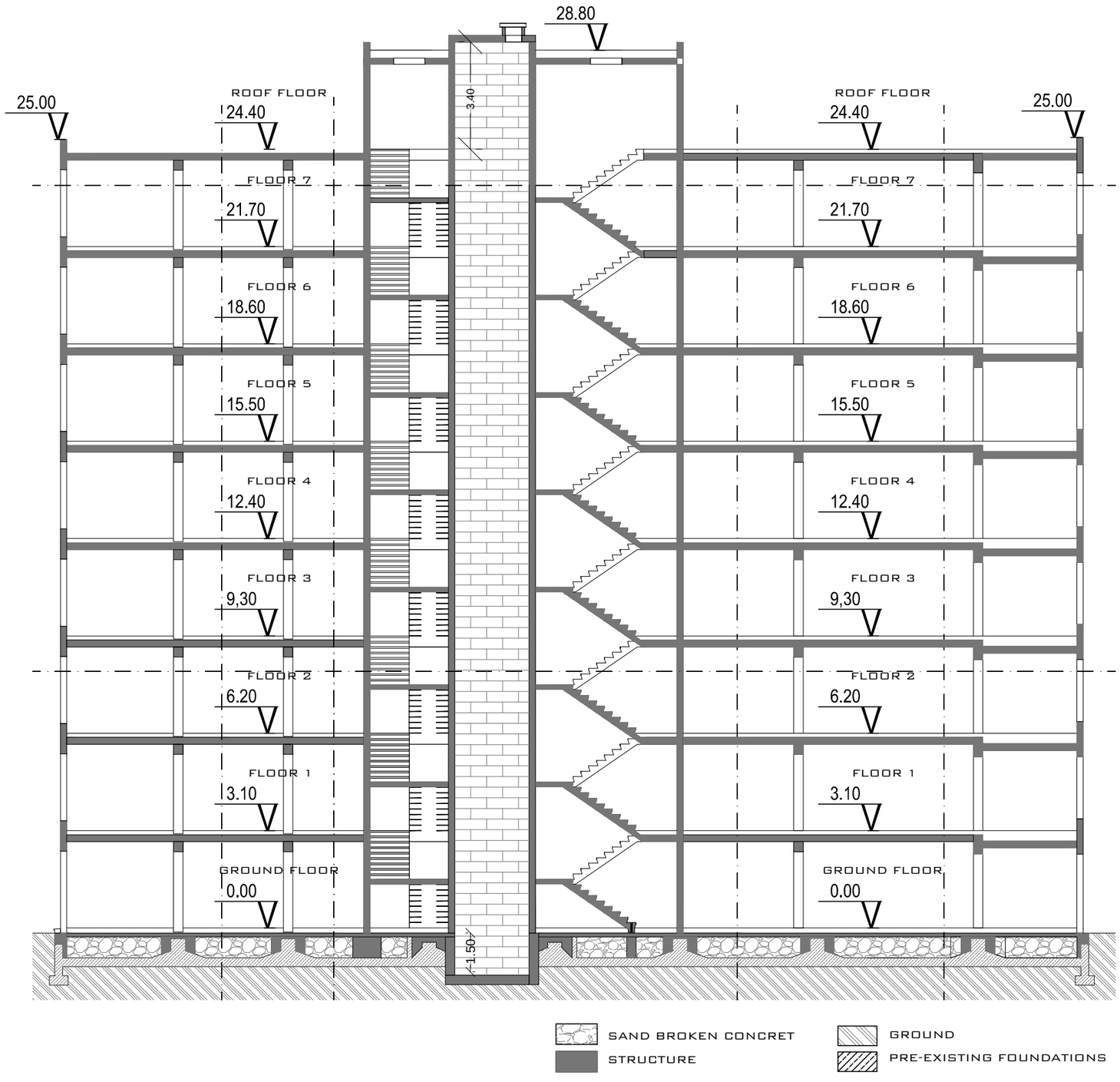
PICTURES FIRST VISIT

PICTURES LAST VISIT

HORIZONTAL STRUCTURE CROSS, FIRST FLOOR_E:1/300



PRINCIPAL CROSS SECTION COMPLET BUILDING_ S:1/150



UNIVERSITAT POLITÈCNICA DE VALÈNCIA

ESCUELA TÉCNICA SUPERIOR INGENIERÍA DE EDIFICACIÓN

DJN Jan De Nul GROUP

KAHO

KaHoSl. - Campus Dirk Martens,
Kwalestraat 154
9320 Aalst-Belgium
Academic schoolyear 2012-2013

PART 2-PRINCIPAL CROSS/LONGITUDINAL SECTION
PLAN Nº 1 / 2 : COMPLET SECTION, S:1/150

PLAN 5/28

SUCH FUSTER,ANA - UNIVERSITAT POLITÈCNICA DE VALÈNCIA - KAHO SINT LIEVEN

28.80

"Rubswaard Engels Bont" ceramic brick (no coating), 9.9cm
Air cavity, 1 cm
"Utherm wall R3,55 82 to" thermal insulation, 8.2 cm
"In situ" concrete wall, 20 cm
"Ytong" cellenbeton, 10 cm
waterproofing foil mineral-protected

waterproofing foil mineral-protected
"Utherm floor R1 45 80" sound insulation, 8cm
cellular concrete, 15 cm
"In situ" concret floor, 15 cm
plastering, 1.2 cm

"Rubswaard Engels Bont" ceramic brick (no coating), 9.9cm
Air cavity, 1 cm
"Utherm wall R3,55 82 to" thermal insulation, 8.2 cm
"In situ" concrete wall, 20 cm
plastering, 1.2 cm

waterproofing foil mineral-protected
"Utherm floor R1 45 80" sound insulation, 8cm
cellular concrete, 15 cm
"In situ" concret floor, 15 cm
plastering, 1.2 cm

340

273

LIFT CASE - FLOOR 8

25.00

24.80

"Rubswaard Engels Bont" ceramic brick (no coating), 9.9cm
Air cavity, 1 cm
"Utherm wall R3,55 82 to" thermal insulation, 8.2 cm
prefabricated beam, 20 cm
"Utherm wall R3,55 82 to" thermal insulation, 8.2 cm
"Ytong" cellenbeton, 10 cm
waterproofing foil mineral-protected

waterproofing foil mineral-protected
"Utherm floor R1 45 80" sound insulation, 8cm
cellular concrete, 15 cm
"In situ" concret, 15 cm
plastering, 1.2 cm

"Rubswaard Engels Bont" ceramic brick (no coating), 9.9cm
Air cavity, 1 cm
"Utherm wall R3,55 82 to" thermal insulation, 8.2 cm
prefabricated beam, 20 cm
plastering, 1.2 cm

BEDROOM - FLOOR 7

plastering, 1.2 cm
prefabricated beam, 30cm
"In situ" concrete
steel to link
plastering, 1.2 cm

tiles 50x50cm, glued 1cm
screed, 8cm
polyethylene film
"utherm floor R1 70 40" sound insulation, 4cm
"in situ" concrete wall, 22 cm
plastering, 1.2 cm

24.80

"Rubswaard Engels Bont" ceramic brick (no coating), 9.9cm
Air cavity, 1 cm
"Utherm wall R3,55 82 to" thermal insulation, 8.2 cm
"In situ" concrete wall, 20 cm
prefabricated beam, 20 cm
"Utherm wall R3,55 82 to" thermal insulation, 8.2 cm
waterproofing foil mineral-protected

25.00

prefabricated concret
steel to link

110

TERRACE - FLOOR 7

150
205
90
35
310
275

BEDROOM - FLOOR 2

plastering, 1.2 cm
prefabricated column, 30cm
steel to link
plastering, 1.2 cm

tiles 50x50cm, glued 1cm
screed, 8cm
polyethylene film
"utherm floor R1 70 40" sound insulation, 4cm
"in situ" concrete, 15 cm
predalen, 7 cm
plastering, 1.2 cm

6.20

"Rubswaard Engels Bont" ceramic brick (no coating), 9.9cm
Air cavity, 1 cm
"Utherm wall R3,55 82 to" thermal insulation, 8.2 cm
prefabricated beam, 20 cm
plastering, 1.2 cm

plastering, 1.2 cm
prefabricated beam, 30cm
"In situ" concrete
steel to link
plastering, 1.2 cm

prefabricated stair, 15 cm
polyurethane foam, 10m
"in situ" concret wall

LIFT CASE - FLOOR 2

plastering, 1.2 cm
"in situ" concret wall, 20 cm
plastering, 1.2 cm

275

tiles 50x50cm, glued 1cm
screed, 8cm
polyethylene film
"utherm floor R1 70 40" sound insulation, 4cm
"in situ" concrete floor, 22 cm
plastering, 1.2 cm

6.20

D.11.1
D.11.2

"Rubswaard Engels Bont" ceramic brick (no coating), 9.9cm
Air cavity, 1 cm
"Utherm wall R3,55 82 to" thermal insulation, 8.2 cm
prefabricated beam, 20 cm
"Utherm wall R3,55 82 to" thermal insulation, 8.2 cm
air cavity, 10m
"Rubswaard Engels Bont" ceramic brick (no coating), 9.9cm

125

COVERED TERRACE - FLOOR 2

58
100
44
6.20
119

D.12
D.13

"Rubswaard Engels Bont" ceramic brick (no coating), 9.9cm
Air cavity, 1 cm
"Utherm wall R3,55 82 to" thermal insulation, 8.2 cm
prefabricated beam, 20 cm
plastering, 1.2 cm

295

D.10.1
D.10.2

wood floor 120 x 10 x 3 cm
Geotextile: fiberglass felt (q = 100gr/m2)
polyethylene film
"utherm floor R1 45 80" sound insulation, 8 cm
cellular concrete
"in situ" concrete, 15 cm
"in situ" concrete floor, 12 cm
"utherm floor R1 45 80" sound insulation, 8 cm
galvanized steel plate

193

COVERED TERRACE - FLOOR 1

255
56
100
44
3.10
125

"Rubswaard Engels Bont" ceramic brick (no coating), 9.9cm
Air cavity, 1 cm
"Utherm wall R3,55 82 to" thermal insulation, 8.2 cm
prefabricated beam, 20 cm
plastering, 1.2 cm

D.14

wood floor 120 x 10 x 3 cm
Geotextile: fiberglass felt (q = 100gr/m2)
polyethylene film
"utherm floor R1 45 80" sound insulation, 8 cm
"in situ" concrete, 15 cm
predalen, 7 cm
plastering, 1.2 cm

RESTAURANT - GROUND FLOOR

255
230

tiles 50x50cm, glued 1cm
screed, 8cm
polyethylene film
"utherm floor R1 00 70" insulation, 7cm
"in situ" concrete floor, 12 cm
polyethylene film
sand (recycled from broken concrete), 67 cm
existing foundation, 28 cm

0.00

115

150
205
90
35
310
275

BEDROOM - FLOOR 1

plastering, 1.2 cm
prefabricated column, 30cm
steel to link
plastering, 1.2 cm

D.3
D.4

tiles 50x50cm, glued 1cm
screed, 8cm
polyethylene film
"utherm floor R1 70 40" sound insulation, 4cm
"in situ" concrete, 15 cm
predalen, 7 cm
plastering, 1.2 cm

3.10

"Rubswaard Engels Bont" ceramic brick (no coating), 9.9cm
Air cavity, 1 cm
"Utherm wall R3,55 82 to" thermal insulation, 8.2 cm
prefabricated beam, 20 cm
plastering, 1.2 cm

plastering, 1.2 cm
prefabricated column, 30cm
steel to link
plastering, 1.2 cm

D.6

prefabricated stair, 15 cm
polyurethane foam, 10m
"in situ" concret wall

LIFT CASE - FLOOR 1

plastering, 1.2 cm
"in situ" concret wall, 20 cm
plastering, 1.2 cm

275

tiles 50x50cm, glued 1cm
screed, 8cm
polyethylene film
"utherm floor R1 70 40" sound insulation, 4cm
"in situ" concrete floor, 22 cm
plastering, 1.2 cm

3.10

D.9
D.7

240
310
275

RESTAURANT - GROUND FLOOR

plastering, 1.2 cm
prefabricated column, 30cm
steel to link
chemical anchor
plastering, 1.2 cm

D.1
D.2
D.5

tiles 50x50cm, glued 1cm
screed, 8cm
polyethylene film
"utherm floor R1 00 70" insulation, 7cm
"in situ" concrete floor, 12 cm
polyethylene film
sand (recycled from broken concrete), 67 cm
existing foundation, 28 cm

0.00

140
141

prefabricated stair, 15 cm
polyurethane foam, 10m
"in situ" concret wall

LIFT CASE - GROUND FLOOR

tiles 50x50cm, glued 1cm
screed, 8cm
polyethylene film
"utherm floor R1 00 70" insulation, 7cm
"in situ" concrete floor, 12 cm
existing foundation, 77 cm

150

D.8= COMPLET STAIR
D.15=PREFABRICATED BALCONY

GROUND
PRE-EXISTING FOUNDATIONS
SAND BROKEN CONCRET
"IN SITU" CONCRET
PREFABRICATED CONCRET
"UTHERM" INSULATION
"YTONG" AERATED CONCRET
CELLULAR CONCRET

BACHELOR FINAL PROJECT/EINDWERK-STAGE (LIVE IT)

Final Project presented at:
KaHo Sint Lieven
Opleiding Professionele Bachelor Bouw.

SUCH FUSTER.ANA - UNIVERSITAT POLITÈCNICA DE VALÈNCIA - KAHO SINT LIEVEN

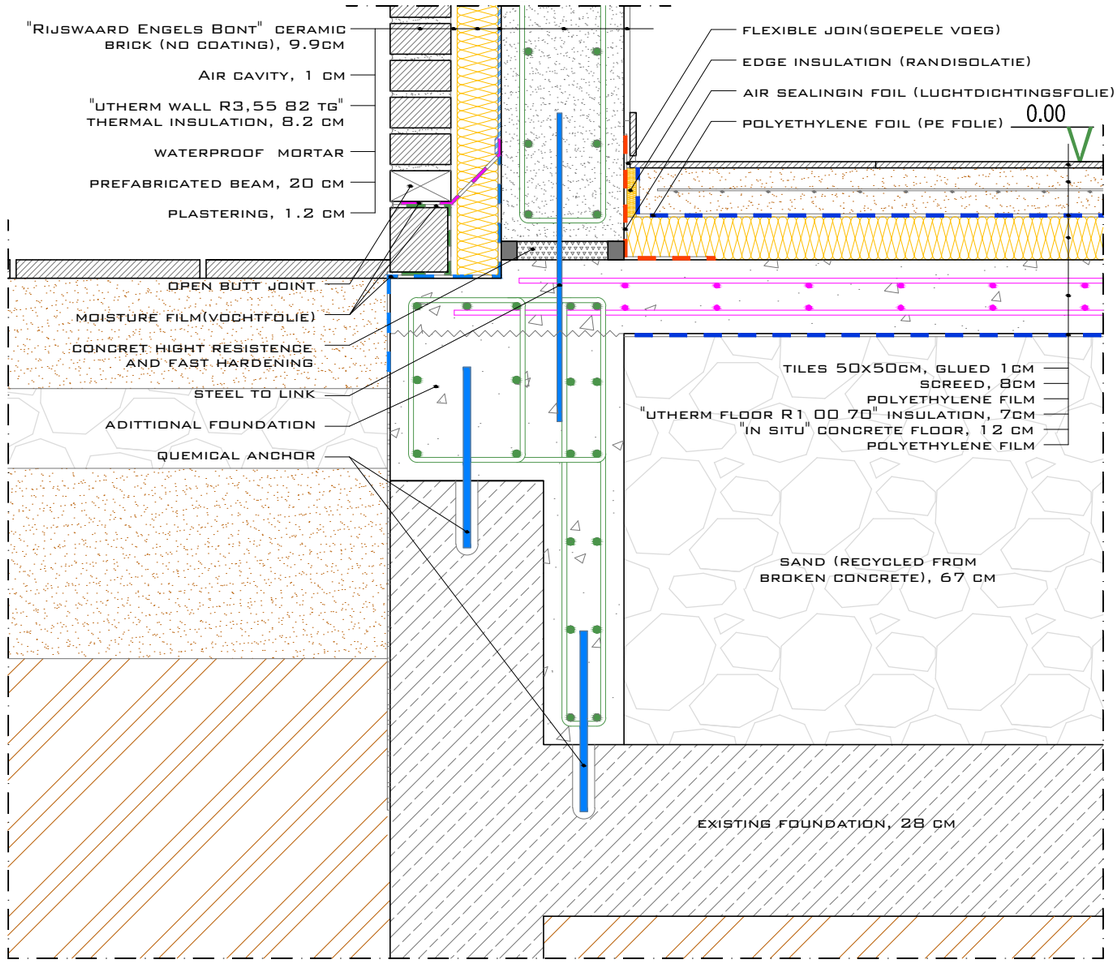
KaHoSL - Campus Dirk Martens,
Kweldreihaai 154
9320 Aalst-Belgium
Academic schooljaar 2012-2013

PART 2-: principal cross/longitudinal section
PLAN Nº 2 / 2 : DETAILED PLAN, S: 1/20

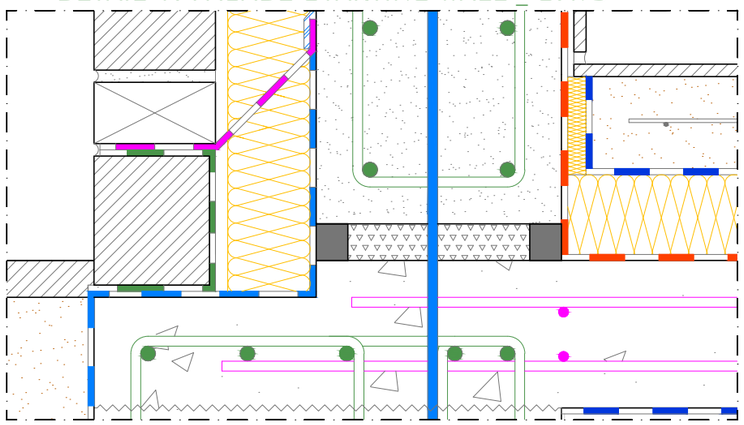
BACHELOR FINAL PROJECT/EINDWERK-STAGE (LIVE IT)

FINAL PROJECT PRESENTED AT:
KAHO SINT LIEVEN
OPLEIDING PROFESSIONELE BACHELOR BOUW.

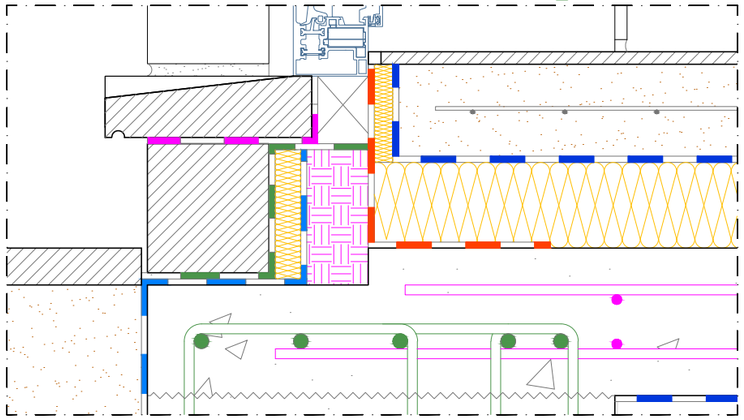
DETAIL 1: FACADE STARTING-WALL _ S:1/10



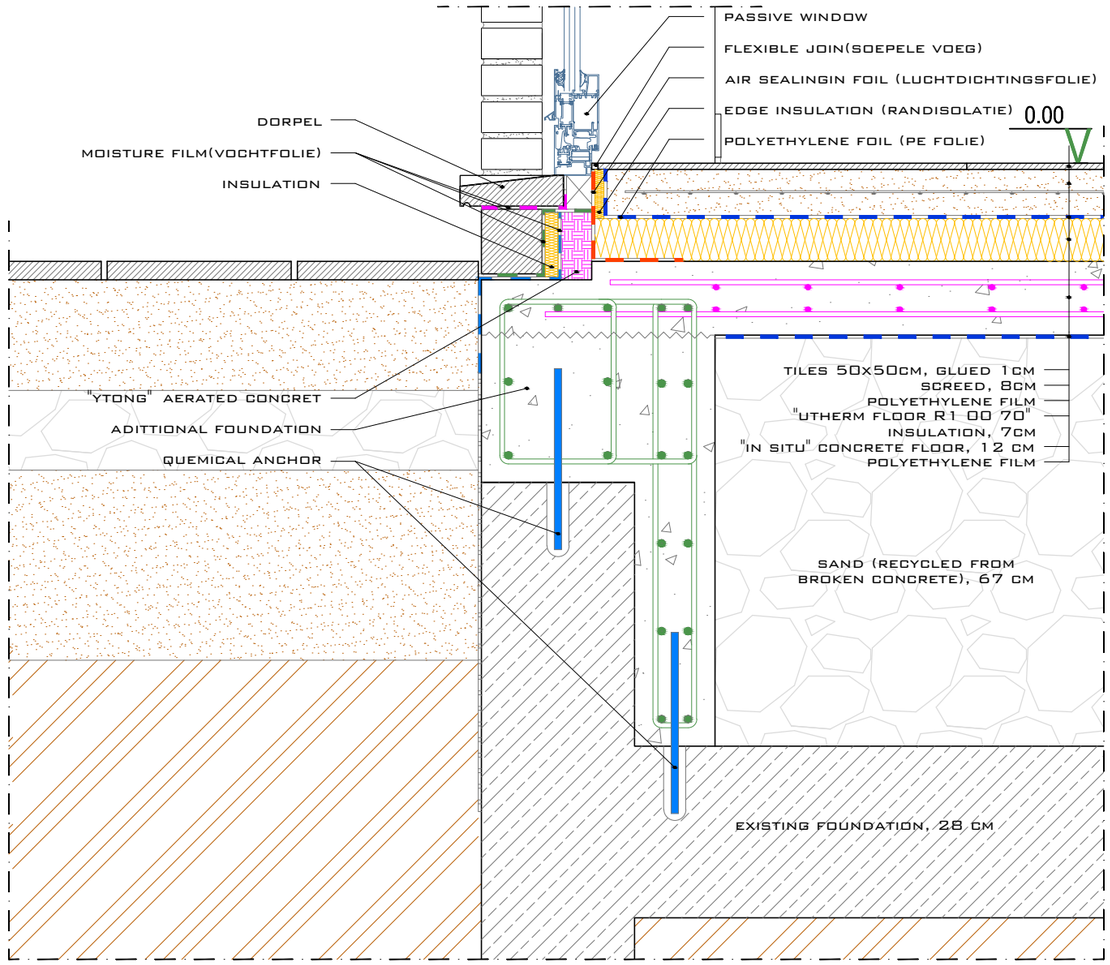
DETAIL 1: FACADE STARTING-WALL _ S:1/5



DETAIL 1: FACADE STARTING-WINDOW _ S:1/5



DETAIL 2: FACADE STARTING-WINDOW _ S:1/10



UNIVERSITAT POLITÈCNICA DE VALÈNCIA

ESCUELA TÉCNICA SUPERIOR INGENIERÍA DE EDIFICACIÓN

Jan De Nul GROUP

KAHO

KaHoSl. - Campus Dirk Martens,
Kwalestraat 154
9320 Aalst-Belgium
Academic schoolyear 2012-2013

PART 3-DETAILED DRAWINGS
PLAN Nº 1 / 7 : DETAIL 1-2, S:1/10,1/5

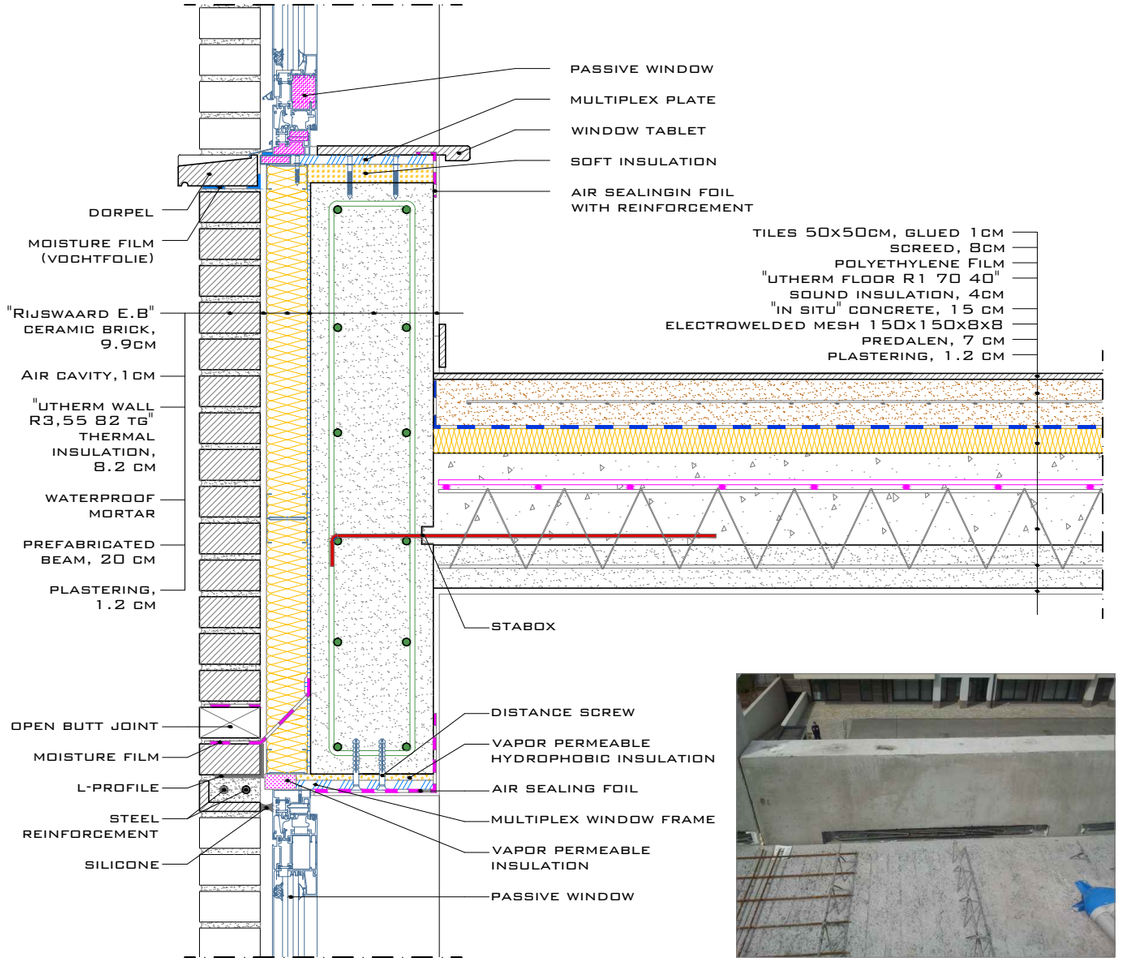
PLAN 7/28

SUCH FUSTER,ANA - UNIVERSITAT POLITÈCNICA DE VALÈNCIA - KAHO SINT LIEVEN

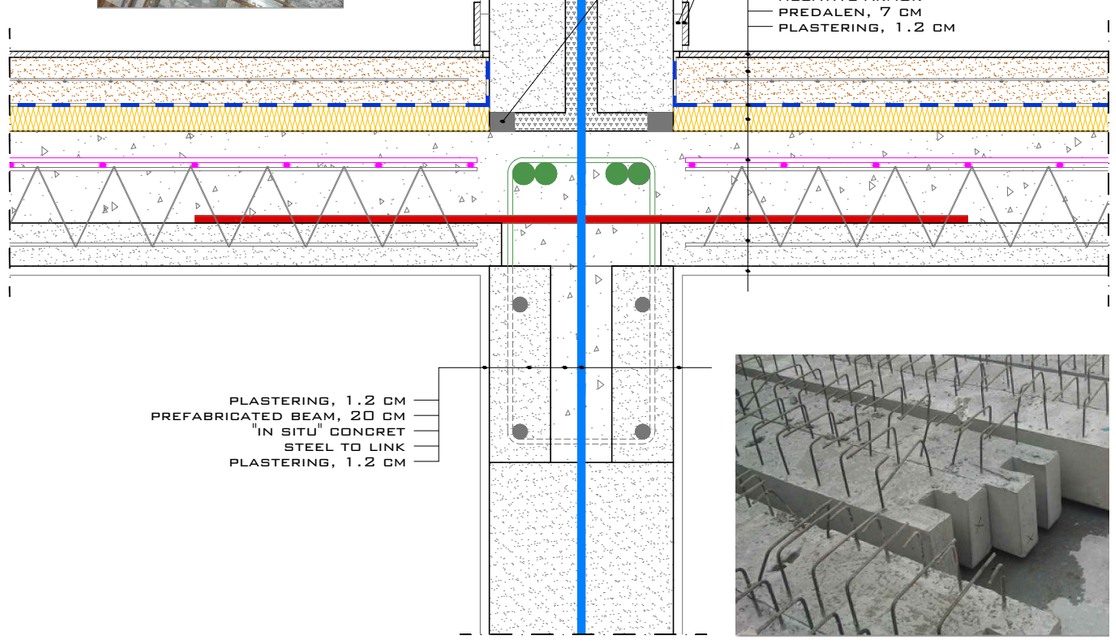
BACHELOR FINAL PROJECT/EINDWERK-STAGE (LIVE IT)

FINAL PROJECT PRESENTED AT:
KAHO SINT LIEVEN
OPLEIDING PROFESSIONELE BACHELOR BOUW.

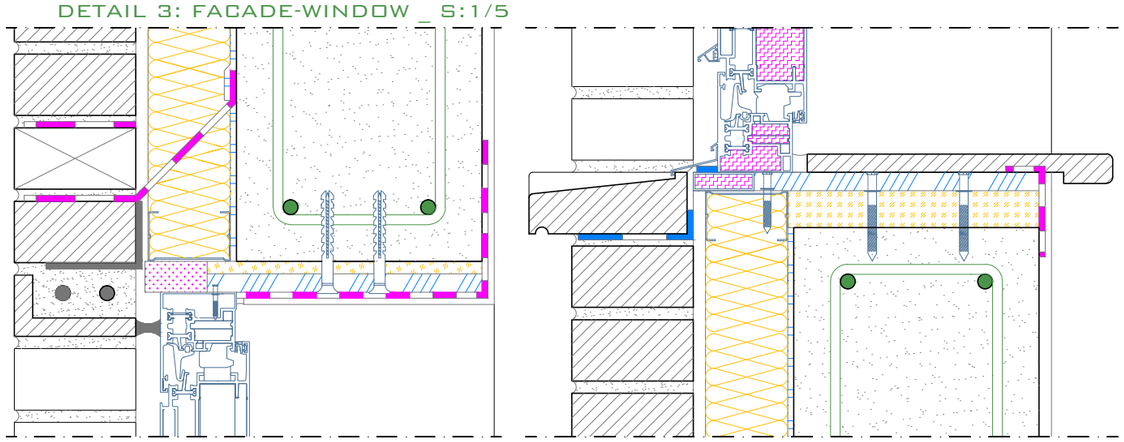
DETAIL 3: FACADE-WINDOW _ S:1/10



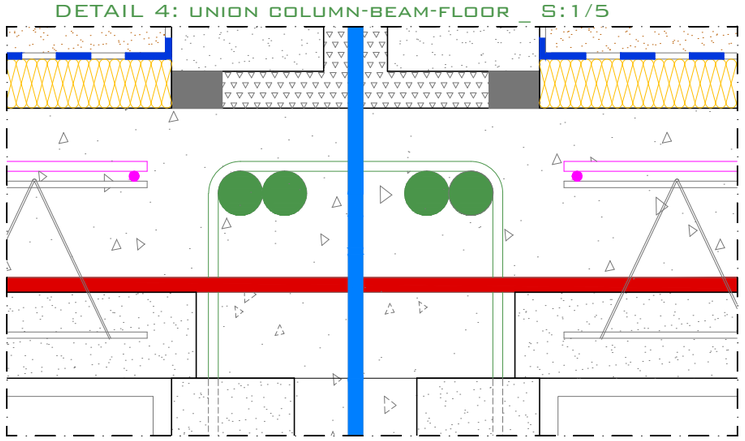
DETAIL 4: UNION COLUMN-BEAM-FLOOR _ S:1/10



DETAIL 3: FACADE-WINDOW _ S:1/5



DETAIL 4: UNION COLUMN-BEAM-FLOOR _ S:1/5



UNIVERSITAT POLITÈCNICA DE VALÈNCIA

ESCUELA TÉCNICA SUPERIOR INGENIERÍA DE EDIFICACIÓN

Jan De Nul GROUP

KAHO

KaHoSl. - Campus Dirk Martens,
Kwalestraat 154
9320 Aalst-Belgium
Academic schoolyear 2012-2013

PART 3-DETAILED DRAWINGS
PLAN Nº 2 / 7 : DETAIL 3-4, S:1/10,1/5

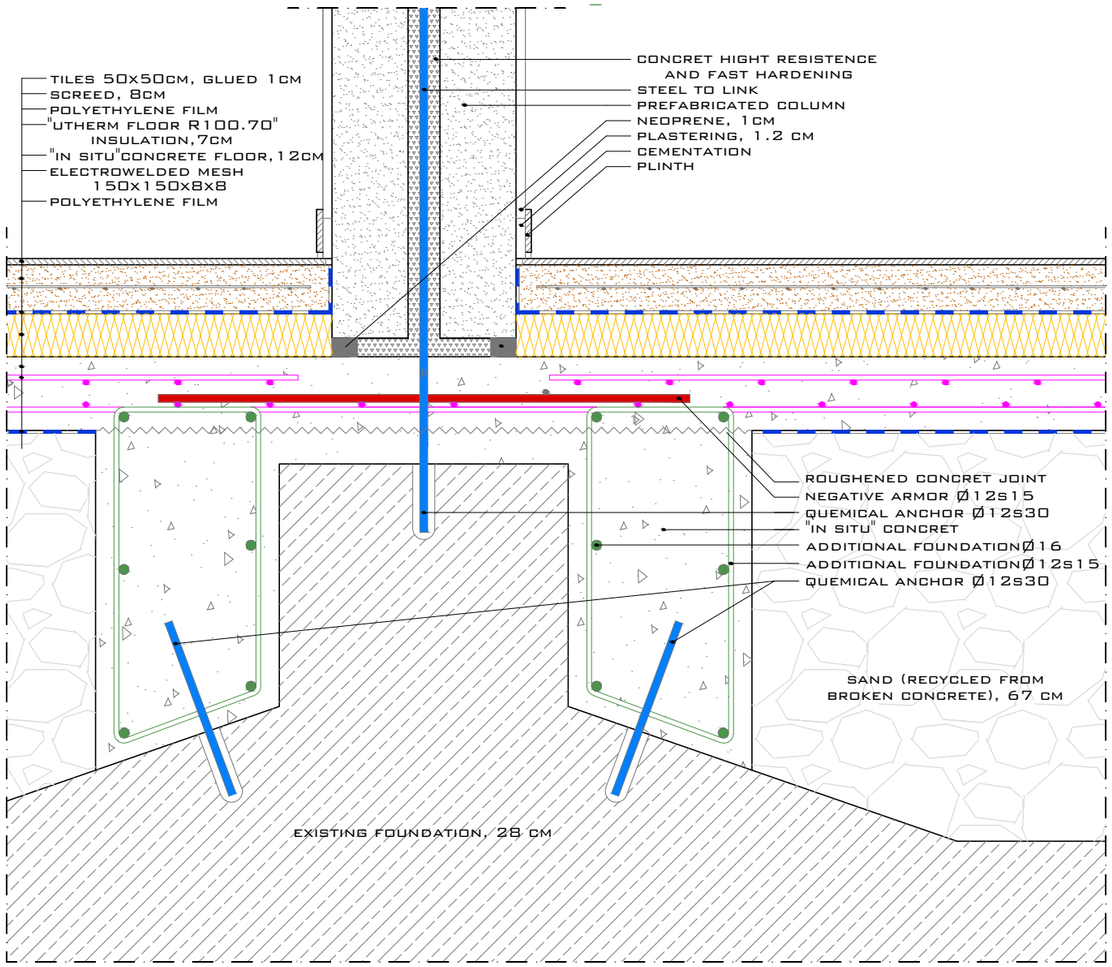
PLAN
8/28

SUCH FUSTER,ANA - UNIVERSITAT POLITÈCNICA DE VALÈNCIA - KAHO SINT LIEVEN

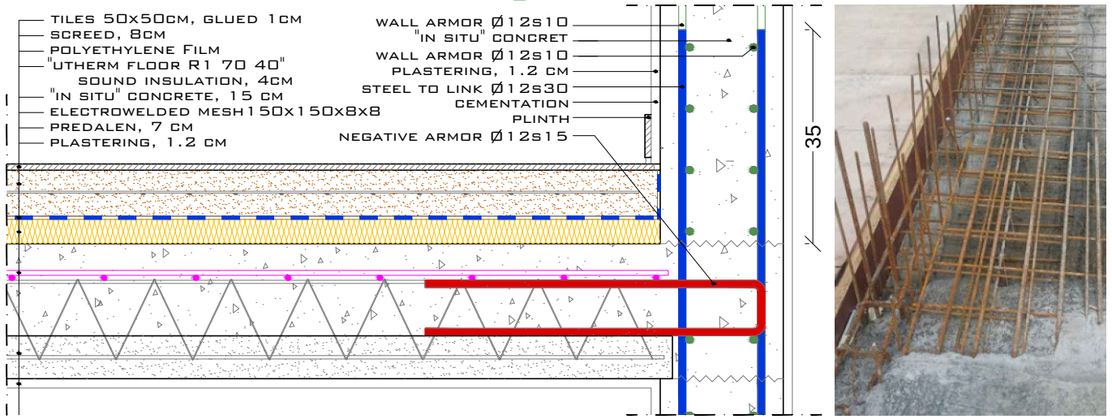
BACHELOR FINAL PROJECT/EINDWERK-STAGE (LIVE IT)

Final Project presented at:
KaHo Sint Lieven
Opleiding Professionele Bachelor BOUW.

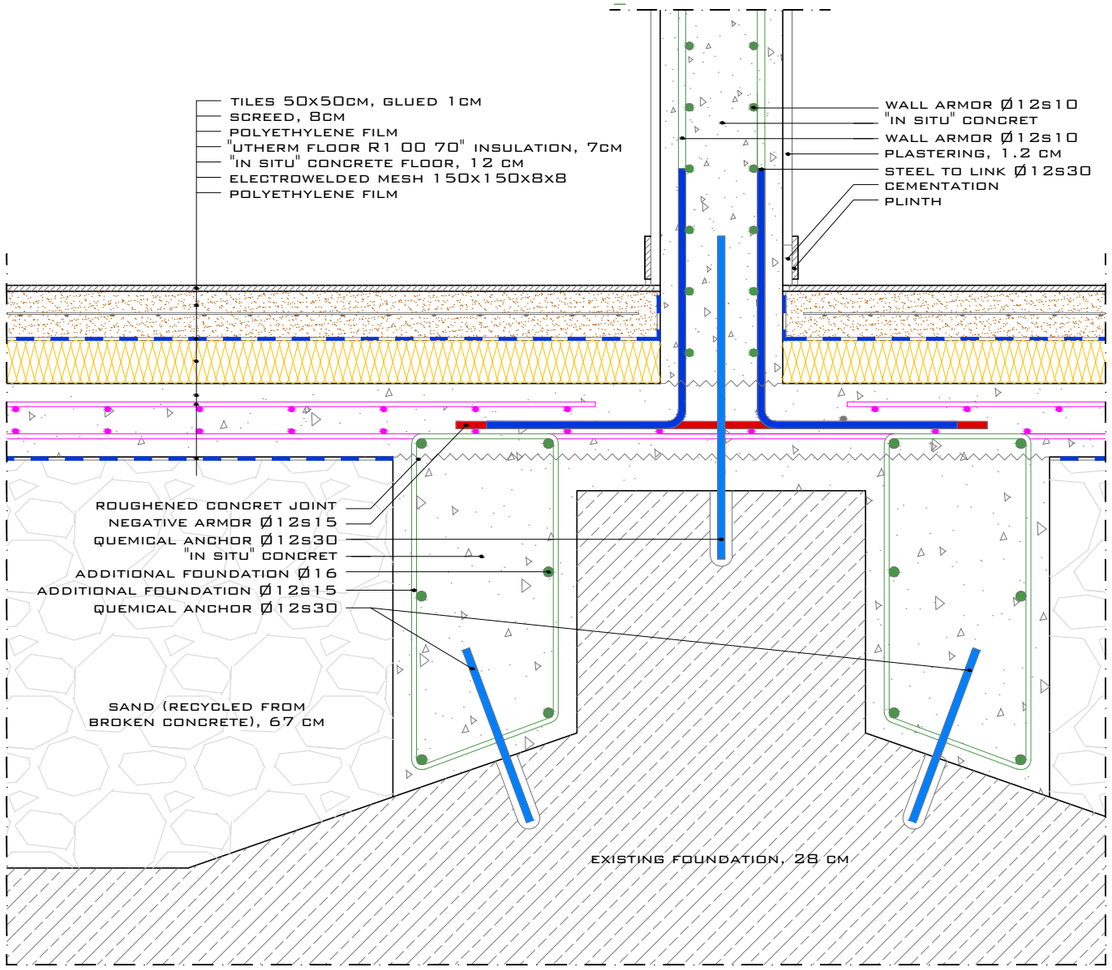
DETAIL 5: UNION FOUNDATION-COLUMN _ S:1/10



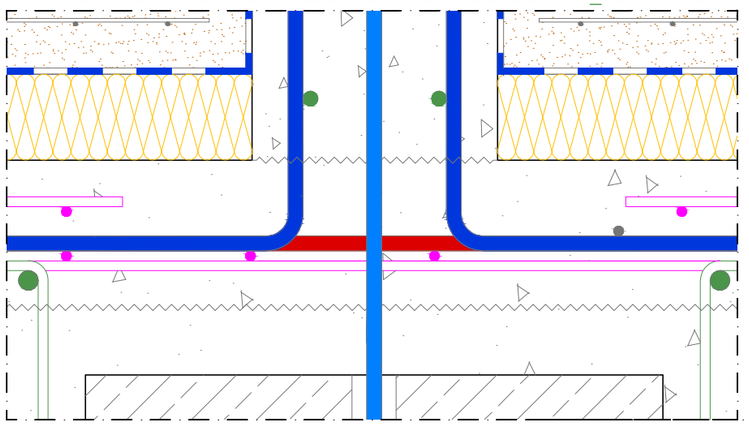
DETAIL 6: UNION WALL - FLOOR _ S:1/10



DETAIL 7: UNION FOUNDATION - WALL _ S:1/10



DETAIL 7: UNION FOUNDATION-COLUMN _ S:1/7.5



UNIVERSITAT POLITÈCNICA DE VALÈNCIA
ESCUELA TÉCNICA SUPERIOR INGENIERÍA DE EDIFICACIÓN
Jan De Nul GROUP
KAHO
KaHoSl. - Campus Dirk Martens,
Kwalestraat 154
9320 Aalst-Belgium
Academic schoolyear 2012-2013

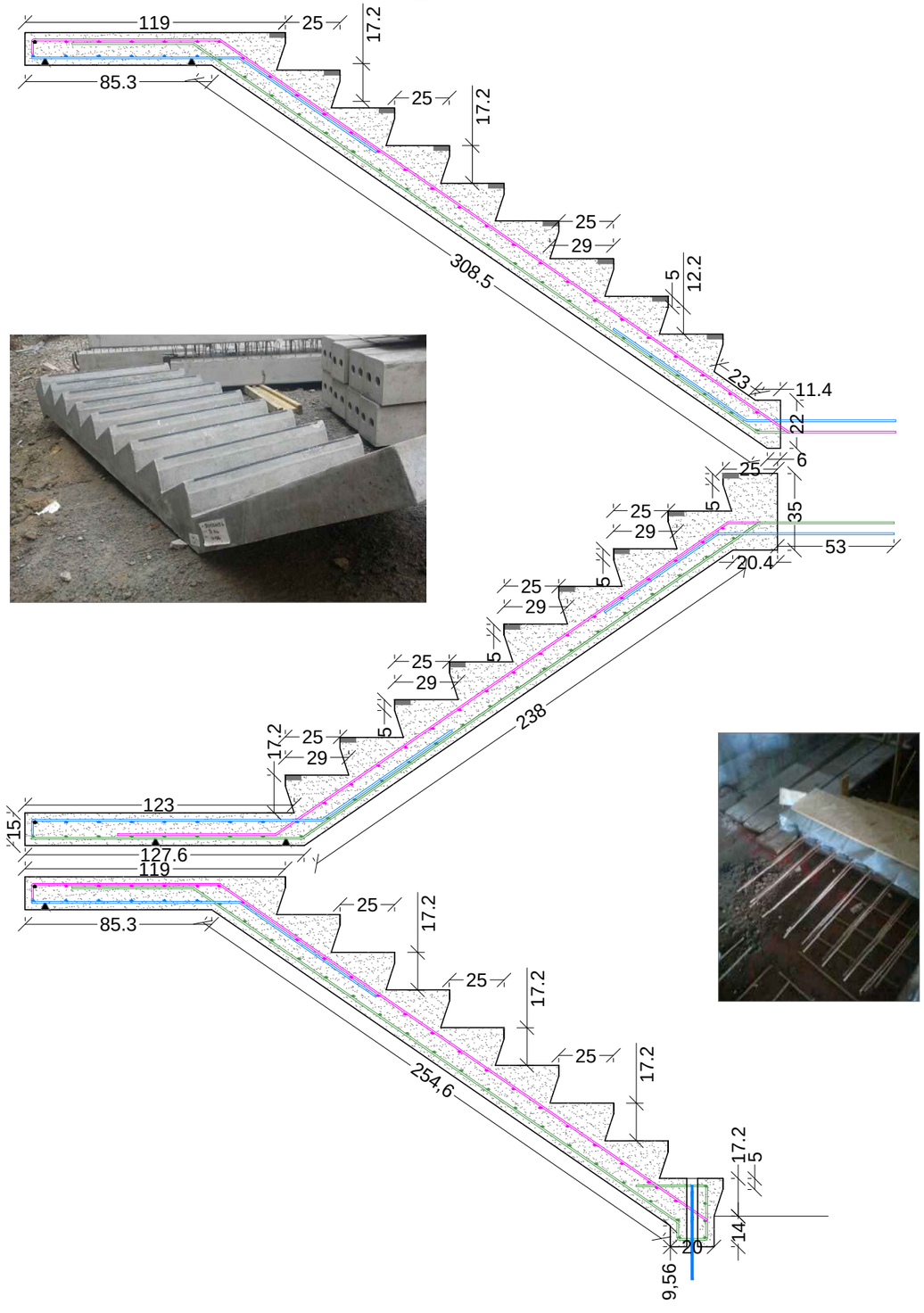
PART 3-DETAILED DRAWINGS
PLAN Nº 3 / 7 : DETAIL 5-6-7, S:1/10,1/5

SUCH FUSTER, ANA - UNIVERSITAT POLITÈCNICA DE VALÈNCIA - KAHO SINT LIEVEN

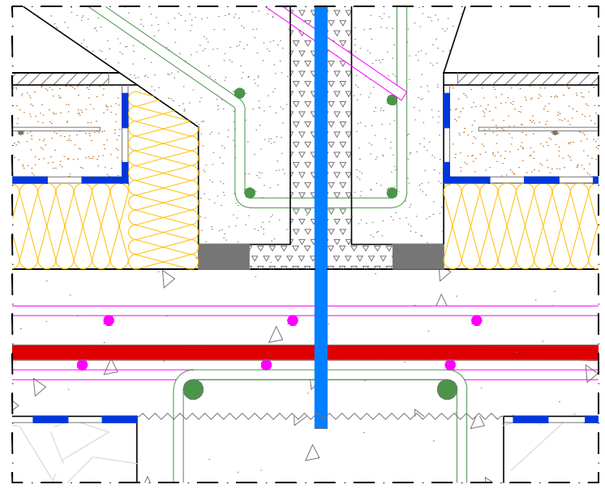
BACHELOR FINAL PROJECT/EINDWERK-STAGE (LIVE IT)

Final Project presented at:
KaHo Sint Lieven
Opleiding Professionele Bachelor BOUW.

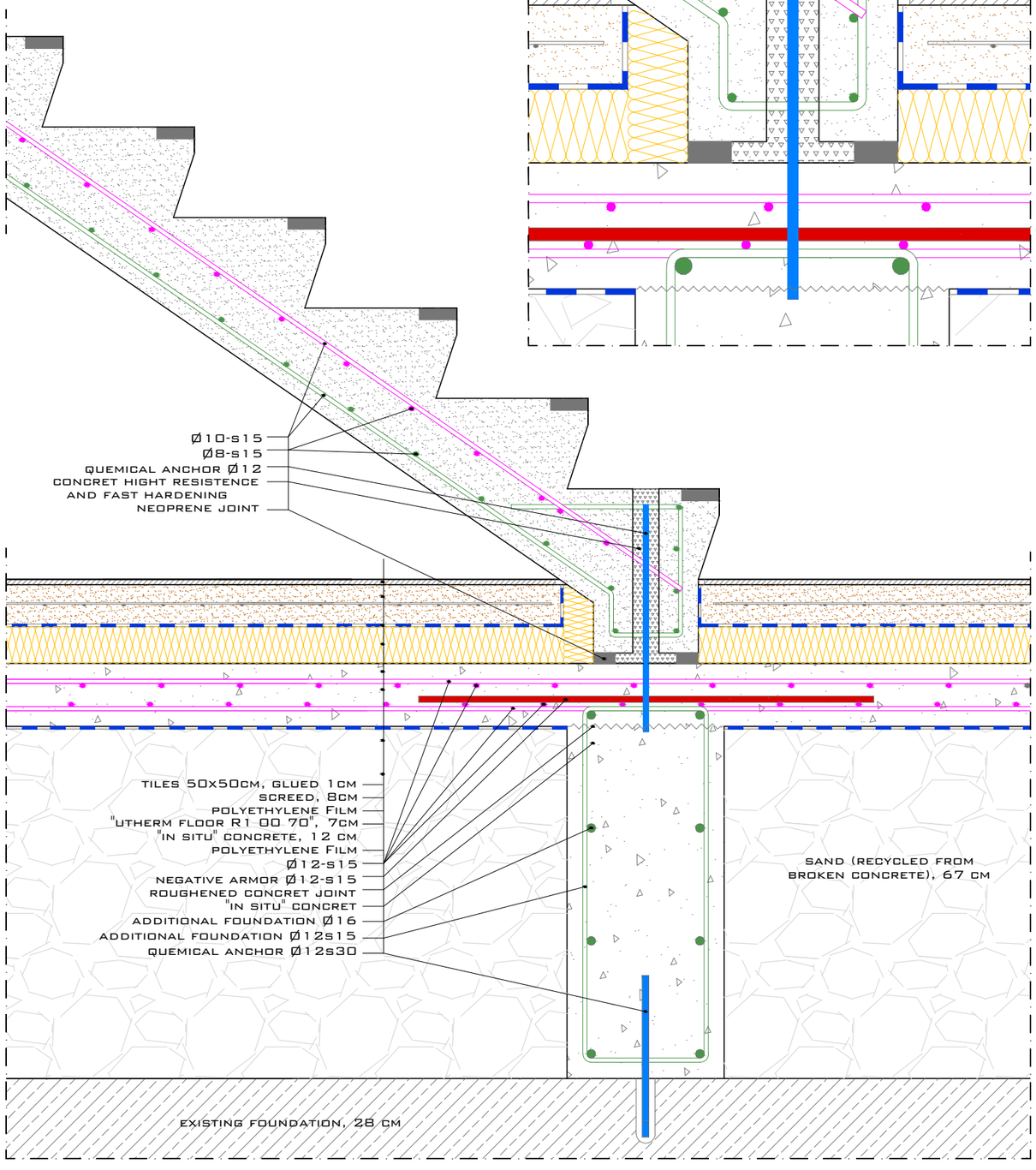
DETAIL 8: PREFABRICATED STAIR _ S:1/25



DETAIL 8: UNION STAIR-FOUNDATION_S:1/5



DETAIL 9: UNION STAIR-FOUNDATION_S:1/10



SUCH FUSTER,ANA - UNIVERSITAT POLITÈCNICA DE VALÈNCIA - KAHO SINT LIEVEN

UNIVERSITAT POLITÈCNICA DE VALÈNCIA
ESCUELA TÉCNICA SUPERIOR INGENIERÍA DE EDIFICACIÓN
Jan De Nul GROUP
KAHO
KaHoSl. - Campus Dirk Martens,
Kwalestraat 154
9320 Aalst-Belgium
Academic schoolyear 2012-2013

PART 3-DETAILED DRAWINGS

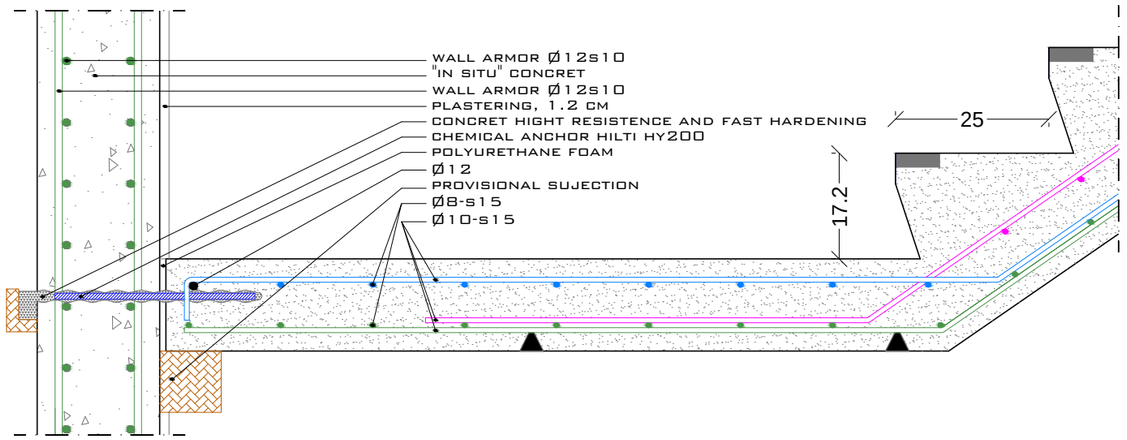
PLAN Nº 4 / 7 : DETAIL 8-9, S:1/25,1/10,1/5

BACHELOR FINAL PROJECT/EINDWERK-STAGE (LIVE IT)

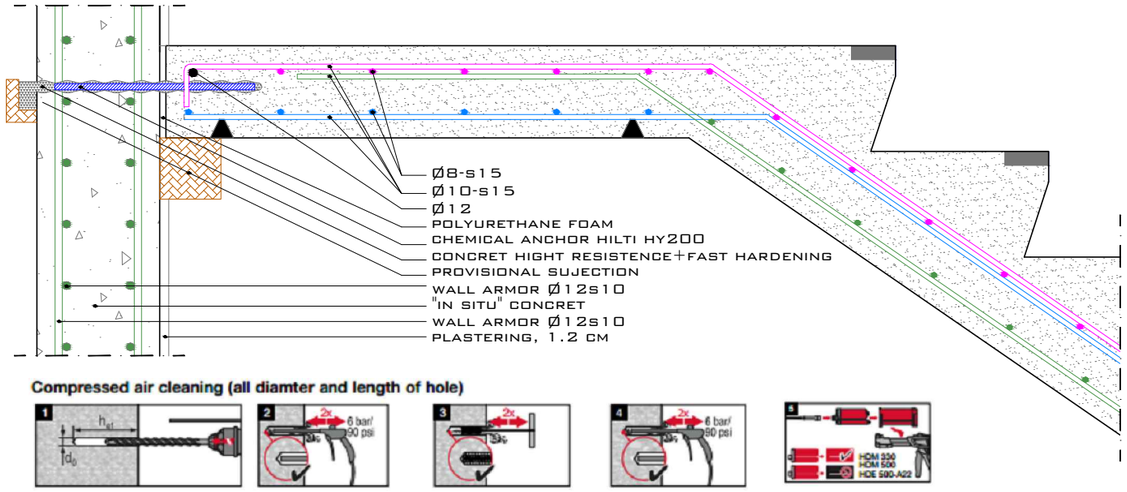
FINAL PROJECT PRESENTED AT:
KAHO SINT LIEVEN
OPLEIDING PROFESSIONELE BACHELOR BOUW.

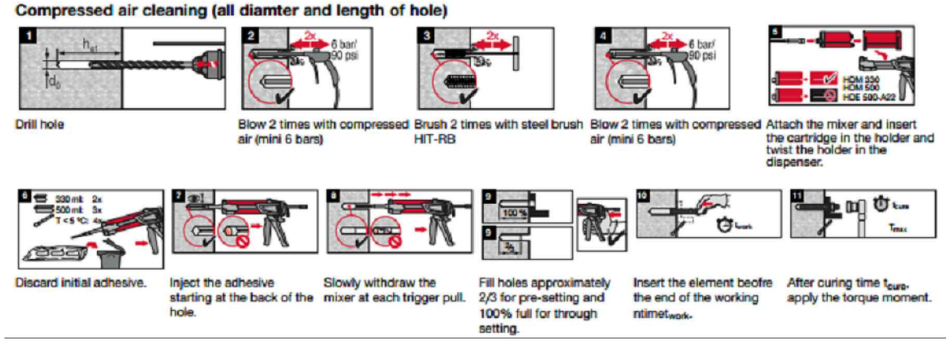
Foil pack HIT-HY 200-A
330 ml / 500 ml

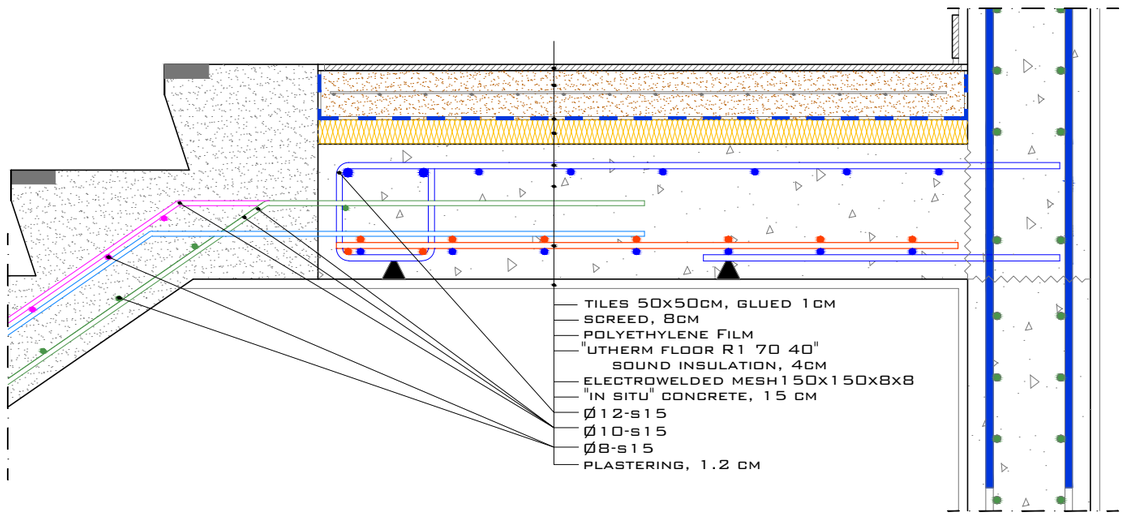
DETAIL 10.1: UNION PREFABRICATED STAIR-IN SITU WALL _ S:1/10



DETAIL 10.2: UNION PREFABRICATED STAIR-IN SITU WALL _ S:1/10

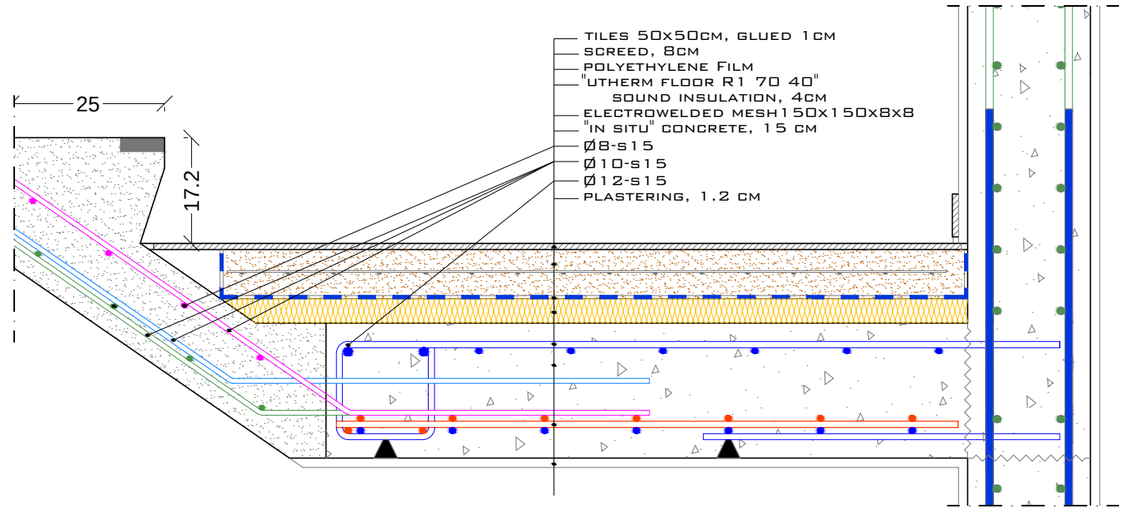






DETAIL 11.1: UNION PREFABRICATED STAIR-IN SITU FLOOR _S:1/10

DETAIL 11.2: UNION PREFABRICATED STAIR-IN SITU FLOOR _ S:1/10



UNIVERSITAT POLITÈCNICA DE VALÈNCIA
ESCUELA TÉCNICA SUPERIOR INGENIERÍA DE EDIFICACIÓN
Jan De Nul GROUP
KAHO
KaHoSl. - Campus Dirk Martens,
Kwalestraat 154
9320 Aalst-Belgium
Academic schoolyear 2012-2013

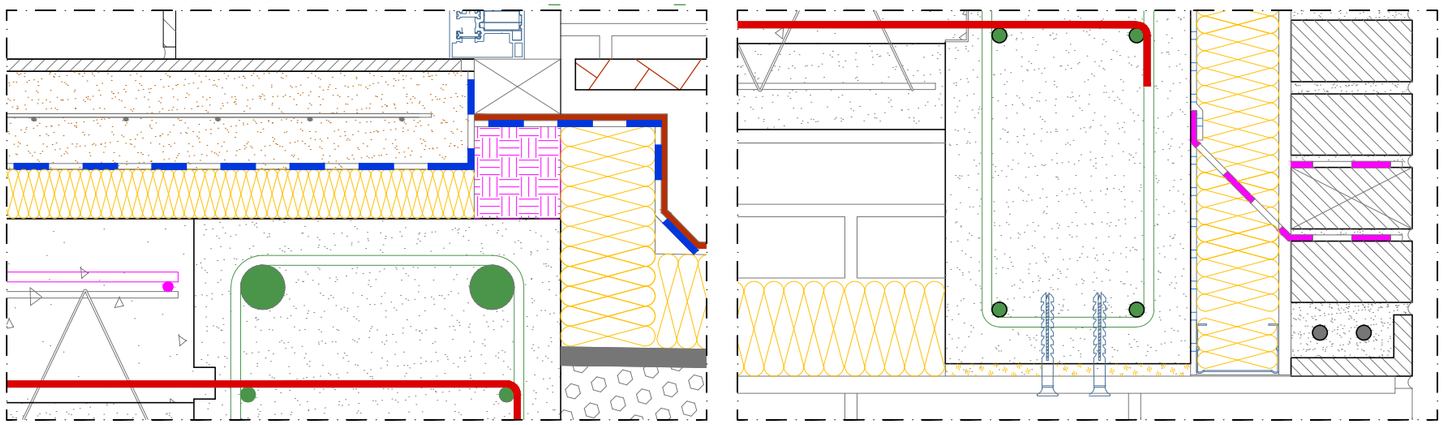
PART 3-DETAILED DRAWINGS
PLAN Nº 5 / 7 : DETAIL 10-11, S:1/10

SUCH FUSTER,ANA - UNIVERSITAT POLITÈCNICA DE VALÈNCIA - KAHO SINT LIEVEN

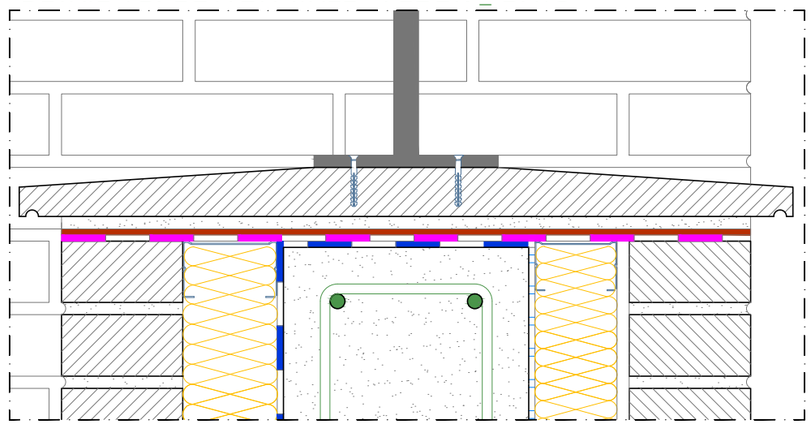
BACHELOR FINAL PROJECT/EINDWERK-STAGE (LIVE IT)

FINAL PROJECT PRESENTED AT:
KAHO SINT LIEVEN
OPLEIDING PROFESSIONELE BACHELOR BOUW.

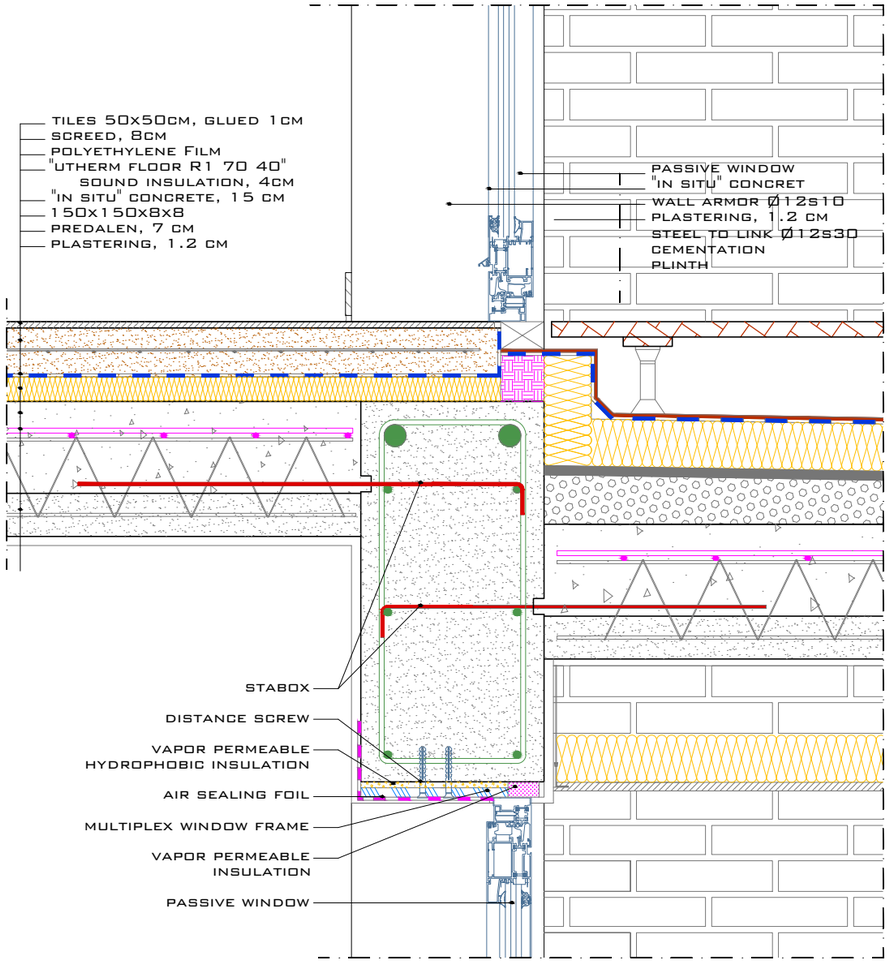
DETAIL 12: UNION TERRACE-TERRACE_KITCHEN_S: 1/5



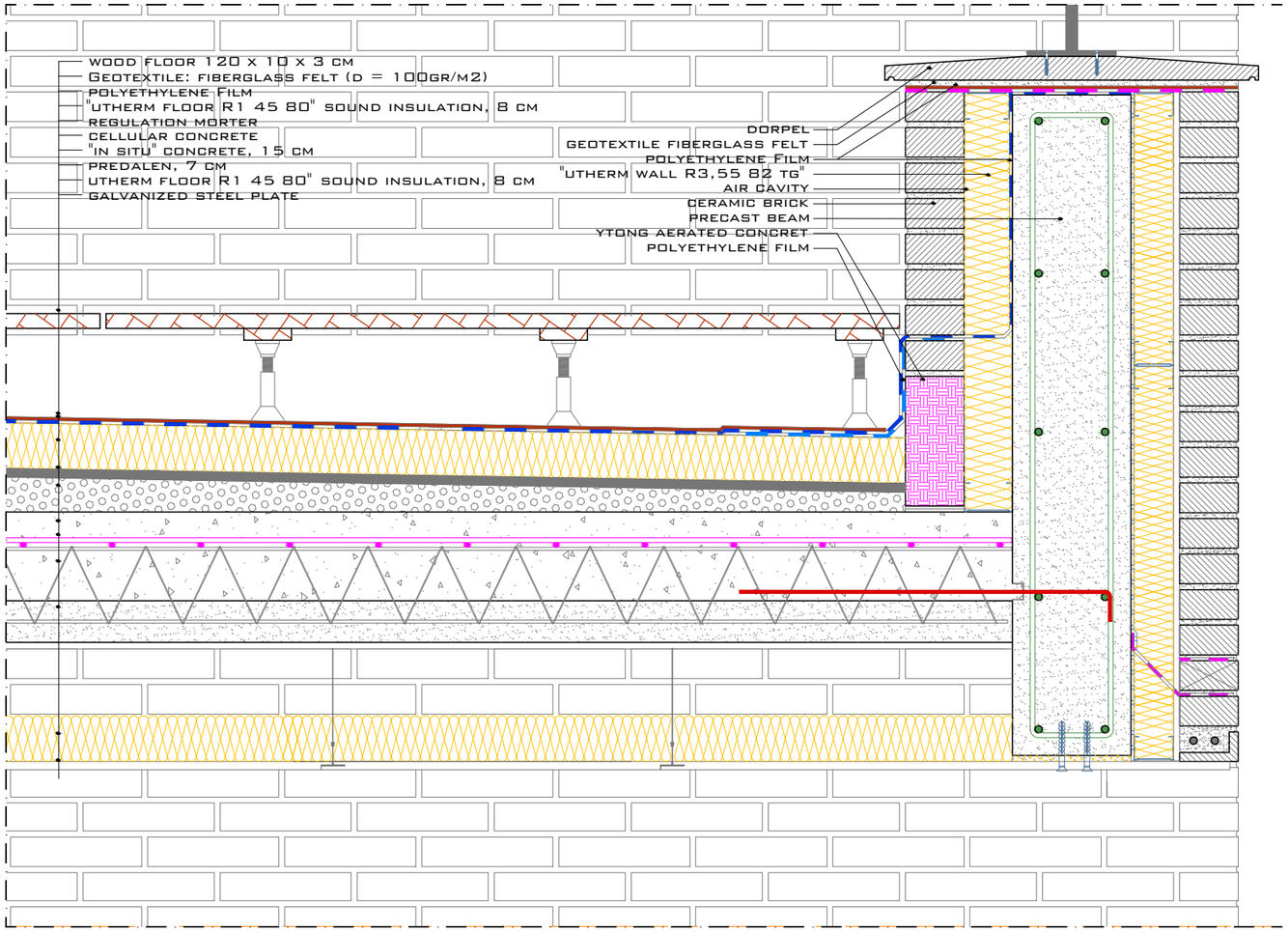
DETAIL 13: BOTTOM WALL - FLOOR _ S:1/5



DETAIL 12: UNION TERRACE-TERRACE_KITCHEN_S: 1/10



DETAIL 13: UNION TERRACE-TERRACE-FACADE_S: 1/10



UNIVERSITAT POLITÈCNICA DE VALÈNCIA

ESCUELA TÉCNICA SUPERIOR INGENIERÍA DE EDIFICACIÓN

Jan De Nul GROUP

KAHO

KaHoSl. - Campus Dirk Martens,
Kwalestraat 154
9320 Aalst-Belgium
Academic schoolyear 2012-2013

PART 3-DETAILED DRAWINGS
PLAN Nº 6 / 7 : DETAIL 12-13, S:1/10,1/5

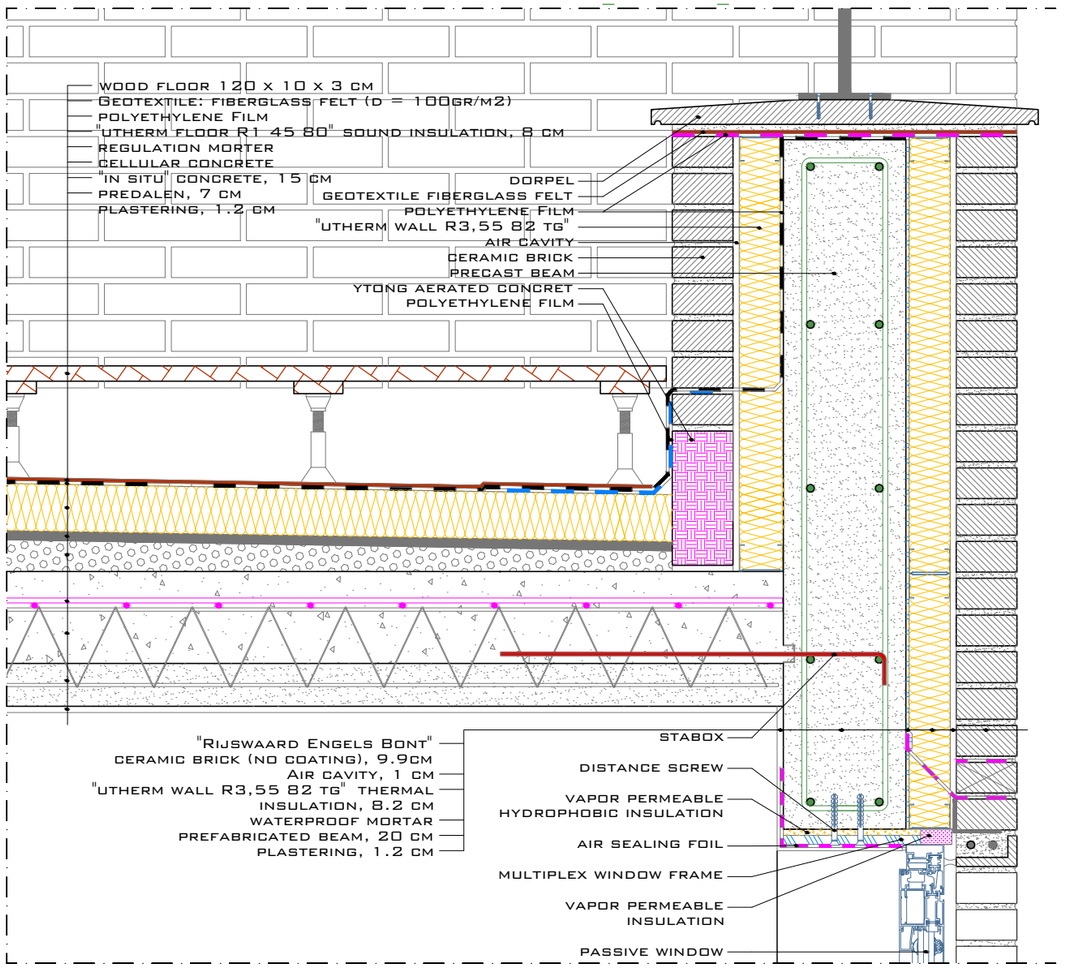
PLAN
12/28

SUCH FUSTER, ANA - UNIVERSITAT POLITÈCNICA DE VALÈNCIA - KAHO SINT LIEVEN

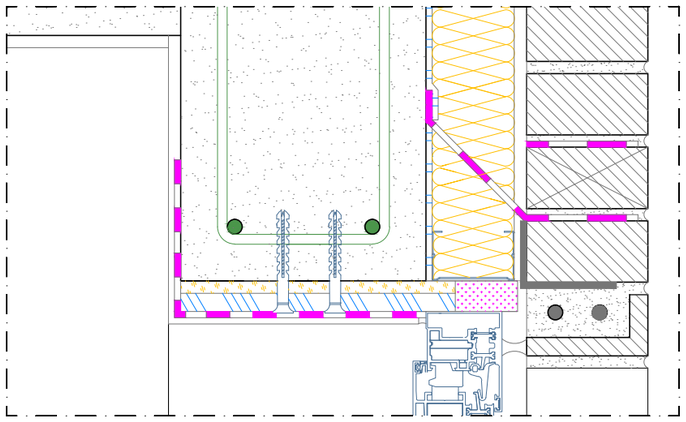
BACHELOR FINAL PROJECT/EINDWERK-STAGE (LIVE IT)

Final Project presented at:
KaHo Sint Lieven
Opleiding Professionele Bachelor BOUW.

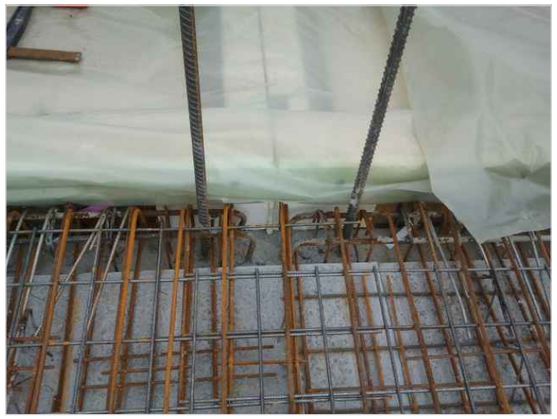
DETAIL 13: UNION TERRACE-RESTAURANT_FACADE_S: 1/10

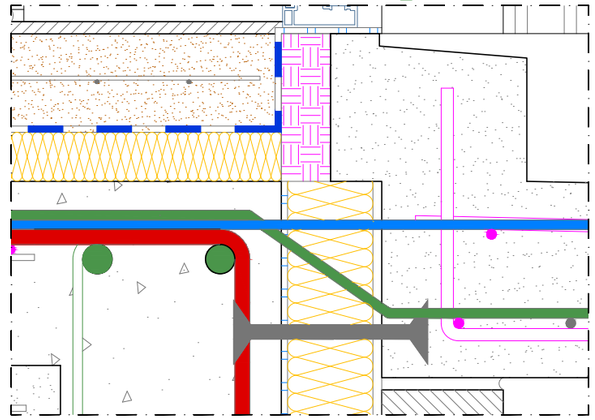


DETAIL 13: UNION WINDOW - RESTAURANT_S: 1/5

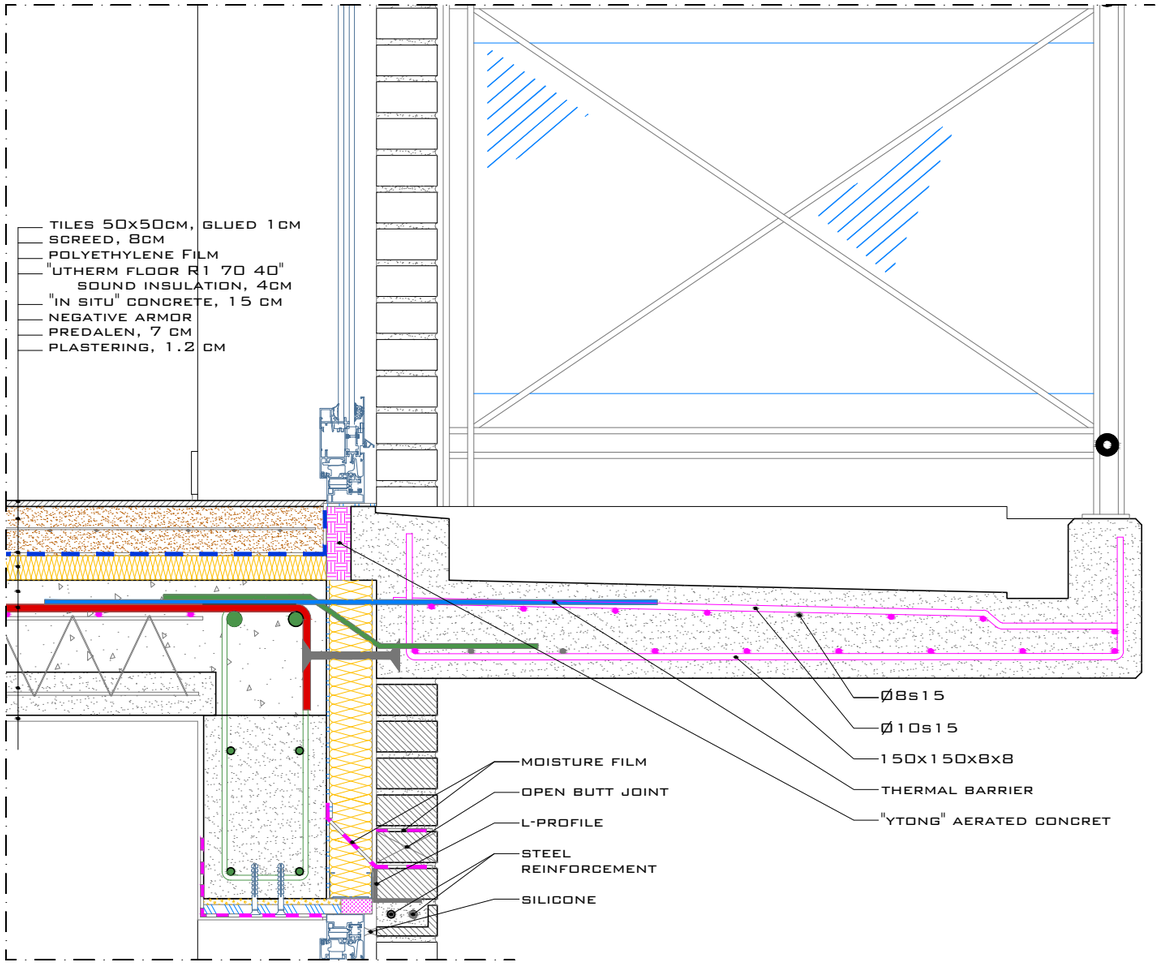


DETAIL 14: UNION BALCONY-FACADE _ S:1/5





DETAIL 14: UNION BALCONY-FACADE_S: 1/10



UNIVERSITAT POLITÈCNICA DE VALÈNCIA
ESCUELA TÉCNICA SUPERIOR INGENIERÍA DE EDIFICACIÓN
Jan De Nul Group
KAHO
KaHoSl. - Campus Dirk Martens,
Kwalestraat 154
9320 Aalst-Belgium
Academic schoolyear 2012-2013

PART 3-DETAILED DRAWINGS
PLAN Nº 7 / 7 : DETAIL 14-15, S:1/10,1/5

PLAN 13/28

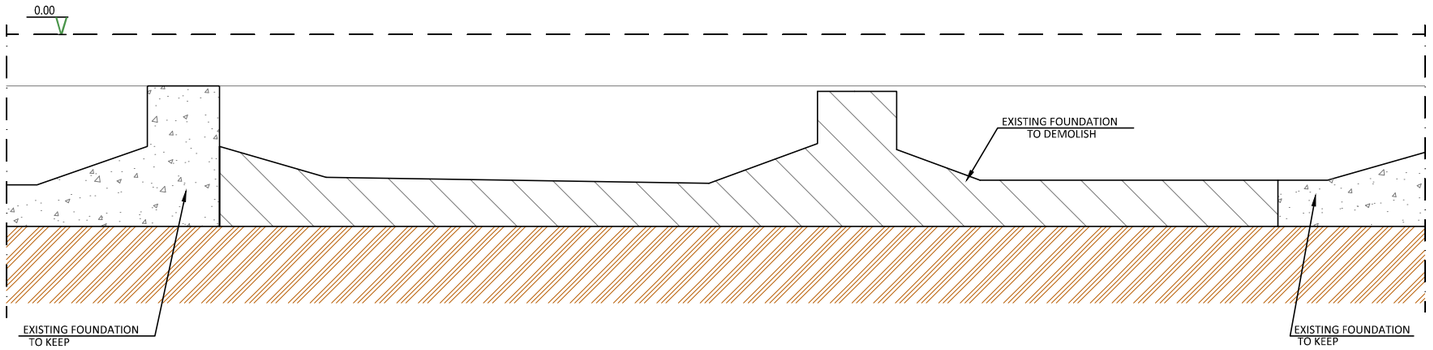
SUCH FUSTER,ANA - UNIVERSITAT POLITÈCNICA DE VALÈNCIA - KAHO SINT LIEVEN

BACHELOR FINAL PROJECT/EINDWERK-STAGE (LIVE IT)

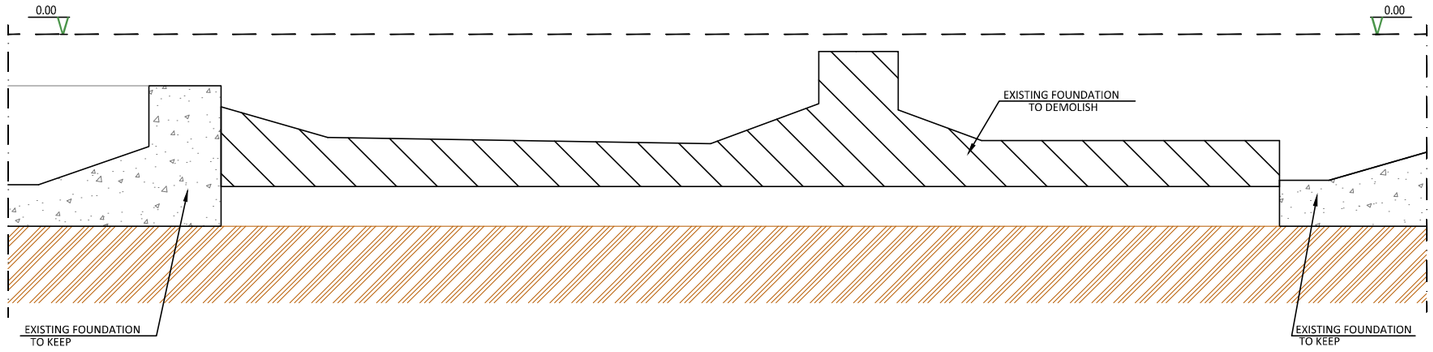
FINAL PROJECT PRESENTED AT:
KAHO SINT LIEVEN
OPLEIDING PROFESSIONELE BACHELOR BOUW.

PREVIOUS STEP: STARTING SITUATION

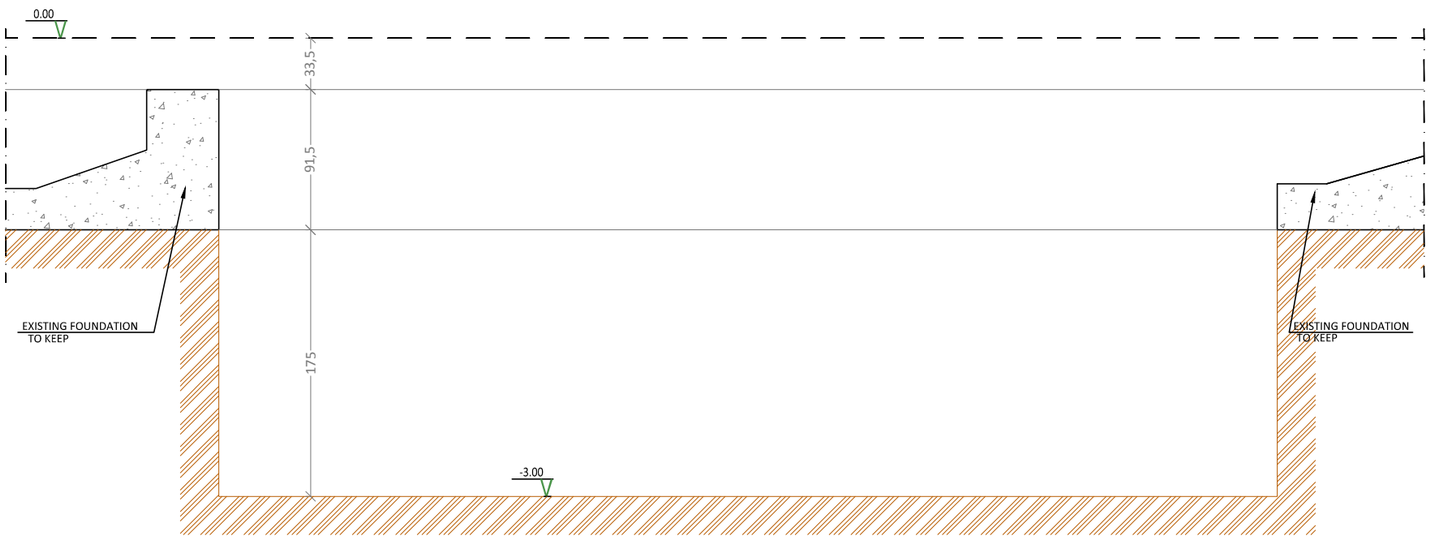
STEP 1: TAKE OUT THE WATER OF THE FOUNDATION+CLEANING FOUNDATIONS_S: 1/40



STEP 2: STAKEOUT AREA TO DEMOLISH AND DEMOLITION OF EXISTING FOUNDATION_S: 1/40

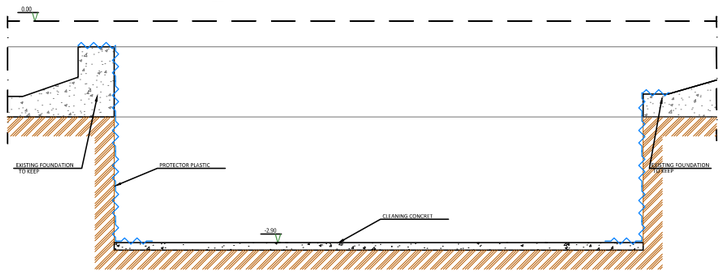


STEP 3: EXCAVATION UNTIL COTE -3,00 M / OTHER TWO LIFT-CASE COTE -1,90 M_S: 1/40



MACHINES

NEXT STEP: 4 _ S:1/80



UNIVERSITAT POLITÈCNICA DE VALÈNCIA

ESCUELA TÉCNICA SUPERIOR INGENIERÍA DE EDIFICACIÓN

Jan De Nul GROUP

KAHO

KaHoSl. - Campus Dirk Martens,
Kwalestraat 154
9320 Aalst-Belgium
Academic schoolyear 2012-2013

PART 4-TECHNICAL STUDY: FOUNDATIONS
PLAN Nº 1 / 14 : STEPS 1 - 2 - 3, E: 1/40

PLAN 14/28

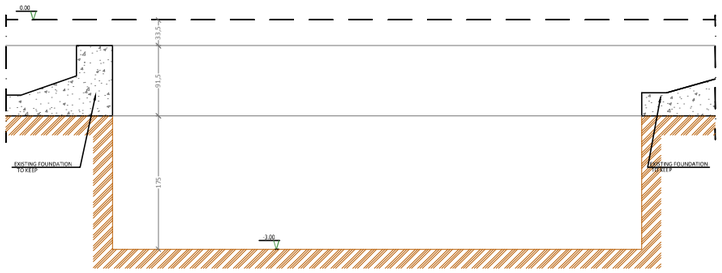
SUCH FUSTER, ANA - UNIVERSITAT POLITÈCNICA DE VALÈNCIA - KAHO SINT LIEVEN

BACHELOR FINAL PROJECT/EINDWERK-STAGE (LIVE IT)

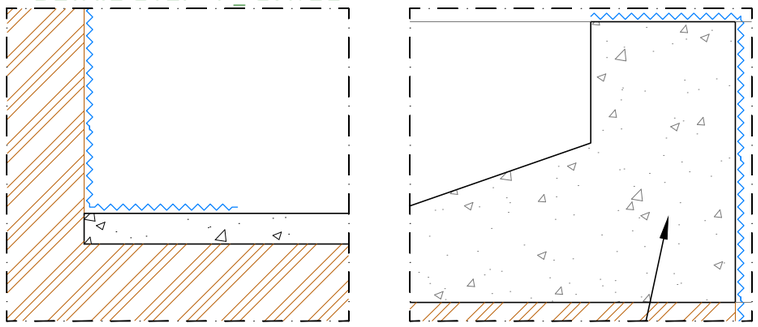
FINAL PROJECT PRESENTED AT:
KAHO SINT LIEVEN
OPLEIDING PROFESSIONELE BACHELOR BOUW.

SUCH FUSTER,ANA - UNIVERSITAT POLITÈCNICA DE VALÈNCIA - KAHO SINT LIEVEN

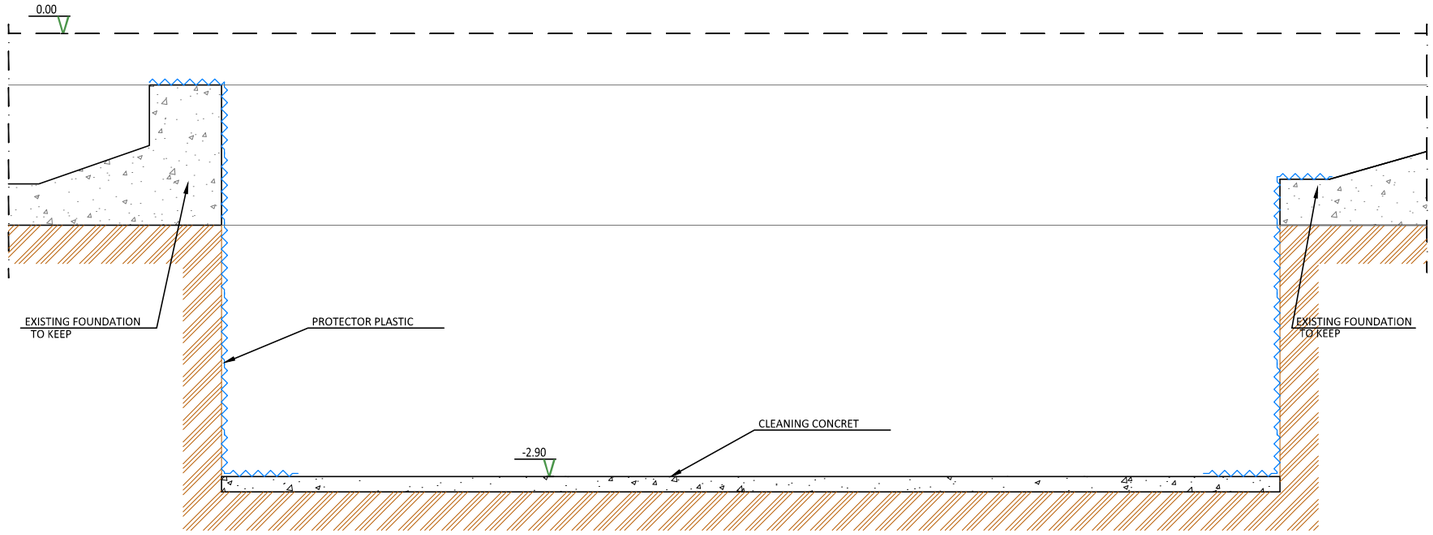
PREVIOUS: STEP 3 _ S:1/80



DETAIL STEP 4 _ S:1/20



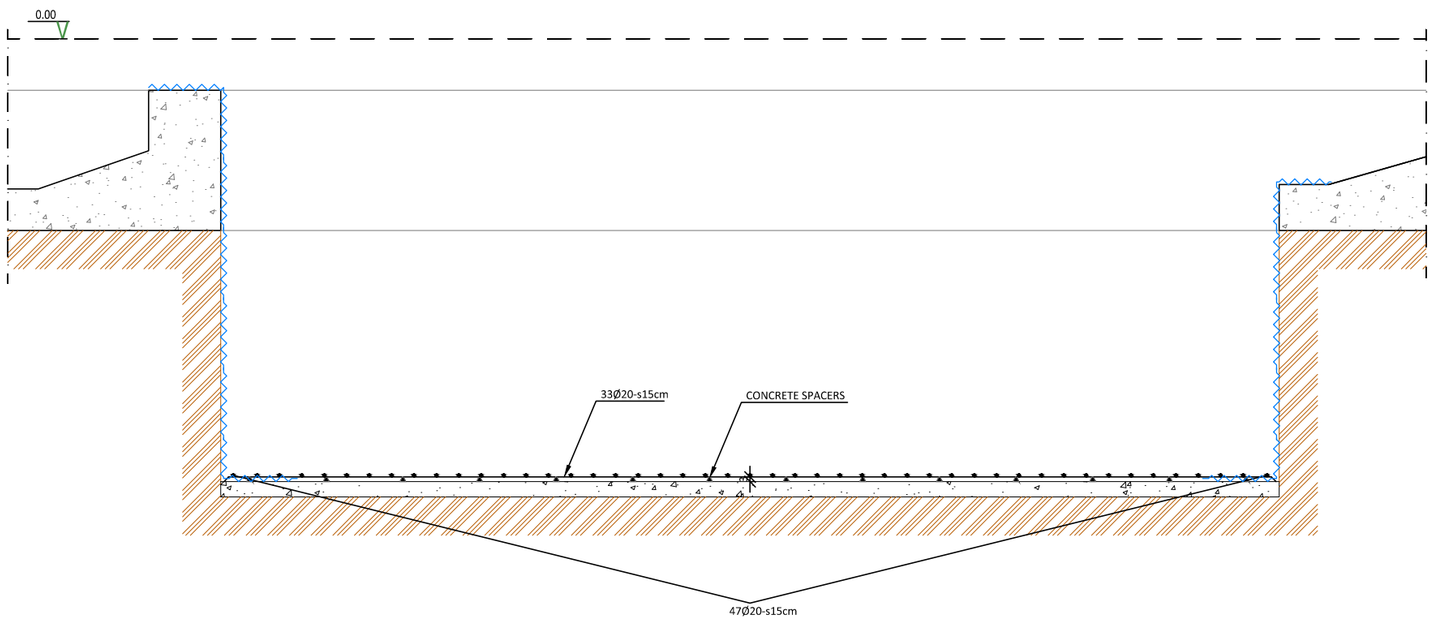
STEP 4: PUT THE CLEANING CONCRET (10 cm) + VERTICAL PLASTIC _ S:1/40



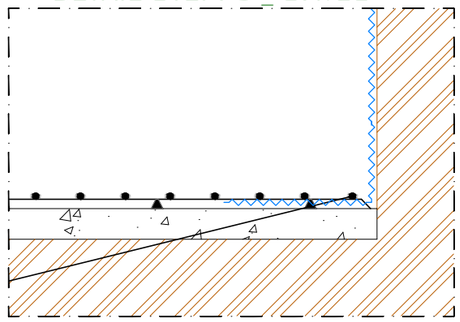
PROTECTOR PLASTIC: TO AVOID THE POSSIBLE LANDSLIDE WHILE THE CONCRETE IS BEING POURED.

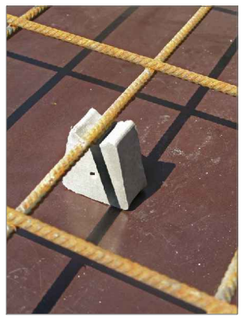
CLEANING CONCRET: TO GET A SMOOTH SURFACE WORK AND PROTECT THE STEEL AND THE CONCRET.

STEP 5 _ S:1/40

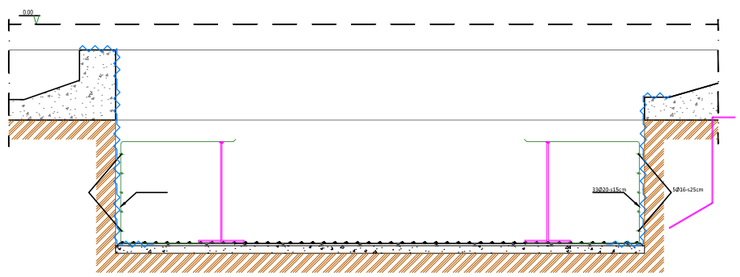


DETAIL STEP: 5 _ S:1/20





NEXT STEP: 6 _ S:1/80



UNIVERSITAT POLITÈCNICA DE VALÈNCIA
ESCUELA TÉCNICA SUPERIOR INGENIERÍA DE EDIFICACIÓN
Jan De Nul GROUP
KAHO
KaHoSl. - Campus Dirk Martens,
Kwalestraat 154
9320 Aalst-Belgium
Academic schoolyear 2012-2013

PART 4-TECHNICAL STUDY: FOUNDATIONS

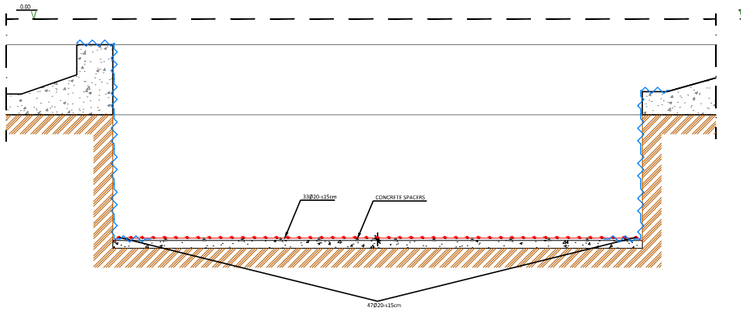
PLAN Nº 2 / 14 : STEPS 4 - 5, E: 1/40

PLAN 15/28

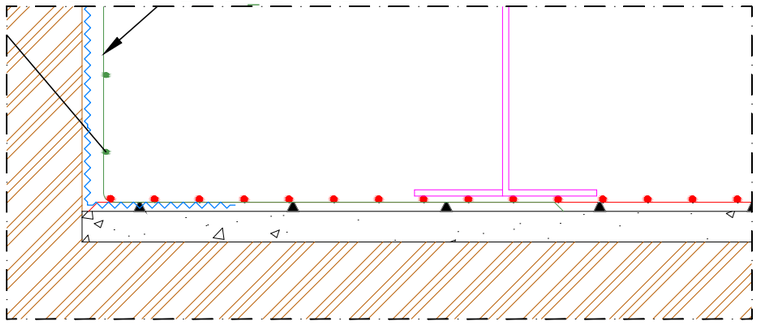
BACHELOR FINAL PROJECT/EINDWERK-STAGE (LIVE IT)

FINAL PROJECT PRESENTED AT:
KAHO SINT LIEVEN
OPLEIDING PROFESSIONELE BACHELOR BOUW.

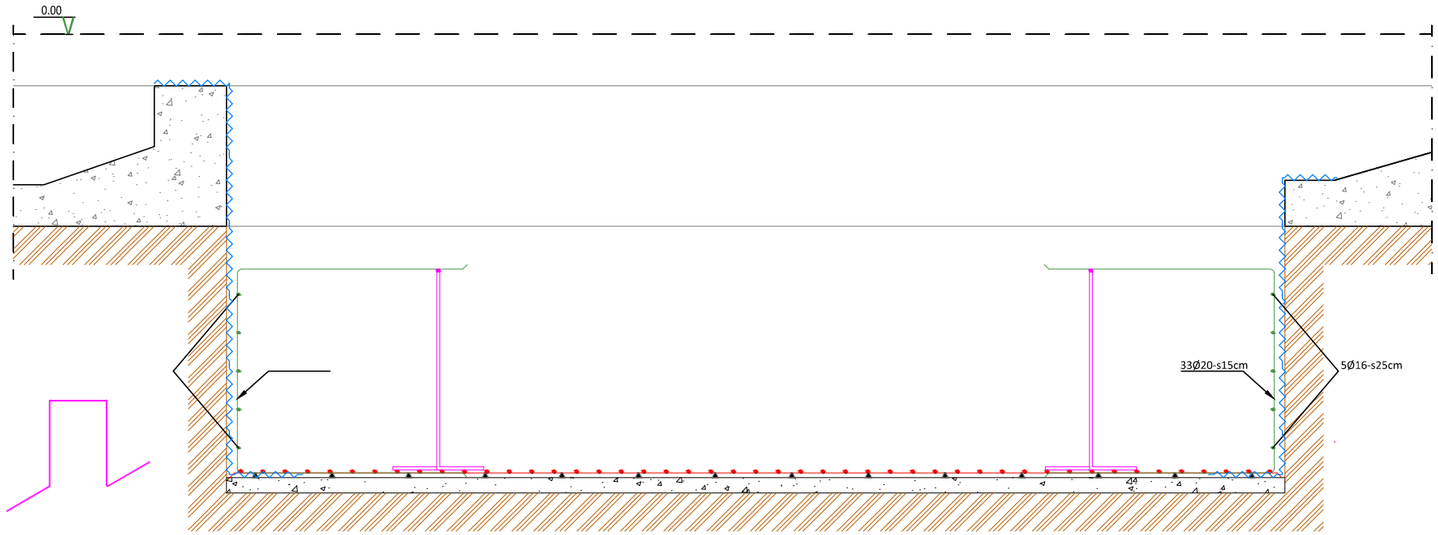
PREVIOUS: STEP 5 _ S:1/80



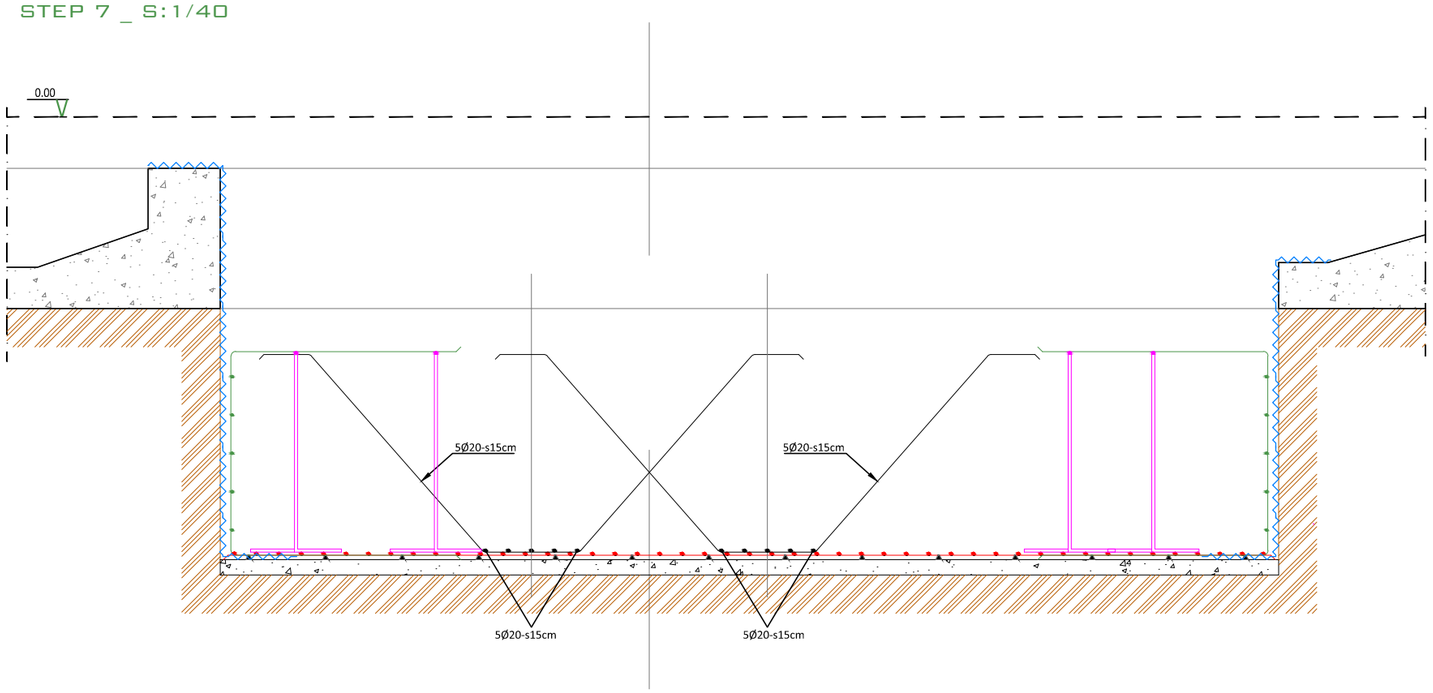
DETAIL STEP 6 _ S:1/20



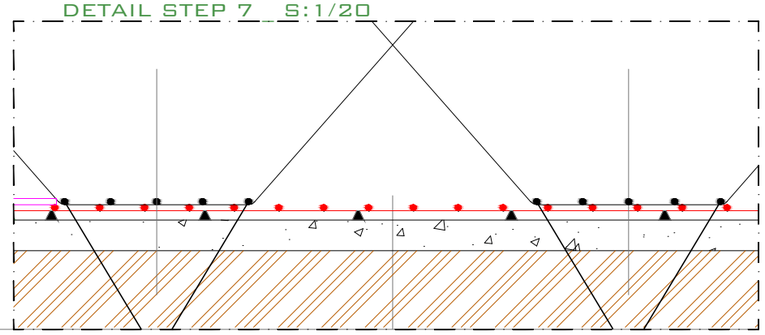
STEP 6 _ S:1/40



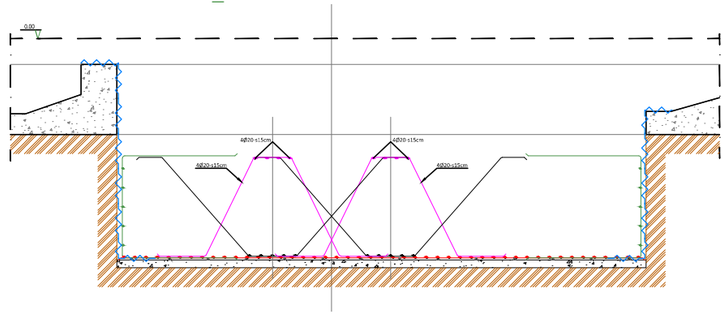
STEP 7 _ S:1/40



DETAIL STEP 7 _ S:1/20



NEXT: STEP 8 _ S:1/80



UNIVERSITAT POLITÈCNICA DE VALÈNCIA

ESCUELA TÉCNICA SUPERIOR INGENIERÍA DE EDIFICACIÓN

Jan De Nul GROUP

KAHO

KaHoSl. - Campus Dirk Martens,
Kwalestraat 154
9320 Aalst-Belgium
Academic schoolyear 2012-2013

PART 4-TECHNICAL STUDY: FOUNDATIONS
PLAN Nº 3 / 14 : STEPS 6 - 7, E: 1/40

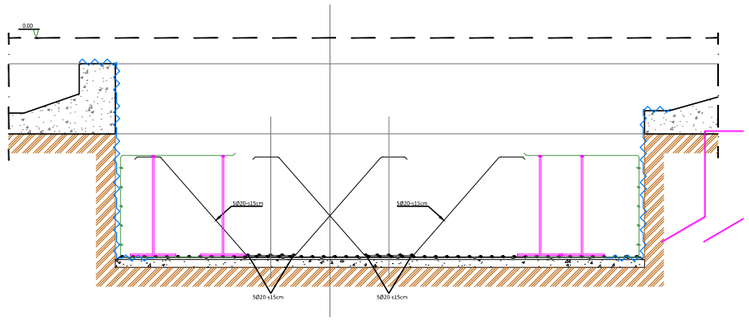
PLAN
16/28

SUCH FUSTER,ANA - UNIVERSITAT POLITÈCNICA DE VALÈNCIA - KAHO SINT LIEVEN

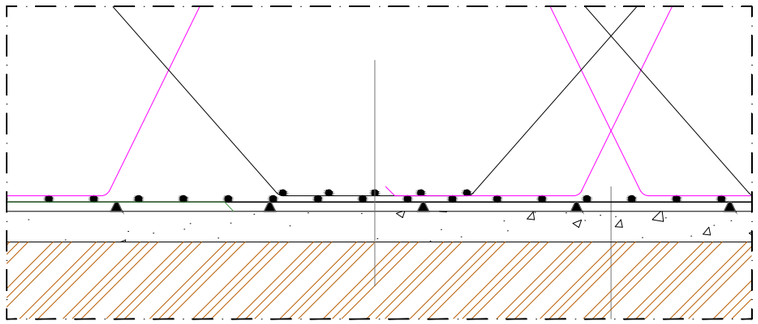
BACHELOR FINAL PROJECT/EINDWERK-STAGE (LIVE IT)

Final Project presented at:
KaHo Sint Lieven
Opleiding Professionele Bachelor BOUW.

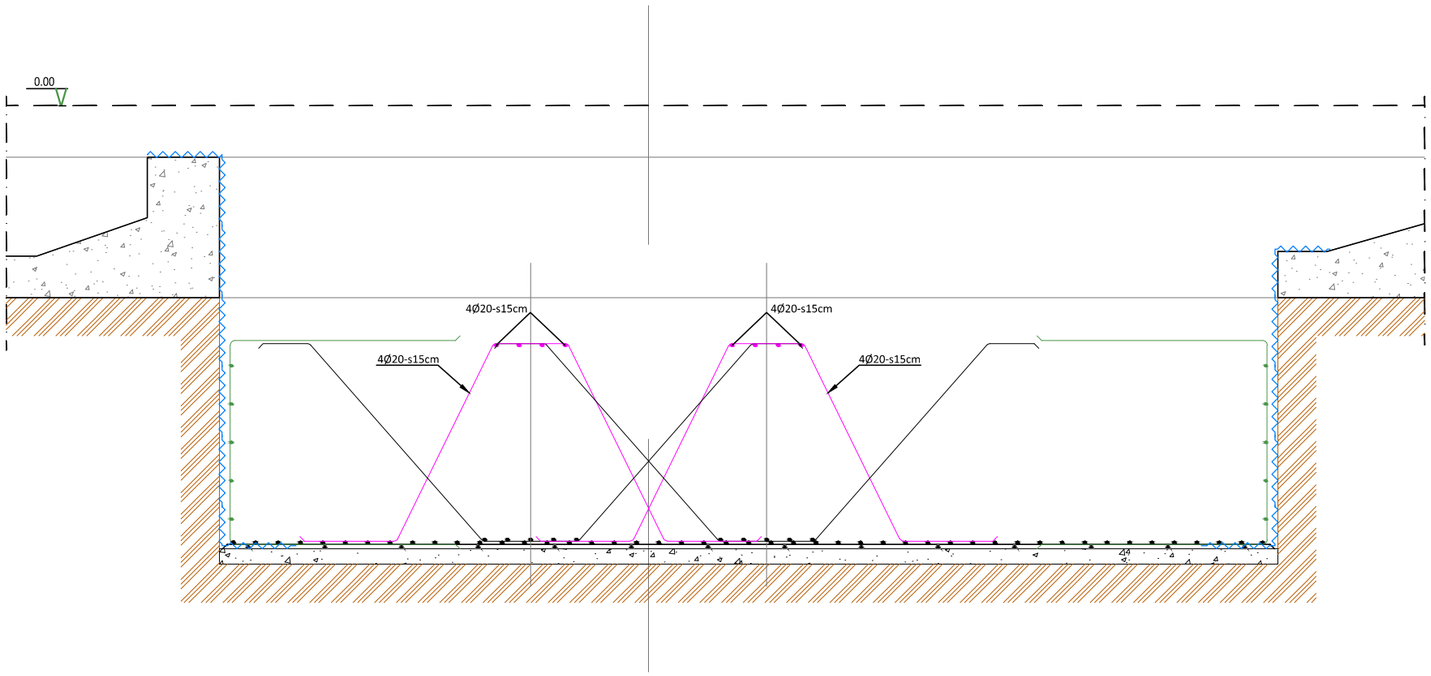
PREVIOUS STEP 7 _ S:1/80



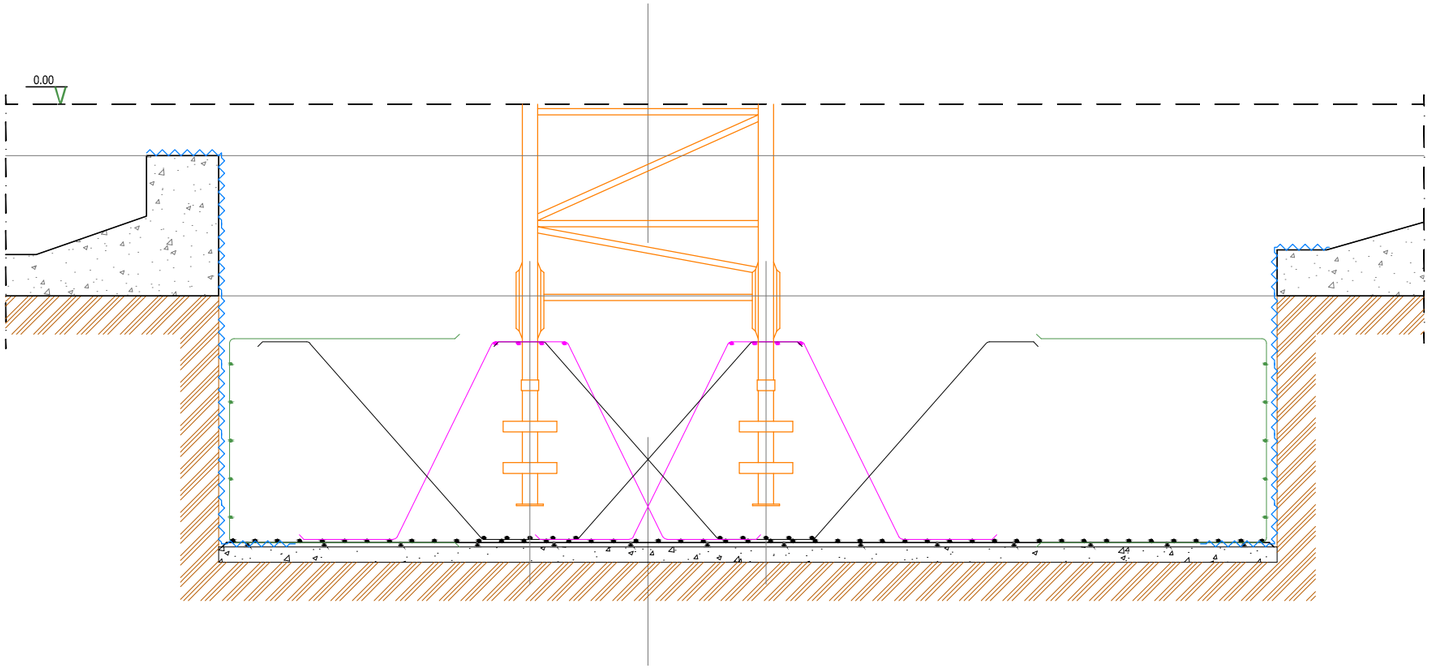
DETAIL STEP 8 _ S:1/20



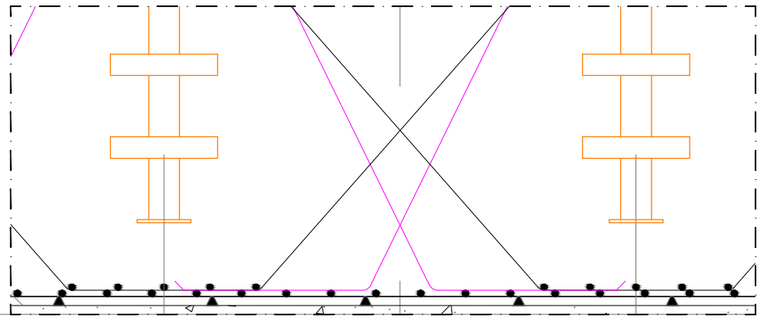
STEP 8: COLOCATE ARMOR Ø20S15 _ S:1/40



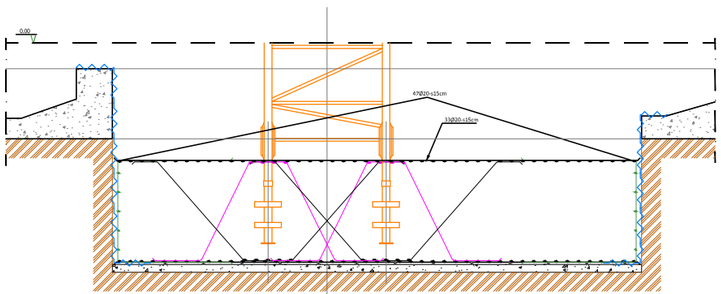
STEP 9: COLOCATE FIRS PARTO OF TOWER CRANE _ S:1/40



DETAIL STEP 9 _ S:1/20



NEXT STEP: 8 _ S:1/80



UNIVERSITAT POLITÈCNICA DE VALÈNCIA

ESCUELA TÉCNICA SUPERIOR INGENIERÍA DE EDIFICACIÓN

Jan De Nul Group

KAHO

KaHoSl. - Campus Dirk Martens,
Kwalestraat 154
9320 Aalst-Belgium
Academic schoolyear 2012-2013

PART 4-TECHNICAL STUDY: FOUNDATIONS
PLAN Nº 4 / 14 : STEPS 8 - 9, E: 1/40

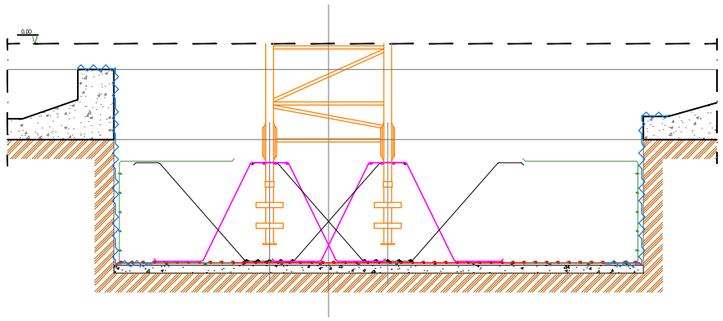
PLAN
17/28

SUCH FUSTER,ANA - UNIVERSITAT POLITÈCNICA DE VALÈNCIA - KAHO SINT LIEVEN

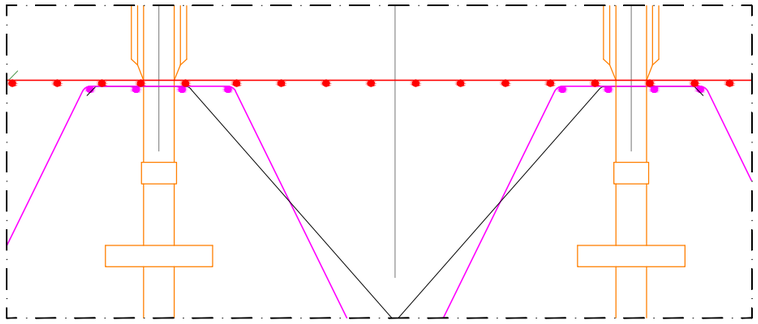
BACHELOR FINAL PROJECT/EINDWERK-STAGE (LIVE IT)

FINAL PROJECT PRESENTED AT:
KAHO SINT LIEVEN
OPLEIDING PROFESSIONELE BACHELOR BOUW.

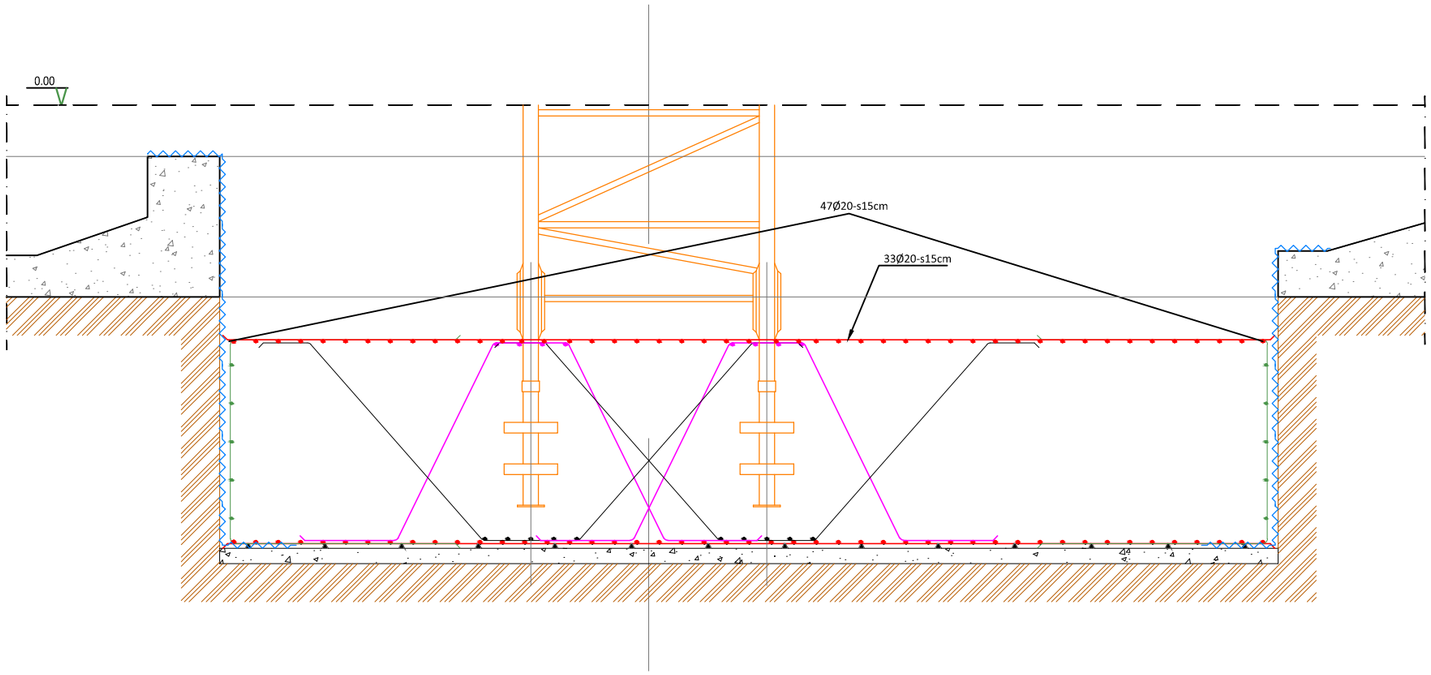
PREVIOUS STEP 9 _ S:1/80



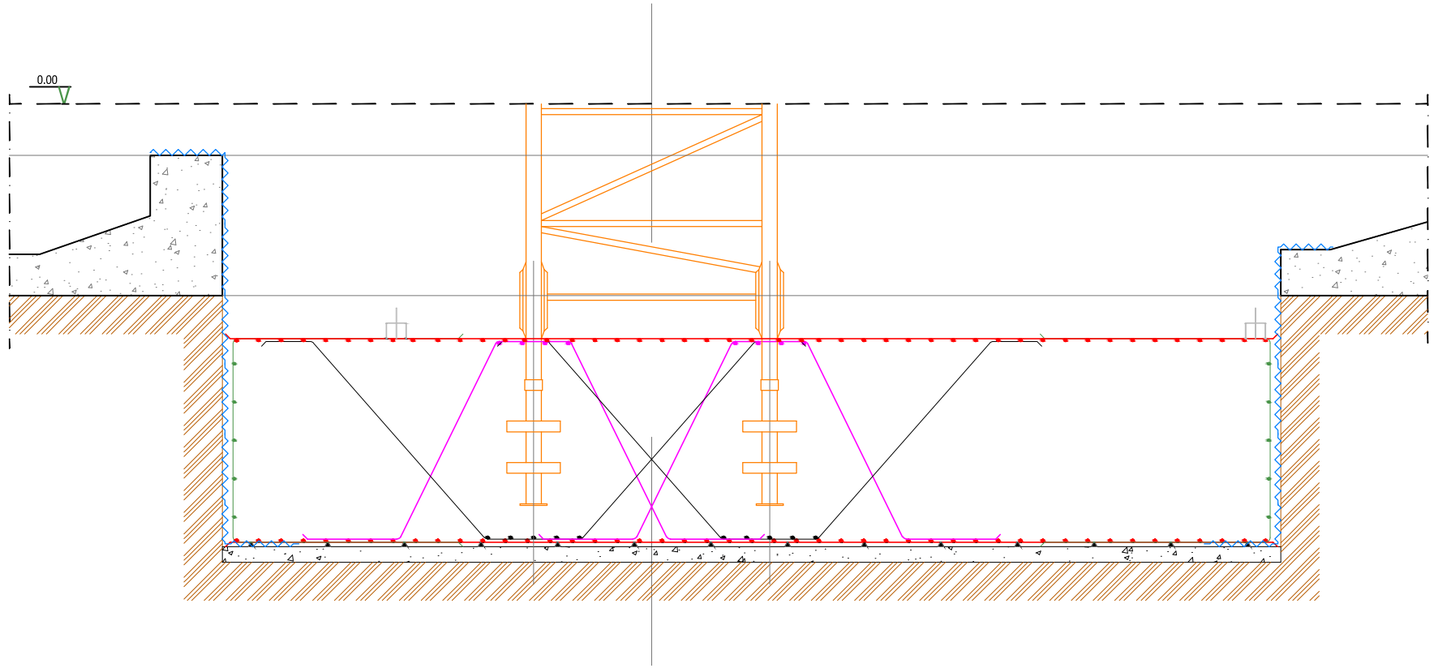
DETAIL STEP 10 _ S:1/20



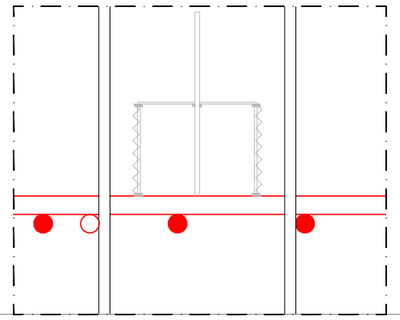
STEP 10: COLOCATE SUPERIOR ARMOR Ø20S15 _ S:1/40

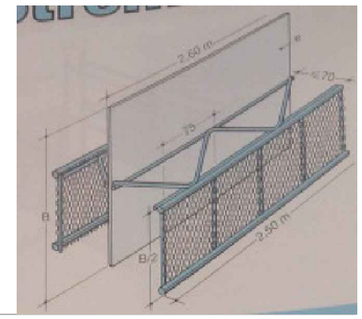


STEP 11: COLOCATE STREMAFORM _ S:1/40

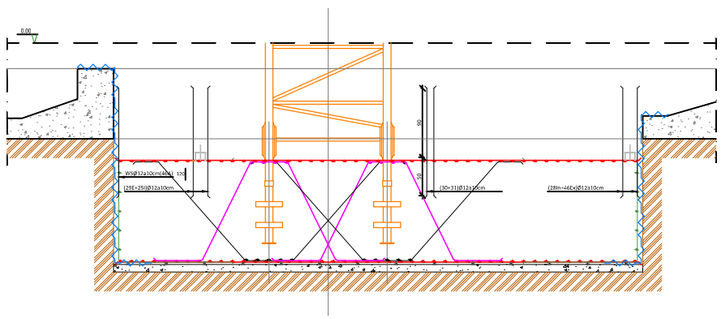


DETAIL STEP 11 _ S:1/20





NEXT STEP: 12 _ S:1/80



UNIVERSITAT POLITÈCNICA DE VALÈNCIA

ESCUELA TÉCNICA SUPERIOR INGENIERÍA DE EDIFICACIÓN

Jan De Nul GROUP

KAHO

KaHoSl. - Campus Dirk Martens,
Kwalestraat 154
9320 Aalst-Belgium
Academic schoolyear 2012-2013

PART 4-TECHNICAL STUDY: FOUNDATIONS
PLAN Nº 5 / 14 : STEPS 10 - 11, E: 1/40

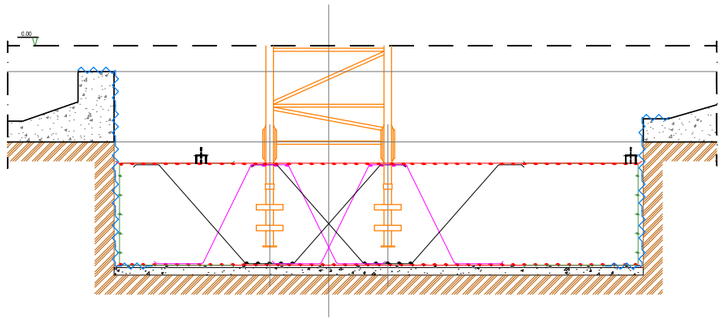
PLAN
18/28

SUCH FUSTER,ANA - UNIVERSITAT POLITÈCNICA DE VALÈNCIA - KAHO SINT LIEVEN

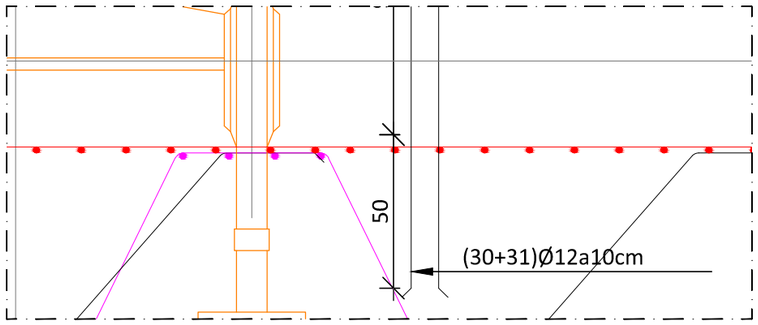
BACHELOR FINAL PROJECT/EINDWERK-STAGE (LIVE IT)

FINAL PROJECT PRESENTED AT:
KAHO SINT LIEVEN
OPLEIDING PROFESSIONELE BACHELOR BOUW.

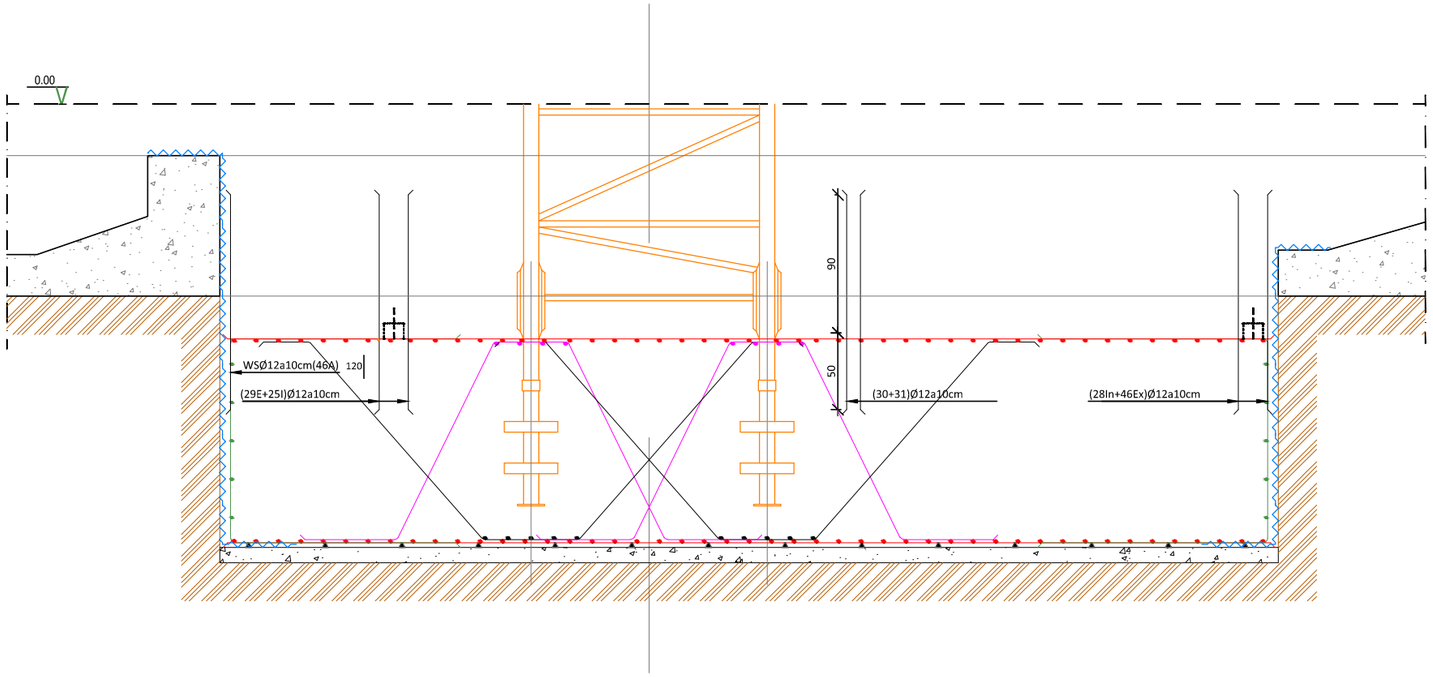
PREVIOUS STEP 11 _ S:1/80



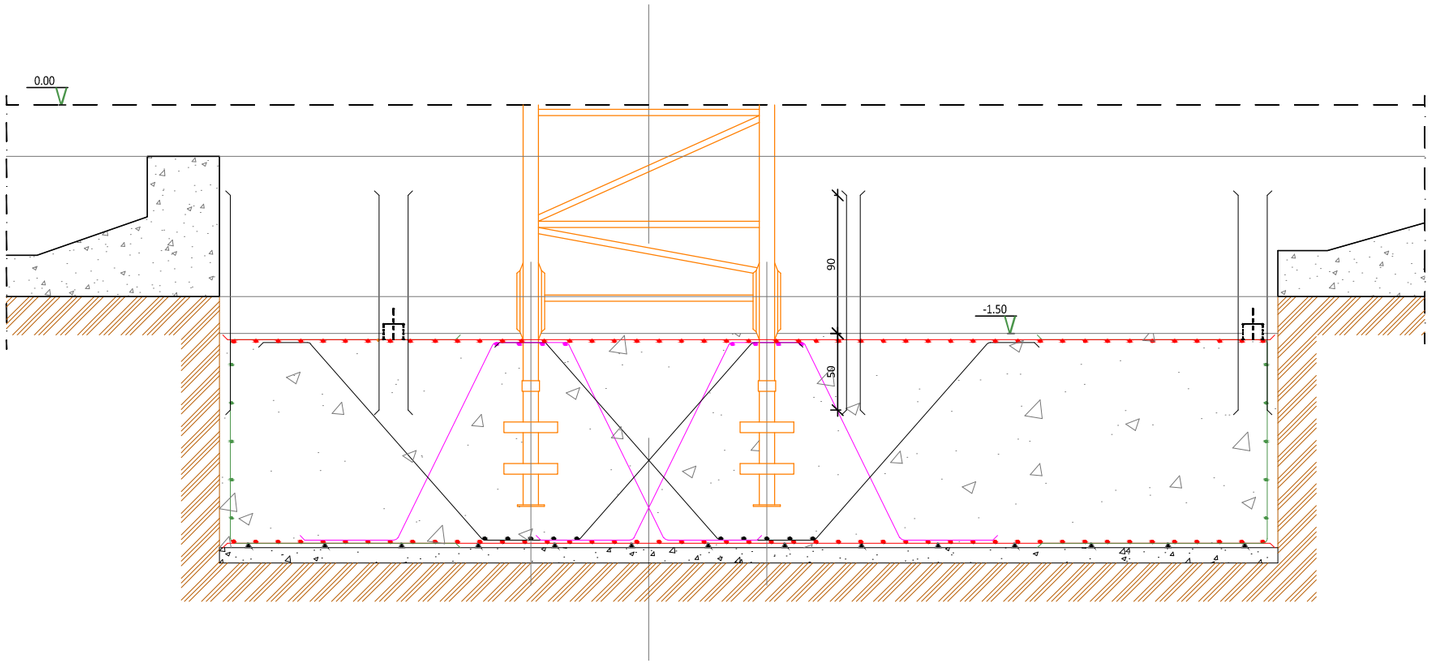
DETAIL STEP 12 _ S:1/20



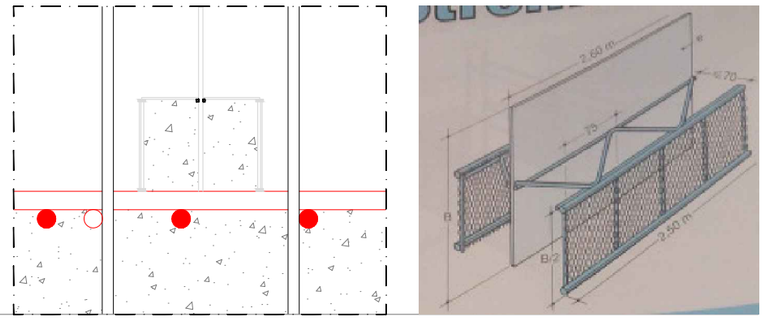
STEP 12: STEEL WORKING WALLS Ø12S10 _ S:1/40



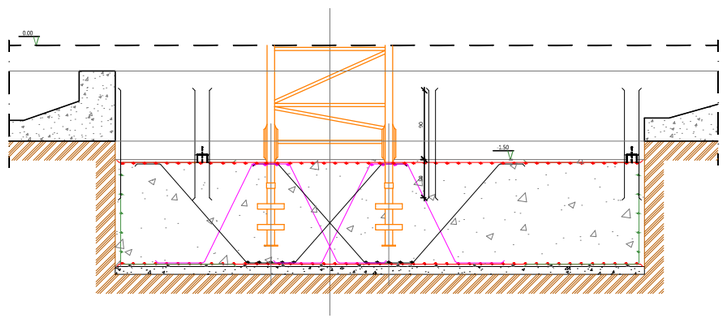
STEP 13: CONCRET WORKING _ S:1/40



DETAIL STEP 13 _ S:1/20



NEXT STEP: 14 _ S:1/80



UNIVERSITAT POLITÈCNICA DE VALÈNCIA
ESCUELA TÉCNICA SUPERIOR INGENIERÍA DE EDIFICACIÓN
Jan De Nul Group
KAHO
KaHoSl. - Campus Dirk Martens,
Kwalestraat 154
9320 Aalst-Belgium
Academic schoolyear 2012-2013

PART 4-TECHNICAL STUDY: FOUNDATIONS
PLAN Nº 6 / 14 : STEPS 12 - 13, E: 1/40

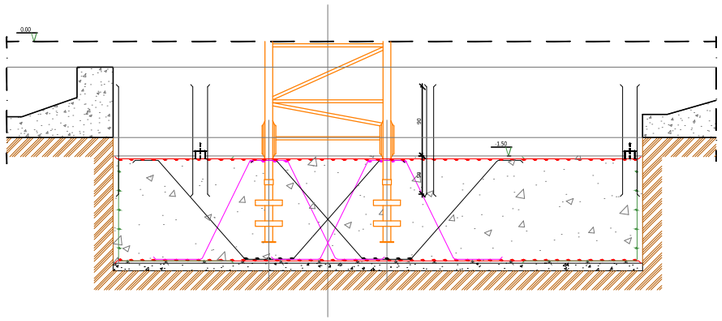
PLAN 19/28

SUCH FUSTER,ANA - UNIVERSITAT POLITÈCNICA DE VALÈNCIA - KAHO SINT LIEVEN

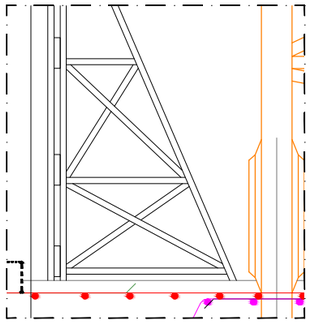
BACHELOR FINAL PROJECT/EINDWERK-STAGE (LIVE IT)

FINAL PROJECT PRESENTED AT:
KAHO SINT LIEVEN
OPLEIDING PROFESSIONELE BACHELOR BOUW.

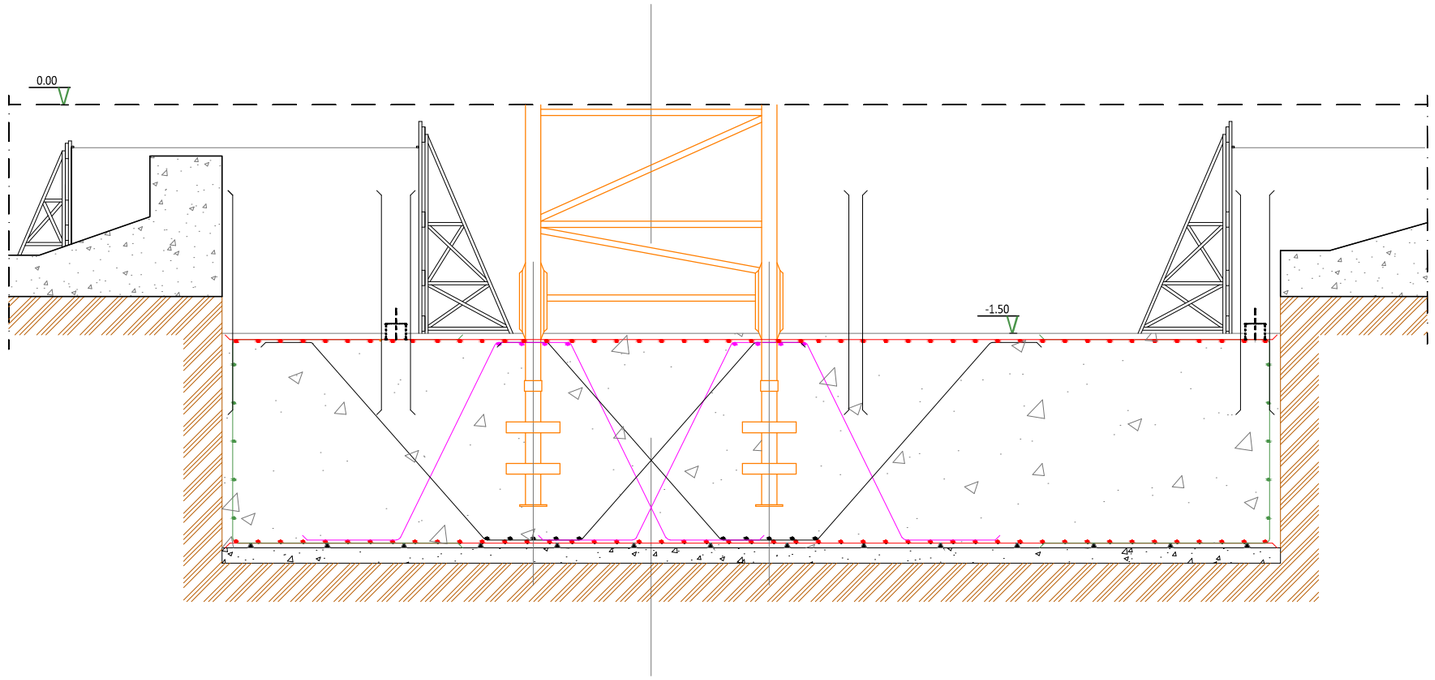
PREVIOUS STEP 13 _ S:1/80



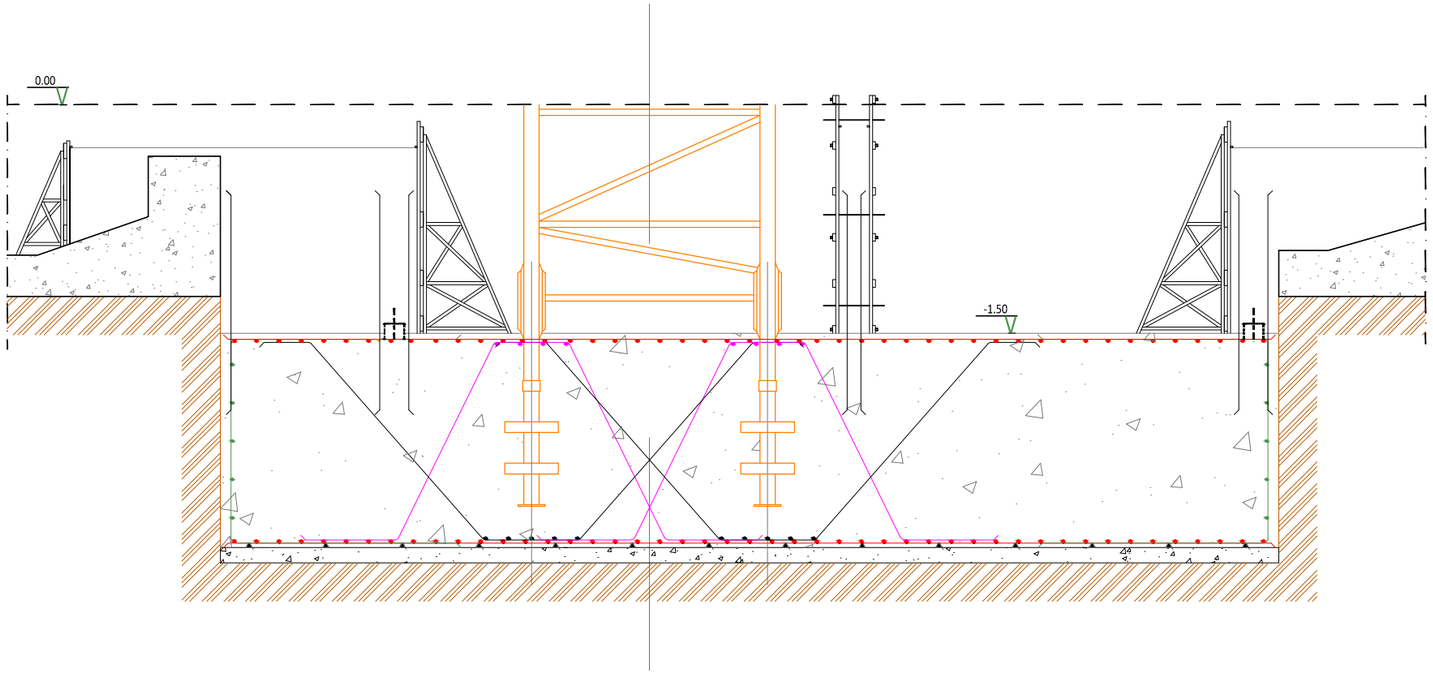
DETAIL STEP 14 _ S:1/20



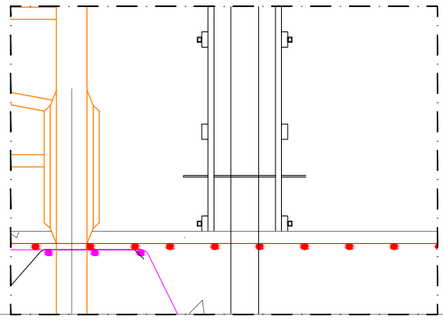
STEP 14: FORMWORK ADITTIONAL FOUNDATION(ONE SIDE) _ S:1/40



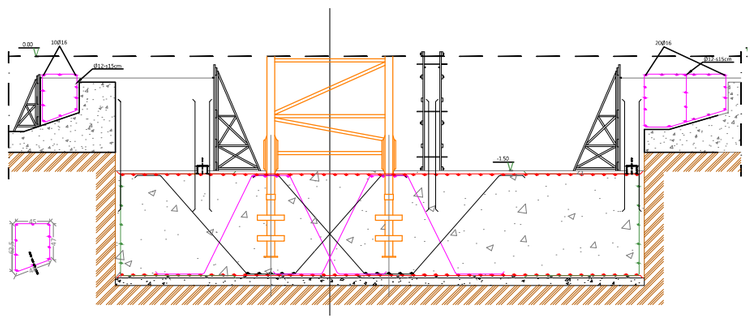
STEP 15: FORMWORK WALLS (TWO SIDES) _ S:1/40



DETAIL STEP 15 _ S:1/20



NEXT STEP: 16 _ S:1/80



UNIVERSITAT POLITÈCNICA DE VALÈNCIA

ESCUELA TÉCNICA SUPERIOR INGENIERÍA DE EDIFICACIÓN

Jan De Nul GROUP

KAHO

KaHoSl. - Campus Dirk Martens,
Kwalestraat 154
9320 Aalst-Belgium
Academic schoolyear 2012-2013

PART 4-TECHNICAL STUDY: FOUNDATIONS
PLAN Nº 7 / 14 : STEPS 14 - 15, E: 1/40

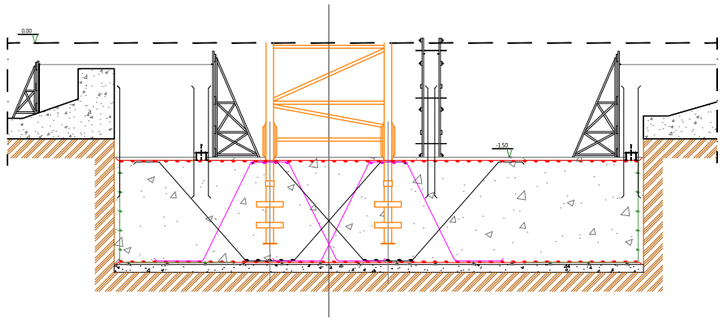
PLAN
20/28

SUCH FUSTER,ANA - UNIVERSITAT POLITÈCNICA DE VALÈNCIA - KAHO SINT LIEVEN

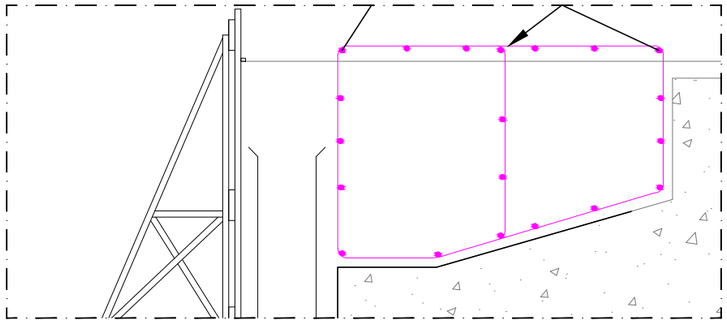
BACHELOR FINAL PROJECT/EINDWERK-STAGE (LIVE IT)

FINAL PROJECT PRESENTED AT:
KAHO SINT LIEVEN
OPLEIDING PROFESSIONELE BACHELOR BOUW.

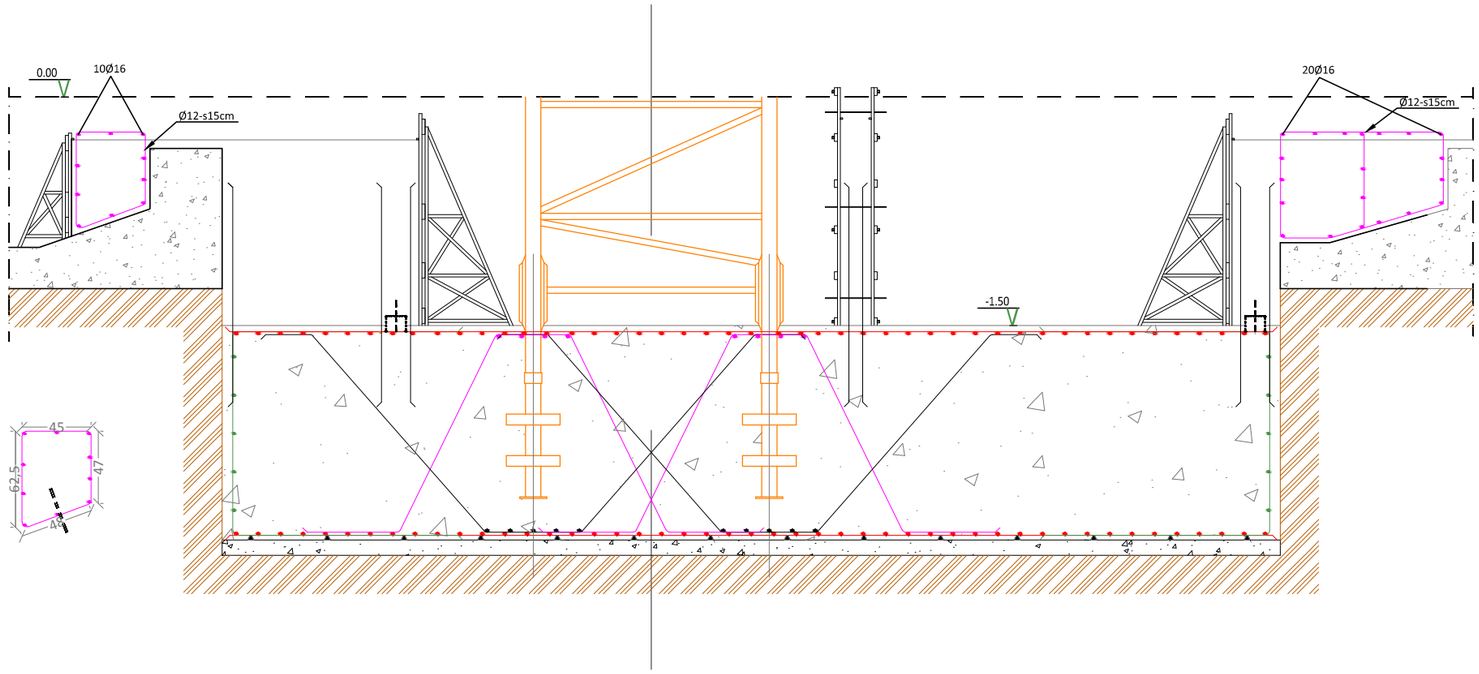
PREVIOUS STEP 15_ S:1/80



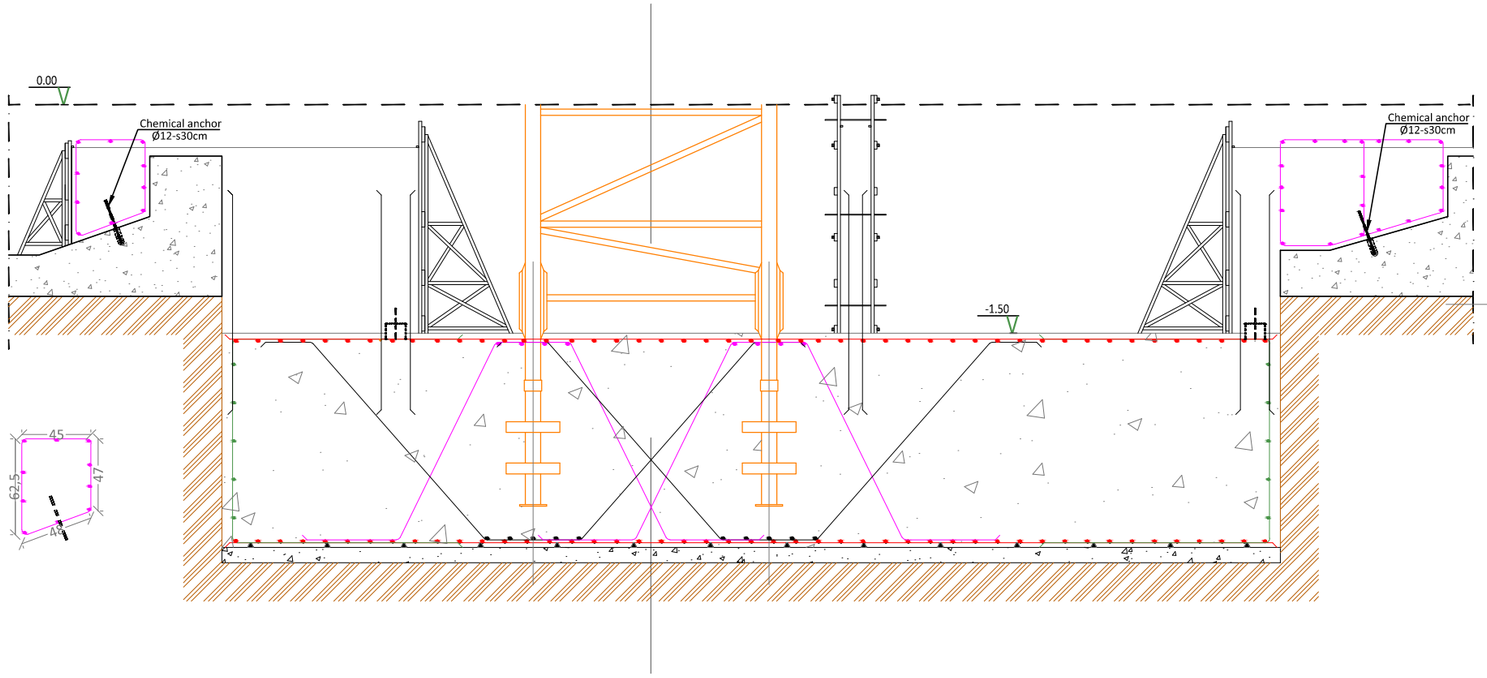
DETAIL STEP 16 _ S:1/20



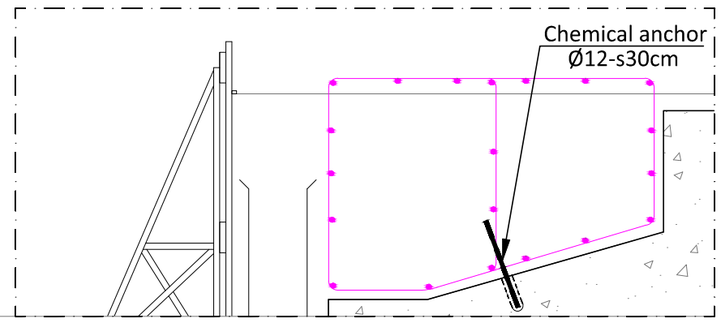
STEP 16:STEEL WORKING REFORCE,Ø16+Ø12S15 _ S:1/40



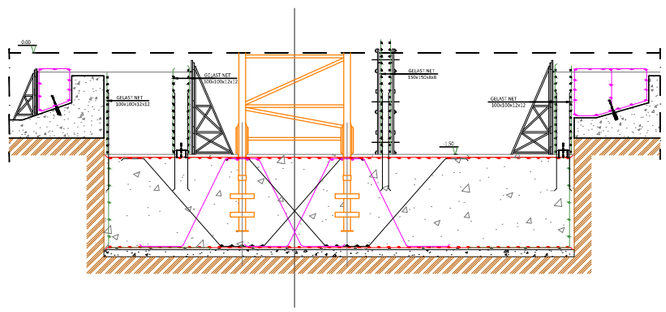
STEP 17: QUEMICAL ANCHOR, Ø12S30 _ S:1/40



DETAIL STEP 17 _ S:1/20



NEXT STEP: 18 _ S:1/90



UNIVERSITAT POLITÈCNICA DE VALÈNCIA

ESCUELA TÉCNICA SUPERIOR INGENIERÍA DE EDIFICACIÓN

Jan De Nul GROUP

KAHO

KaHoSl. - Campus Dirk Martens,
Kwalestraat 154
9320 Aalst-Belgium
Academic schoolyear 2012-2013

PART 4-TECHNICAL STUDY: FOUNDATIONS
PLAN Nº 8 / 14 : STEPS 16 - 17, E: 1/40

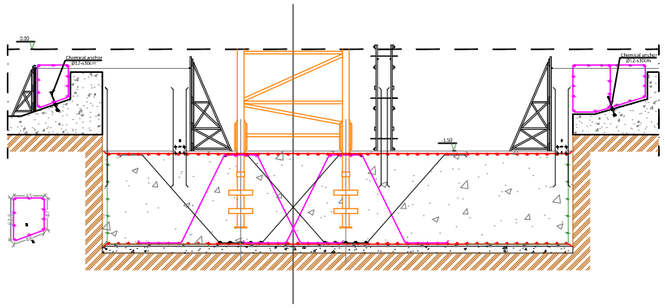
PLAN
21/28

SUCH FUSTER,ANA - UNIVERSITAT POLITÈCNICA DE VALÈNCIA - KAHO SINT LIEVEN

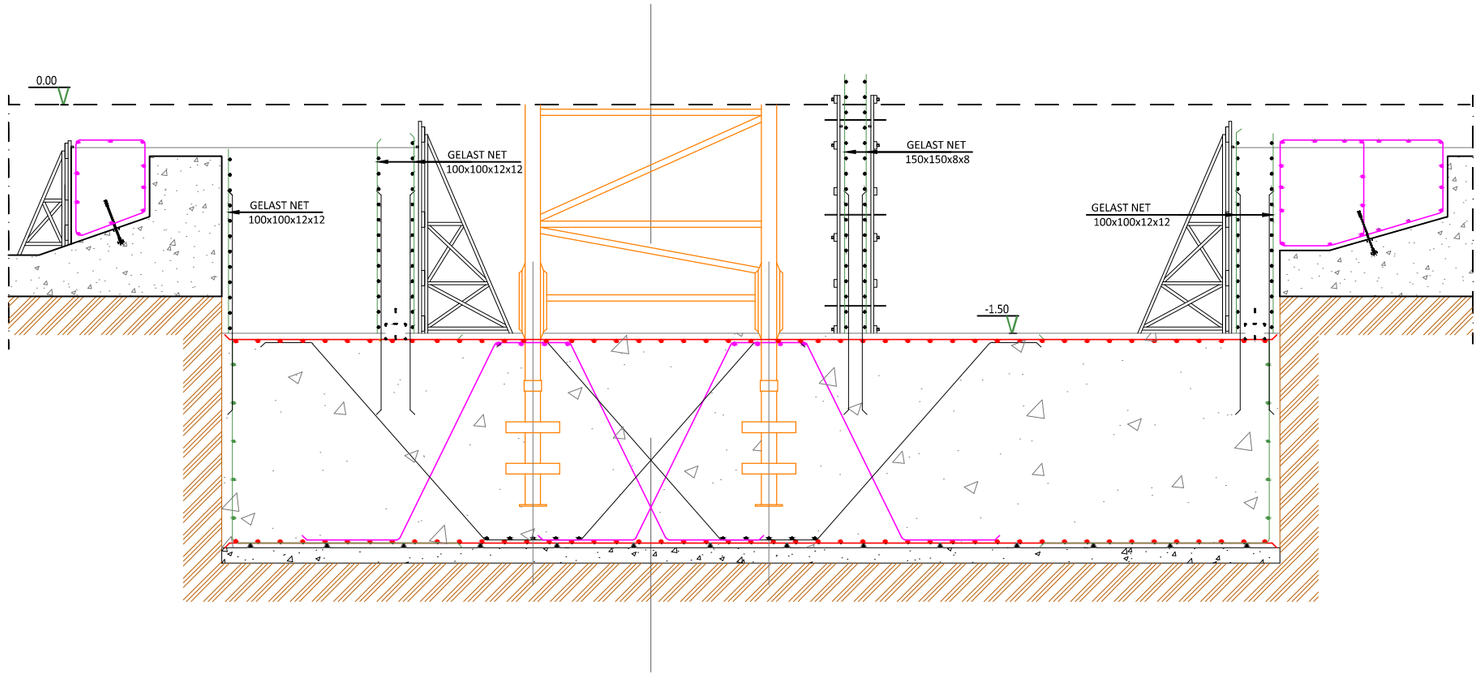
BACHELOR FINAL PROJECT/EINDWERK-STAGE (LIVE IT)

FINAL PROJECT PRESENTED AT:
KAHO SINT LIEVEN
OPLEIDING PROFESSIONELE BACHELOR BOUW.

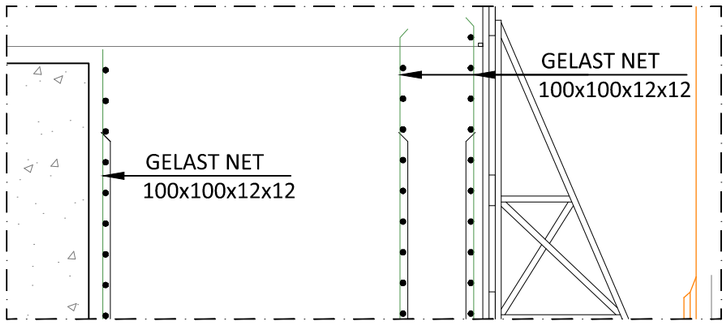
PREVIOUS STEP 17_ S:1/90



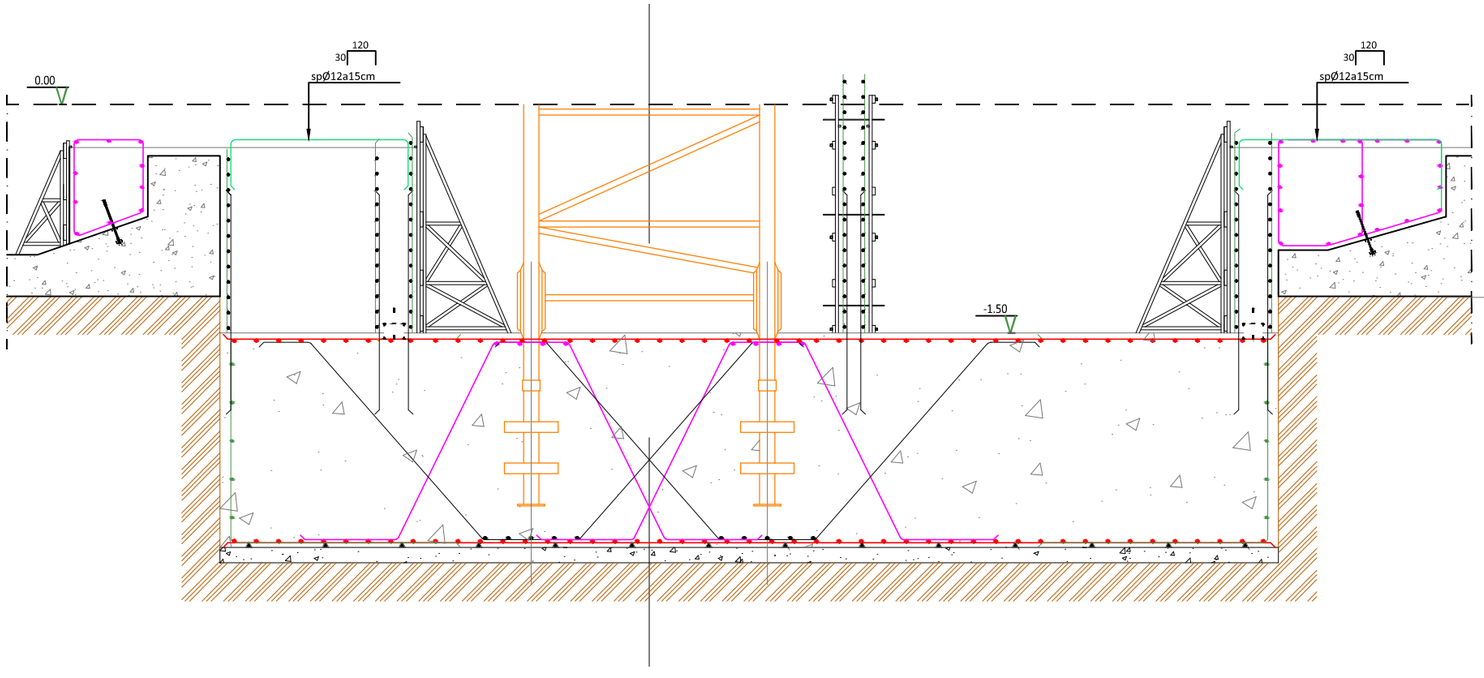
STEP 18:STEEL WORKING WALLS, 150x150,8x8 _ S:1/40



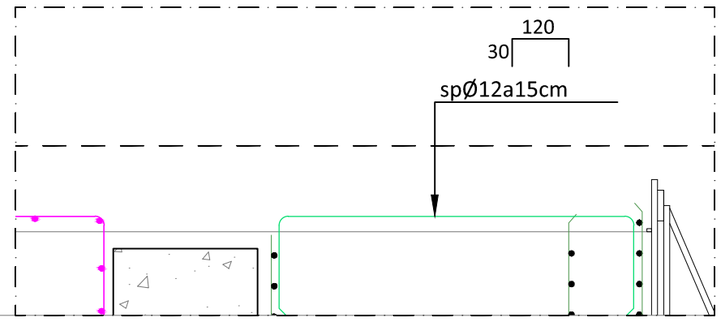
DETAIL STEP 18 _ S:1/20



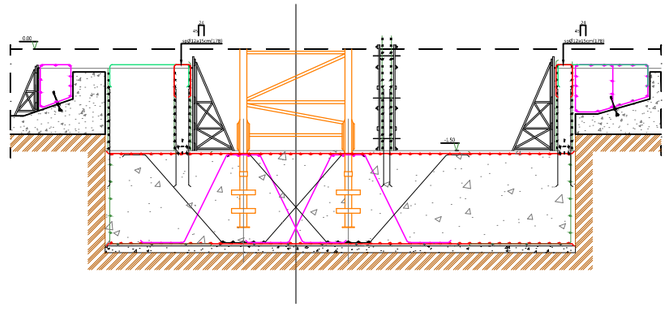
STEP 19: STEEL WORKING, Ø12S15 _ S:1/40



DETAIL STEP 19 _ S:1/20



NEXT STEP: 20 _ S:1/90



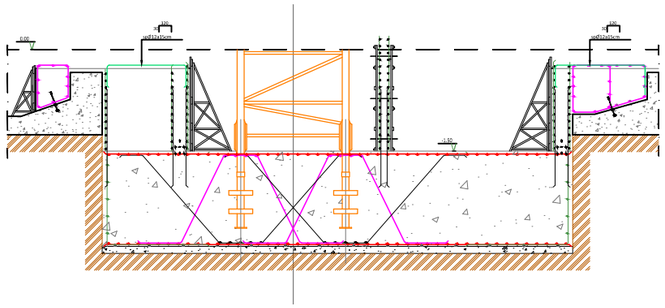
UNIVERSITAT POLITÈCNICA DE VALÈNCIA
ESCUELA TÉCNICA SUPERIOR INGENIERÍA DE EDIFICACIÓN
Jan De Nul GROUP
KAHO
KaHoSl. - Campus Dirk Martens,
Kwalestraat 154
9320 Aalst-Belgium
Academic schoolyear 2012-2013

PART 4-TECHNICAL STUDY: FOUNDATIONS
PLAN Nº 9 / 14 : STEPS 18 - 19, E: 1/40

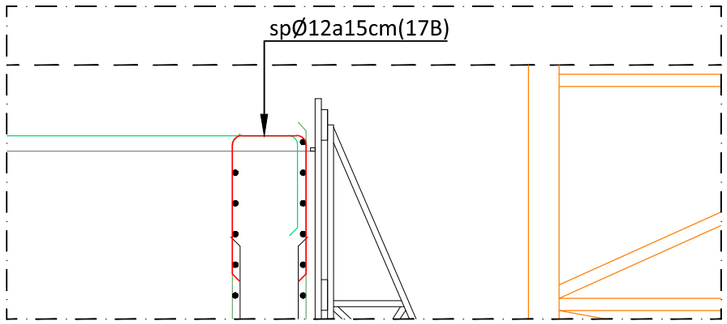
BACHELOR FINAL PROJECT/EINDWERK-STAGE (LIVE IT)

FINAL PROJECT PRESENTED AT:
KAHO SINT LIEVEN
OPLEIDING PROFESSIONELE BACHELOR BOUW.

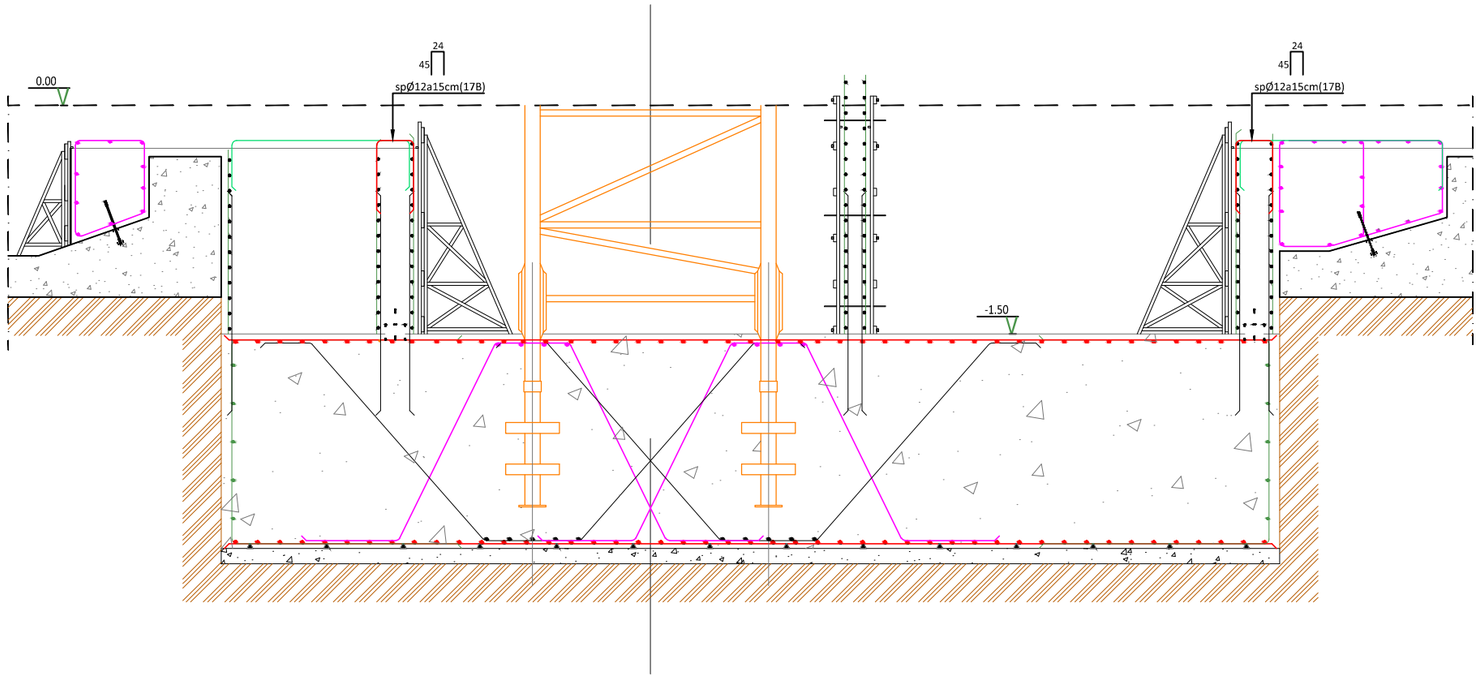
PREVIOUS STEP 19_ S:1/90



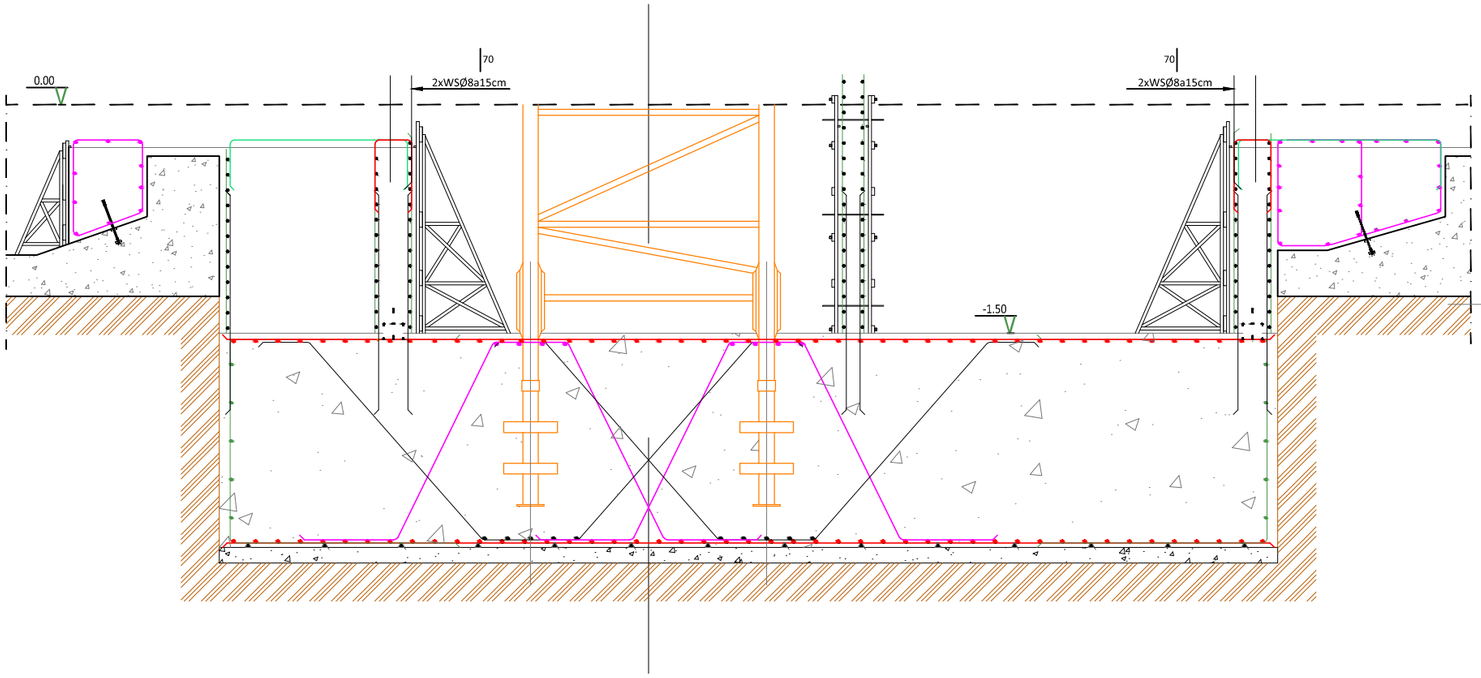
DETAIL STEP 18 _ S:1/20



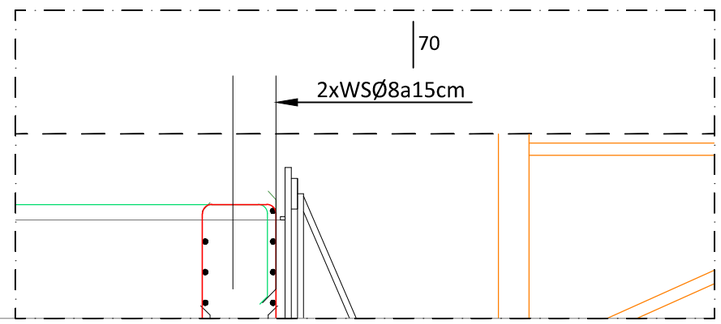
STEP 20:STEEL WORKING WALLS, Ø12s15 _ S:1/40



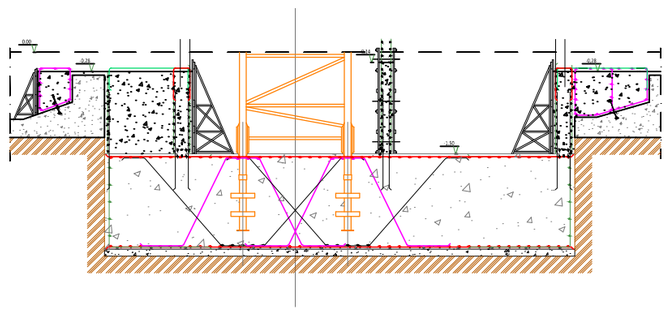
STEP 21: STEEL WORKING CONECCTION WALLS, Ø8S15 _ S:1/40



DETAIL STEP 21 _ S:1/20



NEXT STEP: 22 _ S:1/90



UNIVERSITAT POLITÈCNICA DE VALÈNCIA

ESCUELA TÉCNICA SUPERIOR INGENIERÍA DE EDIFICACIÓN

Jan De Nul GROUP

KAHO

KaHoSl. - Campus Dirk Martens,
Kwalestraat 154
9320 Aalst-Belgium
Academic schoolyear 2012-2013

PART 4-TECHNICAL STUDY: FOUNDATIONS
PLAN Nº 10 / 14 : STEPS 20 - 21, E: 1/40

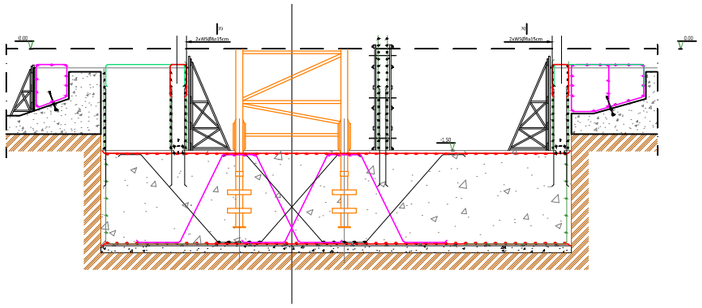
PLAN
23/28

SUCH FUSTER,ANA - UNIVERSITAT POLITÈCNICA DE VALÈNCIA - KAHO SINT LIEVEN

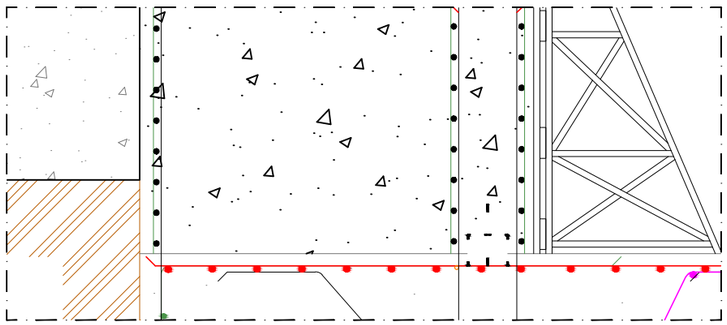
BACHELOR FINAL PROJECT/EINDWERK-STAGE (LIVE IT)

FINAL PROJECT PRESENTED AT:
KAHO SINT LIEVEN
OPLEIDING PROFESSIONELE BACHELOR BOUW.

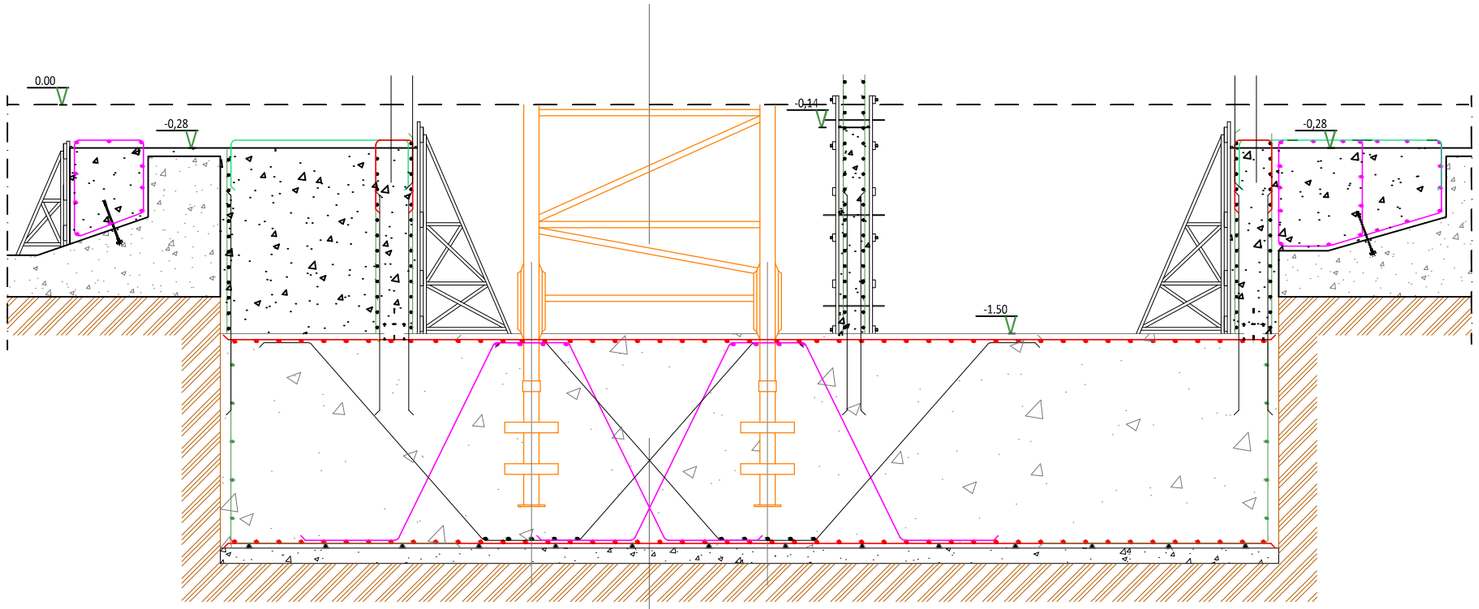
PREVIOUS STEP 21_ S:1/90



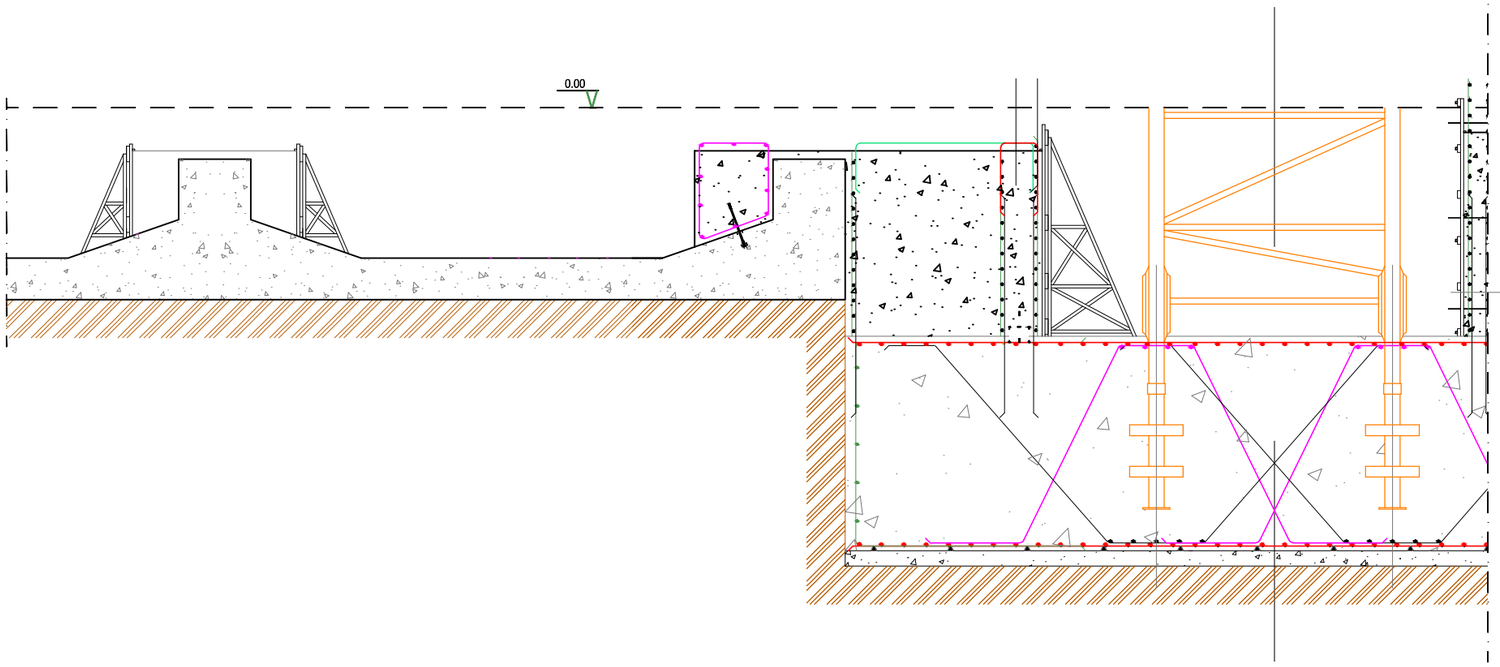
DETAIL STEP 22 _ S:1/20



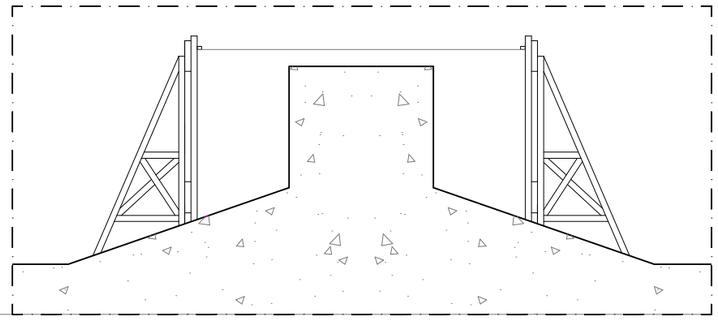
STEP 22:CONCRET WORKING (-0´28M) _ S:1/40



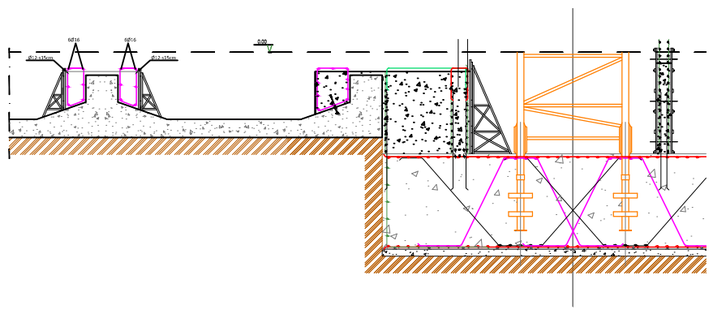
STEP 23: FORMWORK ZONE OTHER WALLS-COLUMNS _ S:1/40



DETAIL STEP 23 _ S:1/20



NEXT STEP: 24 _ S:1/90



UNIVERSITAT POLITÈCNICA DE VALÈNCIA
ESCUELA TÉCNICA SUPERIOR INGENIERÍA DE EDIFICACIÓN
Jan De Nul GROUP
KAHO
KaHoSl. - Campus Dirk Martens,
Kwalestraat 154
9320 Aalst-Belgium
Academic schoolyear 2012-2013

PART 4-TECHNICAL STUDY: FOUNDATIONS

PLAN Nº 11 / 14 : STEPS 22 - 23, E: 1/40

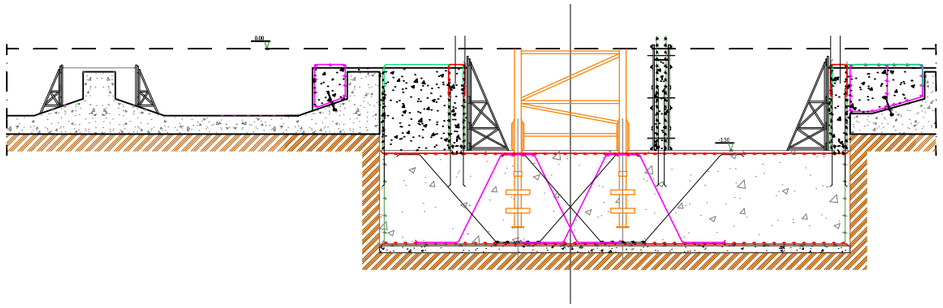
PLAN 24/28

SUCH FUSTER,ANA - UNIVERSITAT POLITÈCNICA DE VALÈNCIA - KAHO SINT LIEVEN

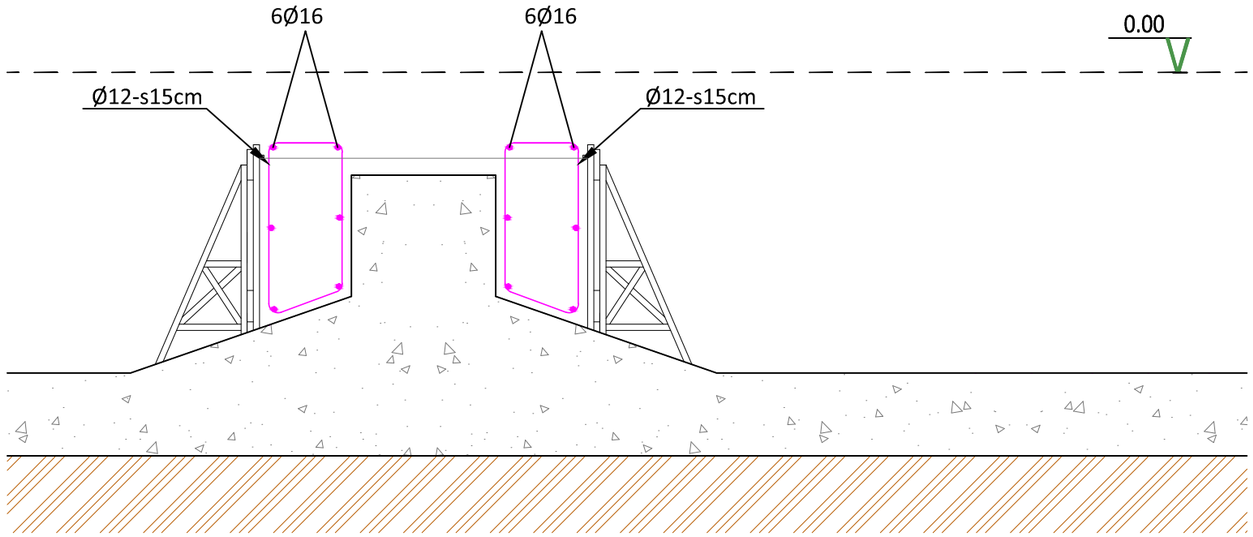
BACHELOR FINAL PROJECT/EINDWERK-STAGE (LIVE IT)

FINAL PROJECT PRESENTED AT:
KAHO SINT LIEVEN
OPLEIDING PROFESSIONELE BACHELOR BOUW.

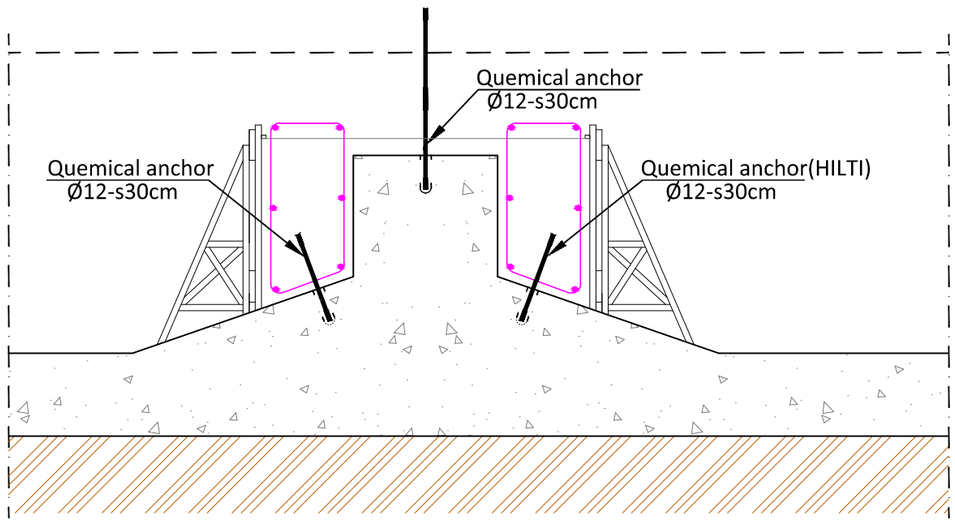
PREVIOUS STEP 23_ S:1/90



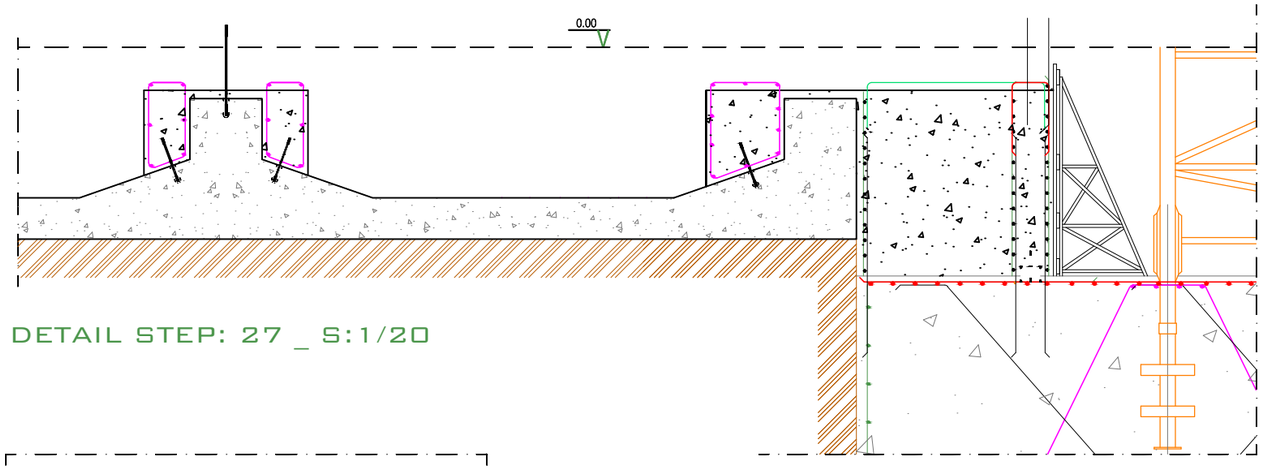
STEP 24:STEEL WORKING Ø16+Ø12S15 _ S:1/20



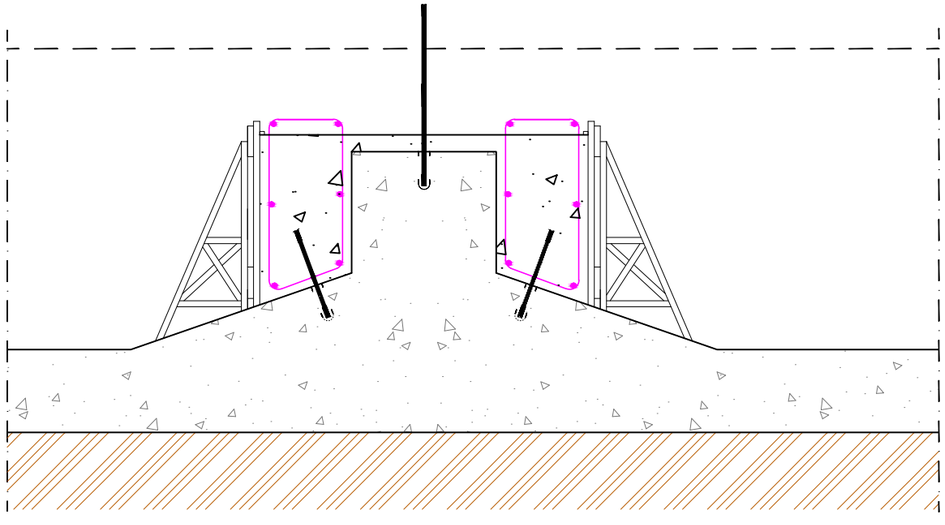
STEP 25: QUEMICAL ANCHOR, Ø12S30



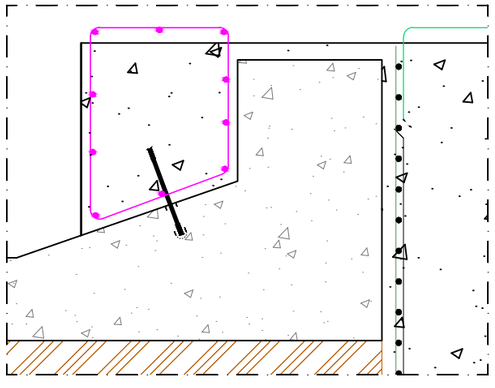
STEP 27 _REMOVE FORMWORK S:1/40



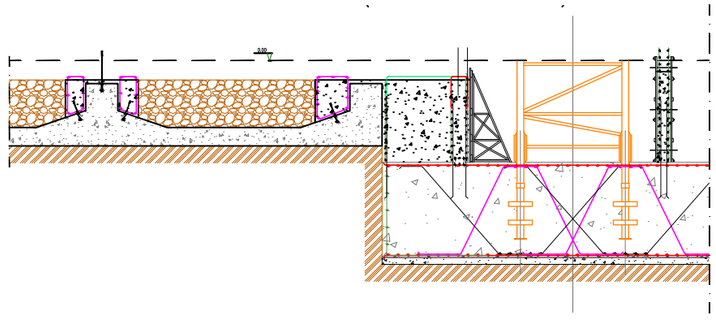
STEP 26: CONCRET WORKING



DETAIL STEP: 27 _ S:1/20



NEXT STEP: 28 _ S:1/90



SUCH FUSTER,ANA - UNIVERSITAT POLITÈCNICA DE VALÈNCIA - KAHO SINT LIEVEN

UNIVERSITAT POLITÈCNICA DE VALÈNCIA

ESCUELA TÉCNICA SUPERIOR INGENIERÍA DE EDIFICACIÓN

Jan De Nul GROUP

KAHO

KaHoSl. - Campus Dirk Martens,
Kwalestraat 154
9320 Aalst-Belgium
Academic schoolyear 2012-2013

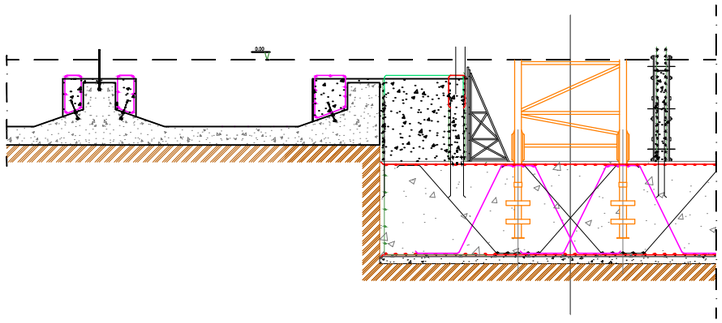
PART 4-TECHNICAL STUDY: FOUNDATIONS
PLAN Nº 12 / 14 : STEPS 24-25-26-27, E: 1/40

PLAN
25/28

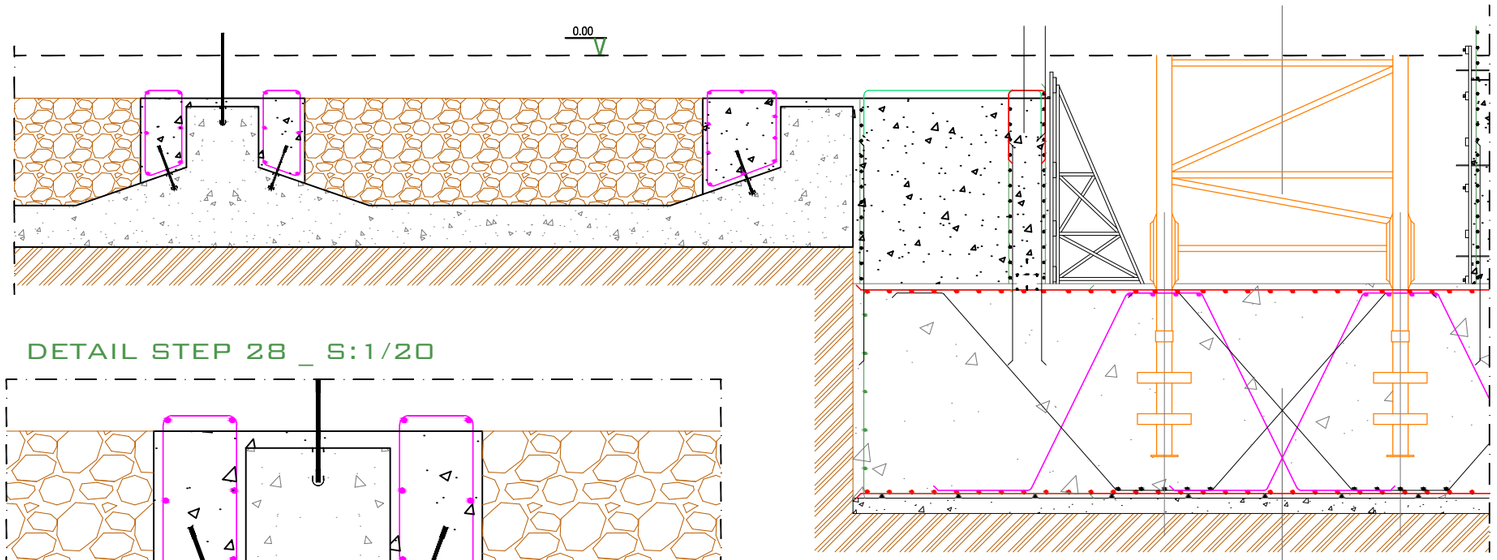
BACHELOR FINAL PROJECT/EINDWERK-STAGE (LIVE IT)

FINAL PROJECT PRESENTED AT:
KAHO SINT LIEVEN
OPLEIDING PROFESSIONELE BACHELOR BOUW.

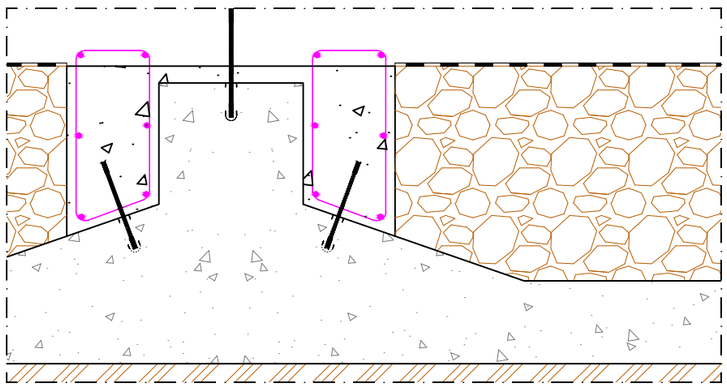
PREVIOUS STEP 27_ S:1/90



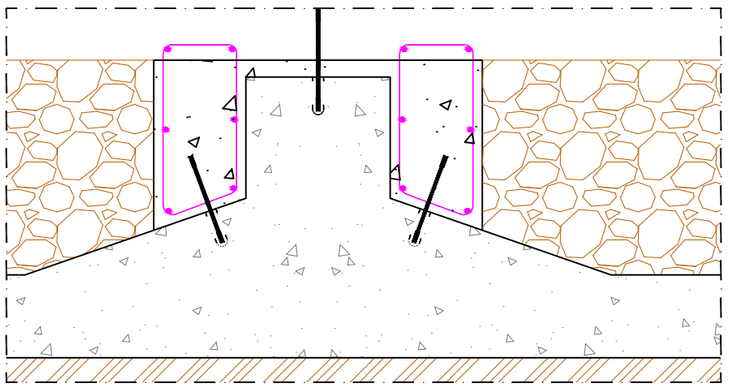
STEP 28:FILL THE SPACES WITH SAND(RECICLED FROM BROKEN CONRETE) _ S:1/40



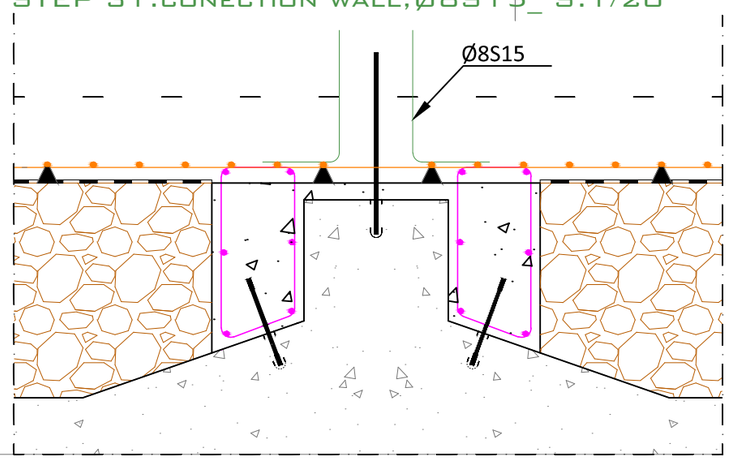
STEP 29:CONSOLIDATION+PE FOIL _ S:1/20



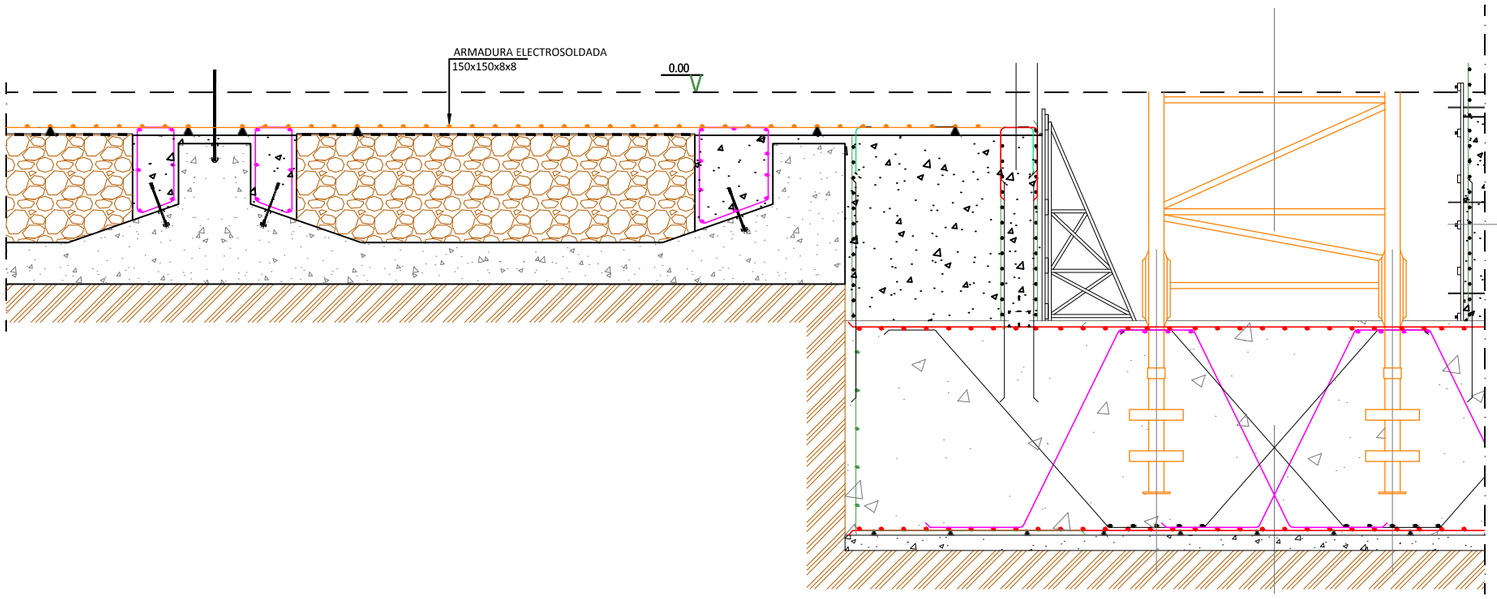
DETAIL STEP 28 _ S:1/20



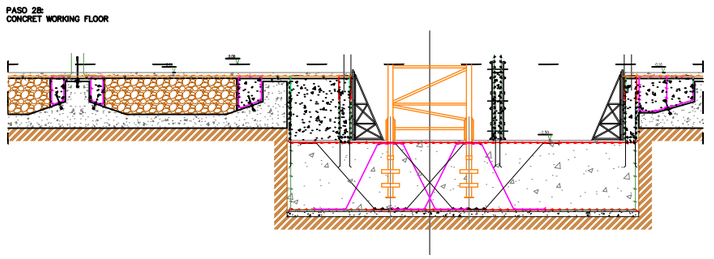
STEP 31:CONECTION WALL,Ø8S15_ S:1/20



STEP 30: STEEL WORKING FLOOR, 150x150x8x8 _ S:1/40



FINAL STEP: STEP 32



UNIVERSITAT POLITÈCNICA DE VALÈNCIA

ESCUELA TÉCNICA SUPERIOR INGENIERÍA DE EDIFICACIÓN

Jan De Nul GROUP

KAHO

KaHoSl. - Campus Dirk Martens,
Kwalestraat 154
9320 Aalst-Belgium
Academic schoolyear 2012-2013

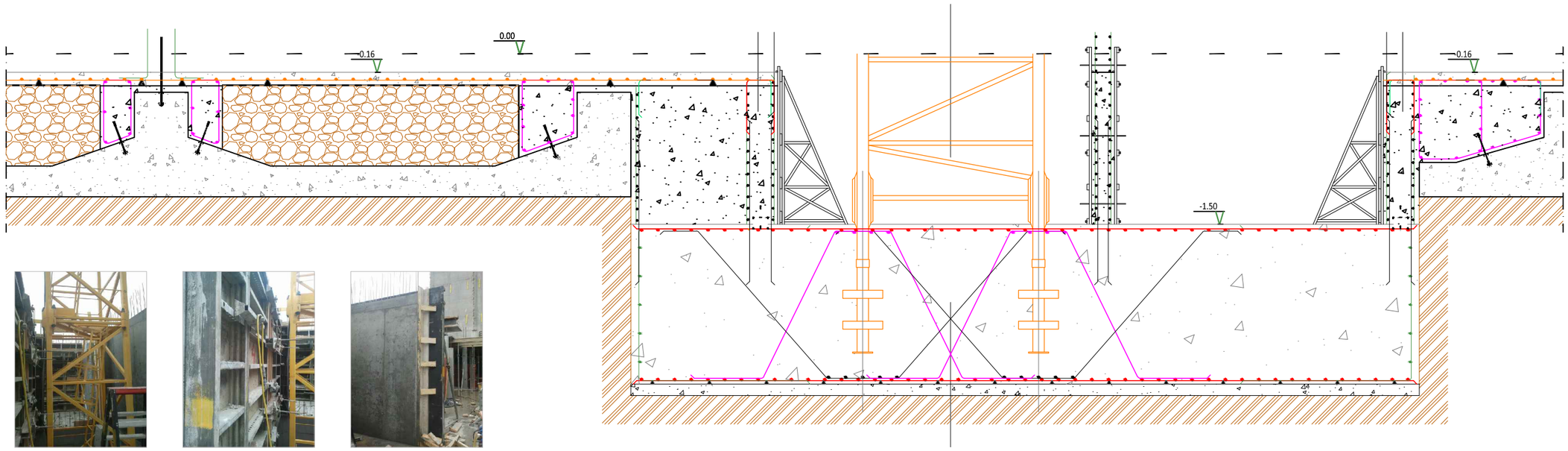
PART 4-TECHNICAL STUDY: FOUNDATIONS
PLAN Nº 13 / 14 : STEPS 28-29-30-31, E: 1/40

PLAN 26/28

SUCH FUSTER,ANA - UNIVERSITAT POLITÈCNICA DE VALÈNCIA - KAHO SINT LIEVEN

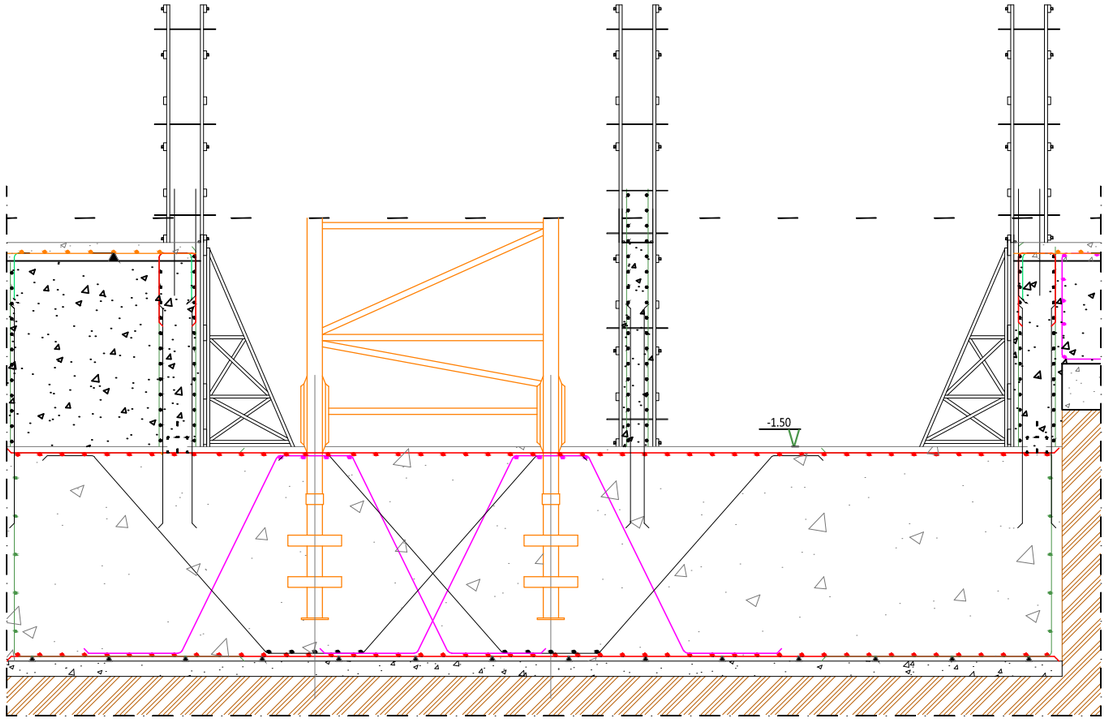
FINAL PROJECT PRESENTED AT:
KAHO SINT LIEVEN
OPLEIDING PROFESSIONELE BACHELOR BOUW.

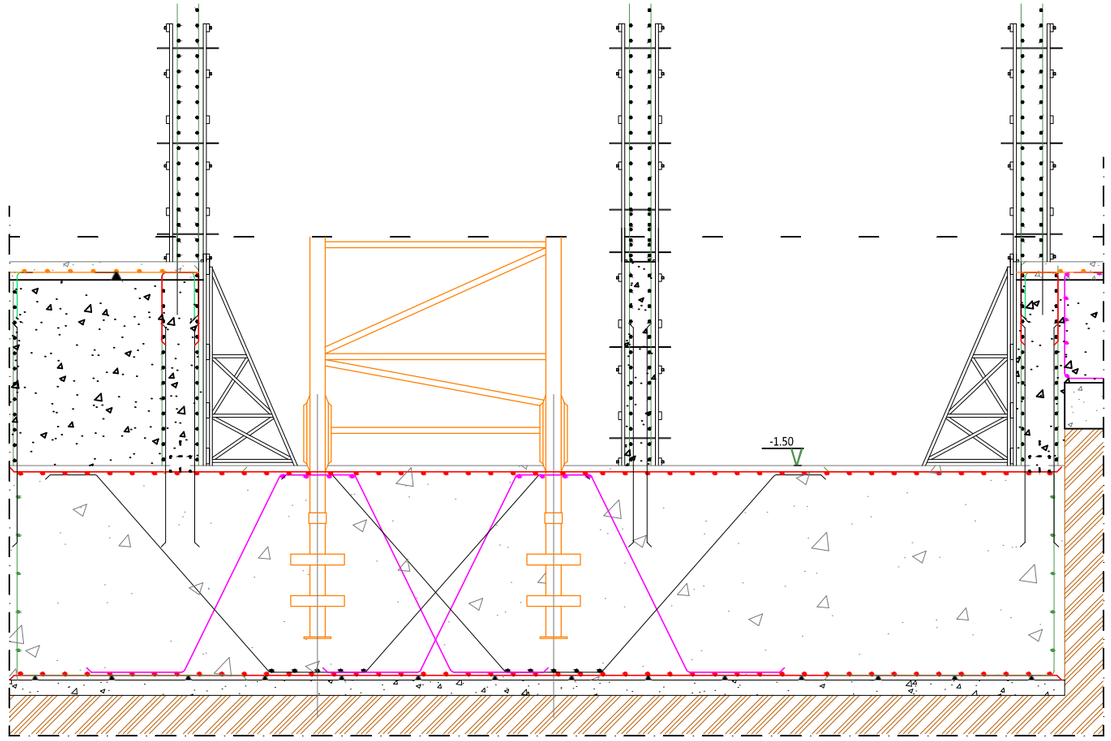
STEP 32: CONCRET WORKING UNTIL - 0,16 M._ S:1/40



STEP 33: FORMWORK WALLS _ S:1/40

STEP 34: STEEL WORKING WALLS._ S:1/40





UNIVERSITAT POLITÈCNICA DE VALÈNCIA
ESCUELA TÉCNICA SUPERIOR INGENIERÍA DE EDIFICACIÓN
Jan De Nul GROUP
KAHO
KaHoSl. - Campus Dirk Martens,
Kwalestraat 154
9320 Aalst-Belgium
Academic schoolyear 2012-2013

PART 4-TECHNICAL STUDY: FOUNDATIONS
PLAN Nº 14 / 14 : STEPS 32-33-34, E: 1/40

SUCH FUSTER,ANA - UNIVERSITAT POLITÈCNICA DE VALÈNCIA - KAHO SINT LIEVEN

M2

VUKSTENEN BETOM FLOOR

EDGE=22+5 CM
35 N/MM2
4-6M. DISTANCE BETWEEN BEAMS

MATERIALS



PRICE STUDY

			SPAIN		BELGIUM	
QNT	UT	DESCRIPTION	€/UT	€	€/UT	€
0,207	h	CAT IV	22,91	4,742	32,84	6,798
0,207	h	CAT III	22,53	4,664	30,3	6,272
0,104	h	CAT II	21,9	2,278	28,49	2,963
0,099	h	MEESTERGAST	23,91	2,367	39,45	3,906
0,099	h	CAT IV STEEL	21,31	2,110	32,84	3,251
				16,160		23,190
0,009	h	CONCRETE PLUMP	112,9	1,016	129,83	1,168
0,1	h	VIBRATOR GASOIL 30-50 mm	1,42	0,142	1,652	0,165
1,15	kg	B 500 S D6-25	0,61	0,702	0,701	0,806
5,4	kg	ELABORATED B 500 S	0,9	4,860	1,035	5,589
0,07	m3	CONCRET 35n/mm2- soft-20.IIa	78,08	5,466	89,79	6,285
1,465	m	beam h18	5,63	8,248	6,474	9,484
0,1	m3	WATER	1,89	0,189	2,173	0,217
7,1	U	VULSTENEN BETOM 70 59x22cm	0,79	5,609	0,908	6,447
1,05	m2	500T 15x30 d5-5	1,25	1,313	1,437	1,509
1,05	m2	FORMWORK BEAM	13,39	14,060	15,42	16,191
				41,603		47,862

TOTAL	57,764	71,052

TOTAL % SUPERIOR		23,01
WORKERS % SUPERIOR		43,496
MATERIAL % SUPERIOR		15,045
TOTAL HOUR/M2	0,306	



PREDALLEN PREFABRICATED FLOOR

EDGE=20 CM
35 N/MM2
4-6M. DISTANCE BETWEEN BEAMS



			SPAIN		BELGIUM	
QNT	UT	DESCRIPTION	€/UT	€	€/UT	€
0,09	h	CAT IV	22,91	2,062	32,84	2,956
0,09	h	CAT III	22,53	2,028	30,3	2,727
0,045	h	CAT II	21,9	0,986	28,49	1,282
0,122	h	MEESTERGAST	23,91	2,917	39,45	4,813
0,122	h	CAT IV STEEL	21,31	2,600	32,84	4,006
				10,592		15,784
0,009	h	CONCRETE PLUMP	112,9	1,016	129,83	1,168
0,162	h	VIBRATOR GASOIL 30-50 mm	1,42	0,230	1,652	0,268
10,82	kg	ELABORATED B 500 S	0,9	9,738	1,035	11,199
0,13	m3	CONCRET 35n/mm2- soft-20.IIa	78,08	10,150	89,79	11,673
0,1	m3	WATER	1,89	0,189	2,173	0,217
1	m2	PREDALLEN	24,5	24,500	28,25	28,250
1,05	m2	500T 15x30 d5-5	1,25	1,313	1,437	1,509
0,5	m	STRAINING	5,55	2,775	7,49	3,745
				49,911		58,029

TOTAL	60,503	73,813

TOTAL % SUPERIOR		22,00
WORKERS % SUPERIOR		49,019
MATERIAL % SUPERIOR		16,264
TOTAL HOUR/M2	0,212	


CONCLUSION

THE "VUKSTENEN BETOM FLOOR" IS 23,01% MORE EXPENSIVE IN BELGIUM THAN IN SPAIN, BEING THE WORKERS PRICE 43,50% MORE EXPENSIVE AND THE MATERIAL PRICE 15,05%.
THE TOTAL TIME FOR 1M2 IS 0,306 HOURS.
IN CONCLUSION THIS FLOOR IS BETTER IN SPAIN BECAUSE IT NEEDS MORE TIME THAN THE PREDALLEN, AND THE % OF WORK HOUR IS CHEAPER IN SPAIN.

THE PREDALLEN FLOOR IS 22,00% MORE EXPENSIVE IN BELGIUM THAN IN SPAIN, BEING THE WORKERS PRICE 49,02% MORE EXPENSIVE AND THE MATERIAL PRICE 16,26%.
THE TOTAL TIME FOR 1M2 IS 0,212 HOURS.
THIS FLOOR IS BETTER IN BELGIUM BECAUSE IT NEEDS LESS TIME TO BUID 1M2, AND THE MEN HOURS/M2 FLOOR ARE MORE EXPENSIVE IN BELGIUM.

PART 6: SCHEDULING AND PRICING.

CODE	TASK	UNIT	QUANTITY	mh/unit	mach.h/unit	m.hours	mach. H	team.h	days	WORKING HOURS	MACH	PEOPLE
1	**PACKAGING PROCESSES - COORDINATION - CLEANING**								**2,13**	**24,00**		
	Fenced	m	234	0,03	0	8,00	0,00	8,00	1	**8,00**	-	1
	Signaling	u	12	0,1	0	2,00	0,00	2,00	0,25	**2,00**	-	1
	Cleaning and clearing	m2	569	0,01	0,005	6,00	3,00	2,00	0,25	**9,00**	1	3
	Site planning-Topography	m2	569	0,008	0	5,00	0,00	5,00	0,63	**5,00**	-	1
	Protections security (during all the works)	u	1								-	
2	**TEMPORARY SITE SERVICES**								**0,94**	**15,00**		
	Water, electricity and sanitary(Phase1)	u	1	4	0	4,00	0,00	2,00	0,25	**4,00**	-	2
	Provisional houses	u	6	0,75	0	5,00	0,00	2,50	0,31	**5,00**	-	2
	Water, electricity and sanitary(Phase2)	u	1	6	0	6,00	0,00	3,00	0,38	**6,00**	-	2
3	**EXISTING INTALATION**								**3,07**	**165,00**		
	Take out the water of the foundation	L	310000		0,00007	0,00	22,00	0,00	0	**22,00**	3	1
	Cleaning foundations	m2	756	0,12	0,06	91,00	46,00	22,75	2,84	**137,00**	2	4
	Topography lifts and stairs cases (horizontal)	u	1	3	0	3,00	0,00	3,00	0,1	**3,00**	-	1
	Foundation demolition where will be lifts and stai	m3	17,7	0,1	0,05	2,00	1,00	1,00	0,13	**3,00**	1	2
4	**EXCAVATION**								**28,60**	**673,80**		
	Excavation until -3,00 m. where will be tower cra	m3	82,36	0,03	0,03	3,00	3,00	3,00	0,38	**6,00**	1	1
	Excavation until -1,90 m. where will be lift cases	m3	47,77	0,03	0,03	1,50	1,50	1,50	0,19	**3,00**	1	1
5	**FOUNDATIONS**								**21,06**	**502,70**		
5.1.	**Tower crane**								**6,98**	**162,10**		
	Vertical Plastic along the ground+Cleaning Conc	m2	27,45	0,022	0	1,00	0,00	1,00	0,13	**1,00**	-	1
	Steel working for the tower crane	kg	5765,2	0,023	0	133,00	0,00	44,33	5,54	**133,00**	-	3
	Put the first part of the tower crane	u	1	1	0	1,00	0,00	0,50	0,06	**1,00**	-	2
	Stremaform waterproof+Steel to link with the wal	m	40	0,12	0	5,00	0,00	2,50	0,31	**5,00**	-	2
	Concrete filling until -1´50 m.	m3	41,18	0,34	0,17	15,00	7,10	7,50	0,94	**22,10**	1	2
5.2.	**Lift cases (other 1)**								**2,94**	**47,80**		
	Vertical plastic placed along the ground+Cleanin	m2	25,14	0,022	0	1,00	0,00	1,00	0,13	**1,00**	-	1
	Steel working floor	kg	3343,9	0,011	0	37,00	0,00	18,50	2,31	**37,00**	-	2
	Stremaform waterproof+Steel to link with the wal	u	32	0,12	0	4,00	0,00	2,00	0,25	**4,00**	-	2
	Concrete filling until -1´50 m.	m3	10,06	0,34	0,17	4,00	1,80	2,00	0,25	**5,80**	1	2
5.3.	**Walls & connection existing foundation**								**5,09**	**122,60**		
	Formwork (walls+connection existing foundation)	m2	82	0,54		45,00	0,00	11,25	1,41	**45,00**	-	4
	Steel working connection with the existing founda	kg	1867	0,022		42,00	0,00	14,00	1,75	**42,00**	-	3
	Concret working until -0,28	m3	26,67	0,34	0,17	10,00	4,60	5,00	0,63	**14,60**	1	2
	Removing formwork	m2	82	0,25		21,00	0,00	10,50	1,31	**21,00**	-	2
5.4.	**Rest**								**6,05**	**170,20**		
	Formwork zone columns	m2	74	0,16		12,00	0,00	3,00	0,38	**12,00**	-	4
	Steel working connection with the existing founda	kg	850	0,022		19,00	0,00	4,75	0,59	**19,00**	-	4
	Concret working until -0,28	m3	25	0,34	0,17	9,00	4,30	4,50	0,56	**13,30**	1	2
	Remove the formwork	m2	74	0,011		1,00	0,00	0,50	0,06	**1,00**	-	2
	Mounting Manholes	u	12	0,5		6,00	0,00	3,00	0,38	**6,00**	-	2
	Fill the spaces with sand (recycled from broken c	m3	232	0,02	0,007	5,00	1,60	1,67	0,21	**6,60**	1	3
	Machine to consolidating	m2	580	0,02	0,02	12,00	11,60	12,00	1,5	**23,60**	1	1
	Waterproof with bitumen additive with glass fiber	m2	580	0,01		6,00	0,00	2,00	0,25	**6,00**	-	3
	Waterproof with elastomer bitumen 4´8kg with p	m2	580	0,01		6,00	0,00	2,00	0,25	**6,00**	-	3
	Formwork perimeters (until 0,00 m.)	m	156	0,002		1,00	0,00	0,50	0,06	**1,00**	-	2
	Stell working floor+connection columns.	kg	7280	0,003		22,00	0,00	5,50	0,69	**22,00**	-	4
	Concrete working until - 0´16 m.	m3	104	0,34	0,17	36,00	17,70	9,00	1,13	**53,70**	2	4
6	**MOUNTING TOWER CRANE**	u	1					0,00		**8,00**	-	3
	Mounting tower crane	u	1					0,00	1	**8,00**		2
7	**STRUCTURE**									**634,50**		
7.1	**Structure 0**								**22,40**	**634,50**		
1	Outside Formwork walls lift cases (2 sides)	m2	165	0,32	0	53,00	0	13,25	1,66	**53,00**	-	4
	Steel working walls lift cases	kg	2852,5	0,022	0	63,00	0	15,75	1,97	**63,00**	-	4
	Inside Formwork walls lift cases (2 sides)	m2	140	0,3	0	42,00	0	10,50	1,31	**42,00**	-	4
	Concret working walls lifts cases	m3	40,75	0,38	0,24	16,00	8,00	8,00	1	**24,00**	1	2
2	Mounting prefabricated columns+prop up+formw	u	35	0,68	0	24,00	0	12,00	1,5	**24,00**	-	2
	Concret high strength and fast setting inside the	u	35	0,42	0	15,00	0	7,50	0,94	**15,00**	-	2
3	Mounting beams with the connectors of the colur	u	106	0,22	0	24,00	0	12,00	1,5	**24,00**	-	2
4	Prop up for the pedallen	m2	756	0,19	0	144,00	0	24,00	3	**144,00**	-	6
	Mounting predallen	m2	756	0,125	0	95,00	0	31,67	3,96	**95,00**	-	3
	Steel working conecction over predallen	kg	9530,01	0,003	0	29,00	0	7,25	0,91	**29,00**	-	4
	Ventilation system	m2	756	0,03	0	23,00	0	11,50	1,44	**23,00**	-	2
	Formwork perimeter and holes	m	127	0,22	0	28,00	0	14,00	1,75	**28,00**	-	2
	Concret working	m3	136,14	0,34	0,17	47,00	23,50	11,75	1,47	**70,50**	2	4
	Remove the prop of predallen.(3 floors)											3
	Take away the tower crane											

De Mouterij
Jan de Nul NV
Steven Schyvynck
as of 20/06/13 8:00

Dates			
Start:	03/12/12 7:00	Finish:	23/04/13 10:16
Baseline Start:	NA	Baseline Finish:	NA
Actual Start:	NA	Actual Finish:	NA
Start Variance:	0 d	Finish Variance:	0 d

Duration			
Scheduled:	94,41 d	Remaining:	94,41 d
Baseline:	0 d	Actual:	0 d
Variance:	94,41 d	Percent Complete:	0%

Work			
Scheduled:	1.991,7 h	Remaining:	1.991,7 h
Baseline:	0 h	Actual:	0 h
Variance:	1.991,7 h	Percent Complete:	0%

Costs			
Scheduled:	139.191,95 €	Remaining:	139.191,95 €
Baseline:	0,00 €	Actual:	0,00 €
Variance:	139.191,95 €		

Task Status	
Tasks not yet started:	65
Tasks in progress:	0
Tasks completed:	0
Total Tasks:	65

Resource Status	
Work Resources:	16
Overallocated Work Resources:	6
Material Resources:	3
Total Resources:	25

Base Calendar as of 20/06/13 17:01
De Mouterij
Steven Schyvynck

BASE CALENDAR:	JAN DE NUL
Day	Hours
Monday	7:00 - 11:30, 12:00 - 15:30
Tuesday	7:00 - 11:30, 12:00 - 15:30
Wednesday	7:00 - 11:30, 12:00 - 15:30
Thursday	7:00 - 11:30, 12:00 - 15:30
Friday	7:00 - 11:30, 12:00 - 15:30
Saturday	Nonworking
Sunday	Nonworking
Exceptions:	
Date	Hours
02/01/12 0:00	Nonworking
25/12/12 0:00	Nonworking
01/01/13 0:00	Nonworking
01/04/13 0:00 - 05/04/13 0:00	Nonworking
01/05/13 0:00	Nonworking
09/05/13 0:00 - 10/05/13 0:00	Nonworking
20/05/13 0:00	Nonworking
08/07/13 0:00 - 26/07/13 0:00	Nonworking
15/08/13 0:00	Nonworking
01/11/13 0:00	Nonworking
11/11/13 0:00	Nonworking
25/12/13 0:00	Nonworking

Resource Usage as of 20/06/13 17:04
De Mouterij
Steven Schyvynck

	03/12/12	10/12/12	17/12/12	24/12/12	31/12/12	07/01/13	14/01/13	21/01/13	28/01/13	04/02/13	11/02/13	18/02/13	25/02/13	04/03/13	11/03/13	18/03/13	25/03/13
Steve	18,75 h	40,33 h	11,25 h	9,3 h	1,27 h	15,05 h	24,68 h		11,75 h								
Cleaning and clearin	2,25 h																
Topography foundation	3 h																
Foundation demolition(lifts and stairs cases)	1 h																
Steel working for the tower crane	9,5 h	34,83 h															
Put the first part of the tower crane		0,5 h															
Formwork(walls+connection existing foundation)			11,25 h														
Concret workin until -0,28 m.				9,3 h													
Stremaform+steel link walls		2 h															
Formwork(zone columns)	3 h																
Mounting manholes		3 h															
Topography+Formwork perimetres					1 h												
Stell working floor (+conecction with walls and columns)					0,27 h	5,23 h											
Inside Formwork walls lift cases							10,5 h										
Prop up for the pedallen						9,82 h	14,18 h										
Concret working floor									11,75 h								
Paul	49,5 h	60,08 h	16,87 h	8,38 h	10,77 h	27,62 h	17,37 h		11,75 h								
Fenced and signaling	5 h																
Provisional houses	2,5 h																
Water, electricity and sanitar Phase2	3 h																
Take out the water of the foundation	11 h																
Cleaning foundations	14,5 h	19,75 h															
Steel working for the tower crane	9,5 h	34,83 h															
Put the first part of the tower crane		0,5 h															
Formwork(walls+connection existing foundation)			11,25 h														
Steel working conecction(existing foundation+walls)			5,62 h	8,38 h													
Removing formwork					10,5 h												
Plastic+Cleaning Concret	1 h																
Stremaform+steel link walls		2 h															
Formwork(zone columns)	3 h																
Mounting manholes		3 h															
Stell working floor (+conecction with walls and columns)					0,27 h	5,23 h											
Mounting manholes		3 h															
Stell working floor (+conecction with walls and columns)					0,27 h	5,23 h											
Steel working lift cases						12,57 h	3,18 h										
Prop up for the pedallen						9,82 h	14,18 h										
Concret working floor									11,75 h								
Backhoe loader	6,75 h				2,93 h												
Cleaning and clearin	2,25 h																
Excavation(-3,00 m.Tower Crane)	3 h																
Excavation(-1,90 m.Lift Cases)	1,5 h																
Fill the spaces with sand (recycled from broken concrete).					2,93 h												
Jonh	39 h	19,75 h	11,25 h	13,3 h	2,1 h	15,05 h	24,68 h										
Fenced and signaling	5 h																
Provisional houses	2,5 h																
Water, electricity and sanitar Phase2	3 h																
Take out the water of the foundation	11 h																
Cleaning foundations	14,5 h	19,75 h															
Formwork(walls+connection existing foundation)			11,25 h														
Concret workin until -0,28 m.				9,3 h													
Formwork(zone columns)	3 h																
Fill the spaces with sand (recycled from broken concrete).					1,83 h												
Stell working floor (+conecction with walls and columns)					0,27 h	5,23 h											
Mounting tower crane				4 h													
Inside Formwork walls lift cases							10,5 h										
Prop up for the pedallen						9,82 h	14,18 h										
Marc	26,75 h	38,92 h	24 h	12,38 h	12,6 h	15,05 h	24,68 h										
Cleaning and clearin	2,25 h																
Water, electricity and sanitar Phase1	2 h																
Cleaning foundations	14,5 h	19,75 h															
Foundation demolition(lifts and stairs cases)	1 h																
Stremaform waterproof+steel link walls		2,5 h															
Concrete filling until -1´50 m		2,17 h	7,13 h														
Formwork(walls+connection existing foundation)			11,25 h														
Steel working conecction(existing foundation+walls)			5,62 h	8,38 h													
Removing formwork					10,5 h												

Resource Usage as of 20/06/13 17:04
De Mouterij
Steven Schyvynck

	03/12/12	10/12/12	17/12/12	24/12/12	31/12/12	07/01/13	14/01/13	21/01/13	28/01/13	04/02/13	11/02/13	18/02/13	25/02/13	04/03/13	11/03/13	18/03/13	25/03/13
Steel working floor	4 h	14,5 h															
Formwork(zone columns)	3 h																
Fill the spaces with sand (recycled from broken concrete).					1,83 h												
Stell working floor (+conecction with walls and columns)					0,27 h	5,23 h											
Mounting tower crane				4 h													
Inside Formwork walls lift cases							10,5 h										
Prop up for the pedallen						9,82 h	14,18 h										
Tony	27,18 h	39,23 h	12,75 h	8,38 h	11,8 h	23,07 h	14,18 h		14 h								
Cleaning and clearin	2,25 h																
Water, electricity and sanitar Phase1	2 h																
Cleaning foundations	14,5 h	19,75 h															
Stremaform waterproof+steel link walls		2,5 h															
Concrete filling until -1´50 m		2,17 h	7,13 h														
Steel working conecction(existing foundation+walls)			5,62 h	8,38 h													
Steel working floor	4 h	14,5 h															
Steel working (connection columns with existing foundation)	4,43 h	0,32 h															
Consolidating ground					11,8 h												
Outside Formwork walls lift cases						13,25 h											
Prop up for the pedallen						9,82 h	14,18 h										
Formwork perimeter and holes									14 h								
Josh	4,43 h	0,32 h			4 h	23,07 h	14,18 h		14 h								
Steel working (connection columns with existing foundation)	4,43 h	0,32 h															
Waterproof					4 h												
Outside Formwork walls lift cases						13,25 h											
Prop up for the pedallen						9,82 h	14,18 h										
Formwork perimeter and holes									14 h								
Jan	4,43 h	0,32 h			4 h	13,25 h		14,32 h	29,35 h								
Steel working (connection columns with existing foundation)	4,43 h	0,32 h															
Waterproof					4 h												
Outside Formwork walls lift cases						13,25 h											
Mounting beams with the connectors of the column								12 h									
Mounting predallen								2,32 h	29,35 h								
Ronny	4,43 h	0,32 h			4 h	13,25 h	3,82 h	6 h	29,35 h								
Steel working (connection columns with existing foundation)	4,43 h	0,32 h															
Waterproof					4 h												
Outside Formwork walls lift cases						13,25 h											
Concret high strength and fast setting inside the column							3,82 h	3,68 h									
Mounting predallen								2,32 h	29,35 h								
Lee	15,5 h	34,83 h				8,95 h	10,5 h	2,32 h	41,1 h								
Site planning-Topography	5 h																
Plastic+Cleaning Concret	1 h																
Steel working for the tower crane	9,5 h	34,83 h															
Concrete working until - 0´16 m.						8,95 h											
Inside Formwork walls lift cases							10,5 h										
Mounting predallen								2,32 h	29,35 h								
Concret working floor									11,75 h								
Dave	4,5 h					8,95 h	3,82 h	3,68 h	23,25 h								
Excavation(-3,00 m.Tower Crane)	3 h																
Excavation(-1,90 m.Lift Cases)	1,5 h																
Concrete working until - 0´16 m.						8,95 h											
Concret high strength and fast setting inside the column							3,82 h	3,68 h									
Ventilation sistem									11,5 h								
Concret working floor									11,75 h								
Werner						8,95 h		12 h	11,5 h								
Concrete working until - 0´16 m.						8,95 h											
Mounting beams with the connectors of the column								12 h									
Ventilation sistem									11,5 h								
Tom Stragier						8,95 h	8 h		7,25 h								
Concrete working until - 0´16 m.						8,95 h											
Concret working cases stairs and lifts							8 h										
Steel working conecction									7,25 h								
Tom Daems						12,57 h	13 h	2,18 h	7,25 h								
Steel working lift cases						12,57 h	3,18 h										
Mounting Prefabricated columns(+prop up+formwork base)							9,82 h	2,18 h									

Resource Usage as of 20/06/13 17:04
De Mouterij
Steven Schyvynck

	03/12/12	10/12/12	17/12/12	24/12/12	31/12/12	07/01/13	14/01/13	21/01/13	28/01/13	04/02/13	11/02/13	18/02/13	25/02/13	04/03/13	11/03/13	18/03/13	25/03/13
Steel working conecction									7,25 h								
Michel						12,57 h	13 h	2,18 h	7,25 h								
Steel working lift cases						12,57 h	3,18 h										
Mounting Prefabricated columns(+prop up+formwork base)							9,82 h	2,18 h									
Steel working conecction									7,25 h								
Bob						12,57 h	11,18 h		7,25 h								
Steel working lift cases						12,57 h	3,18 h										
Concret working cases stairs and lifts							8 h										
Steel working conecction									7,25 h								
Tower crane																	
Vibrator needle 50 mm diam. gasoline		2,17 h	7,13 h			8,95 h	8 h		11,75 h								
Concrete filling until -1´50 m		2,17 h	7,13 h														
Concrete working until - 0´16 m.						8,95 h											
Concret working cases stairs and lifts							8 h										
Concret working floor									11,75 h								
Vibrator needle 30 mm diam.gasoline				9,3 h		8,95 h			11,75 h								
Concret workin until -0,28 m.				9,3 h													
Concrete working until - 0´16 m.						8,95 h											
Concret working floor									11,75 h								
Consolidation machine					11,8 h												
Consolidating ground					11,8 h												
Backhoe jackhammer	1 h																
Foundation demolition(lifts and stairs cases)	1 h																
Drain pump																	
Concrete (m3)		9,78	32,22	26,67		104	40,75		136								
Concrete filling until -1´50 m		9,78	32,22														
Concret workin until -0,28 m.				26,67													
Concrete working until - 0´16 m.						104											
Concret working cases stairs and lifts							40,75										
Concret working floor									136								
Steel (kg)	2.752,4	7.205,6	749,02	1.117,98	352,97	9.202,59	576,44		9.530								
Steel working for the tower crane	1.235,36	4.529,64															
Steel working conecction(existing foundation+walls)			749,02	1.117,98													
Steel working floor	722,81	2.620,19															
Steel working (connection columns with existing foundation)	794,23	55,77															
Stell working floor (+conecction with walls and columns)					352,97	6.927,03											
Steel working lift cases						2.275,56	576,44										
Steel working conecction									9.530								
Formwork 2 sides (m2)	74		82			165	140		127								
Formwork(walls+connection existing foundation)			82														
Formwork(zone columns)	74																
Outside Formwork walls lift cases						165											
Inside Formwork walls lift cases							140										
Formwork perimeter and holes									127								
Total	202,23 h	236,27 h	83,25 h	61,05 h	65,27 h	236,8 h	191,1 h	42,68 h	238,55 h								

Resource Usage as of 20/06/13 17:04
De Mouterij
Steven Schyvynck

	01/04/13	08/04/13	15/04/13	22/04/13	29/04/13	**Total**
Steve						132,38 h
Cleaning and clearin						2,25 h
Topography foundation						3 h
Foundation demolition(lifts and stairs cases)						1 h
Steel working for the tower crane						44,33 h
Put the first part of the tower crane						0,5 h
Formwork(walls+connection existing foundation)						11,25 h
Concret workin until -0,28 m.						9,3 h
Stremaform+steel link walls						2 h
Formwork(zone columns)						3 h
Mounting manholes						3 h
Topography+Formwork perimetres						1 h
Stell working floor (+conecction with walls and columns)						5,5 h
Inside Formwork walls lift cases						10,5 h
Prop up for the pedallen						24 h
Concret working floor						11,75 h
Paul						202,33 h
Fenced and signaling						5 h
Provisional houses						2,5 h
Water, electricity and sanitar Phase2						3 h
Take out the water of the foundation						11 h
Cleaning foundations						34,25 h
Steel working for the tower crane						44,33 h
Put the first part of the tower crane						0,5 h
Formwork(walls+connection existing foundation)						11,25 h
Steel working conecction(existing foundation+walls)						14 h
Removing formwork						10,5 h
Plastic+Cleaning Concret						1 h
Stremaform+steel link walls						2 h
Formwork(zone columns)						3 h
Mounting manholes						3 h
Stell working floor (+conecction with walls and columns)						5,5 h
Mounting manholes						3 h
Stell working floor (+conecction with walls and columns)						5,5 h
Steel working lift cases						15,75 h
Prop up for the pedallen						24 h
Concret working floor						11,75 h
Backhoe loader						9,68 h
Cleaning and clearin						2,25 h
Excavation(-3,00 m.Tower Crane)						3 h
Excavation(-1,90 m.Lift Cases)						1,5 h
Fill the spaces with sand (recycled from broken concrete).						2,93 h
Jonh						125,13 h
Fenced and signaling						5 h
Provisional houses						2,5 h
Water, electricity and sanitar Phase2						3 h
Take out the water of the foundation						11 h
Cleaning foundations						34,25 h
Formwork(walls+connection existing foundation)						11,25 h
Concret workin until -0,28 m.						9,3 h
Formwork(zone columns)						3 h
Fill the spaces with sand (recycled from broken concrete).						1,83 h
Stell working floor (+conecction with walls and columns)						5,5 h
Mounting tower crane						4 h
Inside Formwork walls lift cases						10,5 h
Prop up for the pedallen						24 h
Marc						154,38 h
Cleaning and clearin						2,25 h
Water, electricity and sanitar Phase1						2 h
Cleaning foundations						34,25 h
Foundation demolition(lifts and stairs cases)						1 h
Stremaform waterproof+steel link walls						2,5 h
Concrete filling until -1´50 m						9,3 h
Formwork(walls+connection existing foundation)						11,25 h
Steel working conecction(existing foundation+walls)						14 h
Removing formwork						10,5 h

Resource Usage as of 20/06/13 17:04
De Mouterij
Steven Schyvynck

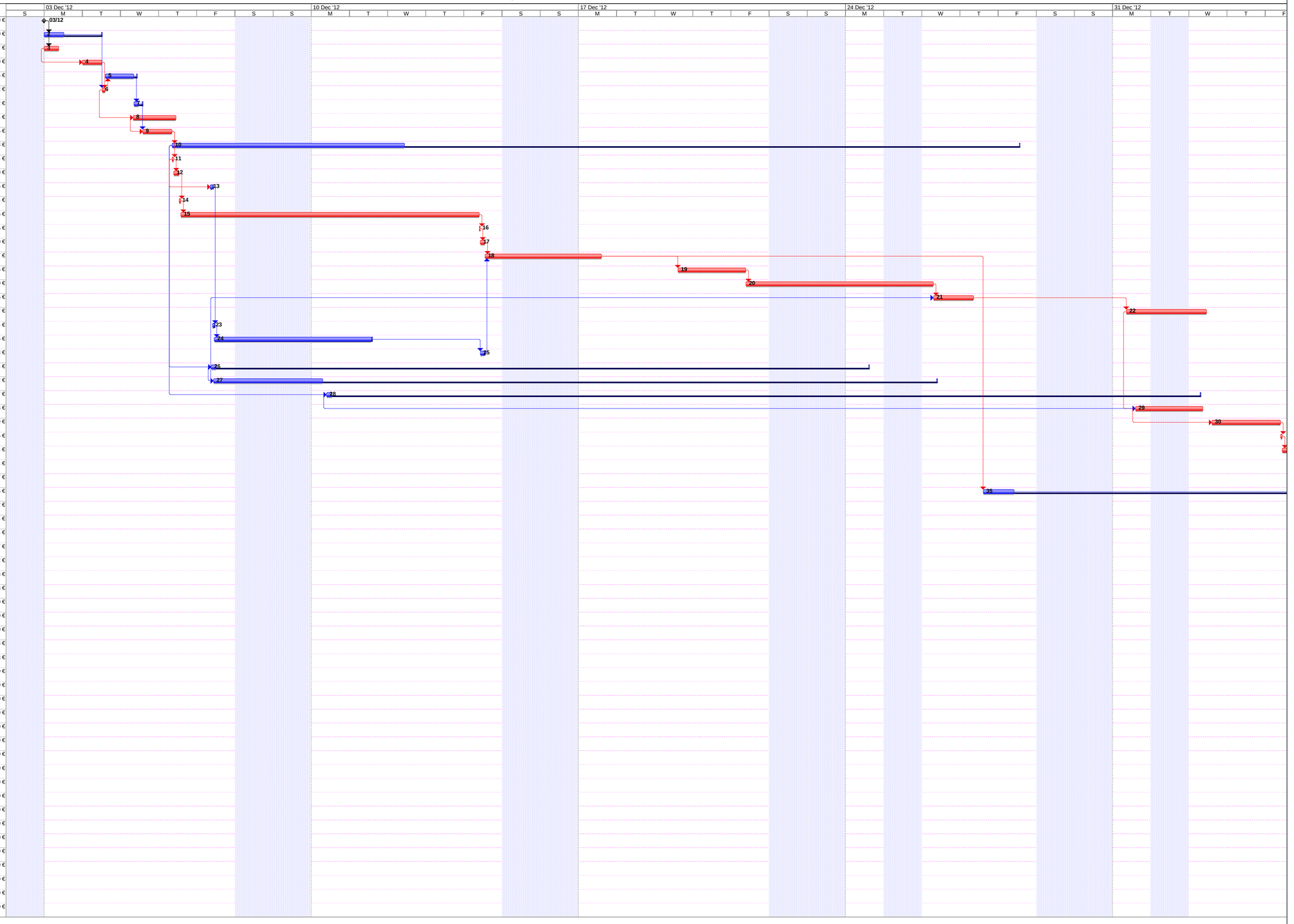
	01/04/13	08/04/13	15/04/13	22/04/13	29/04/13	**Total**
Steel working floor						18,5 h
Formwork(zone columns)						3 h
Fill the spaces with sand (recycled from broken concrete).						1,83 h
Stell working floor (+conecction with walls and columns)						5,5 h
Mounting tower crane						4 h
Inside Formwork walls lift cases						10,5 h
Prop up for the pedallen						24 h
Tony						150,6 h
Cleaning and clearin						2,25 h
Water, electricity and sanitar Phase1						2 h
Cleaning foundations						34,25 h
Stremaform waterproof+steel link walls						2,5 h
Concrete filling until -1´50 m						9,3 h
Steel working conecction(existing foundation+walls)						14 h
Steel working floor						18,5 h
Steel working (connection columns with existing foundation)						4,75 h
Consolidating ground						11,8 h
Outside Formwork walls lift cases						13,25 h
Prop up for the pedallen						24 h
Formwork perimeter and holes						14 h
Josh						60 h
Steel working (connection columns with existing foundation)						4,75 h
Waterproof						4 h
Outside Formwork walls lift cases						13,25 h
Prop up for the pedallen						24 h
Formwork perimeter and holes						14 h
Jan						65,67 h
Steel working (connection columns with existing foundation)						4,75 h
Waterproof						4 h
Outside Formwork walls lift cases						13,25 h
Mounting beams with the connectors of the column						12 h
Mounting predallen						31,67 h
Ronny						61,17 h
Steel working (connection columns with existing foundation)						4,75 h
Waterproof						4 h
Outside Formwork walls lift cases						13,25 h
Concret high strength and fast setting inside the column						7,5 h
Mounting predallen						31,67 h
Lee						113,2 h
Site planning-Topography						5 h
Plastic+Cleaning Concret						1 h
Steel working for the tower crane						44,33 h
Concrete working until - 0´16 m.						8,95 h
Inside Formwork walls lift cases						10,5 h
Mounting predallen						31,67 h
Concret working floor						11,75 h
Dave						44,2 h
Excavation(-3,00 m.Tower Crane)						3 h
Excavation(-1,90 m.Lift Cases)						1,5 h
Concrete working until - 0´16 m.						8,95 h
Concret high strength and fast setting inside the column						7,5 h
Ventilation sistem						11,5 h
Concret working floor						11,75 h
Werner						32,45 h
Concrete working until - 0´16 m.						8,95 h
Mounting beams with the connectors of the column						12 h
Ventilation sistem						11,5 h
Tom Stragier						24,2 h
Concrete working until - 0´16 m.						8,95 h
Concret working cases stairs and lifts						8 h
Steel working conecction						7,25 h
Tom Daems						35 h
Steel working lift cases						15,75 h
Mounting Prefabricated columns(+prop up+formwork base)						12 h

Resource Usage as of 20/06/13 17:04
De Mouterij
Steven Schyvynck

	01/04/13	08/04/13	15/04/13	22/04/13	29/04/13	**Total**
Steel working conecction						7,25 h
Michel						35 h
Steel working lift cases						15,75 h
Mounting Prefabricated columns(+prop up+formwork base)						12 h
Steel working conecction						7,25 h
Bob						31 h
Steel working lift cases						15,75 h
Concret working cases stairs and lifts						8 h
Steel working conecction						7,25 h
Tower crane						
Vibrator needle 50 mm diam. gasoline						38 h
Concrete filling until -1´50 m						9,3 h
Concrete working until - 0´16 m.						8,95 h
Concret working cases stairs and lifts						8 h
Concret working floor						11,75 h
Vibrator needle 30 mm diam.gasoline						30 h
Concret workin until -0,28 m.						9,3 h
Concrete working until - 0´16 m.						8,95 h
Concret working floor						11,75 h
Consolidation machine						11,8 h
Consolidating ground						11,8 h
Backhoe jackhammer						1 h
Foundation demolition(lifts and stairs cases)						1 h
Drain pump						
Concrete (m3)						
Concrete filling until -1´50 m						
Concret workin until -0,28 m.						
Concrete working until - 0´16 m.						
Concret working cases stairs and lifts						
Concret working floor						
Steel (kg)						
Steel working for the tower crane						
Steel working conecction(existing foundation+walls)						
Steel working floor						
Steel working (connection columns with existing foundation)						
Stell working floor (+conecction with walls and columns)						
Steel working lift cases						
Steel working conecction						
Formwork 2 sides (m2)						
Formwork(walls+connection existing foundation)						
Formwork(zone columns)						
Outside Formwork walls lift cases						
Inside Formwork walls lift cases						
Formwork perimeter and holes						
Total						1.357,2 h

De Mouterij

ID	Task Name	Duration	Resource Initials	Work	Cost
1	Start	0 d		0 h	0,00 €
2	Fenced and signaling	0,63 d	J;P	10 h	315,70 €
3	Cleaning and clearin	0,28 d	T;S;M;B	9 h	211,97 €
4	Site planning-Topography	0,63 d	L	5 h	164,20 €
5	Provisional houses	0,31 d	P;J	5 h	157,85 €
6	Water, electricity and sanitar Phase1	0,25 d	T;M	4 h	109,52 €
7	Water, electricity and sanitar Phase2	0,38 d	P;J	6 h	189,42 €
8	Take out the water of the foundation	1,38 d	J;P	22 h	694,54 €
9	Topography foundation	3 h	S	3 h	118,35 €
10	Cleaning foundations	4,28 d	P;J;M;T	137 h	4.038,08 €
11	Foundation demolition(lifts and stairs cases)	0,13 d	S;M;B	3 h	169,94 €
12	Excavation(-3,00 m.Tower Crane)	0,38 d	D;B	6 h	333,90 €
13	Excavation(-1,90 m.Lift Cases)	0,19 d	D;B	3 h	166,95 €
14	Plastic+Cleaning Concret	1 h	L	1 h	32,84 €
15	Steel working for the tower crane	5,54 d	S;P;L;S	133 h	11.002,26 €
16	Put the first part of the tower crane	0,5 h	P;S	1 h	36,15 €
17	Stremaform waterproof+steel link walls	2,5 h	M;T	5 h	136,90 €
18	Concrete filling until -1´50 m	9,3 h	M;T;V;C	27,9 h	4.501,07 €
19	Formwork(walls+connection existing foundation)	11,25 h	S;M;P;J;F	45 h	5.738,65 €
20	Steel working conecction(existing foundation+walls)	14 h	T;P;M;S	42 h	3.280,10 €
21	Concret workin until -0,28 m.	9,3 h	J;S;V;C	27,9 h	3.190,26 €
22	Removing formwork	10,5 h	M;P	21 h	643,97 €
23	Plastic+Cleaning Concret	1 h	P	1 h	32,84 €
24	Steel working floor	18,5 h	M;T;S	37 h	4.690,36 €
25	Stremaform+steel link walls	0,25 d	S;P	4 h	144,58 €
26	Formwork(zone columns)	0,38 d	S;M;P;J;F	12 h	4.241,24 €
27	Steel working (connection columns with existing foundation)	0,59 d	T;J;J;R;S	19 h	1.463,82 €
28	Mounting manholes	0,38 d	S;P	6 h	216,87 €
29	Fill the spaces with sand (recycled from broken concrete).	0,37 d	M;J;B	6,6 h	345,38 €
30	Consolidating ground	1,48 d	T;C	23,6 h	1.348,39 €
31	Topography+Formwork perimetres	1 h	S	1 h	39,45 €
32	Waterproof	0,5 d	J;J;R	12 h	340,24 €
33	Stell working floor (+conecction with walls and columns)	0,69 d	S;P;J;M;S	22 h	8.728,94 €
34	Concrete working until - 0´16 m.	1,12 d	V;L;D;W;T;C	53,7 h	10.965,47 €
35	Mounting tower crane	0,5 d	J;M	8 h	235,16 €
36	Outside Formwork walls lift cases	1,66 d	J;R;T;J;F	53 h	10.055,12 €
37	Steel working lift cases	1,97 d	M;B;T;P;S	63 h	5.062,64 €
38	Inside Formwork walls lift cases	1,31 d	S;J;M;L;F	42 h	8.656,34 €
39	Concret working cases stairs and lifts	1 d	B;T;V;C	24 h	4.341,27 €
40	Mounting Prefabricated columns(+prop up+formwork base)	1,5 d	M;T	24 h	709,32 €
41	Concret high strength and fast setting inside the column	0,94 d	D;R	15 h	424,28 €
42	Mounting beams with the connectors of the column	1,5 d	W;J	24 h	705,48 €
43	Prop up for the pedallen	3 d	S;P;J;M;T;J	144 h	4.503,60 €
44	Mounting predallen	3,96 d	J;R;L	95 h	2.774,00 €
45	Ventilation sistem	1,44 d	D;W	23 h	696,90 €
46	Steel working conecction	0,91 d	T;T;M;B;S	29 h	11.337,78 €
47	Formwork perimeter and holes	1,75 d	T;J;F	28 h	7.395,98 €
48	Concret working floor	1,47 d	L;V;V;S;P;C	70,5 h	14.503,90 €
49	Remove the prop of columns and pedallen.	1 d		0 h	0,00 €
50	Outside of formwork walls FLOOR 1	1 d		53 h	0,00 €
51	Steel working walls	1 d		63 h	0,00 €
52	Inside of formwork walls	1 d		42 h	0,00 €
53	Concret working walls	1 d		24 h	0,00 €
54	Mounting Prefabricated columns(+prop up+formwork base)	1 d		24 h	0,00 €
55	Concret high strength and fast setting inside the column	1 d		15 h	0,00 €
56	Mounting beams with the connectors of the column	1 d		24 h	0,00 €
57	Prop up for the pedallen	1 d		144 h	0,00 €
58	Mounting predallen	1 d		95 h	0,00 €
59	Ventilation system	1 d		23 h	0,00 €
60	Steel working conecction	1 d		29 h	0,00 €
61	Formwork perimeter and holes	1 d		28 h	0,00 €
62	Concret working floor	3 d		70,5 h	0,00 €
63	Remove the prop of columns and pedallen.	1 d		0 h	0,00 €
64	Take out the tower crane	1 d		0 h	0,00 €
65	END	0 d		0 h	0,00 €

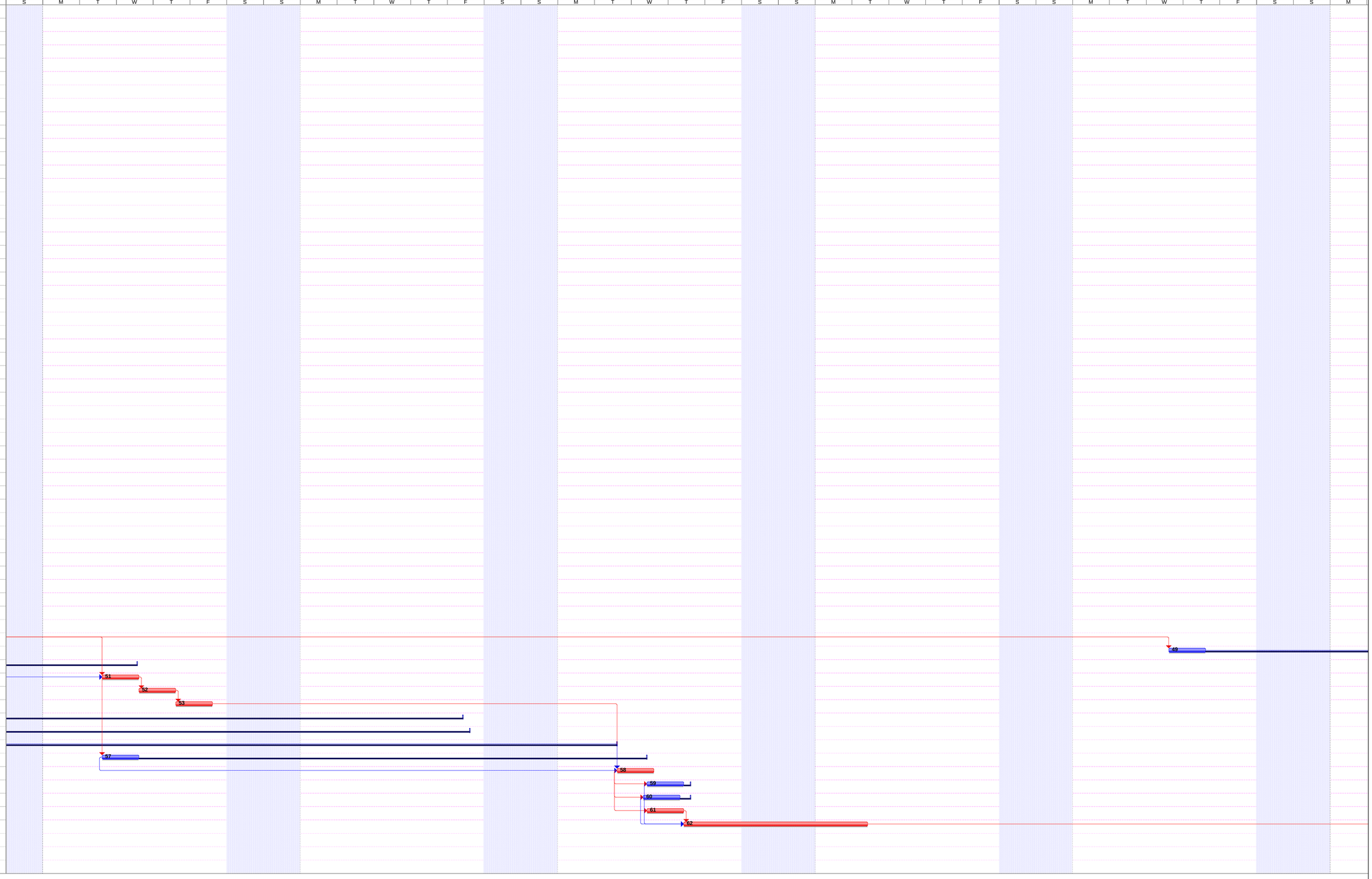


De Mouterij

ID	Task Name
1	Start
2	Fenced and signaling
3	Cleaning and clearin
4	Site planning-Topography
5	Provisional houses
6	Water, electricity and sanitar Phase1
7	Water, electricity and sanitar Phase2
8	Take out the water of the foundation
9	Topography foundation
10	Cleaning foundations
11	Foundation demolition(lifts and stairs cases)
12	Excavation(-3,00 m.Tower Crane)
13	Excavation(-1,90 m.Lift Cases)
14	Plastic+Cleaning Concret
15	Steel working for the tower crane
16	Put the first part of the tower crane
17	Stremaform waterproof+steel link walls
18	Concrete filling until -1´50 m
19	Formwork(walls+connection existing foundation)
20	Steel working conecction(existing foundation+walls)
21	Concret workin until -0,28 m.
22	Removing formwork
23	Plastic+Cleaning Concret
24	Steel working floor
25	Stremaform+steel link walls
26	Formwork(zone columns)
27	Steel working (connection columns with existing foundation)
28	Mounting manholes
29	Fill the spaces with sand (recycled from broken concrete).
30	Consolidating ground
31	Topography+Formwork perimetres
32	Waterproof
33	Stell working floor (+conecction with walls and columns)
34	Concrete working until - 0´16 m.
35	Mounting tower crane
36	Outside Formwork walls lift cases
37	Steel working lift cases
38	Inside Formwork walls lift cases
39	Concret working cases stairs and lifts
40	Mounting Prefabricated columns(+prop up+formwork base)
41	Concret high strength and fast setting inside the column
42	Mounting beams with the connectors of the column
43	Prop up for the pedallen
44	Mounting predallen
45	Ventilation sistem
46	Steel working conecction
47	Formwork perimeter and holes
48	Concret working floor
49	Remove the prop of columns and pedallen.
50	Outside of formwork walls FLOOR 1
51	Steel working walls
52	Inside of formwork walls
53	Concret working walls
54	Mounting Prefabricated columns(+prop up+formwork base)
55	Concret high strength and fast setting inside the column
56	Mounting beams with the connectors of the column
57	Prop up for the pedallen
58	Mounting predallen
59	Ventilation system
60	Steel working conecction
61	Formwork perimeter and holes
62	Concret working floor
63	Remove the prop of columns and pedallen.
64	Take out the tower crane
65	END

De Mouterij

ID	Task Name
1	Start
2	Fenced and signaling
3	Cleaning and clearin
4	Site planning-Topography
5	Provisional houses
6	Water, electricity and sanitar Phase1
7	Water, electricity and sanitar Phase2
8	Take out the water of the foundation
9	Topography foundation
10	Cleaning foundations
11	Foundation demolition(lifts and stairs cases)
12	Excavation(-3,00 m.Tower Crane)
13	Excavation(-1,90 m.Lift Cases)
14	Plastic+Cleaning Concret
15	Steel working for the tower crane
16	Put the first part of the tower crane
17	Stremaform waterproof+steel link walls
18	Concrete filling until -1´50 m
19	Formwork(walls+connection existing foundation)
20	Steel working conecction(existing foundation+walls)
21	Concret workin until -0,28 m.
22	Removing formwork
23	Plastic+Cleaning Concret
24	Steel working floor
25	Stremaform+steel link walls
26	Formwork(zone columns)
27	Steel working (connection columns with existing foundation)
28	Mounting manholes
29	Fill the spaces with sand (recycled from broken concrete).
30	Consolidating ground
31	Topography+Formwork perimetres
32	Waterproof
33	Stell working floor (+conecction with walls and columns)
34	Concrete working until - 0´16 m.
35	Mounting tower crane
36	Outside Formwork walls lift cases
37	Steel working lift cases
38	Inside Formwork walls lift cases
39	Concret working cases stairs and lifts
40	Mounting Prefabricated columns(+prop up+formwork base)
41	Concret high strength and fast setting inside the column
42	Mounting beams with the connectors of the column
43	Prop up for the pedallen
44	Mounting predallen
45	Ventilation sistem
46	Steel working conecction
47	Formwork perimeter and holes
48	Concret working floor
49	Remove the prop of columns and pedallen.
50	Outside of formwork walls FLOOR 1
51	Steel working walls
52	Inside of formwork walls
53	Concret working walls
54	Mounting Prefabricated columns(+prop up+formwork base)
55	Concret high strength and fast setting inside the column
56	Mounting beams with the connectors of the column
57	Prop up for the pedallen
58	Mounting predallen
59	Ventilation system
60	Steel working conecction
61	Formwork perimeter and holes
62	Concret working floor
63	Remove the prop of columns and pedallen.
64	Take out the tower crane
65	END



De Mouterij

ID	Task Name
1	Start
2	Fenced and signaling
3	Cleaning and clearin
4	Site planning-Topography
5	Provisional houses
6	Water, electricity and sanitar Phase1
7	Water, electricity and sanitar Phase2
8	Take out the water of the foundation
9	Topography foundation
10	Cleaning foundations
11	Foundation demolition(lifts and stairs cases)
12	Excavation(-3,00 m.Tower Crane)
13	Excavation(-1,90 m.Lift Cases)
14	Plastic+Cleaning Concret
15	Steel working for the tower crane
16	Put the first part of the tower crane
17	Stremaform waterproof+steel link walls
18	Concrete filling until -1´50 m
19	Formwork(walls+connection existing foundation)
20	Steel working conecction(existing foundation+walls)
21	Concret workin until -0,28 m.
22	Removing formwork
23	Plastic+Cleaning Concret
24	Steel working floor
25	Stremaform+steel link walls
26	Formwork(zone columns)
27	Steel working (connection columns with existing foundation)
28	Mounting manholes
29	Fill the spaces with sand (recycled from broken concrete).
30	Consolidating ground
31	Topography+Formwork perimetres
32	Waterproof
33	Stell working floor (+conecction with walls and columns)
34	Concrete working until - 0´16 m.
35	Mounting tower crane
36	Outside Formwork walls lift cases
37	Steel working lift cases
38	Inside Formwork walls lift cases
39	Concret working cases stairs and lifts
40	Mounting Prefabricated columns(+prop up+formwork base)
41	Concret high strength and fast setting inside the column
42	Mounting beams with the connectors of the column
43	Prop up for the pedallen
44	Mounting predallen
45	Ventilation sistem
46	Steel working conecction
47	Formwork perimeter and holes
48	Concret working floor
49	Remove the prop of columns and pedallen.
50	Outside of formwork walls FLOOR 1
51	Steel working walls
52	Inside of formwork walls
53	Concret working walls
54	Mounting Prefabricated columns(+prop up+formwork base)
55	Concret high strength and fast setting inside the column
56	Mounting beams with the connectors of the column
57	Prop up for the pedallen
58	Mounting predallen
59	Ventilation system
60	Steel working conecction
61	Formwork perimeter and holes
62	Concret working floor
63	Remove the prop of columns and pedallen.
64	Take out the tower crane
65	END

Project: De Mouterij
Date: 20/06/13 17:05

Non critical | Critical | TotalSlack | Split | Progress | Milestone | Summary | Project Summary | External Tasks | External Milestone | Deadline

Task Usage as of 20/06/13 17:04
De Mouterij
Steven Schyvynck

	03/12/12	10/12/12	17/12/12	24/12/12	31/12/12	07/01/13	14/01/13	21/01/13	28/01/13	04/02/13	11/02/13	1
Start												
Fenced and signaling	10 h											
Paul	5 h											
Jonh	5 h											
Cleaning and clearin	9 h											
Steve	2,25 h											
Backhoe loader	2,25 h											
Marc	2,25 h											
Tony	2,25 h											
Site planning-Topography	5 h											
Lee	5 h											
Provisional houses	5 h											
Paul	2,5 h											
Jonh	2,5 h											
Water, electricity and sanitar Phase1	4 h											
Marc	2 h											
Tony	2 h											
Water, electricity and sanitar Phase2	6 h											
Paul	3 h											
Jonh	3 h											
Take out the water of the foundation	22 h											
Paul	11 h											
Jonh	11 h											
Topography foundation	3 h											
Steve	3 h											
Cleaning foundations	58 h	79 h										
Paul	14,5 h	19,75 h										
Jonh	14,5 h	19,75 h										
Marc	14,5 h	19,75 h										
Tony	14,5 h	19,75 h										
Foundation demolition(lifts and stairs cases)	3 h											
Steve	1 h											
Marc	1 h											
Backhoe jackhammer	1 h											
Excavation(-3,00 m.Tower Crane)	6 h											
Backhoe loader	3 h											
Dave	3 h											
Excavation(-1,90 m.Lift Cases)	3 h											
Backhoe loader	1,5 h											
Dave	1,5 h											
Plastic+Cleaning Concret	1 h											

Task Usage as of 20/06/13 17:04
De Mouterij
Steven Schyvynck

	03/12/12	10/12/12	17/12/12	24/12/12	31/12/12	07/01/13	14/01/13	21/01/13	28/01/13	04/02/13	11/02/13	1
Lee	1 h											
Steel working for the tower crane	28,5 h	104,5 h										
Steve	9,5 h	34,83 h										
Paul	9,5 h	34,83 h										
Lee	9,5 h	34,83 h										
Steel (kg)	1.235,36	4.529,64										
Put the first part of the tower crane		1 h										
Steve		0,5 h										
Paul		0,5 h										
Stremaform waterproof+steel link walls		5 h										
Marc		2,5 h										
Tony		2,5 h										
Concrete filling until -1´50 m		6,5 h	21,4 h									
Marc		2,17 h	7,13 h									
Tony		2,17 h	7,13 h									
Vibrator needle 50 mm diam. gasoline		2,17 h	7,13 h									
Concrete (m3)		9,78	32,22									
Formwork(walls+connection existing foundation)			45 h									
Steve			11,25 h									
Paul			11,25 h									
Jonh			11,25 h									
Marc			11,25 h									
Formwork 2 sides (m2)			82									
Steel working conecction(existing foundation+walls)			16,85 h	25,15 h								
Paul			5,62 h	8,38 h								
Marc			5,62 h	8,38 h								
Tony			5,62 h	8,38 h								
Steel (kg)			749,02	1.117,98								
Concret workin until -0,28 m.				27,9 h								
Steve				9,3 h								
Jonh				9,3 h								
Vibrator needle 30 mm diam.gasoline				9,3 h								
Concrete (m3)				26,67								
Removing formwork					21 h							
Paul					10,5 h							
Marc					10,5 h							
Plastic+Cleaning Concret	1 h											
Paul	1 h											
Steel working floor	8 h	29 h										
Marc	4 h	14,5 h										
Tony	4 h	14,5 h										

Task Usage as of 20/06/13 17:04
De Mouterij
Steven Schyvynck

	03/12/12	10/12/12	17/12/12	24/12/12	31/12/12	07/01/13	14/01/13	21/01/13	28/01/13	04/02/13	11/02/13	1
Steel (kg)	722,81	2.620,19										
Stremaform+steel link walls		4 h										
Steve		2 h										
Paul		2 h										
Formwork(zone columns)	12 h											
Steve	3 h											
Paul	3 h											
Jonh	3 h											
Marc	3 h											
Formwork 2 sides (m2)	74											
Steel working (connection columns with existing foundation)	17,75 h	1,25 h										
Tony	4,43 h	0,32 h										
Josh	4,43 h	0,32 h										
Jan	4,43 h	0,32 h										
Ronny	4,43 h	0,32 h										
Steel (kg)	794,23	55,77										
Mounting manholes		6 h										
Steve		3 h										
Paul		3 h										
Fill the spaces with sand (recycled from broken concrete).					6,6 h							
Backhoe loader					2,93 h							
Jonh					1,83 h							
Marc					1,83 h							
Consolidating ground					23,6 h							
Tony					11,8 h							
Consolidation machine					11,8 h							
Topography+Formwork perimetres					1 h							
Steve					1 h							
Waterproof					12 h							
Josh					4 h							
Jan					4 h							
Ronny					4 h							
Stell working floor (+conecction with walls and columns)					1,07 h	20,93 h						
Steve					0,27 h	5,23 h						
Paul					0,27 h	5,23 h						
Jonh					0,27 h	5,23 h						
Marc					0,27 h	5,23 h						
Steel (kg)					352,97	6.927,03						
Concrete working until - 0´16 m.						53,7 h						
Lee						8,95 h						
Dave						8,95 h						

Task Usage as of 20/06/13 17:04
De Mouterij
Steven Schyvynck

	03/12/12	10/12/12	17/12/12	24/12/12	31/12/12	07/01/13	14/01/13	21/01/13	28/01/13	04/02/13	11/02/13	1
Werner						8,95 h						
Tom Stragier						8,95 h						
Vibrator needle 50 mm diam. gasoline						8,95 h						
Vibrator needle 30 mm diam.gasoline						8,95 h						
Concrete (m3)						104						
Mounting tower crane				8 h								
Jonh				4 h								
Marc				4 h								
Outside Formwork walls lift cases						53 h						
Tony						13,25 h						
Josh						13,25 h						
Jan						13,25 h						
Ronny						13,25 h						
Formwork 2 sides (m2)						165						
Steel working lift cases						50,27 h	12,73 h					
Paul						12,57 h	3,18 h					
Tom Daems						12,57 h	3,18 h					
Michel						12,57 h	3,18 h					
Bob						12,57 h	3,18 h					
Steel (kg)						2.275,56	576,44					
Inside Formwork walls lift cases							42 h					
Steve							10,5 h					
Jonh							10,5 h					
Marc							10,5 h					
Lee							10,5 h					
Formwork 2 sides (m2)							140					
Concret working cases stairs and lifts							24 h					
Tom Stragier							8 h					
Bob							8 h					
Vibrator needle 50 mm diam. gasoline							8 h					
Concrete (m3)							40,75					
Mounting Prefabricated columns(+prop up+formwork base)							19,63 h	4,37 h				
Tom Daems							9,82 h	2,18 h				
Michel							9,82 h	2,18 h				
Concret high strength and fast setting inside the column							7,63 h	7,37 h				
Ronny							3,82 h	3,68 h				
Dave							3,82 h	3,68 h				
Mounting beams with the connectors of the column								24 h				
Jan								12 h				
Werner								12 h				
Prop up for the pedallen						58,9 h	85,1 h					

Task Usage as of 20/06/13 17:04
De Mouterij
Steven Schyvynck

	03/12/12	10/12/12	17/12/12	24/12/12	31/12/12	07/01/13	14/01/13	21/01/13	28/01/13	04/02/13	11/02/13	1
Steve						9,82 h	14,18 h					
Paul						9,82 h	14,18 h					
Jonh						9,82 h	14,18 h					
Marc						9,82 h	14,18 h					
Tony						9,82 h	14,18 h					
Josh						9,82 h	14,18 h					
Mounting predallen								6,95 h	88,05 h			
Jan								2,32 h	29,35 h			
Ronny								2,32 h	29,35 h			
Lee								2,32 h	29,35 h			
Ventilation sistem									23 h			
Dave									11,5 h			
Werner									11,5 h			
Steel working conecction									29 h			
Tom Stragier									7,25 h			
Tom Daems									7,25 h			
Michel									7,25 h			
Bob									7,25 h			
Steel (kg)									9.530			
Formwork perimeter and holes									28 h			
Tony									14 h			
Josh									14 h			
Formwork 2 sides (m2)									127			
Concret working floor									70,5 h			
Steve									11,75 h			
Paul									11,75 h			
Lee									11,75 h			
Dave									11,75 h			
Vibrator needle 50 mm diam. gasoline									11,75 h			
Vibrator needle 30 mm diam.gasoline									11,75 h			
Concrete (m3)									136			
Remove the prop of columns and pedallen.												
Outside of formwork walls FLOOR 1						53 h						
Steel working walls											63 h	
Inside of formwork walls											42 h	
Concret working walls											24 h	
Mounting Prefabricated columns(+prop up+formwork base)									2,2 h	21,8 h		
Concret high strength and fast setting inside the column										15 h		
Mounting beams with the connectors of the column										24 h		
Prop up for the pedallen											144 h	
Mounting predallen												

Task Usage as of 20/06/13 17:04
De Mouterij
Steven Schyvynck

	03/12/12	10/12/12	17/12/12	24/12/12	31/12/12	07/01/13	14/01/13	21/01/13	28/01/13	04/02/13	11/02/13	1
Ventilation system												
Steel working conecction												
Formwork perimeter and holes												
Concret working floor												
Remove the prop of columns and pedallen.												
Take out the tower crane												
END												
Total	202,25 h	236,25 h	83,25 h	61,05 h	65,27 h	289,8 h	191,1 h	42,68 h	240,75 h	60,8 h	273 h	

Task Usage as of 20/06/13 17:04
De Mouterij
Steven Schyvynck

	18/02/13	25/02/13	04/03/13	11/03/13	18/03/13	25/03/13	01/04/13	08/04/13	15/04/13	22/04/13	29/04/13
Start											
Fenced and signaling											
Paul											
Jonh											
Cleaning and clearin											
Steve											
Backhoe loader											
Marc											
Tony											
Site planning-Topography											
Lee											
Provisional houses											
Paul											
Jonh											
Water, electricity and sanitar Phase1											
Marc											
Tony											
Water, electricity and sanitar Phase2											
Paul											
Jonh											
Take out the water of the foundation											
Paul											
Jonh											
Topography foundation											
Steve											
Cleaning foundations											
Paul											
Jonh											
Marc											
Tony											
Foundation demolition(lifts and stairs cases)											
Steve											
Marc											
Backhoe jackhammer											
Excavation(-3,00 m.Tower Crane)											
Backhoe loader											
Dave											
Excavation(-1,90 m.Lift Cases)											
Backhoe loader											
Dave											
Plastic+Cleaning Concret											

Task Usage as of 20/06/13 17:04
De Mouterij
Steven Schyvynck

	18/02/13	25/02/13	04/03/13	11/03/13	18/03/13	25/03/13	01/04/13	08/04/13	15/04/13	22/04/13	29/04/13
Lee											
Steel working for the tower crane											
Steve											
Paul											
Lee											
Steel (kg)											
Put the first part of the tower crane											
Steve											
Paul											
Stremaform waterproof+steel link walls											
Marc											
Tony											
Concrete filling until -1´50 m											
Marc											
Tony											
Vibrator needle 50 mm diam. gasoline											
Concrete (m3)											
Formwork(walls+connection existing foundation)											
Steve											
Paul											
Jonh											
Marc											
Formwork 2 sides (m2)											
Steel working conecction(existing foundation+walls)											
Paul											
Marc											
Tony											
Steel (kg)											
Concret workin until -0,28 m.											
Steve											
Jonh											
Vibrator needle 30 mm diam.gasoline											
Concrete (m3)											
Removing formwork											
Paul											
Marc											
Plastic+Cleaning Concret											
Paul											
Steel working floor											
Marc											
Tony											

Task Usage as of 20/06/13 17:04
De Mouterij
Steven Schyvynck

	18/02/13	25/02/13	04/03/13	11/03/13	18/03/13	25/03/13	01/04/13	08/04/13	15/04/13	22/04/13	29/04/13
Steel (kg)											
Stremaform+steel link walls											
Steve											
Paul											
Formwork(zone columns)											
Steve											
Paul											
Jonh											
Marc											
Formwork 2 sides (m2)											
Steel working (connection columns with existing foundation)											
Tony											
Josh											
Jan											
Ronny											
Steel (kg)											
Mounting manholes											
Steve											
Paul											
Fill the spaces with sand (recycled from broken concrete).											
Backhoe loader											
Jonh											
Marc											
Consolidating ground											
Tony											
Consolidation machine											
Topography+Formwork perimetres											
Steve											
Waterproof											
Josh											
Jan											
Ronny											
Stell working floor (+conecction with walls and columns)											
Steve											
Paul											
Jonh											
Marc											
Steel (kg)											
Concrete working until - 0´16 m.											
Lee											
Dave											

Task Usage as of 20/06/13 17:04
De Mouterij
Steven Schyvynck

	18/02/13	25/02/13	04/03/13	11/03/13	18/03/13	25/03/13	01/04/13	08/04/13	15/04/13	22/04/13	29/04/13
Werner											
Tom Stragier											
Vibrator needle 50 mm diam. gasoline											
Vibrator needle 30 mm diam.gasoline											
Concrete (m3)											
Mounting tower crane											
Jonh											
Marc											
Outside Formwork walls lift cases											
Tony											
Josh											
Jan											
Ronny											
Formwork 2 sides (m2)											
Steel working lift cases											
Paul											
Tom Daems											
Michel											
Bob											
Steel (kg)											
Inside Formwork walls lift cases											
Steve											
Jonh											
Marc											
Lee											
Formwork 2 sides (m2)											
Concret working cases stairs and lifts											
Tom Stragier											
Bob											
Vibrator needle 50 mm diam. gasoline											
Concrete (m3)											
Mounting Prefabricated columns(+prop up+formwork base)											
Tom Daems											
Michel											
Concret high strength and fast setting inside the column											
Ronny											
Dave											
Mounting beams with the connectors of the column											
Jan											
Werner											
Prop up for the pedallen											

	18/02/13	25/02/13	04/03/13	11/03/13	18/03/13	25/03/13	01/04/13	08/04/13	15/04/13	22/04/13	29/04/13
Steve											
Paul											
Jonh											
Marc											
Tony											
Josh											
Mounting predallen											
Jan											
Ronny											
Lee											
Ventilation sistem											
Dave											
Werner											
Steel working conecction											
Tom Stragier											
Tom Daems											
Michel											
Bob											
Steel (kg)											
Formwork perimeter and holes											
Tony											
Josh											
Formwork 2 sides (m2)											
Concret working floor											
Steve											
Paul											
Lee											
Dave											
Vibrator needle 50 mm diam. gasoline											
Vibrator needle 30 mm diam.gasoline											
Concrete (m3)											
Remove the prop of columns and pedallen.											
Outside of formwork walls FLOOR 1											
Steel working walls											
Inside of formwork walls											
Concret working walls											
Mounting Prefabricated columns(+prop up+formwork base)											
Concret high strength and fast setting inside the column											
Mounting beams with the connectors of the column											
Prop up for the pedallen											
Mounting predallen		95 h									

Task Usage as of 20/06/13 17:04
De Mouterij
Steven Schyvynck

	18/02/13	25/02/13	04/03/13	11/03/13	18/03/13	25/03/13	01/04/13	08/04/13	15/04/13	22/04/13	29/04/13
Ventilation system		23 h									
Steel working conecction		29 h									
Formwork perimeter and holes		28 h									
Concret working floor		37,4 h	33,1 h								
Remove the prop of columns and pedallen.											
Take out the tower crane											
END											
Total		212,4 h	33,1 h								

	Total
Start	
Fenced and signaling	10 h
Paul	5 h
Jonh	5 h
Cleaning and clearin	9 h
Steve	2,25 h
Backhoe loader	2,25 h
Marc	2,25 h
Tony	2,25 h
Site planning-Topography	5 h
Lee	5 h
Provisional houses	5 h
Paul	2,5 h
Jonh	2,5 h
Water, electricity and sanitar Phase1	4 h
Marc	2 h
Tony	2 h
Water, electricity and sanitar Phase2	6 h
Paul	3 h
Jonh	3 h
Take out the water of the foundation	22 h
Paul	11 h
Jonh	11 h
Topography foundation	3 h
Steve	3 h
Cleaning foundations	137 h
Paul	34,25 h
Jonh	34,25 h
Marc	34,25 h
Tony	34,25 h
Foundation demolition(lifts and stairs cases)	3 h
Steve	1 h
Marc	1 h
Backhoe jackhammer	1 h
Excavation(-3,00 m.Tower Crane)	6 h
Backhoe loader	3 h
Dave	3 h
Excavation(-1,90 m.Lift Cases)	3 h
Backhoe loader	1,5 h
Dave	1,5 h
Plastic+Cleaning Concret	1 h

	Total
Lee	1 h
Steel working for the tower crane	133 h
Steve	44,33 h
Paul	44,33 h
Lee	44,33 h
Steel (kg)	5.765
Put the first part of the tower crane	1 h
Steve	0,5 h
Paul	0,5 h
Stremaform waterproof+steel link walls	5 h
Marc	2,5 h
Tony	2,5 h
Concrete filling until -1´50 m	27,9 h
Marc	9,3 h
Tony	9,3 h
Vibrator needle 50 mm diam. gasoline	9,3 h
Concrete (m3)	42
Formwork(walls+connection existing foundation)	45 h
Steve	11,25 h
Paul	11,25 h
Jonh	11,25 h
Marc	11,25 h
Formwork 2 sides (m2)	82
Steel working conecction(existing foundation+walls)	42 h
Paul	14 h
Marc	14 h
Tony	14 h
Steel (kg)	1.867
Concret workin until -0,28 m.	27,9 h
Steve	9,3 h
Jonh	9,3 h
Vibrator needle 30 mm diam.gasoline	9,3 h
Concrete (m3)	26,67
Removing formwork	21 h
Paul	10,5 h
Marc	10,5 h
Plastic+Cleaning Concret	1 h
Paul	1 h
Steel working floor	37 h
Marc	18,5 h
Tony	18,5 h

	Total
Steel (kg)	3.343
Stremaform+steel link walls	4 h
Steve	2 h
Paul	2 h
Formwork(zone columns)	12 h
Steve	3 h
Paul	3 h
Jonh	3 h
Marc	3 h
Formwork 2 sides (m2)	74
Steel working (connection columns with existing foundation)	19 h
Tony	4,75 h
Josh	4,75 h
Jan	4,75 h
Ronny	4,75 h
Steel (kg)	850
Mounting manholes	6 h
Steve	3 h
Paul	3 h
Fill the spaces with sand (recycled from broken concrete).	6,6 h
Backhoe loader	2,93 h
Jonh	1,83 h
Marc	1,83 h
Consolidating ground	23,6 h
Tony	11,8 h
Consolidation machine	11,8 h
Topography+Formwork perimetres	1 h
Steve	1 h
Waterproof	12 h
Josh	4 h
Jan	4 h
Ronny	4 h
Stell working floor (+conecction with walls and columns)	22 h
Steve	5,5 h
Paul	5,5 h
Jonh	5,5 h
Marc	5,5 h
Steel (kg)	7.280
Concrete working until - 0´16 m.	53,7 h
Lee	8,95 h
Dave	8,95 h

	Total
Werner	8,95 h
Tom Stragier	8,95 h
Vibrator needle 50 mm diam. gasoline	8,95 h
Vibrator needle 30 mm diam.gasoline	8,95 h
Concrete (m3)	104
Mounting tower crane	8 h
Jonh	4 h
Marc	4 h
Outside Formwork walls lift cases	53 h
Tony	13,25 h
Josh	13,25 h
Jan	13,25 h
Ronny	13,25 h
Formwork 2 sides (m2)	165
Steel working lift cases	63 h
Paul	15,75 h
Tom Daems	15,75 h
Michel	15,75 h
Bob	15,75 h
Steel (kg)	2.852
Inside Formwork walls lift cases	42 h
Steve	10,5 h
Jonh	10,5 h
Marc	10,5 h
Lee	10,5 h
Formwork 2 sides (m2)	140
Concret working cases stairs and lifts	24 h
Tom Stragier	8 h
Bob	8 h
Vibrator needle 50 mm diam. gasoline	8 h
Concrete (m3)	40,75
Mounting Prefabricated columns(+prop up+formwork base)	24 h
Tom Daems	12 h
Michel	12 h
Concret high strength and fast setting inside the column	15 h
Ronny	7,5 h
Dave	7,5 h
Mounting beams with the connectors of the column	24 h
Jan	12 h
Werner	12 h
Prop up for the pedallen	144 h

	Total
Steve	24 h
Paul	24 h
Jonh	24 h
Marc	24 h
Tony	24 h
Josh	24 h
Mounting predallen	95 h
Jan	31,67 h
Ronny	31,67 h
Lee	31,67 h
Ventilation sistem	23 h
Dave	11,5 h
Werner	11,5 h
Steel working conecction	29 h
Tom Stragier	7,25 h
Tom Daems	7,25 h
Michel	7,25 h
Bob	7,25 h
Steel (kg)	9.530
Formwork perimeter and holes	28 h
Tony	14 h
Josh	14 h
Formwork 2 sides (m2)	127
Concret working floor	70,5 h
Steve	11,75 h
Paul	11,75 h
Lee	11,75 h
Dave	11,75 h
Vibrator needle 50 mm diam. gasoline	11,75 h
Vibrator needle 30 mm diam.gasoline	11,75 h
Concrete (m3)	136
Remove the prop of columns and pedallen.	
Outside of formwork walls FLOOR 1	53 h
Steel working walls	63 h
Inside of formwork walls	42 h
Concret working walls	24 h
Mounting Prefabricated columns(+prop up+formwork base)	24 h
Concret high strength and fast setting inside the column	15 h
Mounting beams with the connectors of the column	24 h
Prop up for the pedallen	144 h
Mounting predallen	95 h

	Total
Ventilation system	23 h
Steel working conecction	29 h
Formwork perimeter and holes	28 h
Concret working floor	70,5 h
Remove the prop of columns and pedallen.	
Take out the tower crane	
END	
Total	1.991,7 h

Who Does What as of 20/06/13 17:03
De Mouterij
Steven Schyvynck

ID		Resource Name	Work
1	⚠	Steve	132,38 h

ID	Task Name	Units	Work	Delay	Start	Finish
16	Put the first part of the tower crane	1	0,5 h	0 d	14/12/12 9:50	14/12/12 10:20
9	Topography foundation	1	3 h	0 d	05/12/12 14:00	06/12/12 8:30
11	Foundation demolition(lifts and stairs cases)	1	1 h	0 d	06/12/12 8:30	06/12/12 9:30
3	Cleaning and clearin	1	2,25 h	0 d	03/12/12 7:00	03/12/12 9:15
15	Steel working for the tower crane	1	44,33 h	0 d	06/12/12 14:00	14/12/12 9:50
19	Formwork(walls+connection existing foundation)	1	11,25 h	0 d	19/12/12 14:38	21/12/12 9:23
21	Concret workin until -0,28 m.	1	9,3 h	0 d	26/12/12 7:23	27/12/12 8:41
25	Stremaform+steel link walls	1	2 h	0 d	14/12/12 10:24	14/12/12 12:54
26	Formwork(zone columns)	1	3 h	0 d	07/12/12 9:04	07/12/12 12:34
28	Mounting manholes	1	3 h	0 d	10/12/12 9:38	10/12/12 13:08
31	Topography+Formwork perimetres	1	1 h	0 d	04/01/13 9:44	04/01/13 10:44
33	Stell working floor (+conecction with walls and columns)	1	5,5 h	0 d	04/01/13 15:14	07/01/13 12:44
38	Inside Formwork walls lift cases	1	10,5 h	0 d	14/01/13 10:11	15/01/13 13:11
43	Prop up for the pedallen	1	24 h	0 d	10/01/13 13:41	15/01/13 13:41
48	Concret working floor	1	11,75 h	0 d	31/01/13 10:31	01/02/13 14:46

2	⚠	Paul	202,33 h

ID	Task Name	Units	Work	Delay	Start	Finish
8	Take out the water of the foundation	1	11 h	0 d	05/12/12 8:00	06/12/12 11:00
16	Put the first part of the tower crane	1	0,5 h	0 d	14/12/12 9:50	14/12/12 10:20
10	Cleaning foundations	1	34,25 h	0 d	06/12/12 8:30	12/12/12 10:45
2	Fenced and signaling	1	5 h	0 d	03/12/12 7:00	03/12/12 12:30
5	Provisional houses	1	2,5 h	0 d	04/12/12 14:30	05/12/12 8:30
7	Water, electricity and sanitar Phase2	1	3 h	0 d	05/12/12 8:30	05/12/12 11:30
15	Steel working for the tower crane	1	44,33 h	0 d	06/12/12 14:00	14/12/12 9:50
19	Formwork(walls+connection existing foundation)	1	11,25 h	0 d	19/12/12 14:38	21/12/12 9:23
20	Steel working conecction(existing foundation+walls)	1	14 h	0 d	21/12/12 9:23	26/12/12 7:23
22	Removing formwork	1	10,5 h	0 d	31/12/12 8:41	02/01/13 11:11
23	Plastic+Cleaning Concret	1	1 h	0 d	07/12/12 10:00	07/12/12 11:00
25	Stremaform+steel link walls	1	2 h	0 d	14/12/12 10:24	14/12/12 12:54
26	Formwork(zone columns)	1	3 h	0 d	07/12/12 9:04	07/12/12 12:34
28	Mounting manholes	1	3 h	0 d	10/12/12 9:38	10/12/12 13:08
33	Stell working floor (+conecction with walls and columns)	1	5,5 h	0 d	04/01/13 15:14	07/01/13 12:44
37	Steel working lift cases	1	15,75 h	0 d	10/01/13 10:26	14/01/13 10:11
43	Prop up for the pedallen	1	24 h	0 d	10/01/13 13:41	15/01/13 13:41
48	Concret working floor	1	11,75 h	0 d	31/01/13 10:31	01/02/13 14:46

3		Backhoe loader	9,68 h

ID	Task Name	Units	Work	Delay	Start	Finish
12	Excavation(-3,00 m.Tower Crane)	1	3 h	0 d	06/12/12 9:30	06/12/12 13:00
13	Excavation(-1,90 m.Lift Cases)	1	1,5 h	0 d	07/12/12 8:30	07/12/12 10:00
3	Cleaning and clearin	1	2,25 h	0 d	03/12/12 7:00	03/12/12 9:15
29	Fill the spaces with sand (recycled from broken concrete).	1	2,93 h	0 d	31/12/12 14:26	02/01/13 8:52

4	⚠	Jonh	125,13 h

ID	Task Name	Units	Work	Delay	Start	Finish
8	Take out the water of the foundation	1	11 h	0 d	05/12/12 8:00	06/12/12 11:00
10	Cleaning foundations	1	34,25 h	0 d	06/12/12 8:30	12/12/12 10:45
2	Fenced and signaling	1	5 h	0 d	03/12/12 7:00	03/12/12 12:30
5	Provisional houses	1	2,5 h	0 d	04/12/12 14:30	05/12/12 8:30
7	Water, electricity and sanitar Phase2	1	3 h	0 d	05/12/12 8:30	05/12/12 11:30

ID		Resource Name	Work

"Jonh" continued

ID	Task Name	Units	Work	Delay	Start	Finish
19	Formwork(walls+connection existing foundation)	1	11,25 h	0 d	19/12/12 14:38	21/12/12 9:23
21	Concret workin until -0,28 m.	1	9,3 h	0 d	26/12/12 7:23	27/12/12 8:41
26	Formwork(zone columns)	1	3 h	0 d	07/12/12 9:04	07/12/12 12:34
29	Fill the spaces with sand (recycled from broken concrete).	1	1,83 h	0 d	31/12/12 14:26	02/01/13 7:46
33	Stell working floor (+conecction with walls and columns)	1	5,5 h	0 d	04/01/13 15:14	07/01/13 12:44
35	Mounting tower crane	1	4 h	0 d	27/12/12 14:38	28/12/12 10:08
38	Inside Formwork walls lift cases	1	10,5 h	0 d	14/01/13 10:11	15/01/13 13:11
43	Prop up for the pedallen	1	24 h	0 d	10/01/13 13:41	15/01/13 13:41

5 Marc 154,38 h

ID	Task Name	Units	Work	Delay	Start	Finish
10	Cleaning foundations	1	34,25 h	0 d	06/12/12 8:30	12/12/12 10:45
11	Foundation demolition(lifts and stairs cases)	1	1 h	0 d	06/12/12 8:30	06/12/12 9:30
3	Cleaning and clearin	1	2,25 h	0 d	03/12/12 7:00	03/12/12 9:15
6	Water, electricity and sanitar Phase1	1	2 h	0 d	04/12/12 12:30	04/12/12 14:30
17	Stremaform waterproof+steel link walls	1	2,5 h	0 d	14/12/12 10:20	14/12/12 13:20
18	Concrete filling until -1´50 m	1	9,3 h	0 d	14/12/12 13:20	17/12/12 14:38
19	Formwork(walls+connection existing foundation)	1	11,25 h	0 d	19/12/12 14:38	21/12/12 9:23
20	Steel working conecction(existing foundation+walls)	1	14 h	0 d	21/12/12 9:23	26/12/12 7:23
22	Removing formwork	1	10,5 h	0 d	31/12/12 8:41	02/01/13 11:11
24	Steel working floor	1	18,5 h	0 d	07/12/12 11:00	11/12/12 14:00
26	Formwork(zone columns)	1	3 h	0 d	07/12/12 9:04	07/12/12 12:34
29	Fill the spaces with sand (recycled from broken concrete).	1	1,83 h	0 d	31/12/12 14:26	02/01/13 7:46
33	Stell working floor (+conecction with walls and columns)	1	5,5 h	0 d	04/01/13 15:14	07/01/13 12:44
35	Mounting tower crane	1	4 h	0 d	27/12/12 14:38	28/12/12 10:08
38	Inside Formwork walls lift cases	1	10,5 h	0 d	14/01/13 10:11	15/01/13 13:11
43	Prop up for the pedallen	1	24 h	0 d	10/01/13 13:41	15/01/13 13:41

6 Tony 150,6 h

ID	Task Name	Units	Work	Delay	Start	Finish
3	Cleaning and clearin	1	2,25 h	0 d	03/12/12 7:00	03/12/12 9:15
6	Water, electricity and sanitar Phase1	1	2 h	0 d	04/12/12 12:30	04/12/12 14:30
10	Cleaning foundations	1	34,25 h	0 d	06/12/12 8:30	12/12/12 10:45
17	Stremaform waterproof+steel link walls	1	2,5 h	0 d	14/12/12 10:20	14/12/12 13:20
18	Concrete filling until -1´50 m	1	9,3 h	0 d	14/12/12 13:20	17/12/12 14:38
20	Steel working conecction(existing foundation+walls)	1	14 h	0 d	21/12/12 9:23	26/12/12 7:23
24	Steel working floor	1	18,5 h	0 d	07/12/12 11:00	11/12/12 14:00
27	Steel working (connection columns with existing foundation)	1	4,75 h	0 d	07/12/12 10:34	10/12/12 7:19
30	Consolidating ground	1	11,8 h	0 d	02/01/13 14:26	04/01/13 9:44
36	Outside Formwork walls lift cases	1	13,25 h	0 d	08/01/13 13:41	10/01/13 10:26
43	Prop up for the pedallen	1	24 h	0 d	10/01/13 13:41	15/01/13 13:41
47	Formwork perimeter and holes	1	14 h	0 d	29/01/13 13:01	31/01/13 10:31

7 Josh 60 h

ID	Task Name	Units	Work	Delay	Start	Finish
27	Steel working (connection columns with existing foundation)	1	4,75 h	0 d	07/12/12 10:34	10/12/12 7:19
32	Waterproof	1	4 h	0 d	04/01/13 10:44	04/01/13 15:14
36	Outside Formwork walls lift cases	1	13,25 h	0 d	08/01/13 13:41	10/01/13 10:26
43	Prop up for the pedallen	1	24 h	0 d	10/01/13 13:41	15/01/13 13:41
47	Formwork perimeter and holes	1	14 h	0 d	29/01/13 13:01	31/01/13 10:31

ID		Resource Name	Work

8 Jan — 65,67 h

ID	Task Name	Units	Work	Delay	Start	Finish
27	Steel working (connection columns with existing foundation)	1	4,75 h	0 d	07/12/12 10:34	10/12/12 7:19
32	Waterproof	1	4 h	0 d	04/01/13 10:44	04/01/13 15:14
36	Outside Formwork walls lift cases	1	13,25 h	0 d	08/01/13 13:41	10/01/13 10:26
42	Mounting beams with the connectors of the column	1	12 h	0 d	22/01/13 10:41	23/01/13 15:11
44	Mounting predallen	1	31,67 h	0 d	25/01/13 13:11	31/01/13 12:51

9 Ronny — 61,17 h

ID	Task Name	Units	Work	Delay	Start	Finish
27	Steel working (connection columns with existing foundation)	1	4,75 h	0 d	07/12/12 10:34	10/12/12 7:19
32	Waterproof	1	4 h	0 d	04/01/13 10:44	04/01/13 15:14
36	Outside Formwork walls lift cases	1	13,25 h	0 d	08/01/13 13:41	10/01/13 10:26
41	Concret high strength and fast setting inside the column	1	7,5 h	0 d	18/01/13 11:11	21/01/13 10:41
44	Mounting predallen	1	31,67 h	0 d	25/01/13 13:11	31/01/13 12:51

10 Lee — 113,2 h

ID	Task Name	Units	Work	Delay	Start	Finish
48	Concret working floor	1	11,75 h	0 d	31/01/13 10:31	01/02/13 14:46
4	Site planning-Topography	1	5 h	0 d	04/12/12 7:00	04/12/12 12:30
14	Plastic+Cleaning Concret	1	1 h	0 d	06/12/12 13:00	06/12/12 14:00
15	Steel working for the tower crane	1	44,33 h	0 d	06/12/12 14:00	14/12/12 9:50
34	Concrete working until - 0´16 m.	1	8,95 h	0 d	07/01/13 12:44	08/01/13 13:41
38	Inside Formwork walls lift cases	1	10,5 h	0 d	14/01/13 10:11	15/01/13 13:11
44	Mounting predallen	1	31,67 h	0 d	25/01/13 13:11	31/01/13 12:51

11 Dave — 44,2 h

ID	Task Name	Units	Work	Delay	Start	Finish
45	Ventilation sistem	1	11,5 h	0 d	29/01/13 13:01	31/01/13 8:01
48	Concret working floor	1	11,75 h	0 d	31/01/13 10:31	01/02/13 14:46
12	Excavation(-3,00 m.Tower Crane)	1	3 h	0 d	06/12/12 9:30	06/12/12 13:00
13	Excavation(-1,90 m.Lift Cases)	1	1,5 h	0 d	07/12/12 8:30	07/12/12 10:00
34	Concrete working until - 0´16 m.	1	8,95 h	0 d	07/01/13 12:44	08/01/13 13:41
41	Concret high strength and fast setting inside the column	1	7,5 h	0 d	18/01/13 11:11	21/01/13 10:41

12 Werner — 32,45 h

ID	Task Name	Units	Work	Delay	Start	Finish
45	Ventilation sistem	1	11,5 h	0 d	29/01/13 13:01	31/01/13 8:01
34	Concrete working until - 0´16 m.	1	8,95 h	0 d	07/01/13 12:44	08/01/13 13:41
42	Mounting beams with the connectors of the column	1	12 h	0 d	22/01/13 10:41	23/01/13 15:11

13 Tom Stragier — 24,2 h

ID	Task Name	Units	Work	Delay	Start	Finish
34	Concrete working until - 0´16 m.	1	8,95 h	0 d	07/01/13 12:44	08/01/13 13:41
39	Concret working cases stairs and lifts	1	8 h	0 d	15/01/13 13:11	16/01/13 13:11
46	Steel working conecction	1	7,25 h	0 d	28/01/13 11:01	29/01/13 10:16

14 Tom Daems — 35 h

ID	Task Name	Units	Work	Delay	Start	Finish
37	Steel working lift cases	1	15,75 h	0 d	10/01/13 10:26	14/01/13 10:11
40	Mounting Prefabricated columns(+prop up+formwork base)	1	12 h	0 d	17/01/13 13:41	21/01/13 9:11
46	Steel working conecction	1	7,25 h	0 d	28/01/13 11:01	29/01/13 10:16

ID	Resource Name	Work

15 Michel 35 h

ID	Task Name	Units	Work	Delay	Start	Finish
37	Steel working lift cases	1	15,75 h	0 d	10/01/13 10:26	14/01/13 10:11
40	Mounting Prefabricated columns(+prop up+formwork base)	1	12 h	0 d	17/01/13 13:41	21/01/13 9:11
46	Steel working conecction	1	7,25 h	0 d	28/01/13 11:01	29/01/13 10:16

16 Bob 31 h

ID	Task Name	Units	Work	Delay	Start	Finish
37	Steel working lift cases	1	15,75 h	0 d	10/01/13 10:26	14/01/13 10:11
39	Concret working cases stairs and lifts	1	8 h	0 d	15/01/13 13:11	16/01/13 13:11
46	Steel working conecction	1	7,25 h	0 d	28/01/13 11:01	29/01/13 10:16

17 Tower crane 0 h

18 Vibrator needle 50 mm diam. gasoline 38 h

ID	Task Name	Units	Work	Delay	Start	Finish
48	Concret working floor	1	11,75 h	0 d	31/01/13 10:31	01/02/13 14:46
18	Concrete filling until -1´50 m	1	9,3 h	0 d	14/12/12 13:20	17/12/12 14:38
34	Concrete working until - 0´16 m.	1	8,95 h	0 d	07/01/13 12:44	08/01/13 13:41
39	Concret working cases stairs and lifts	1	8 h	0 d	15/01/13 13:11	16/01/13 13:11

19 Vibrator needle 30 mm diam.gasoline 30 h

ID	Task Name	Units	Work	Delay	Start	Finish
48	Concret working floor	1	11,75 h	0 d	31/01/13 10:31	01/02/13 14:46
21	Concret workin until -0,28 m.	1	9,3 h	0 d	26/12/12 7:23	27/12/12 8:41
34	Concrete working until - 0´16 m.	1	8,95 h	0 d	07/01/13 12:44	08/01/13 13:41

20 Consolidation machine 11,8 h

ID	Task Name	Units	Work	Delay	Start	Finish
30	Consolidating ground	1	11,8 h	0 d	02/01/13 14:26	04/01/13 9:44

21 Backhoe jackhammer 1 h

ID	Task Name	Units	Work	Delay	Start	Finish
11	Foundation demolition(lifts and stairs cases)	1	1 h	0 d	06/12/12 8:30	06/12/12 9:30

22 Drain pump 0 h

Cash Flow as of 20/06/13 17:02
De Mouterij
Steven Schyvynck

	03/12/12	10/12/12	17/12/12	24/12/12	31/12/12	07/01/13	14/01/13	21/01/13
Start								
Fenced and signaling	315,70 €							
Cleaning and clearin	394,22 €							
Site planning-Topography	164,20 €							
Provisional houses	157,85 €							
Water, electricity and sanitar Phase1	109,52 €							
Water, electricity and sanitar Phase2	189,42 €							
Take out the water of the foundation	694,54 €							
Topography foundation	118,35 €							
Cleaning foundations	1.709,55 €	2.328,53 €						
Foundation demolition(lifts and stairs cases)	169,94 €							
Excavation(-3,00 m.Tower Crane)	333,90 €							
Excavation(-1,90 m.Lift Cases)	166,95 €							
Plastic+Cleaning Concret	32,84 €							
Steel working for the tower crane	2.357,63 €	8.644,64 €						
Put the first part of the tower crane		36,15 €						
Stremaform waterproof+steel link walls		136,90 €						
Concrete filling until -1´50 m		1.048,64 €	3.452,43 €					
Formwork(walls+connection existing foundation)			5.738,65 €					
Steel working conecction(existing foundation+walls)			1.315,94 €	1.964,16 €				
Concret workin until -0,28 m.				3.190,26 €				
Removing formwork					643,97 €			
Plastic+Cleaning Concret	32,84 €							
Steel working floor	1.014,13 €	3.676,23 €						
Stremaform+steel link walls		144,58 €						
Formwork(zone columns)	4.241,24 €							
Steel working (connection columns with existing foundation)	1.367,77 €	96,05 €						
Mounting manholes		216,87 €						
Fill the spaces with sand (recycled from broken concrete).					345,38 €			
Consolidating ground					1.348,39 €			
Topography+Formwork perimetres					39,45 €			
Waterproof					340,24 €			
Stell working floor (+conecction with walls and columns)					423,22 €	8.305,72 €		
Concrete working until - 0´16 m.						10.965,47 €		
Mounting tower crane				235,16 €				
Outside Formwork walls lift cases						10.055,12 €		
Steel working lift cases						4.039,40 €	1.023,24 €	
Inside Formwork walls lift cases							8.656,34 €	
Concret working cases stairs and lifts							4.341,27 €	

Cash Flow as of 20/06/13 17:02
De Mouterij
Steven Schyvynck

	03/12/12	10/12/12	17/12/12	24/12/12	31/12/12	07/01/13	14/01/13	21/01/13
Mounting Prefabricated columns(+prop up+formwork base)							580,26 €	
Concret high strength and fast setting inside the column							215,91 €	
Mounting beams with the connectors of the column								
Prop up for the pedallen						1.842,10 €	2.661,50 €	
Mounting predallen								
Ventilation sistem								
Steel working conecction								
Formwork perimeter and holes								
Concret working floor								
Remove the prop of columns and pedallen.								
Outside of formwork walls FLOOR 1								
Steel working walls								
Inside of formwork walls								
Concret working walls								
Mounting Prefabricated columns(+prop up+formwork base)								
Concret high strength and fast setting inside the column								
Mounting beams with the connectors of the column								
Prop up for the pedallen								
Mounting predallen								
Ventilation system								
Steel working conecction								
Formwork perimeter and holes								
Concret working floor								
Remove the prop of columns and pedallen.								
Take out the tower crane								
END								
Total	13.570,59 €	16.328,57 €	10.507,03 €	5.389,57 €	3.140,64 €	35.207,81 €	17.478,53 €	

Cash Flow as of 20/06/13 17:02
De Mouterij
Steven Schyvynck

	21/01/13	28/01/13	04/02/13	11/02/13	18/02/13	25/02/13	04/03/13	11/03/13
Start								
Fenced and signaling								
Cleaning and clearin								
Site planning-Topography								
Provisional houses								
Water, electricity and sanitar Phase1								
Water, electricity and sanitar Phase2								
Take out the water of the foundation								
Topography foundation								
Cleaning foundations								
Foundation demolition(lifts and stairs cases)								
Excavation(-3,00 m.Tower Crane)								
Excavation(-1,90 m.Lift Cases)								
Plastic+Cleaning Concret								
Steel working for the tower crane								
Put the first part of the tower crane								
Stremaform waterproof+steel link walls								
Concrete filling until -1´50 m								
Formwork(walls+connection existing foundation)								
Steel working conecction(existing foundation+walls)								
Concret workin until -0,28 m.								
Removing formwork								
Plastic+Cleaning Concret								
Steel working floor								
Stremaform+steel link walls								
Formwork(zone columns)								
Steel working (connection columns with existing foundation)								
Mounting manholes								
Fill the spaces with sand (recycled from broken concrete).								
Consolidating ground								
Topography+Formwork perimetres								
Waterproof								
Stell working floor (+conecction with walls and columns)								
Concrete working until - 0´16 m.								
Mounting tower crane								
Outside Formwork walls lift cases								
Steel working lift cases								
Inside Formwork walls lift cases								
Concret working cases stairs and lifts								

Cash Flow as of 20/06/13 17:02
De Mouterij
Steven Schyvynck

	21/01/13	28/01/13	04/02/13	11/02/13	18/02/13	25/02/13	04/03/13	11/03/13
Mounting Prefabricated columns(+prop up+formwork base)	129,06 €							
Concret high strength and fast setting inside the column	208,37 €							
Mounting beams with the connectors of the column	705,48 €							
Prop up for the pedallen								
Mounting predallen	202,94 €	2.571,06 €						
Ventilation sistem		696,90 €						
Steel working conecction		11.337,78 €						
Formwork perimeter and holes		7.395,98 €						
Concret working floor		14.503,90 €						
Remove the prop of columns and pedallen.								
Outside of formwork walls FLOOR 1								
Steel working walls								
Inside of formwork walls								
Concret working walls								
Mounting Prefabricated columns(+prop up+formwork base)								
Concret high strength and fast setting inside the column								
Mounting beams with the connectors of the column								
Prop up for the pedallen								
Mounting predallen								
Ventilation system								
Steel working conecction								
Formwork perimeter and holes								
Concret working floor								
Remove the prop of columns and pedallen.								
Take out the tower crane								
END								
Total	1.245,84 €	36.505,62 €						

Cash Flow as of 20/06/13 17:02
De Mouterij
Steven Schyvynck

	11/03/13	18/03/13	25/03/13	01/04/13	08/04/13	15/04/13	22/04/13	29/04/13
Start								
Fenced and signaling								
Cleaning and clearin								
Site planning-Topography								
Provisional houses								
Water, electricity and sanitar Phase1								
Water, electricity and sanitar Phase2								
Take out the water of the foundation								
Topography foundation								
Cleaning foundations								
Foundation demolition(lifts and stairs cases)								
Excavation(-3,00 m.Tower Crane)								
Excavation(-1,90 m.Lift Cases)								
Plastic+Cleaning Concret								
Steel working for the tower crane								
Put the first part of the tower crane								
Stremaform waterproof+steel link walls								
Concrete filling until -1´50 m								
Formwork(walls+connection existing foundation)								
Steel working conecction(existing foundation+walls)								
Concret workin until -0,28 m.								
Removing formwork								
Plastic+Cleaning Concret								
Steel working floor								
Stremaform+steel link walls								
Formwork(zone columns)								
Steel working (connection columns with existing foundation)								
Mounting manholes								
Fill the spaces with sand (recycled from broken concrete).								
Consolidating ground								
Topography+Formwork perimetres								
Waterproof								
Stell working floor (+conecction with walls and columns)								
Concrete working until - 0´16 m.								
Mounting tower crane								
Outside Formwork walls lift cases								
Steel working lift cases								
Inside Formwork walls lift cases								
Concret working cases stairs and lifts								

Cash Flow as of 20/06/13 17:02
De Mouterij
Steven Schyvynck

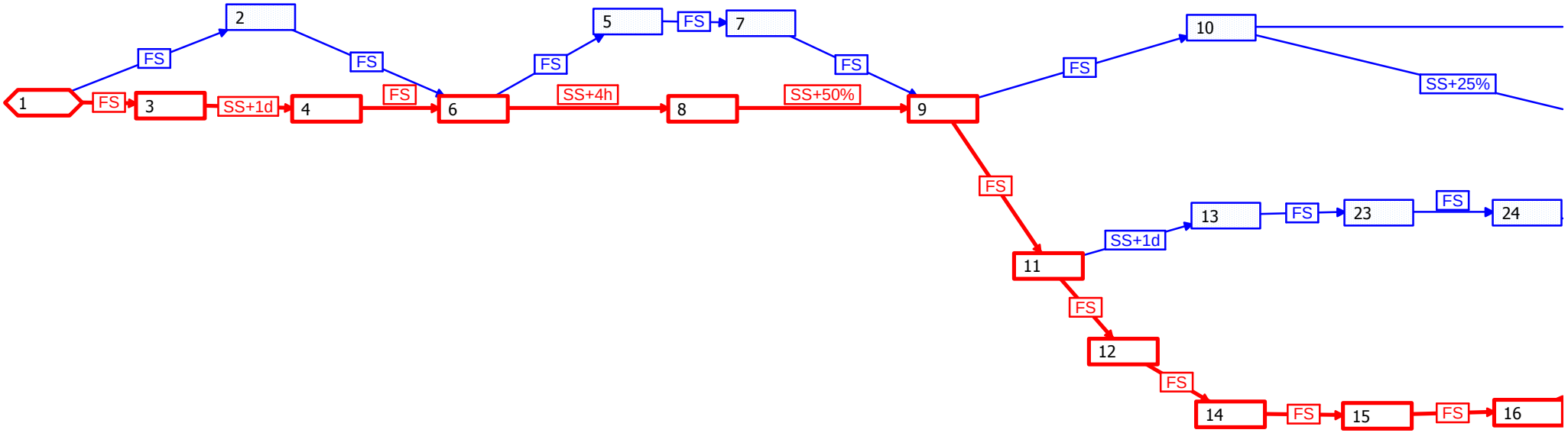
	11/03/13	18/03/13	25/03/13	01/04/13	08/04/13	15/04/13	22/04/13	29/04/13
Mounting Prefabricated columns(+prop up+formwork base)								
Concret high strength and fast setting inside the column								
Mounting beams with the connectors of the column								
Prop up for the pedallen								
Mounting predallen								
Ventilation sistem								
Steel working conecction								
Formwork perimeter and holes								
Concret working floor								
Remove the prop of columns and pedallen.								
Outside of formwork walls FLOOR 1								
Steel working walls								
Inside of formwork walls								
Concret working walls								
Mounting Prefabricated columns(+prop up+formwork base)								
Concret high strength and fast setting inside the column								
Mounting beams with the connectors of the column								
Prop up for the pedallen								
Mounting predallen								
Ventilation system								
Steel working conecction								
Formwork perimeter and holes								
Concret working floor								
Remove the prop of columns and pedallen.								
Take out the tower crane								
END								
Total								

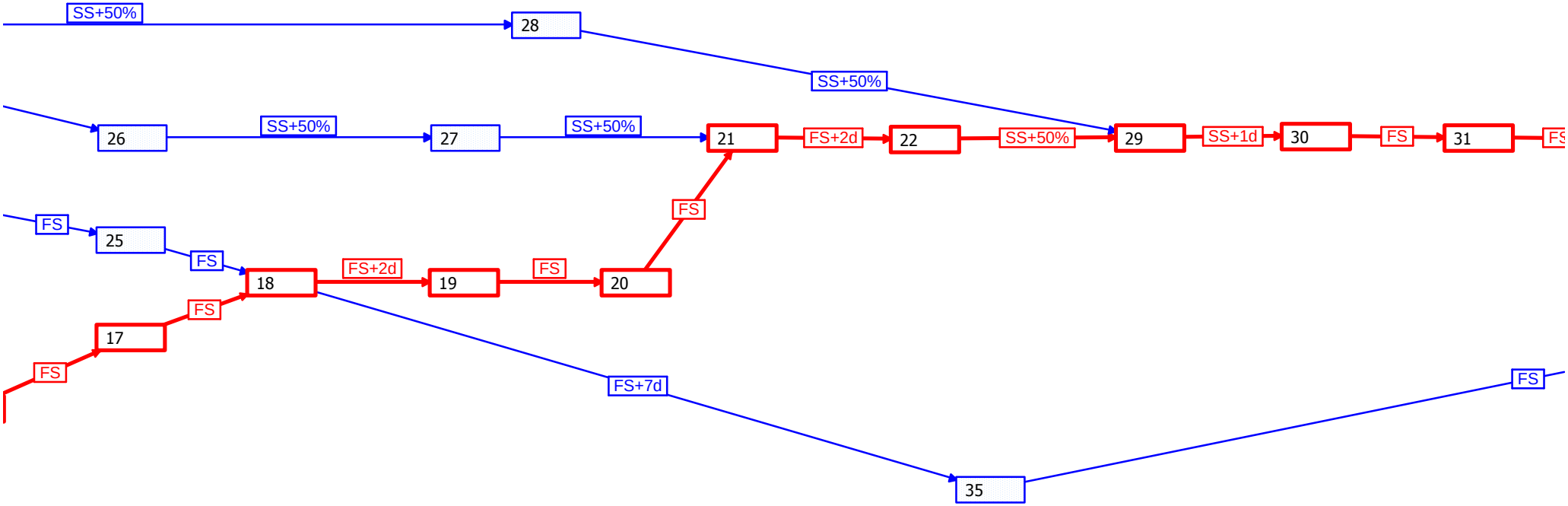
Cash Flow as of 20/06/13 17:02
De Mouterij
Steven Schyvynck

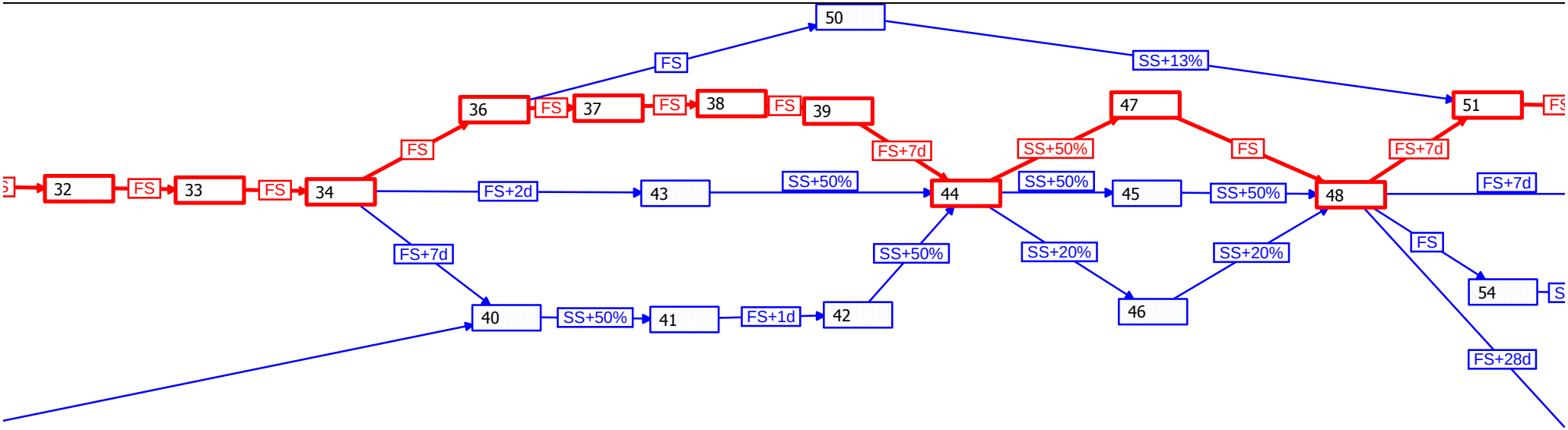
	Total
Start	
Fenced and signaling	315,70 €
Cleaning and clearin	394,22 €
Site planning-Topography	164,20 €
Provisional houses	157,85 €
Water, electricity and sanitar Phase1	109,52 €
Water, electricity and sanitar Phase2	189,42 €
Take out the water of the foundation	694,54 €
Topography foundation	118,35 €
Cleaning foundations	4.038,08 €
Foundation demolition(lifts and stairs cases)	169,94 €
Excavation(-3,00 m.Tower Crane)	333,90 €
Excavation(-1,90 m.Lift Cases)	166,95 €
Plastic+Cleaning Concret	32,84 €
Steel working for the tower crane	11.002,26 €
Put the first part of the tower crane	36,15 €
Stremaform waterproof+steel link walls	136,90 €
Concrete filling until -1´50 m	4.501,07 €
Formwork(walls+connection existing foundation)	5.738,65 €
Steel working conecction(existing foundation+walls)	3.280,10 €
Concret workin until -0,28 m.	3.190,26 €
Removing formwork	643,97 €
Plastic+Cleaning Concret	32,84 €
Steel working floor	4.690,36 €
Stremaform+steel link walls	144,58 €
Formwork(zone columns)	4.241,24 €
Steel working (connection columns with existing foundation)	1.463,82 €
Mounting manholes	216,87 €
Fill the spaces with sand (recycled from broken concrete).	345,38 €
Consolidating ground	1.348,39 €
Topography+Formwork perimetres	39,45 €
Waterproof	340,24 €
Stell working floor (+conecction with walls and columns)	8.728,94 €
Concrete working until - 0´16 m.	10.965,47 €
Mounting tower crane	235,16 €
Outside Formwork walls lift cases	10.055,12 €
Steel working lift cases	5.062,64 €
Inside Formwork walls lift cases	8.656,34 €
Concret working cases stairs and lifts	4.341,27 €

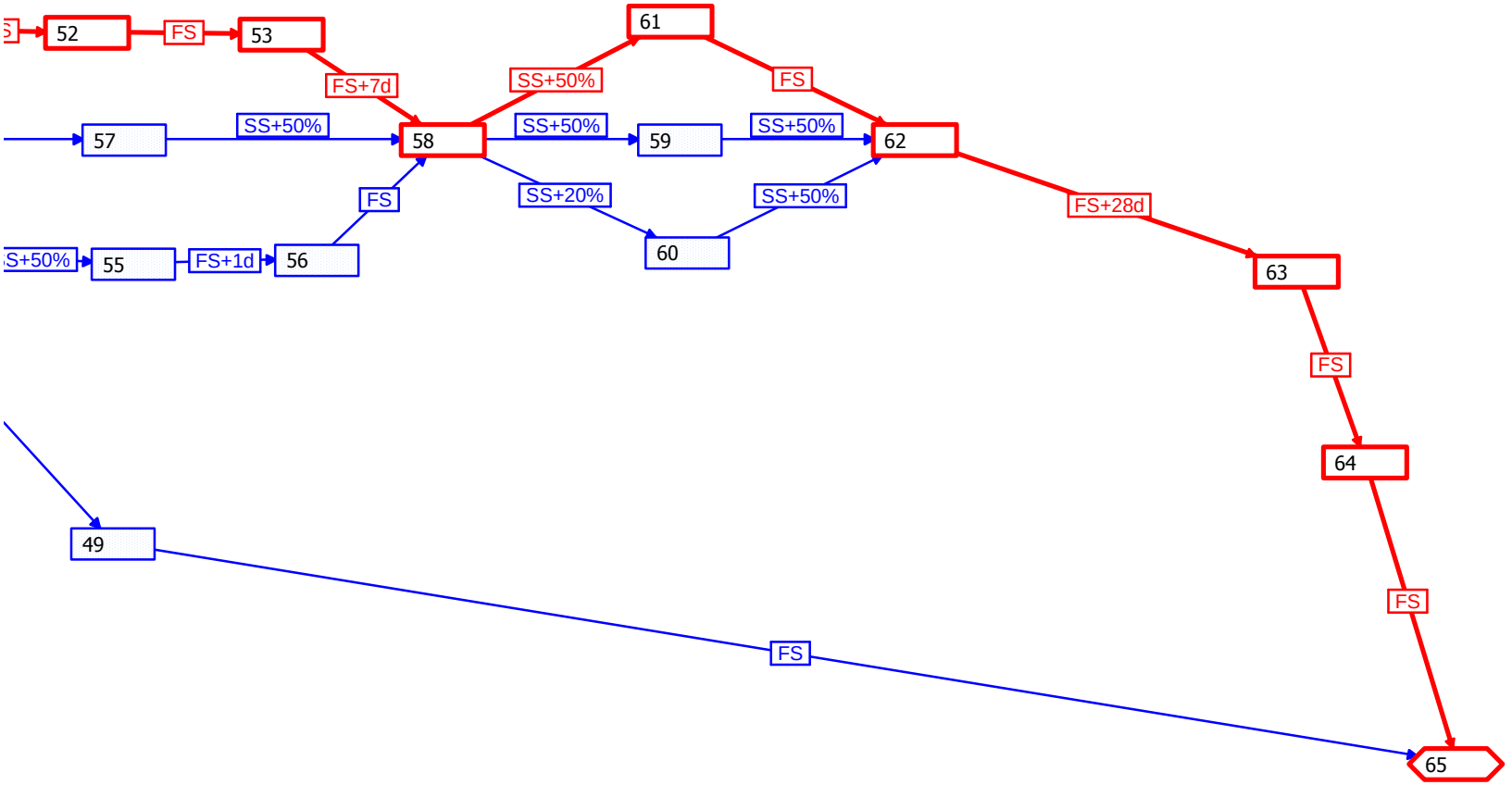
Cash Flow as of 20/06/13 17:02
De Mouterij
Steven Schyvynck

	Total
Mounting Prefabricated columns(+prop up+formwork base)	709,32 €
Concret high strength and fast setting inside the column	424,28 €
Mounting beams with the connectors of the column	705,48 €
Prop up for the pedallen	4.503,60 €
Mounting predallen	2.774,00 €
Ventilation sistem	696,90 €
Steel working conecction	11.337,78 €
Formwork perimeter and holes	7.395,98 €
Concret working floor	14.503,90 €
Remove the prop of columns and pedallen.	
Outside of formwork walls FLOOR 1	
Steel working walls	
Inside of formwork walls	
Concret working walls	
Mounting Prefabricated columns(+prop up+formwork base)	
Concret high strength and fast setting inside the column	
Mounting beams with the connectors of the column	
Prop up for the pedallen	
Mounting predallen	
Ventilation system	
Steel working conecction	
Formwork perimeter and holes	
Concret working floor	
Remove the prop of columns and pedallen.	
Take out the tower crane	
END	
Total	139.374,20 €

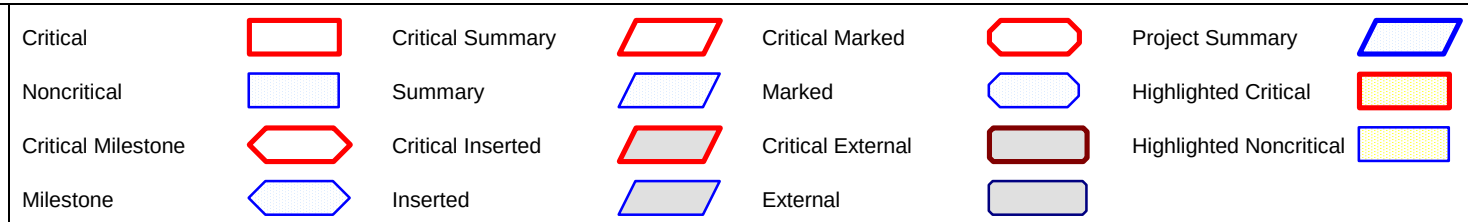

1
2
3
4
5
6
7
8
9
10
11
12
13
14
15
16
23
24
FS
SS+1d
SS+4h
SS+50%
SS+25%


SS+50%
28
SS+50%
26
SS+50%
27
SS+50%
21
FS+2d
22
SS+50%
29
SS+1d
30
FS
31
FS
FS
25
FS
18
FS+2d
19
FS
20
FS
FS
17
FS
FS+7d
35
FS


50
FS
SS+13%
36
FS
37
FS
38
FS
39
FS+7d
47
SS+50%
FS
51
FS
FS+7d
32
FS
33
FS
34
FS+2d
43
SS+50%
44
SS+50%
45
SS+50%
48
FS+7d
FS+7d
SS+50%
SS+20%
SS+20%
FS
54
40
SS+50%
41
FS+1d
42
46
FS+28d


52
FS
53
FS+7d
61
SS+50%
FS
57
SS+50%
58
SS+50%
59
SS+50%
62
FS
SS+20%
SS+50%
S+50%
55
FS+1d
56
60
FS+28d
63
FS
64
FS
49
FS
65

Project: De Mouterij
Date: 20/06/13 17:06



PART 7: TECNICHAL DOCUMENTS

7.1. TOWER CRANE LIEBHERR 154 EC H6 LITRONIC

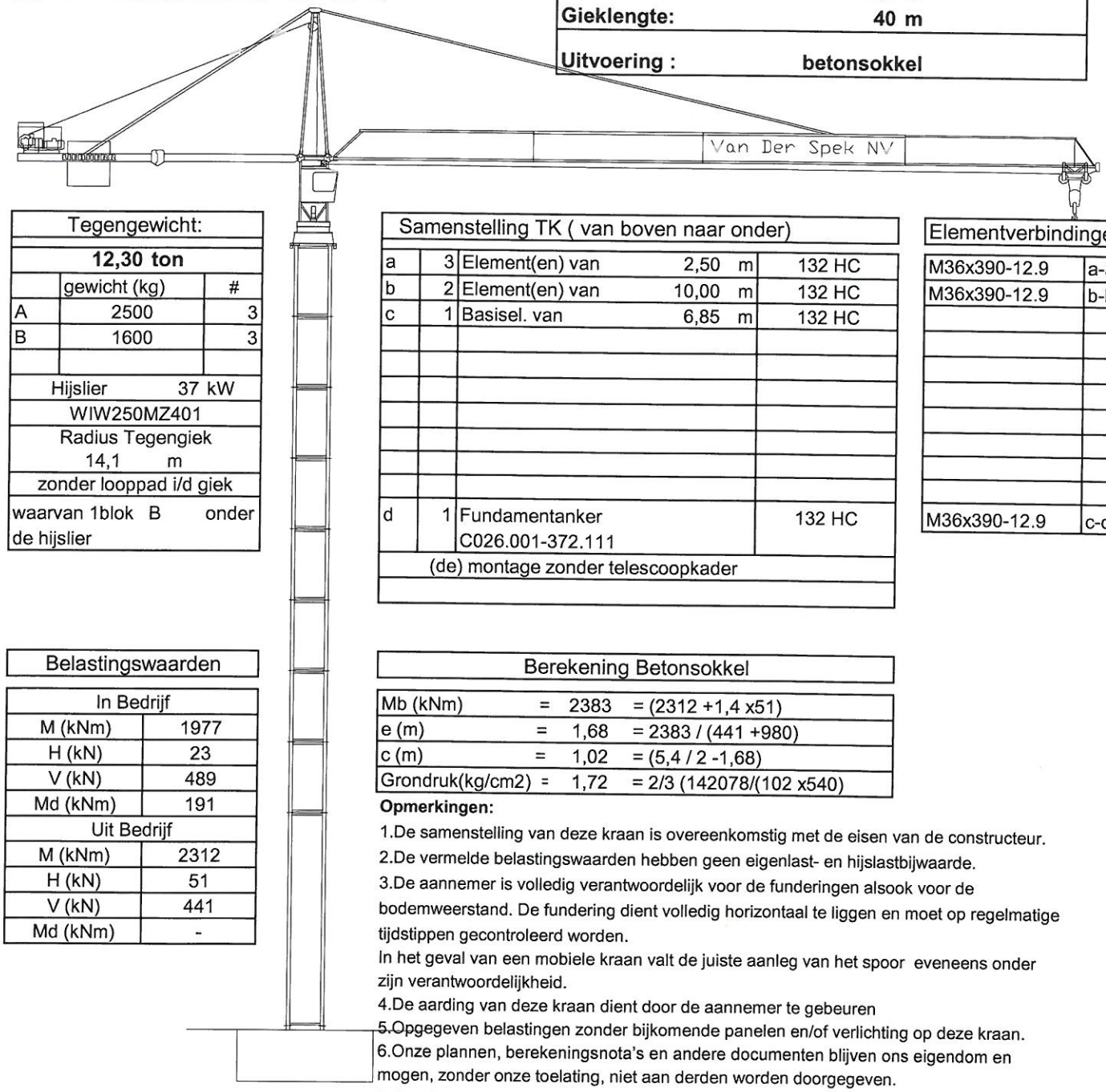
VAN DER SPEK
TERNAT
POWERED BY PEOPLE

INDUSTRIELAAN 10 – 1740 TERNAT
☎ 02 / 582 29 79 🖷 02 / 582 48 28

Klant:	**DE NUL**
Contact:	**Dirk Hautekeete**
Werf:	**Rusthuis Mouterij - Aalst**

TF ref. KVL 856 /2012

LIEBHERR	**154 EC-H6 Litronic**
Wn :	**47806**
HH	**36,3 m**
Gieklengte:	**40 m**
Uitvoering :	**betonsokkel**



Tegengewicht:

12,30 ton

	gewicht (kg)	#
A	2500	3
B	1600	3

Hijslier 37 kW
WIW250MZ401
Radius Tegengiek 14,1 m
zonder looppad i/d giek
waarvan 1blok B onder de hijslier

Samenstelling TK (van boven naar onder)

a	3	Element(en) van	2,50 m	132 HC
b	2	Element(en) van	10,00 m	132 HC
c	1	Basisel. van	6,85 m	132 HC
d	1	Fundamentanker C026.001-372.111		132 HC

(de) montage zonder telescoopkader

Elementverbindingen

M36x390-12.9	a-a	a-b
M36x390-12.9	b-b	b-c
M36x390-12.9	c-d	

Belastingswaarden

In Bedrijf	
M (kNm)	1977
H (kN)	23
V (kN)	489
Md (kNm)	191
Uit Bedrijf	
M (kNm)	2312
H (kN)	51
V (kN)	441
Md (kNm)	-

Berekening Betonsokkel

Mb (kNm)	=	2383	= (2312 +1,4 x51)
e (m)	=	1,68	= 2383 / (441 +980)
c (m)	=	1,02	= (5,4 / 2 -1,68)
Grondruk(kg/cm2)	=	1,72	= 2/3 (142078/(102 x540)

Opmerkingen:

1.De samenstelling van deze kraan is overeenkomstig met de eisen van de constructeur.
2.De vermelde belastingswaarden hebben geen eigenlast- en hijslastbijwaarde.
3.De aannemer is volledig verantwoordelijk voor de funderingen alsook voor de bodemweerstand. De fundering dient volledig horizontaal te liggen en moet op regelmatige tijdstippen gecontroleerd worden.
In het geval van een mobiele kraan valt de juiste aanleg van het spoor eveneens onder zijn verantwoordelijkheid.
4.De aarding van deze kraan dient door de aannemer te gebeuren
5.Opgegeven belastingen zonder bijkomende panelen en/of verlichting op deze kraan.
6.Onze plannen, berekeningsnota's en andere documenten blijven ons eigendom en mogen, zonder onze toelating, niet aan derden worden doorgegeven.
7. Berekening stabiliteit volgens EN 14439:2009 - Windzone **C.25**

Afm. betonsokkel: 5,4 m x 5,4 m x 1,4 m

6/09/2012 J. EECKHOUT K. VAN LOO E. VAN AUDENRODE

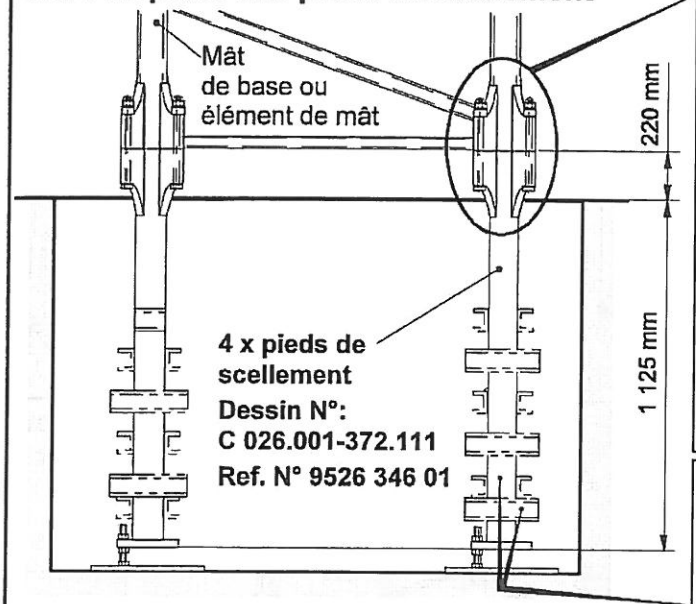
Vak bestemd voor de montageploeg:
a. Kraan gemonteerd volgens de gegevens van deze technische fiche, zonder aansprakelijkheid m.b.t. de samenstelling.
b. Wijziging van technische fiche: na telefonisch onderhoud met Dhr. .....
De chef-monteur (Naam, handtekening + datum):FORM09.01/19ed.d

Montage — Pieds de scellement 120 HC / 132 HC

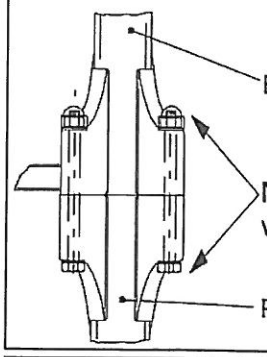
Préparer le massif de scellement (dimension et ferraillage) d'après le calcul du massif de scellement et des plans d'armature.
Les réactions sur les semelles sont indiqués dans les tableaux «Réactions sur les semelles».

120hc_fa_standard.dsf

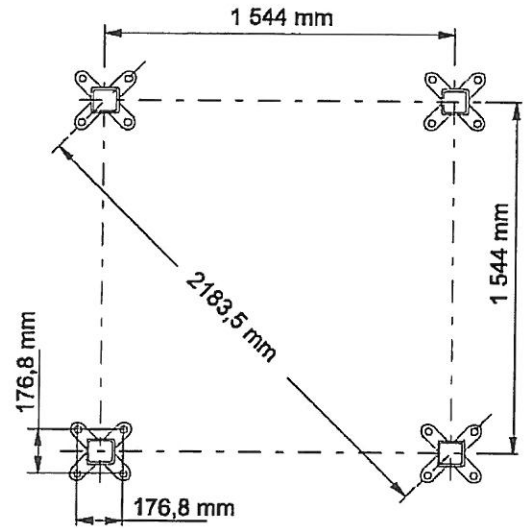
Mise en place des pieds de scellement

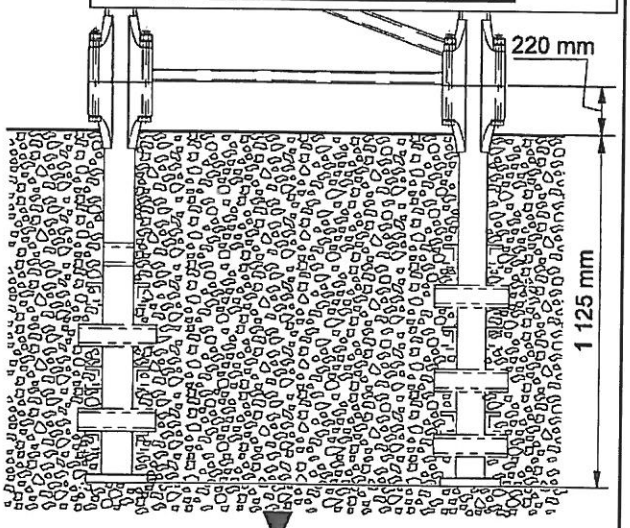


(1) Boulonner les pieds de scellement au mât de base ou à l'élément de mât et arrêter les boulons.



(2) **Positionner l'ensemble pieds de scellement et mât de base dans la fouille de fondation. Niveler l'ensemble. Vérifier la verticalité de l'ensemble. Inclinaison maximale ± 2‰.**



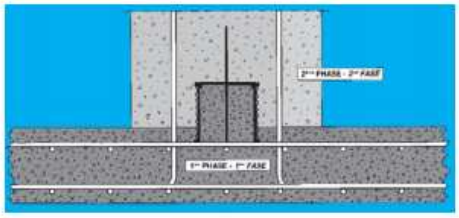


Placer le côté de télescopage de l'élément de mât à 90° par rapport au mur du bâtiment, afin que la flèche soit parallèle au mur du bâtiment lors du télescopage de la grue.

(3) **Caler les pieds de scellement. Poser les fers d'armature autour des pieds de scellement. Couler du béton dans la fouille de fondation. A respecter impérativement : la profondeur de prise des pieds de scellement (1125 mm) et la distance des têtes par rapport au sol (220 mm) !**

Pour les dommages pouvant être imputés à une exécution inadéquate du massif de scellement ou au non-respect des conditions du sol, l'entrepreneur en assume toute la responsabilité.

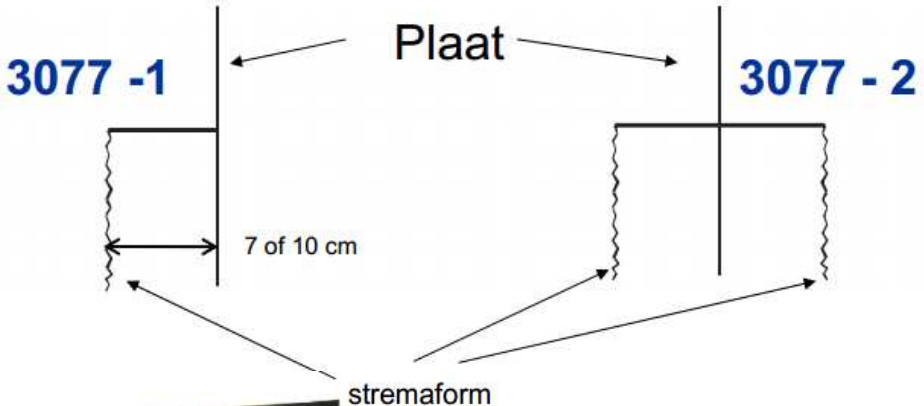
7.2. STREMAFORM WATERPROOF (TYPE 3077)



Stremaform type 3077

Waterdichtingssysteem voor vloerplaat / Wand

2 varianten :



Wandbreedte
≥ 200 mm. (*)

PLAKABETON

Realisatie van een hoek op de werf:

Doorslijpen van de STREMAFORM

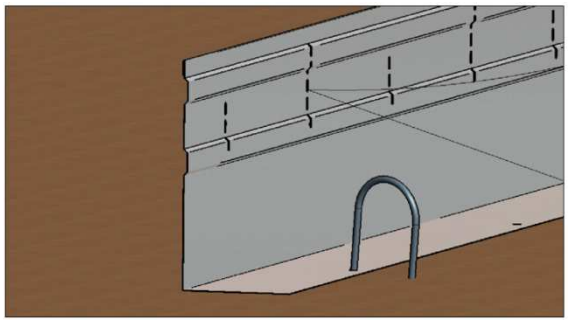
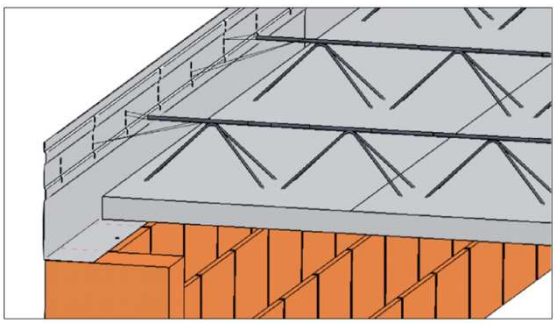
Te snijden lengte = 2 x breedte tand (voor hoek van 90°)

7.3. PREDAL GSS (GILBERT STEEL SOLUTIONS)

http://www.gssbvba.be





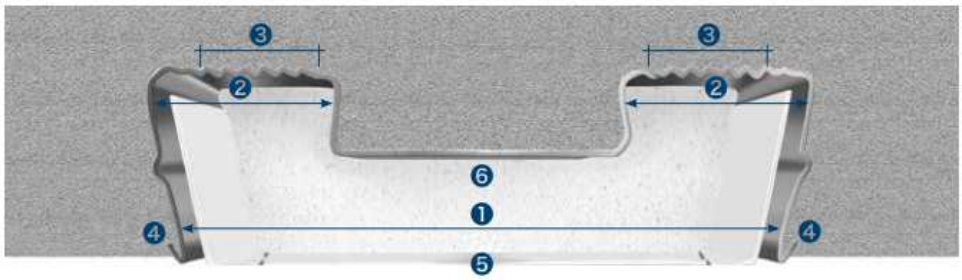



7.4. STABOX (TYPE S)

http://www.plakagroup.com

Cajas de esperas para hormigón armado

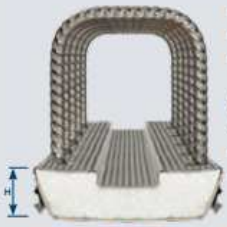
Gracias a su perfil exclusivo especialmente concebido para anclarse en el hormigón, el Stabox es la única caja de esperas que realiza por si misma un anclaje capaz de soportar los elevados esfuerzos que tienen lugar en las juntas de construcción.



Ventajas Stabox

- **La cola de milano exterior** asegura un anclaje machihembrado entre las dos fases de hormigonado. ❶
- **La doble cola de milano** ancla el perfil en el hormigón, sin que pueda salirse o moverse. El Stabox es la única caja capaz de mejorar la estanqueidad de la junta de construcción. ❷
- **Las puntas de diamante** al dorso de la caja en acero bruto mejoran la rugosidad de la superficie y permiten así la transmisión de esfuerzos rasantes y de cizallamiento. ❸
- **Las pestañas de anclaje** garantizan que los bordes de la caja no se despeguen del hormigón en el momento de retirar la tapa y aseguran una alta calidad de anclaje. ❹
- Gracias a las perforaciones longitudinales a lo largo de **la tapa de tetrapack**, su extracción es sencilla bajo cualquier circunstancia. ❺
- **Los tapones en poliestireno**, perfectamente adaptados al perfil de la caja evitan que la lechada penetre por las extremos de la caja. ❻

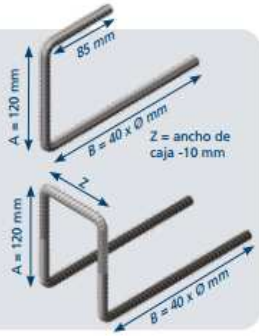
Características técnicas



- Longitudes comerciales estándar de: 1,25 m y 2,45 m*
- La anchura de la caja queda definida según el modelo.
- La altura H del perfil es de 30 mm.

Estribos : Acero corrugado BE 500s certificado AFCAB - BENOR - KIWA.

- Ø 6 mm estirado en frío.
- Ø 8, 10 y 12 mm plegable - desplegable una sola vez.



* La longitud del perfil es de 1,20 m y 2,40 m. Las dimensiones estándar de los estribos son según se muestran en los detalles. Otras dimensiones (A y B) a consultar.

Puesta en obra

❶

❷

❶ Comprobar que las dimensiones del Stabox elegido son compatibles con los recubrimientos exigidos en la segunda fase de hormigonado.
❷ Comprobar la correcta ubicación de los tapones de poliestireno en los dos extremos de la caja.
❸ Fijar el Stabox al encofrado y/o eventualmente a las armaduras.
❹ Hormigonar la primera fase.
❺ Después del desencofrado, quitar la tapa y los tapones de poliestireno del Stabox.
❻ Desplegar las armaduras en espera con la ayuda de una herramienta adaptada para no crear "bayonetas".

❸

❹

❺

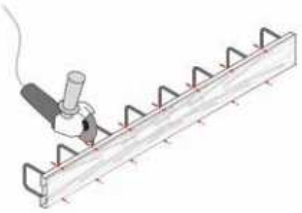
❻

Stabox en curva

La caja Stabox se puede curvar serrando los cantos de la caja.

Se tendrá especial cuidado en no cortar o estropear las armaduras plegadas en el interior.

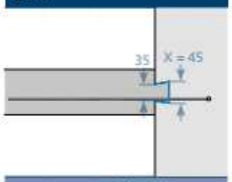
Los cortes se debeán que tapar antes de hormigonar para impedir que entre de lechada de hormigón.



Es la única caja de esperas que realiza un anclaje machihembrado estanco eficaz entre dos fases de hormigonado.

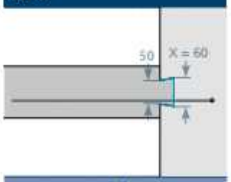
Tipo S

45 S



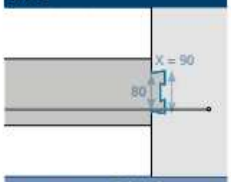
E (mm)				
Ø 6	-	200	240	300
Ø 8	150	200	240	-
Ø 10	150	200	-	-

60 S



E (mm)				
Ø 6	-	-	-	-
Ø 8	150	200	-	-
Ø 10	150	200	-	-

90 S



E (mm)				
Ø 8	-	-	-	-
Ø 10	100	150	-	-
Ø 12	100	150	200	-

7.5. QUEMICAL ANCHOR HILTI (HIT-HY 200-A)

Injection mortar Hilti HIT-HY 200-A with sleeve HIS-N for anchoring in cracked and non cracked concrete

Presentation

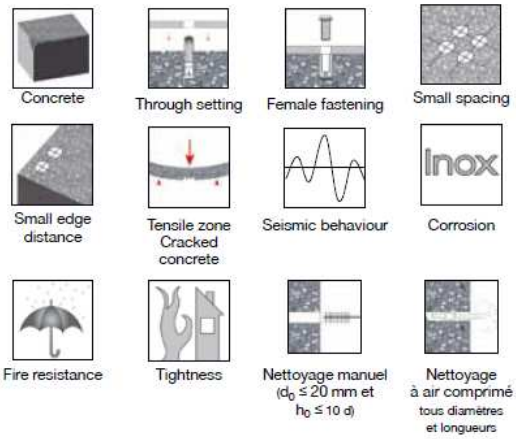
Foil pack HIT-HY 200-A (urthane methacrylate)

Sleeve HIS-N

Characteristics

- Urethane methacrylate adhesive
- Suitable for cracked concrete
- The best bond strength of the market

Intended use

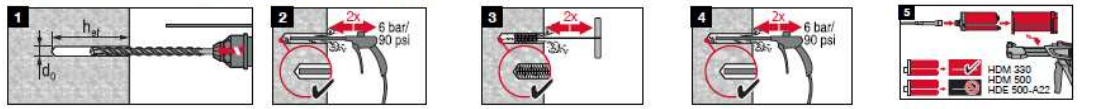


Setting instructions

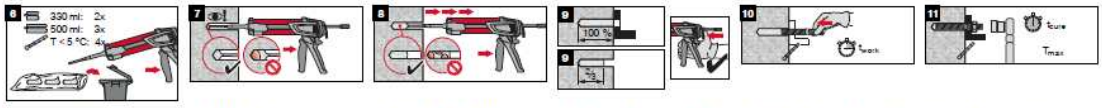
Manual cleaning (Hole diameter $d_0 \leq 20$ mm and hole depth $h_0 \leq 10$ d)

Drill hole | Blow out at least 4 times | Brush 4 times with steel brush HIT-RB | Blow out at least 4 times

Compressed air cleaning (all diamter and length of hole)



Drill hole | Blow 2 times with compressed air (mini 6 bars) | Brush 2 times with steel brush HIT-RB | Blow 2 times with compressed air (mini 6 bars) | Attach the mixer and insert the cartridge in the holder and twist the holder in the dispenser.



Discard initial adhesive. | Inject the adhesive starting at the back of the hole. | Slowly withdraw the mixer at each trigger pull. | Fill holes approximately 2/3 for pre-setting and 100% full for through setting. | Insert the element beofre the end of the working ntimet$_{work}$. | After curing time t_{cure}, apply the torque moment.

Concrete temperature during installation

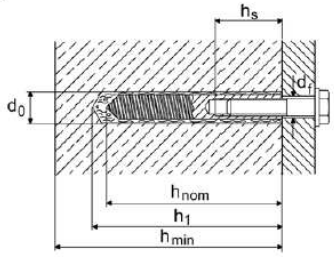
Temperature of base material	Working time "t_{work}"	Curing time "t_{cure}"
-10 °C to -5 °C	1,5 hour	7 hour
-4 °C to 0 °C	50 min	4 hour
1 °C to 5 °C	25 min	2 hour
6 °C to 10 °C	15 min	1 hour
11 °C to 20 °C	7 min	30 min
21 °C to 30 °C	4 min	30 min
31 °C to 40 °C	3 min	30 min

Concrete temperature during life time of the building

Plage de température	Température du matériau support	Température à long terme	Température à court terme
I	- 40 °C to + 40 °C	+ 24 °C	+ 40 °C
II	- 40 °C to + 80 °C	+ 50 °C	+ 80 °C
III	- 40 °C to + 120 °C	+ 72 °C	+ 120 °C

Discard quantities : 2 strokes for 330 ml foil pack
3 strokes for 500 ml foil pack
4 strokes for 500 ml foil pack ≤ 5°C

Design in accordance with European design method
(chemical anchors with variable embedment depth EOTA TR 029)



ETA N° 11/0493
dated 06/02/2012 – Option 1
Valid until 23/12/2016

Material

HIS-N	Steel	Protection
Sleeve	Class 5.8	Galvanised 5 µm
Rec. screw	Mini class 8.8	Dependent on the application
Rec. washer		Dependent on the application

HIS-RN	Steel	Protection
Sleeve	A4-70	Stainless
Rec. screw	A4-70	Stainless
Rec. washer	A4	Stainless

Material characteristics			M8	M10	M12	M16	M20
$f_{u,k}$ (N/mm²)	Nominal tensile strength	HIS-N	510	510	460	460	460
		HIS-RN	700	700	700	700	700
$f_{y,k}$ (N/mm²)	Yield strength	HIS-N	410	410	375	375	375
		HIS-RN	350	350	350	350	350
A_S (mm²)	Stressed cross-section	Sleeve	53.6	110	170	255	229
		Rod / bolt	36,6	58	84,3	157	245
M_f (N.m)	Moment of resistance (ELU)	Rod / bolt steel 8.8	24,0	48,0	84,0	212,8	415,2
		Rod / bolt steel A4-70	16,7	33,3	59,0	149,4	291,0

Setting details

Sleeve HIS-N	Diameter of hole	Drill hole depth	Effective embedment depth	Minimum base material thickness	Torque moment	Diameter of clearance hole in the fixture	Screwing length		Sleeve length	External diameter of the sleeve
	d_0 (mm)	h_1 (mm)	h_{ef} (mm)	h_{min} (mm)	T_{max} (N.m)	d_f (mm)	h_s (mm) min	h_s (mm) max	L (mm)	d (mm)
M8x90	14	90	90	120	10	9	8	20	90	12,5
M10x110	18	110	110	150	20	12	10	25	110	16,5
M12x125	22	125	125	170	40	14	12	30	125	20,5
M16x170	28	170	170	230	80	18	16	40	170	25,4
M20x205	32	205	205	270	150	22	20	50	205	27,6

Article numbers

	HIS-N	HIS-RN
M8X90	258 015	258 024
M10X110	258 016	258 025
M12X125	258 017	258 026
M16X170	258 018	258 027
M20X205	258 019	258 028

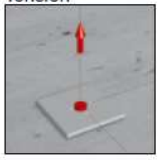
Designation	Volume	Article number
Cartridge HIT-HY 200-A	330 ml	2022696
Cartridge HIT-HY 200-A	500 ml	2022697

Pre-calculated values I Temperatures range 1 (+ 24°C I + 40°C)

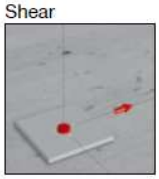
Full load - Cracked concrete - Galvanised and stainless versions (kN)

One isolated anchor, full load, non reinforced C20/25 concrete, cracked (without edge distance nor spacing influence)

Tension



Shear



HIT-HY 200-A and sleeve HIS-N			Tension		Shear	
Size	h_{nom} (mm)	h_{min} (mm)	Resistance values		Resistance values	
			Design N_{rd}	Rec. N_{rec}	Design V_{rd}	Rec. V_{rec}
Galvanised version HIS-N						
M 8	90	120	16,5	11,8	10,4	7,4
M 10	110	150	26,6	19,0	18,4	13,1
M 12	125	170	33,5	24,0	26,0	18,6
M 16	170	230	53,2	38,0	39,3	28,1
M 20	205	270	70,4	50,3	36,7	26,2
Stainless steel version HIS-RN						
M 8	90	120	13,9	9,9	8,3	6,0
M 10	110	150	21,9	15,7	12,8	9,2
M 12	125	170	31,6	22,5	19,2	13,7
M 16	170	230	53,2	38,0	35,3	25,2
M 20	205	270	69,1	49,4	41,5	29,6

7.6. VANDERSANDEN MORVAN (ZWART)/ RIJSWAARD ENGELS BONT (ROOD)

Specificatieformulier metselbaksteen NEN-EN 771-1

HD, categorie I, groep 1, brandgedrag A1

CE

Producttype			Vol	Met "frog"	Geper-foreerd	**KOMO-Logo (BRL 1007 en CI)**
		Vormbak				
		Strengpers				
		Handvorm		X		**Certificaatnummer: Kiwa, K53304**
Visuele Kenmerken	Kleur	Volgens monster				Logo producent: RIJSWAARD BAKSTEEN
		Omschrijving (vlgs koopovereenkomst)				
	Oppervlakte zichtvlak	Onbezand		Gestructureerd		
		Bezand	X	Geglazuurd		
		Glad		Geëngobeerd		Datum aanvraag: n.b.
Afmetingen (mm)		Lengte x Breedte x Hoogte: …214…x…102……..x……66……				Productsoort:
Maattolerantie gemiddelde maat		T1, T2 of Tm[2)]			T2	**Engels-Bont HV EF | DR1B**
		[2)] ……x……x…… mm voor resp. l, b en h				
Maatspreiding		R1, R2 of Rm[3)]			R1	Aantal: ± 58.032 st
		[3)] ……x……x…… mm voor resp. l, b en h				Leveringsdatum: n.b.
Initiële wateropzuiging [1)] (kg/m².min)		Zeer weinig zuigend (<0.5)				
		Matig zuigend (0.5 –1.5)				Bouwwerk: Mouterij te Aalst (B)
		Normaal zuigend (1.5 –4.0)			X	
		Sterk zuigend (>4.0)				Architect:: n.b.
Wateropneming [1)]		Vrijwillige wateropneming (massa %)			**≤ 15% m/md**	
Volumieke massa [1)]		Bruto volumieke massa (kg/m³)			1650	Aannemer: De Nul
Tolerantie volumieke massa[1)]		D1, D2 of Dm[4)]			**D2**	
		[4)] …… %				Opdrachtgever: n.b.
Actieve oplosbare zouten [1)]		Wateroplosbaar Na + K en Mg		S0		
				S1		Aanvrager: Verhelst Bouwmaterialen
				S2	X	
Vorst-dooi weerstand		F0				Naam, datum en handtekening:
		F2, vorstklasse C, BRL 1007				Mw M. Lataire
		F2, vorstklasse D, BRL 1007			X	Leverancier: Steenfabriek De Rijswaard BV
Warmtegeleidbaarheid [1)] λ (W/mK)					0.43 W/mk	De Rijswaard 2, 5308 LV AALST
						Naam, datum, handtekening:
Waterdampdoorlatendheid [1)] μ					5/10	A. Josemanders, 19 februari 2013
						Aanvullende informatie van de producent:
Bouwstoffenbesluit		Ja / Nee			**Ja/1B**	
Specifieke toepassingen		Precisiemetselwerk / kromheid vlgs BRL 1007			X	Steenfabriek De Rijswaard B.V. De Rijswaard 2 5308 LV AALST Tel 0418 - 55 22 21 | Fax 0418 - 55 29 00 E-mail: info@rijswaard.nl
		Product voor schilderwerk (SO_4 ≤ 0.10 %)			X	
Genormaliseerde druksterkte [1)] (N/mm²)		5.0 / 7.5 / 10.0 / 12.5 / 15.0 / 20.0 / 25.0 / 30.0 / 35.0 / 40.0, etc.			**≥ 15** N/mm²	

Vakken met een grijsarcering (evt.) aan te kruisen. 1) De cursief gedrukte declaraties zijn op basis van gemiddelde waarden.

533

WF
206 x 98 x 51 mm

MORVAN

NL

Een mengsel van verschillende, uitgelezen kleisoorten vormt de basis voor deze gevelstenen. Dit mengsel is uitermate geschikt voor de productie van handvormgevelstenen. Door gebruik te maken van specifieke zandsoorten voor de oppervlaktebezanding wordt de gewenste kleur bekomen.

Kleur

Hoofdkleur: zwart
Beschrijving: uniform antraciet-zwart

Naargelang de bakserie zijn lichte schommelingen in de kleurnuance mogelijk.

Formaat

Naargelang de bakserie kunnen deze gemiddelde maten licht afwijken.

FR

Un mélange de différentes types d'argile forme la base de ces briques de parement. Ce mélange est idéal pour la production de briques faites-main. La couleur finale est obtenue en utilisant des types de sables spécifiques pour le sablage de surface.

Couleur

Couleur principale: noir
Description: anthracite-noir uniforme

Les différentes cuissons peuvent présenter des légères variations de couleur.

Formats

Les différentes cuissons peuvent présenter des légères variations des dimensions moyennes.

DE

Eine Mischung von unterschiedlichen Lehmsorten bildet die Basis dieser Verblender. Diese Mischung ist äusserst geeignet für die Produktion von handgeformter Verblender. Durch die Verwendung und Verteilung über die Oberfläche von angemessenen Sandsorten wird der gewünschte Farbton erzielt.

Farbe

Hauptfarbe: schwarz
Beschreibung: unifarben anthrazitschwarz

Je nach Serie sind leichte Unterschiede in der Farbnuance möglich.

Formate

Je nach Serie können die Durchschnittliche Maße leicht abweichen.

EN

A mix of different kinds of clay forms the basis for this facing brick. This special mix of clays is ideally suited for the manufacturing of hand form bricks. By using specific sand types for surface covering, the desired colour is achieved.

Colour

Main colour: black
Description: unicoloured anthracite black

Slight differences from one series to another are possible.

Sizes

From one series to another, the average size may slightly differ.

PL

Surowcami do wyrobu tych cegieł elewacyjnych są mieszanki różnych rodzajów gliny. Ta specjalna mieszanka różnych rodzajów gliny jest idealnie dostosowana do produkcji cegieł ręcznie formowanych. Różne kolory lica, otrzymuje się poprzez zastosowanie posypki ze specjalnych gatunków piasku.

Barwa

Kolor podstawowy: czarny
Opis: jednorodny antracytowo-czarny

Poszczególne serie cegieł mogą różnić się między sobą barwą.

Wymiary

Rozmiar może się nieznacznie różnić pomiędzy poszczególnymi seriami.

RU

Смесь различных сортов глины является исходным материалом для этих сортов кирпича. Этот специальный сорт глины идеально подходит для изготовления кирпича ручной формовки. Для получения требуемого цвета поверхности кирпича используются особые сорта песка

Цвет

Основной цвет: черный
Описание: одноцветный, антрацит

Между разными партиями возможны незначительные различия.

Размеры

В зависимости от обжига продукции возможны небольшие отклонения в размерах.

CE NBN EN 771-1 CAT.I - HD	Specifieke eigenschappen	Résist.à la compression	Spezifische Eigenschaften	Compressive strength	Charakterystyka produktu	Средняя нормированная прочность при сжатии
T2	Maattolerantiecategorie	Dimensions: cat. de tolérance	Abmessungen: Toleranzkat.	Dimension: tolerance cat.	Kategoria tolerancji wymiarowej	Допустимые отклонения от номинальных размеров
R1	Maatspreiding	Dimensions: cat. de plage	Abmessungen: Maßspanne	Dimensions: range cat.	Różnica rozmiarów	Категория допустимых отклонений от номинальных размеров
0,04 mm/m	Vormstabiliteit	Stabilité dimensionelle	Übliche Feuchtedehnung	Dimensional stability	Stabilność formy	Стабильность формы
0,15 N/mm2	Hechtsterkte (mortelvoeg)	Adhérence (maçonnerie)	Verbundfestigkeit (Mauerwerk)	Bond strength (mortar joints)	Przyczepność (zaprawa spoinowa)	Схватывание с цементным раствором
S2	Gehalte act. oplosb. zouten	Teneur en sels solubles actifs	Geh. an akt. löslichen Salzen	Active soluble salts	Zawartość aktywnych soli rozpuszczalnych	Содержание активных растворимых солей
A1	Brandreactie: Euroklasse	Réaction au feu: Euroclasse	Brandverhalten: Euroklasse	Reaction to fire: Euroclass	Odporność na ogień: Klasa Euro	Огнестойкость: Еврокласс
≤ 7% (m/md)	Wateropneming	Absorption d'eau	Wasseraufnahme	Water absorption	Nasiąkliwość	Водопоглощение
1,5 - 4 kg/m2.min ; IW3	Initiële wateropzuiging	Taux initiale absorption d'eau	Anfängliche Wasseraufnahme	Initial rate of water absorption	Początkowe wchłanianie wody	Капиллярное водопоглощение
50/100	Dampdoorlaatbaarheid	Perméabilité à la vapeur	Wasserdampfdurchlässigkeit	Water vapour diffusion coeff.	Przepuszczalność pary wodnej	Паропроницаемость
2090 kg/m3 (D1)	Netto volumieke massa	Masse vol. absolute sèche	Netto-Trockenrohdichte	Net dry density	Masa netto suchych cegieł	Масса нетто
1940 kg/m3 (D1)	Bruto volumieke massa	Masse vol. apparente sèche	Bruto-Trockenrohdichte	Gross dry density	Masa brutto suchych cegieł	Масса бруто
0,62 W/mK	Warmtegeleidbaarheid $\lambda_{10,droog}$	Conductivité thermique $\lambda_{10,sec}$	Wärmeleitfähigkeit $\lambda_{10,trocken}$	Thermal conductivity $\lambda_{10,dry}$	Przewodność cieplna $\lambda_{10,suchej}$	теплопроводность $\lambda_{10,сухой}$
0,65 W/mK	Warmtegeleidbaarheid $\lambda_{10,droog(90/90)}$	Conductivité thermique $\lambda_{10,sec(90/90)}$	Wärmeleitfähigkeit $\lambda_{10,trocken(90/90)}$	Thermal conductivity $\lambda_{10,dry(90/90)}$	Przewodność cieplna $\lambda_{10,suchej(90/90)}$	теплопроводность $\lambda_{10,сухой(90/90)}$
1,38 W/mK	Warmtegeleidbaarheid λ_{ue}	Conductivité thermique λ_{ue}	Wärmeleitfähigkeit λ_{ue}	Thermal conductivity λ_{ue}	Przewodność cieplna λ_{ue}	теплопроводность λ_{ue}
F2	Vorst/dooi bestandheid	Résistance au gel / dégel	Frostwiderstand	Freeze / thaw resistance	Mrozoodporność	Морозоустойчивость

release: jan. 2011 - www.vandersanden.com