

● Poutrelles I européennes (suite)

Dimensions: IPE 80 - 600 conformes à l'Euronorme 19-57; IPE A 80 - 600; IPE O 180 - 600; IPE 750

Tolérances: EN 10034: 1993

Etat de surface conforme à EN 10163-3: 1991, classe C, sous-classe 1

● European I beams (continued)

Dimensions: IPE 80 - 600 in accordance with Euronorm 19-57; IPE A 80 - 600; IPE O 180 - 600; IPE 750

Tolerances: EN 10034: 1993

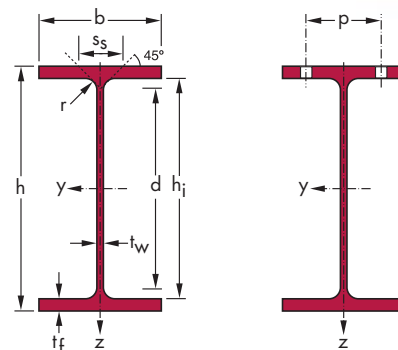
Surface condition according to EN 10163-3:1991, class C, subclass 1

● Europäische I-Profile (Fortsetzung)

Abmessungen: IPE 80 - 600 gemäß Euronorm 19-57; IPE A 80 - 600; IPE O 180 - 600; IPE 750

Toleranzen: EN 10034: 1993

Oberflächenbeschaffenheit gemäß EN 10163-3: 1991, Klasse C, Untergruppe 1



| Désignation Designation Bezeichnung | | Dimensions Abmessungen | | | | | | Dimensions de construction Dimensions for detailing Konstruktionsmaße | | | | | Surface Oberfläche | |
|---|------|---------------------------|---------|----------------------|----------------------|---------|----------------------|---|---------|------|------------------------|------------------------|-------------------------------------|-------------------------------------|
| G kg/m | | h mm | b mm | t _w mm | t _f mm | r mm | A mm ² | h _i mm | d mm | Ø | P _{min} mm | P _{max} mm | A _L m ² /m | A _G m ² /t |
| | | | | | | | x 10 ² | | | | | | | |
| IPE A 240* | 26,2 | 237 | 120 | 5,2 | 8,3 | 15 | 33,3 | 220,4 | 190,4 | M 12 | 64 | 68 | 0,918 | 35,10 |
| IPE 240 | 30,7 | 240 | 120 | 6,2 | 9,8 | 15 | 39,1 | 220,4 | 190,4 | M 12 | 66 | 68 | 0,922 | 30,02 |
| IPE O 240+ | 34,3 | 242 | 122 | 7 | 10,8 | 15 | 43,7 | 220,4 | 190,4 | M 12 | 66 | 70 | 0,932 | 27,17 |
| | | | | | | | | | | | | | | |
| IPE A 270* | 30,7 | 267 | 135 | 5,5 | 8,7 | 15 | 39,2 | 249,6 | 219,6 | M 16 | 70 | 72 | 1,037 | 33,75 |
| IPE 270 | 36,1 | 270 | 135 | 6,6 | 10,2 | 15 | 45,9 | 249,6 | 219,6 | M 16 | 72 | 72 | 1,041 | 28,86 |
| IPE O 270+ | 42,3 | 274 | 136 | 7,5 | 12,2 | 15 | 53,8 | 249,6 | 219,6 | M 16 | 72 | 72 | 1,051 | 24,88 |
| | | | | | | | | | | | | | | |
| IPE A 300* | 36,5 | 297 | 150 | 6,1 | 9,2 | 15 | 46,5 | 278,6 | 248,6 | M 16 | 72 | 86 | 1,156 | 31,65 |
| IPE 300 | 42,2 | 300 | 150 | 7,1 | 10,7 | 15 | 53,8 | 278,6 | 248,6 | M 16 | 72 | 86 | 1,160 | 27,46 |
| IPE O 300+ | 49,3 | 304 | 152 | 8 | 12,7 | 15 | 62,8 | 278,6 | 248,6 | M 16 | 74 | 88 | 1,174 | 23,81 |
| | | | | | | | | | | | | | | |
| IPE A 330* | 43,0 | 327 | 160 | 6,5 | 10 | 18 | 54,7 | 307 | 271 | M 16 | 78 | 96 | 1,250 | 29,09 |
| IPE 330 | 49,1 | 330 | 160 | 7,5 | 11,5 | 18 | 62,6 | 307 | 271 | M 16 | 78 | 96 | 1,254 | 25,52 |
| IPE O 330+ | 57,0 | 334 | 162 | 8,5 | 13,5 | 18 | 72,6 | 307 | 271 | M 16 | 80 | 98 | 1,268 | 22,24 |
| | | | | | | | | | | | | | | |
| IPE A 360* | 50,2 | 357,6 | 170 | 6,6 | 11,5 | 18 | 64,0 | 334,6 | 298,6 | M 22 | 86 | 88 | 1,351 | 26,91 |
| IPE 360 | 57,1 | 360 | 170 | 8 | 12,7 | 18 | 72,7 | 334,6 | 298,6 | M 22 | 88 | 88 | 1,353 | 23,70 |
| IPE O 360+ | 66,0 | 364 | 172 | 9,2 | 14,7 | 18 | 84,1 | 334,6 | 298,6 | M 22 | 90 | 90 | 1,367 | 20,69 |
| | | | | | | | | | | | | | | |
| IPE A 400* | 57,4 | 397 | 180 | 7 | 12 | 21 | 73,1 | 373 | 331 | M 22 | 94 | 98 | 1,464 | 25,51 |
| IPE 400 | 66,3 | 400 | 180 | 8,6 | 13,5 | 21 | 84,5 | 373 | 331 | M 22 | 96 | 98 | 1,467 | 22,12 |
| IPE O 400+ | 75,7 | 404 | 182 | 9,7 | 15,5 | 21 | 96,4 | 373 | 331 | M 22 | 96 | 100 | 1,481 | 19,57 |
| | | | | | | | | | | | | | | |
| IPE A 450* | 67,2 | 447 | 190 | 7,6 | 13,1 | 21 | 85,6 | 420,8 | 378,8 | M 24 | 100 | 102 | 1,603 | 23,87 |
| IPE 450 | 77,6 | 450 | 190 | 9,4 | 14,6 | 21 | 98,8 | 420,8 | 378,8 | M 24 | 100 | 102 | 1,605 | 20,69 |
| IPE O 450+ | 92,4 | 456 | 192 | 11 | 17,6 | 21 | 118 | 420,8 | 378,8 | M 24 | 102 | 104 | 1,622 | 17,56 |

- Commande minimale: pour S 235 JR, cf. conditions de livraison page 216; pour toute autre qualité 40 t ou suivant accord.
- + Commande minimale: 40 t par profilé et qualité ou suivant accord.

- Minimum order: for the S 235 JR grade cf. delivery conditions page 216; for any other grade 40 t or upon agreement.
- + Minimum order: 40 t per section and grade or upon agreement.

- Mindestbestellmenge: für S 235 JR gemäß Lieferbedingungen Seite 216; für jede andere Güte 40 t oder nach Vereinbarung.
- + Mindestbestellmenge: 40 t pro Profil und Güte oder nach Vereinbarung.

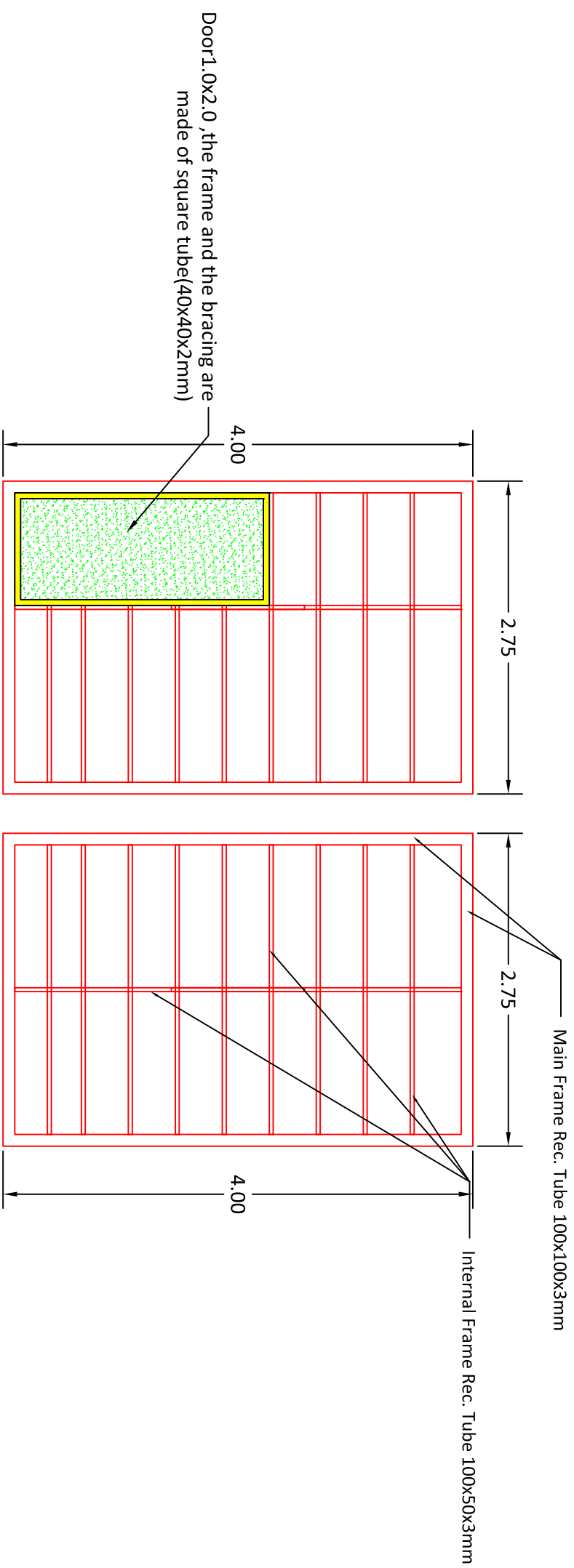
Notations pages 211-215 / Bezeichnungen Seiten 211-215

| Désignation Designation Bezeichnung | Valeurs statiques / Section properties / Statische Kennwerte | | | | | | | | | | | | Classification ENV 1993-1-1 | | | | | EN 10025:1993 | EN 10113-3:1993 | EN 10225:2001 |
|---|--|-----------------------------------|--------------------------------------|--|----------------------|---|-----------------------------------|--------------------------------------|--|----------------------|----------------------|-----------------------------------|-----------------------------------|-------|---------------------|-------|-------|---------------|-----------------|---------------|
| | axe fort y-y strong axis y-y starke Achse y-y | | | | | axe faible z-z weak axis z-z schwache Achse z-z | | | | | | | pure bending yy | | pure compression | | | | | |
| | G kg/m | I _y mm ⁴ | W _{el.y} mm ³ | W _{pl.y} ♦ mm ³ | i _y mm | A _{vz} mm ² | I _z mm ⁴ | W _{el.z} mm ³ | W _{pl.z} ♦ mm ³ | i _z mm | s _s mm | I _t mm ⁴ | I _w mm ⁶ | S 235 | S 355 | S 460 | S 235 | | | |
| | | x 10 ⁴ | x 10 ³ | x 10 ³ | x 10 | x 10 ² | x 10 ⁴ | x 10 ³ | x 10 ³ | x 10 | | x 10 ⁴ | x 10 ⁹ | | | | | | | |
| IPE A 240 | 26,2 | 3290 | 277,7 | 311,6 | 9,94 | 16,31 | 240,1 | 40,02 | 62,40 | 2,68 | 39,37 | 8,35 | 31,26 | 1 1 - | 2 4 - | ✓ | ✓ | ✓ | | |
| IPE 240 | 30,7 | 3892 | 324,3 | 366,6 | 9,97 | 19,14 | 283,6 | 47,27 | 73,92 | 2,69 | 43,37 | 12,88 | 37,39 | 1 1 - | 1 2 - | ✓ | ✓ | ✓ | | |
| IPE O 240 | 34,3 | 4369 | 361,1 | 410,3 | 10,00 | 21,36 | 328,5 | 53,86 | 84,40 | 2,74 | 46,17 | 17,18 | 43,68 | 1 1 - | 1 2 - | ✓ | ✓ | ✓ | | |
| IPE A 270 | 30,7 | 4917 | 368,3 | 412,5 | 11,21 | 18,75 | 358,0 | 53,03 | 82,34 | 3,02 | 40,47 | 10,30 | 59,51 | 1 1 - | 3 4 - | ✓ | ✓ | ✓ | | |
| IPE 270 | 36,1 | 5790 | 428,9 | 484,0 | 11,23 | 22,14 | 419,9 | 62,20 | 96,95 | 3,02 | 44,57 | 15,94 | 70,58 | 1 1 - | 2 3 - | ✓ | ✓ | ✓ | | |
| IPE O 270 | 42,3 | 6947 | 507,1 | 574,6 | 11,36 | 25,23 | 513,5 | 75,51 | 117,7 | 3,09 | 49,47 | 24,90 | 87,64 | 1 1 - | 1 2 - | ✓ | ✓ | ✓ | | |
| IPE A 300 | 36,5 | 7173 | 483,1 | 541,8 | 12,42 | 22,25 | 519,0 | 69,20 | 107,3 | 3,34 | 42,07 | 13,43 | 107,2 | 1 2 - | 3 4 - | ✓ | ✓ | ✓ | | |
| IPE 300 | 42,2 | 8356 | 557,1 | 628,4 | 12,46 | 25,68 | 603,8 | 80,50 | 125,2 | 3,35 | 46,07 | 20,12 | 125,9 | 1 1 - | 2 4 - | ✓ | ✓ | ✓ | | |
| IPE O 300 | 49,3 | 9994 | 657,5 | 743,8 | 12,61 | 29,05 | 745,7 | 98,12 | 152,6 | 3,45 | 50,97 | 31,06 | 157,7 | 1 1 - | 1 3 - | ✓ | ✓ | ✓ | | |
| IPE A 330 | 43,0 | 10230 | 625,7 | 701,9 | 13,67 | 26,99 | 685,2 | 85,64 | 133,3 | 3,54 | 47,59 | 19,57 | 171,5 | 1 1 - | 3 4 - | ✓ | ✓ | ✓ | | |
| IPE 330 | 49,1 | 11770 | 713,1 | 804,3 | 13,71 | 30,81 | 788,1 | 98,52 | 153,7 | 3,55 | 51,59 | 28,15 | 199,1 | 1 1 - | 2 4 - | ✓ | ✓ | ✓ | | |
| IPE O 330 | 57,0 | 13910 | 833,0 | 942,8 | 13,84 | 34,88 | 960,4 | 118,6 | 185,0 | 3,64 | 56,59 | 42,15 | 245,7 | 1 1 - | 1 3 - | ✓ | ✓ | ✓ | | |
| IPE A 360 | 50,2 | 14520 | 811,8 | 906,8 | 15,06 | 29,76 | 944,3 | 111,1 | 171,9 | 3,84 | 50,69 | 26,51 | 282,0 | 1 1 - | 4 4 - | ✓ | ✓ | ✓ | | |
| IPE 360 | 57,1 | 16270 | 903,6 | 1019 | 14,95 | 35,14 | 1043 | 122,8 | 191,1 | 3,79 | 54,49 | 37,32 | 313,6 | 1 1 - | 2 4 - | ✓ | ✓ | ✓ | | |
| IPE O 360 | 66,0 | 19050 | 1047 | 1186 | 15,05 | 40,21 | 1251 | 145,5 | 226,9 | 3,86 | 59,69 | 55,76 | 380,3 | 1 1 - | 1 3 - | ✓ | ✓ | ✓ | | |
| IPE A 400 | 57,4 | 20290 | 1022 | 1144 | 16,66 | 35,78 | 1171 | 130,1 | 202,1 | 4,00 | 55,60 | 34,79 | 432,2 | 1 1 - | 4 4 - | ✓ | ✓ | ✓ | | |
| IPE 400 | 66,3 | 23130 | 1156 | 1307 | 16,55 | 42,69 | 1318 | 146,4 | 229,0 | 3,95 | 60,20 | 51,08 | 490,0 | 1 1 - | 3 4 - | ✓ | ✓ | ✓ | | |
| IPE O 400 | 75,7 | 26750 | 1324 | 1502 | 16,66 | 47,98 | 1564 | 171,9 | 269,1 | 4,03 | 65,30 | 73,10 | 587,6 | 1 1 - | 2 3 - | ✓ | ✓ | ✓ | | |
| IPE A 450 | 67,2 | 29760 | 1331 | 1494 | 18,65 | 42,26 | 1502 | 158,1 | 245,7 | 4,19 | 58,40 | 45,67 | 704,9 | 1 1 - | 4 4 - | ✓ | ✓ | ✓ | | |
| IPE 450 | 77,6 | 33740 | 1500 | 1702 | 18,48 | 50,85 | 1676 | 176,4 | 276,4 | 4,12 | 63,20 | 66,87 | 791,0 | 1 1 - | 3 4 - | ✓ | ✓ | ✓ | | |
| IPE O 450 | 92,4 | 40920 | 1795 | 2046 | 18,65 | 59,40 | 2085 | 217,2 | 341,0 | 4,21 | 70,80 | 109 | 997,6 | 1 1 - | 2 4 - | ✓ | ✓ | ✓ | | |

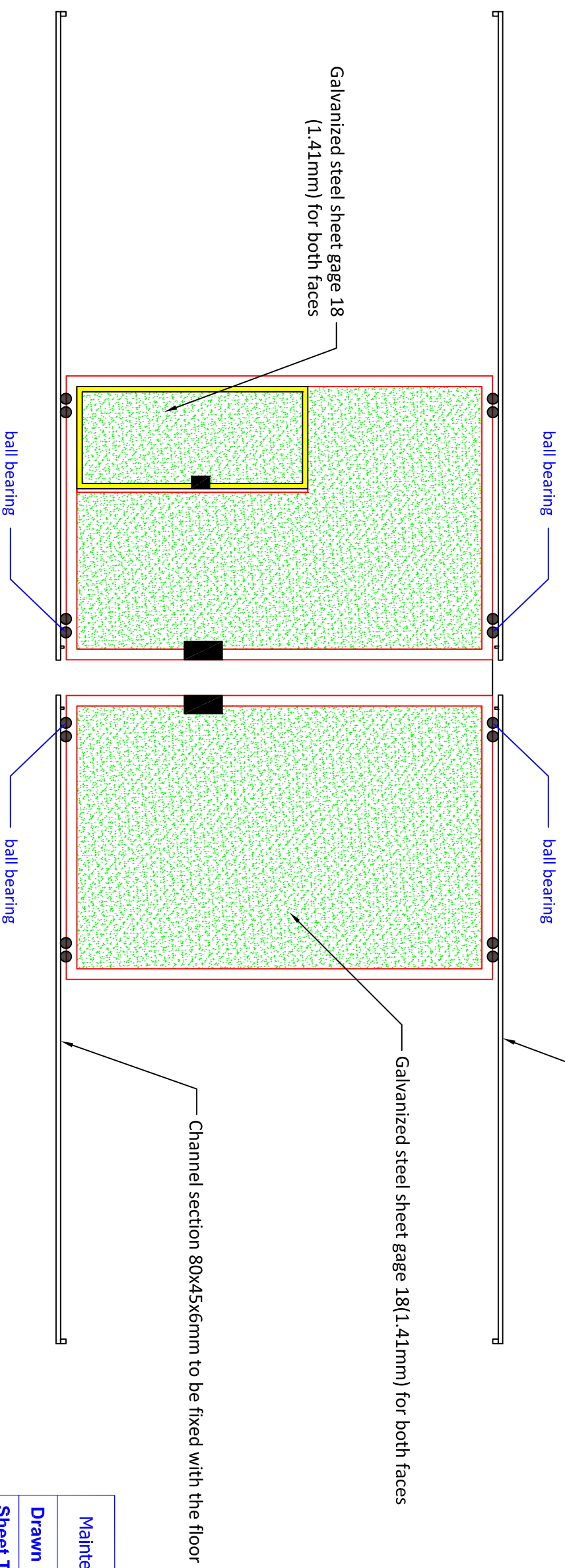
♦ W_{pl}: Pour un dimensionnement plastique, la section doit appartenir à la classe 1 ou 2 suivant la capacité de rotation requise. Voir page 215.

♦ W_{pl}: For plastic design, the shape must belong to class 1 or 2 according to the required rotation capacity. See page 215.

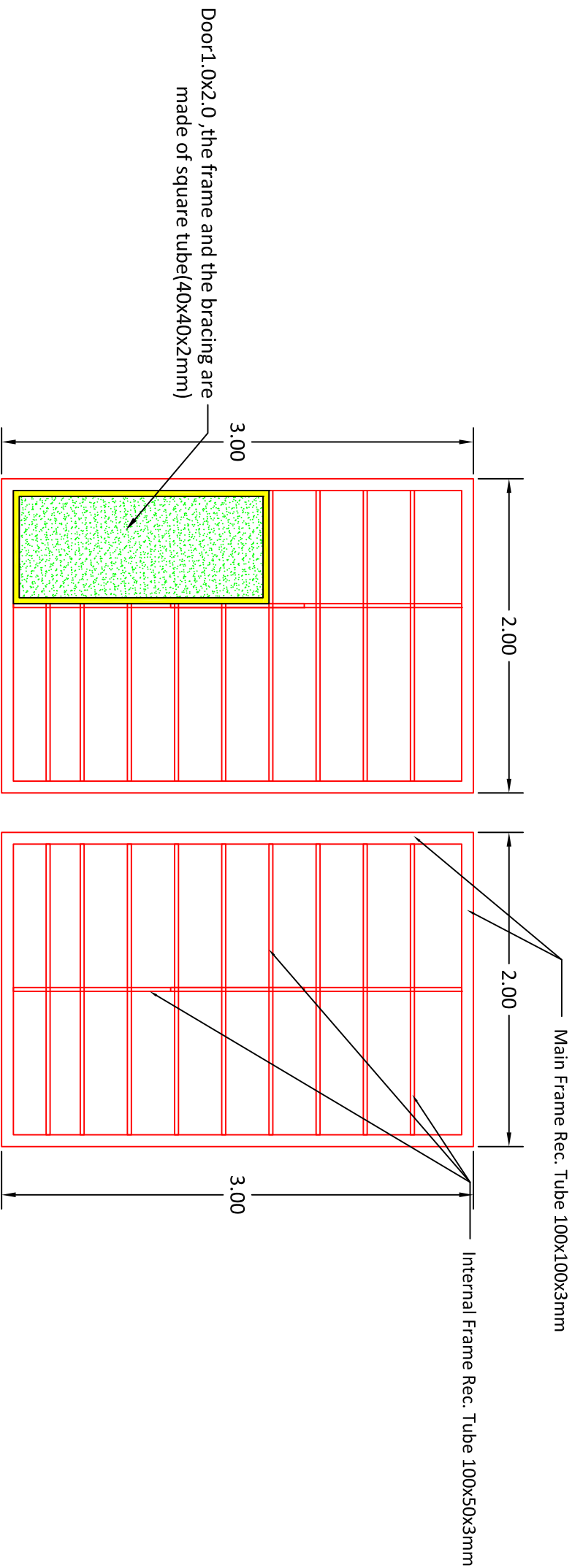
♦ W_{pl}: Bei einer plastischen Bemessung muss das Profil der Klasse 1 oder 2, entsprechend der erforderlichen Rotationskapazität, angehören. Siehe Seite 215.



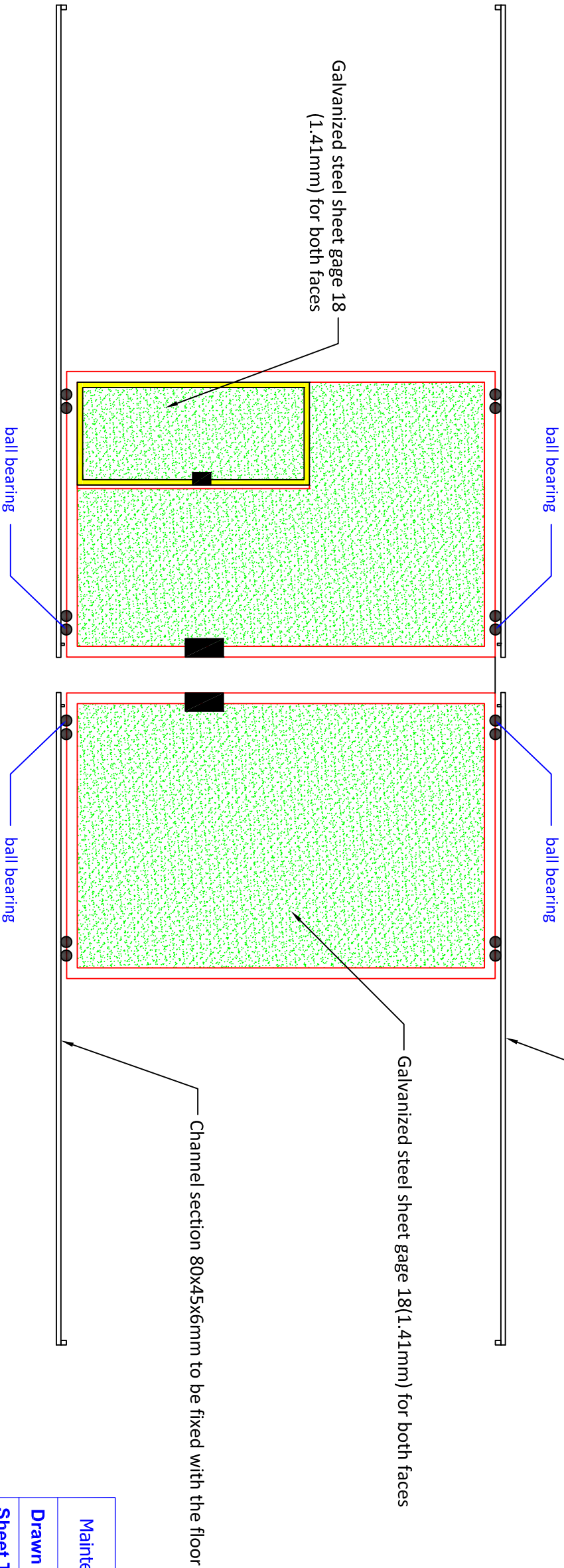
Channel section 80x45x6mm to be fixed with the walls



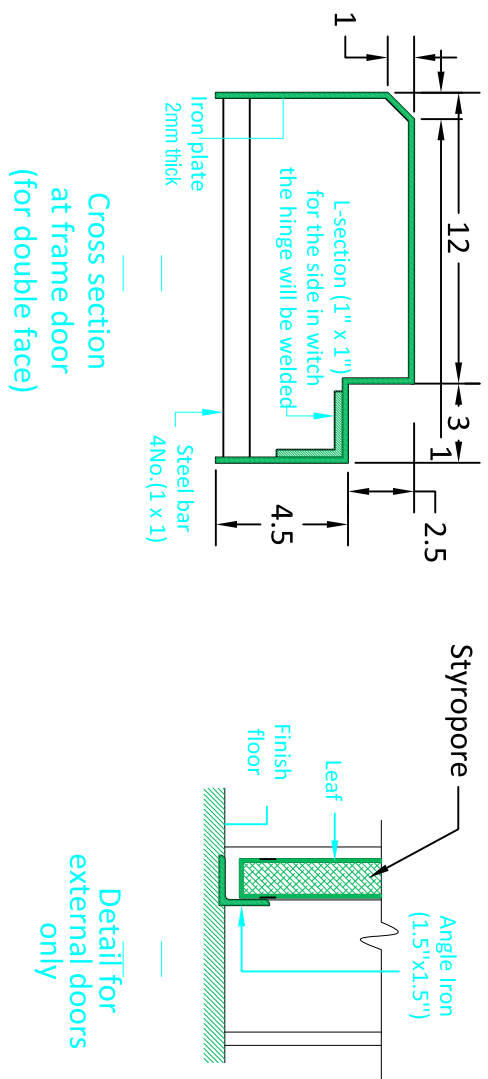
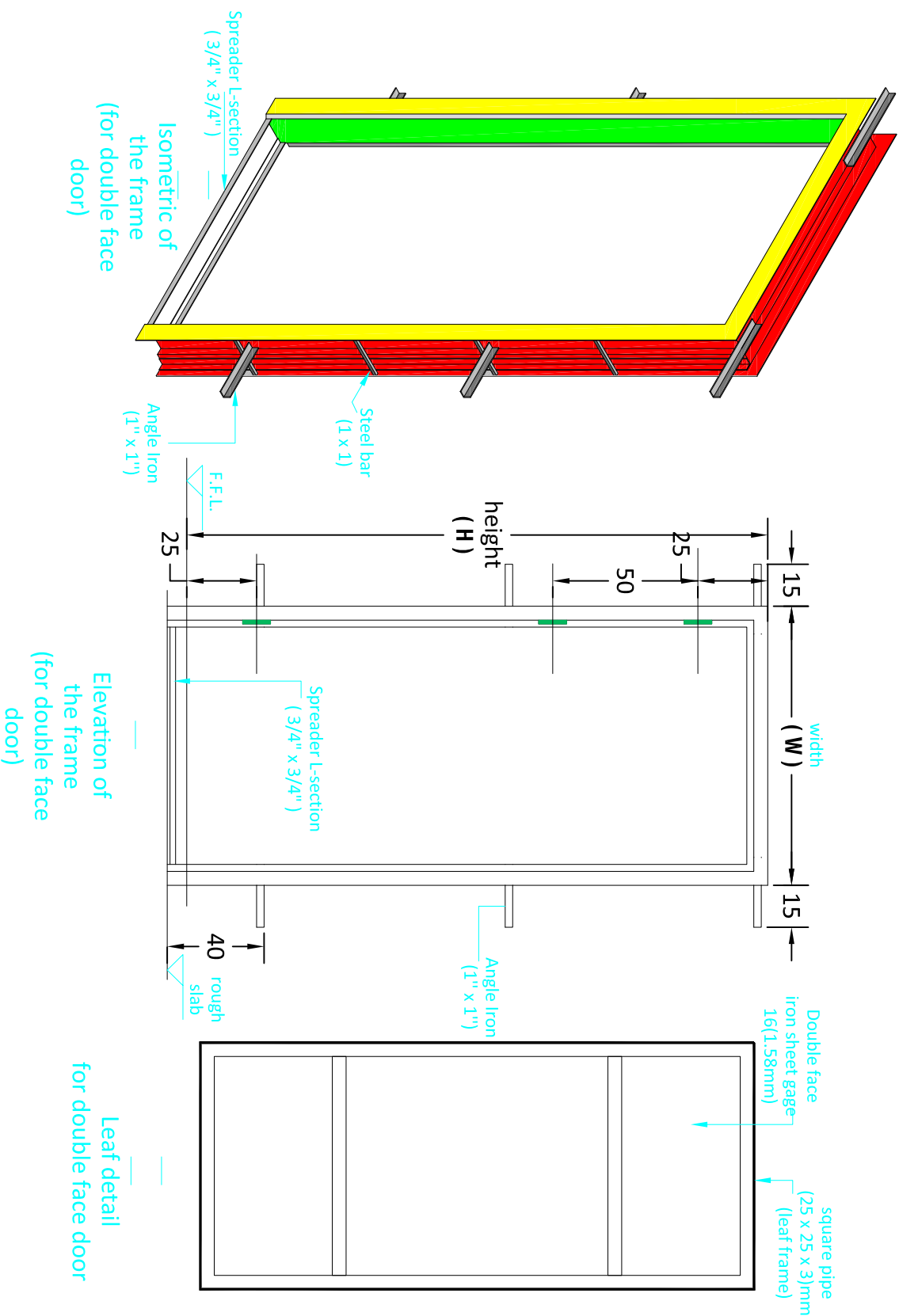
| | | |
|--|--------------------|------------|
| Maintenance Factory of East Mosul Municipality | | |
| Drawn by: Soran Rostam Aziz | | |
| Sheet Title: | | |
| Detail of Sliding Door5.5x4.0m | | |
| Scale: NTS | Date: May 17, 2017 | DWG No. 01 |



Main Frame of the sliding door

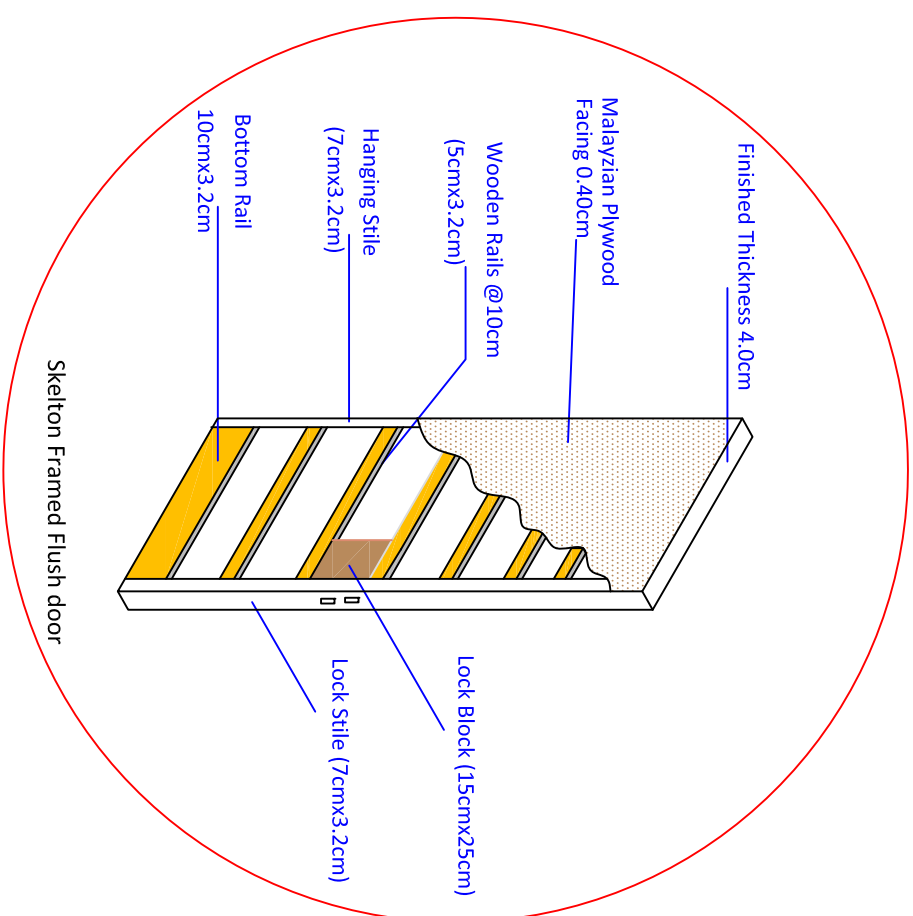
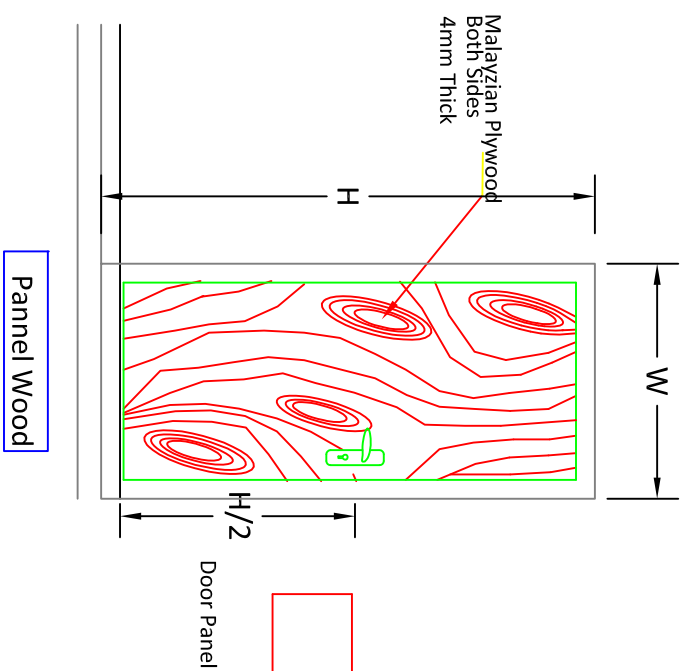
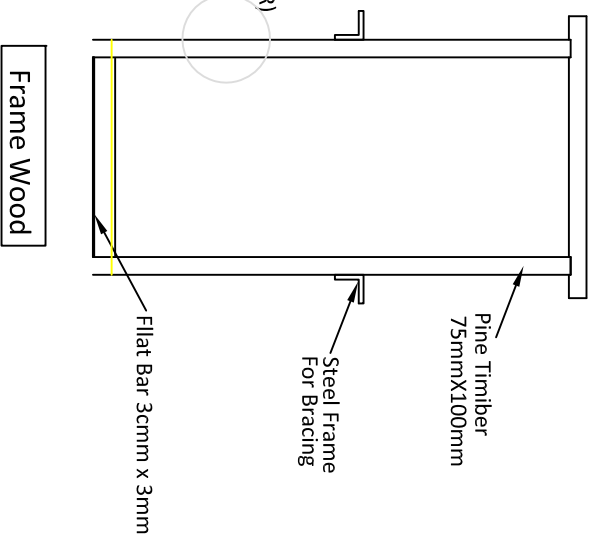
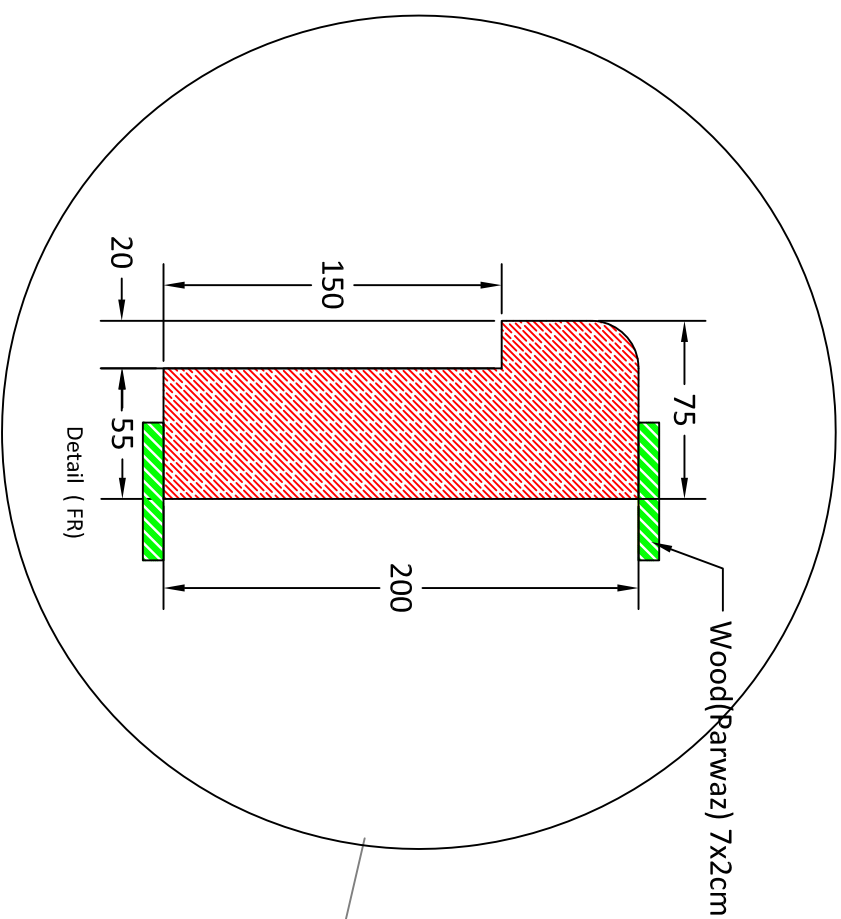


| | | |
|--|------------------|------------|
| Maintenance Factory of East Mosul Municipality | | |
| Drawn by: Soran Rostam Aziz | | |
| Sheet Title: | | |
| Detail of Sliding Door4.0x3.0m | | |
| Scale: NTS | Date:May 17,2017 | DWG No. 02 |



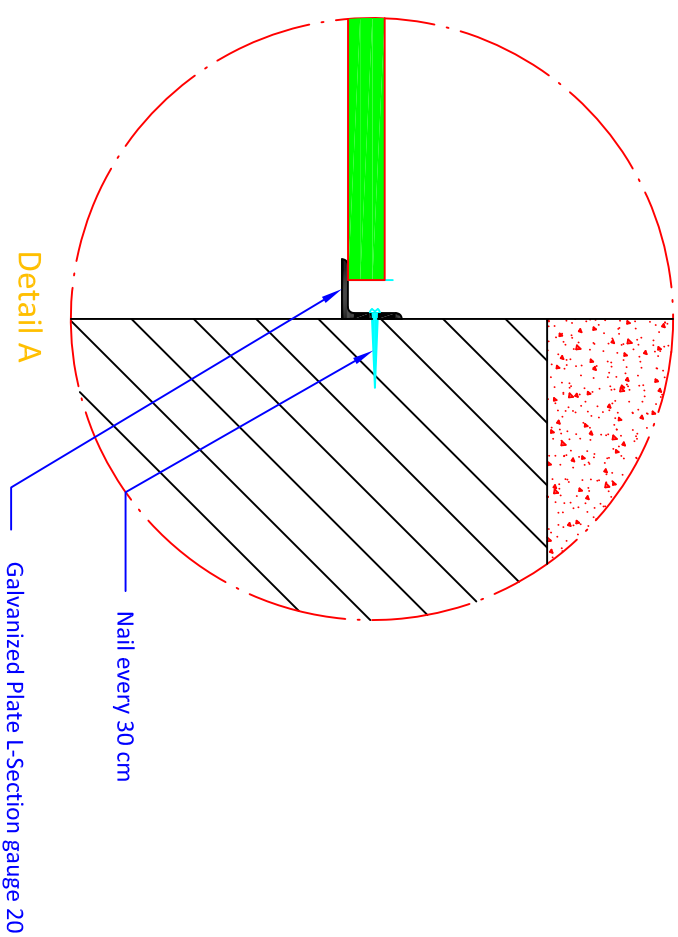
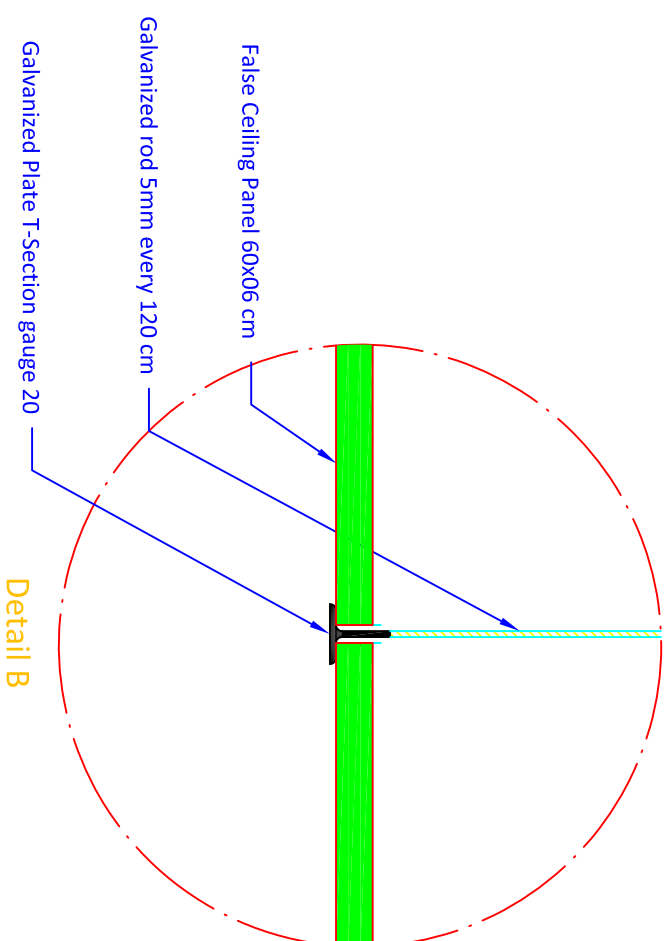
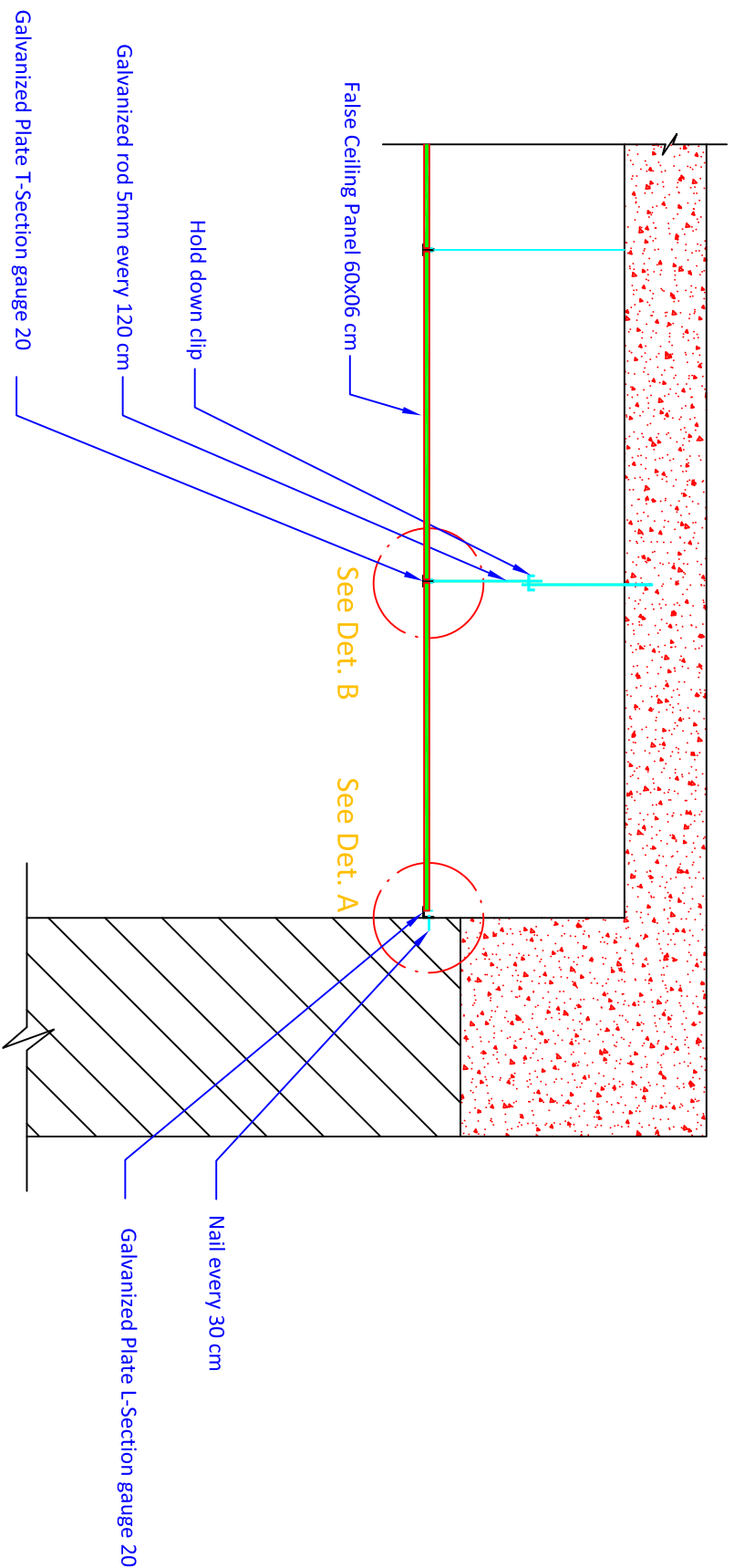
Detail of Double Face Steel Door

| | | |
|--|------------------|------------|
| Maintenance Factory of East Mosul Municipality | | |
| Drawn by: Soran Rostam Aziz | | |
| Sheet Title: Detail of Double Face Steel Door | | |
| Scale: NTS | Date:May 17,2017 | DWG No. 03 |



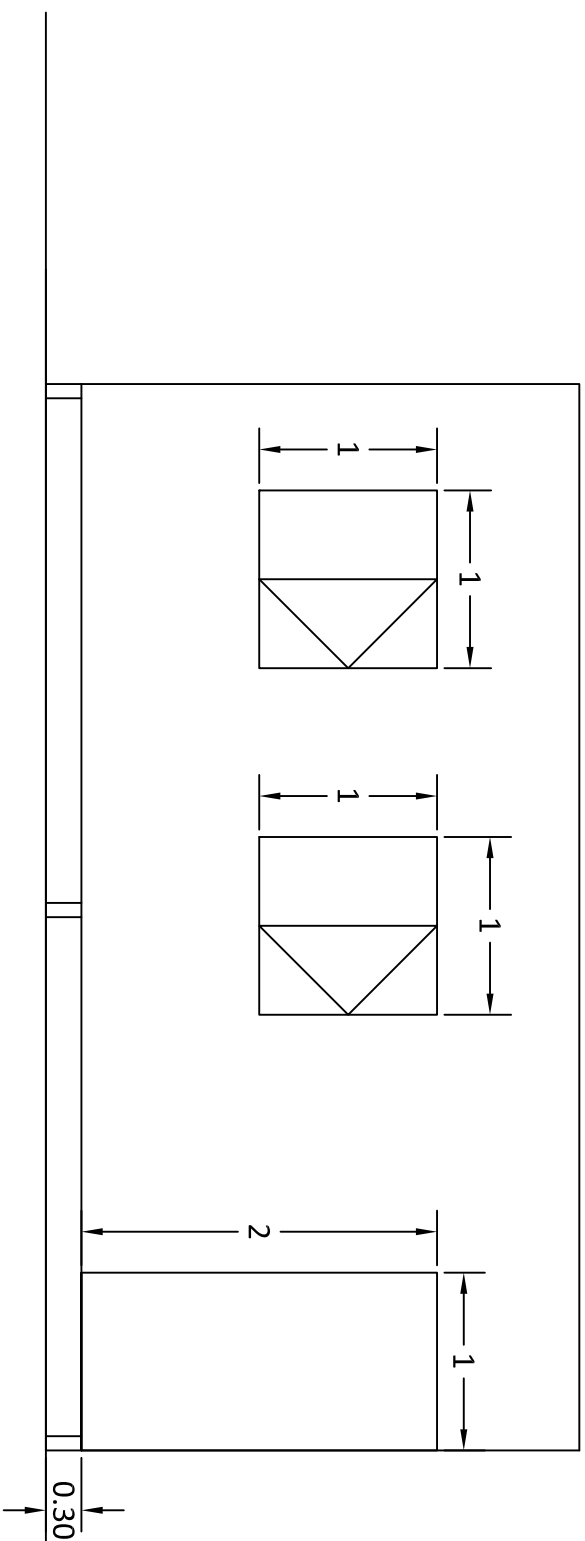
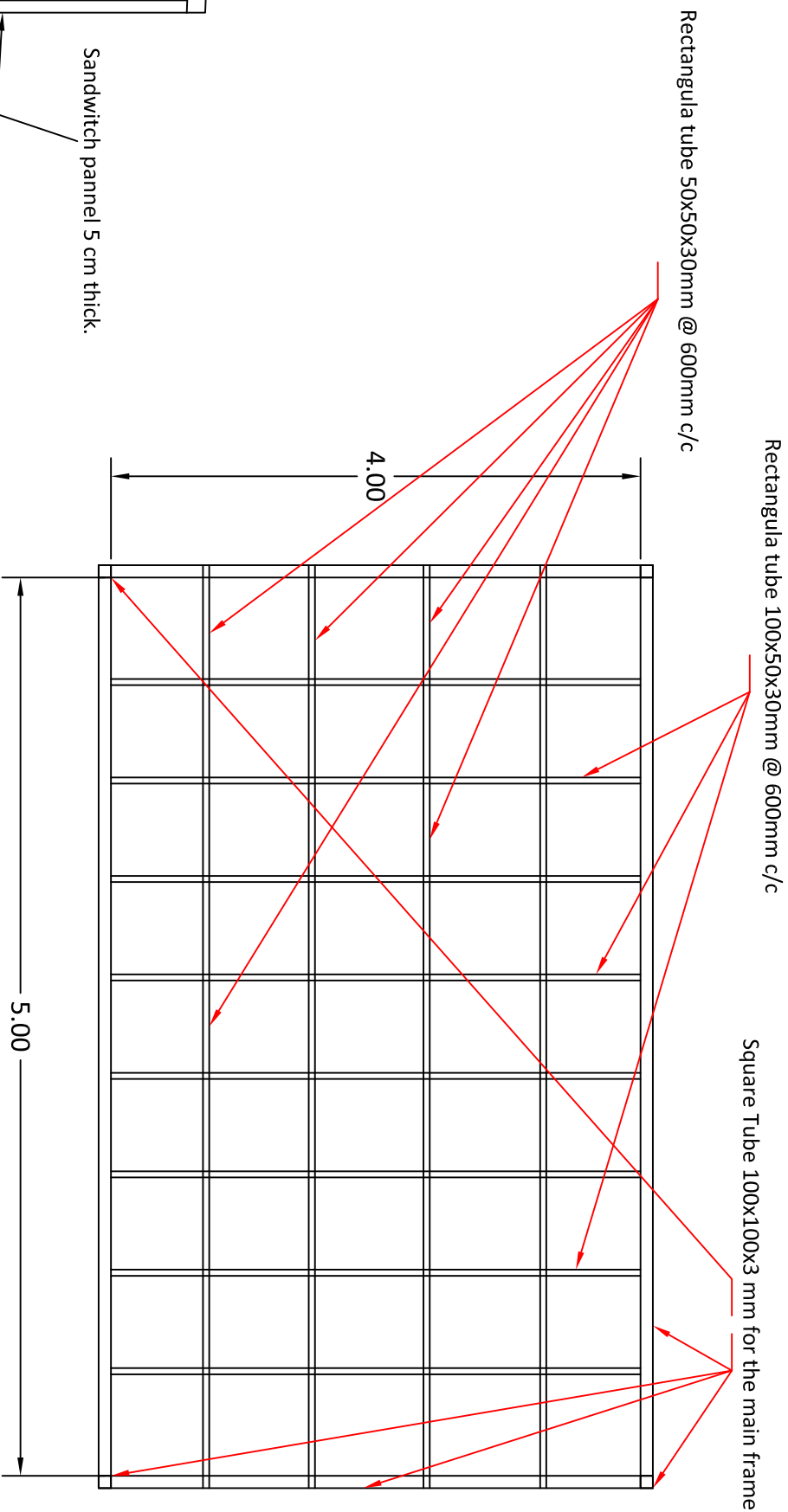
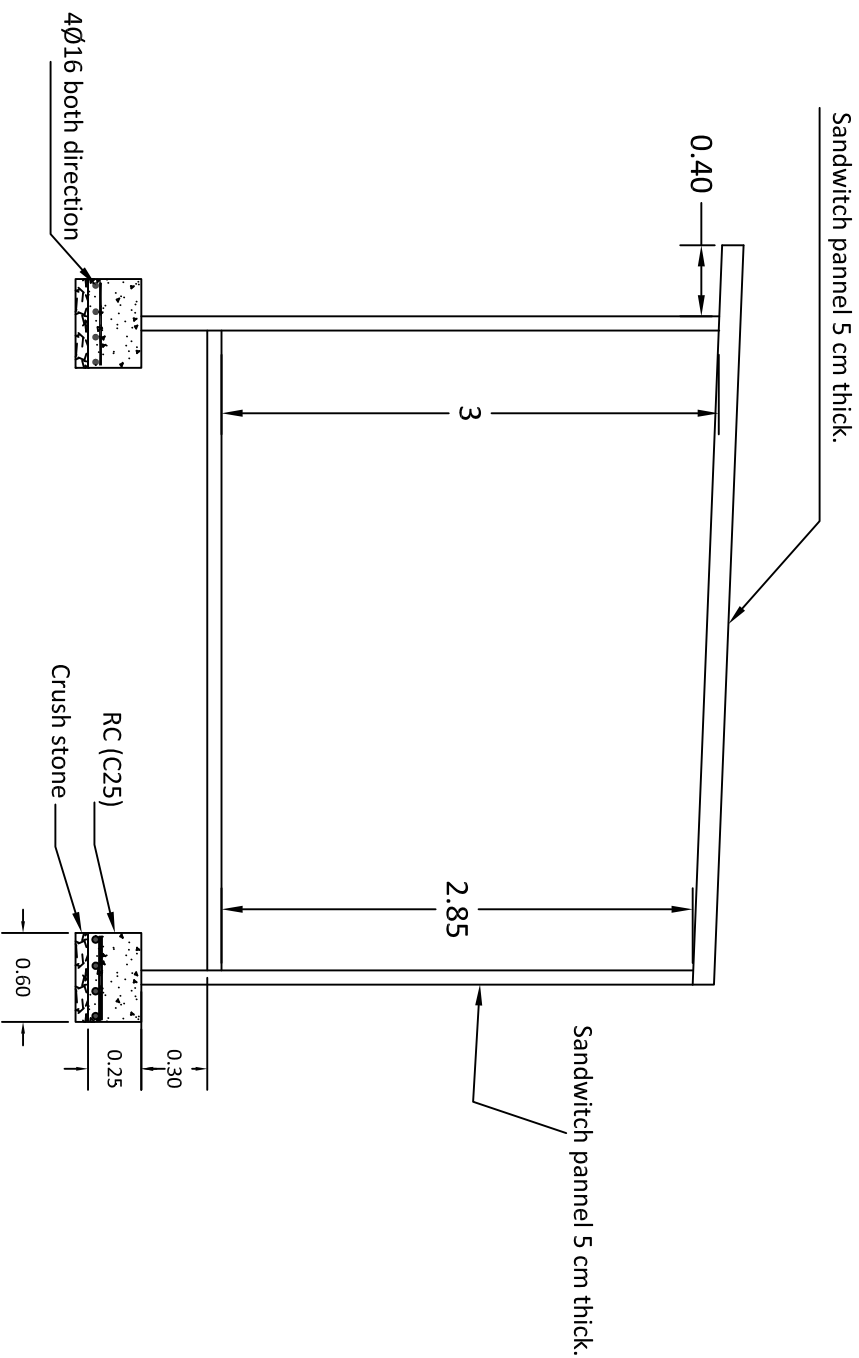
Detail of Wooden Door

| | | |
|--|--------------------|------------|
| Maintenance Factory of East Mosul Municipality | | |
| Drawn by: Soran Rostam Aziz | | |
| Sheet Title: Detail of Wooden Door | | |
| Scale: NTS | Date: May 17, 2017 | DWG No. 04 |

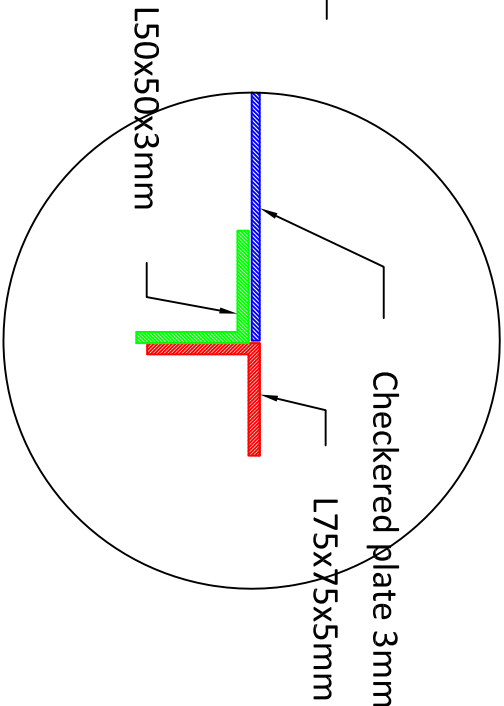
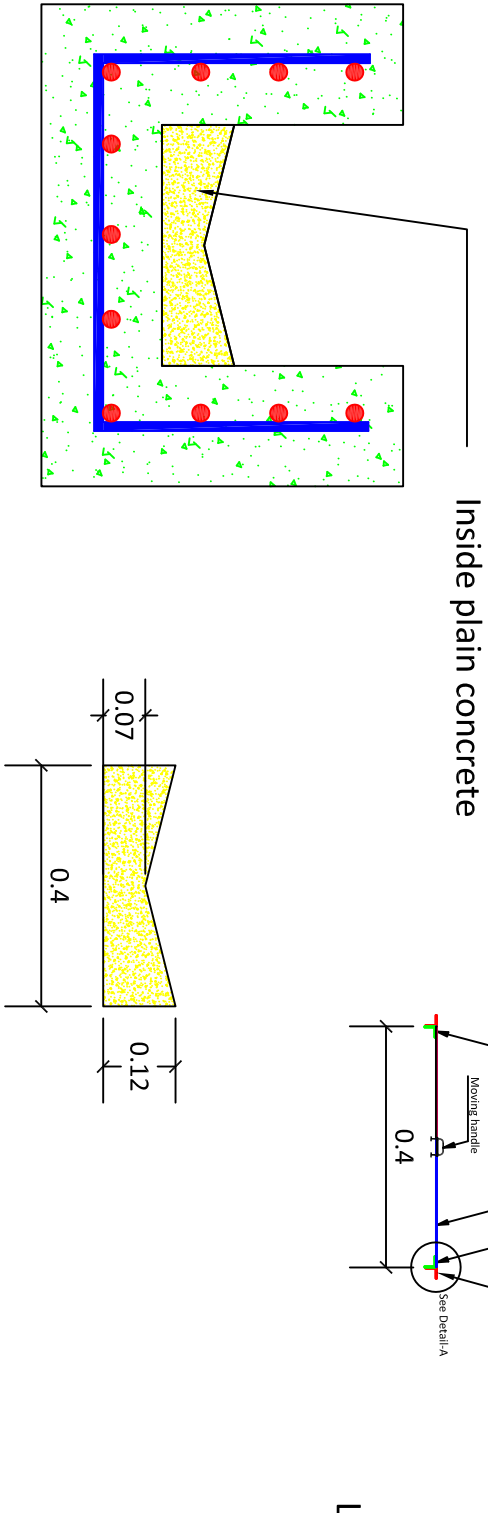
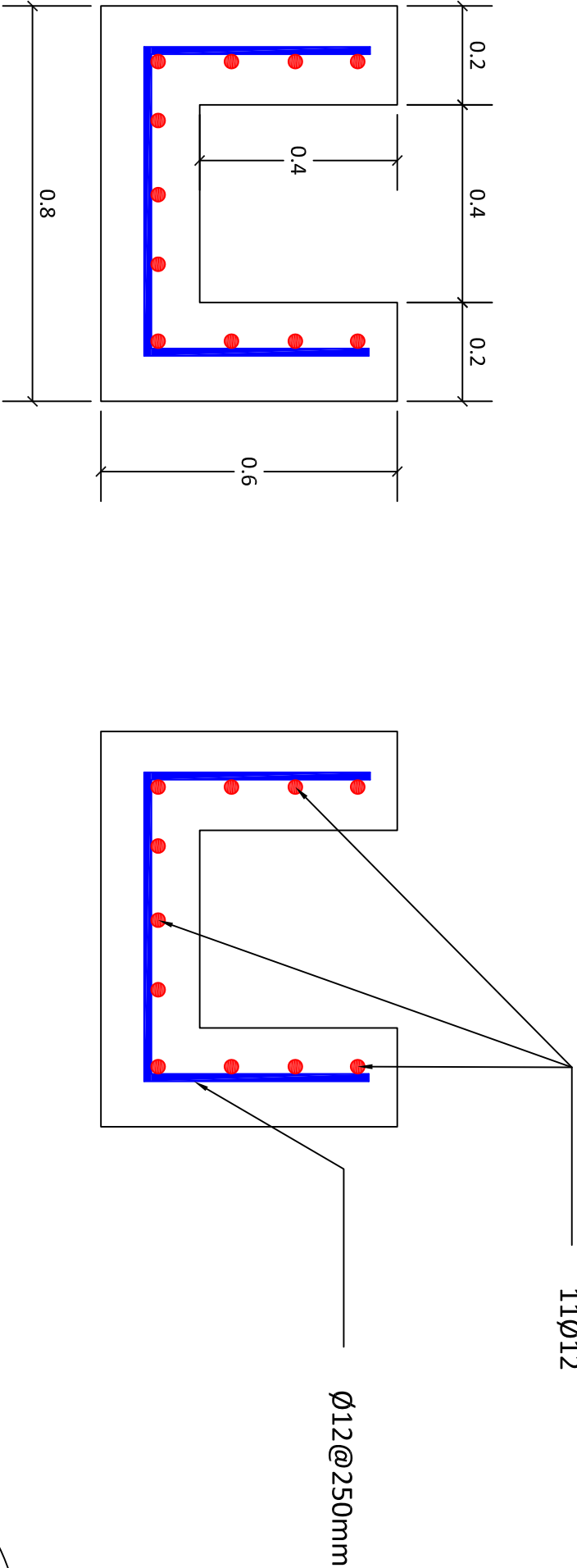


Detail of Suspended Ceilings

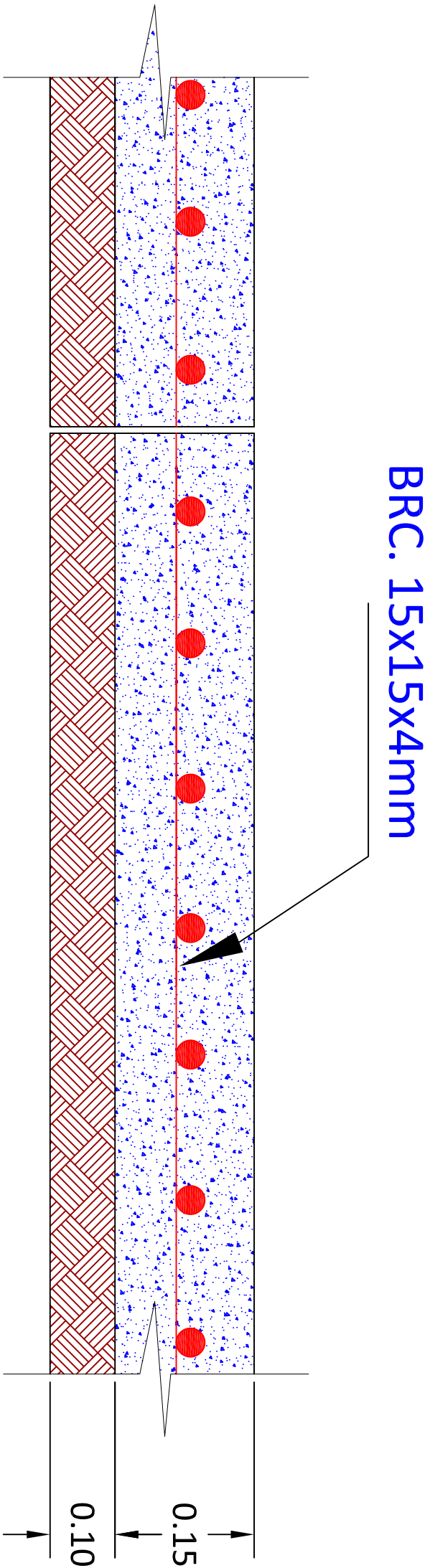
| | | |
|--|--------------------|------------|
| Maintenance Factory of East Mosul Municipality | | |
| Drawn by: Soran Rostam Aziz | | |
| Sheet Title: | | |
| Detail of Suspended Ceilings | | |
| Scale: NTS | Date: May 17, 2017 | DWG No. 05 |



| | | |
|--|------------------|-----------|
| Maintenance Factory of East Mosul Municipality | | |
| Drawn by: Soran Rostam Aziz | | |
| Sheet Title: | | |
| Detail of prefab cabin | | |
| Scale: NTS | Date:May 17,2017 | DWG No.06 |

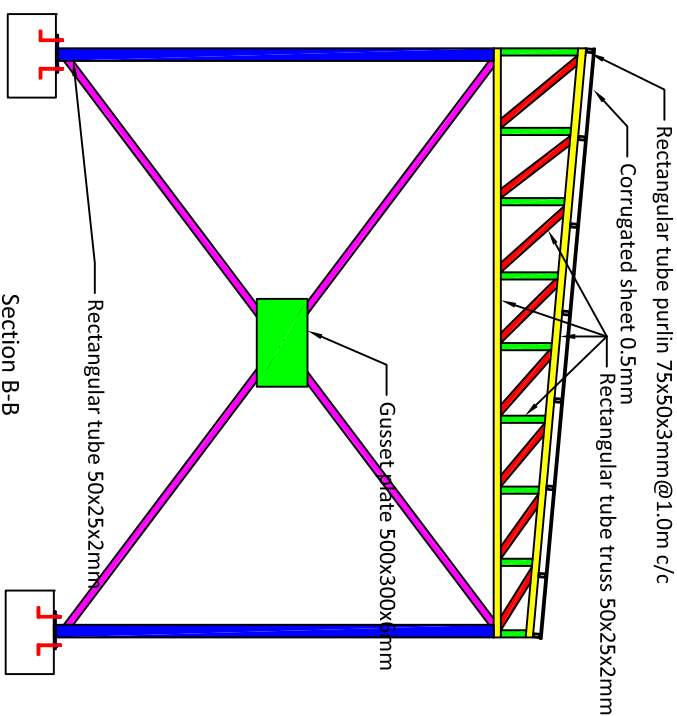
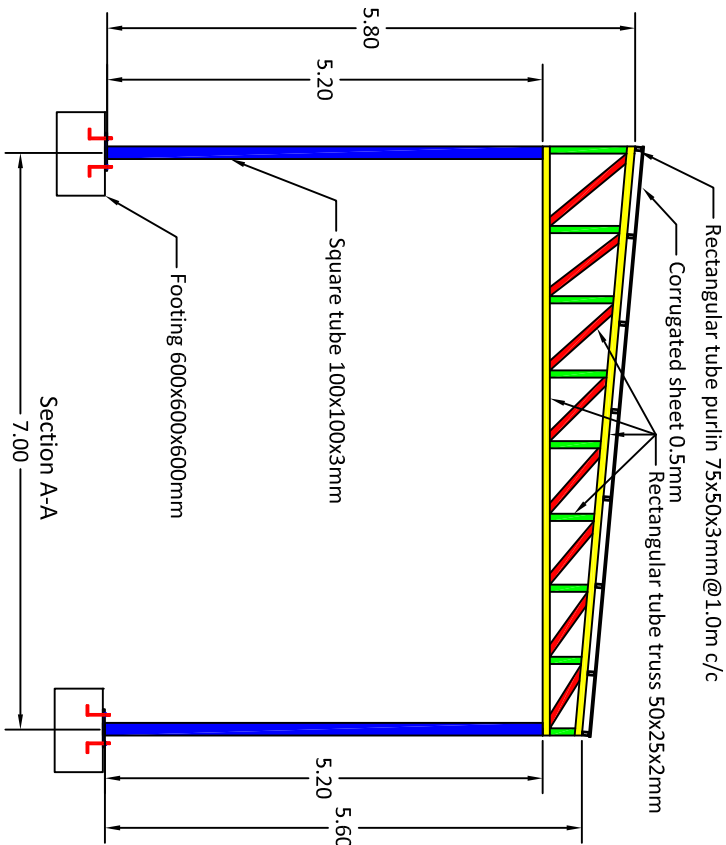
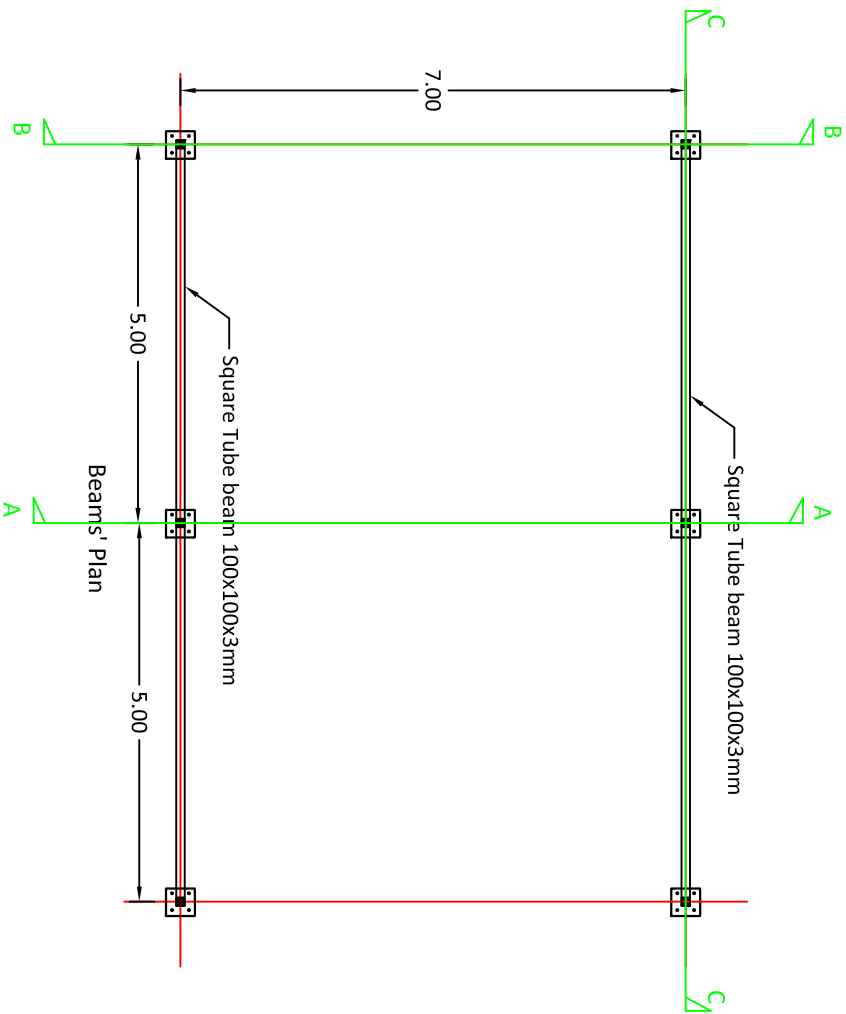


| | | |
|--|--------------------|------------|
| Maintenance Factory of East Mosul Municipality | | |
| Drawn by: Soran Rostam Aziz | | |
| Sheet Title: | | |
| Detail of water drainage channel | | |
| Scale: NTS | Date: May 17, 2017 | DWG No. 07 |



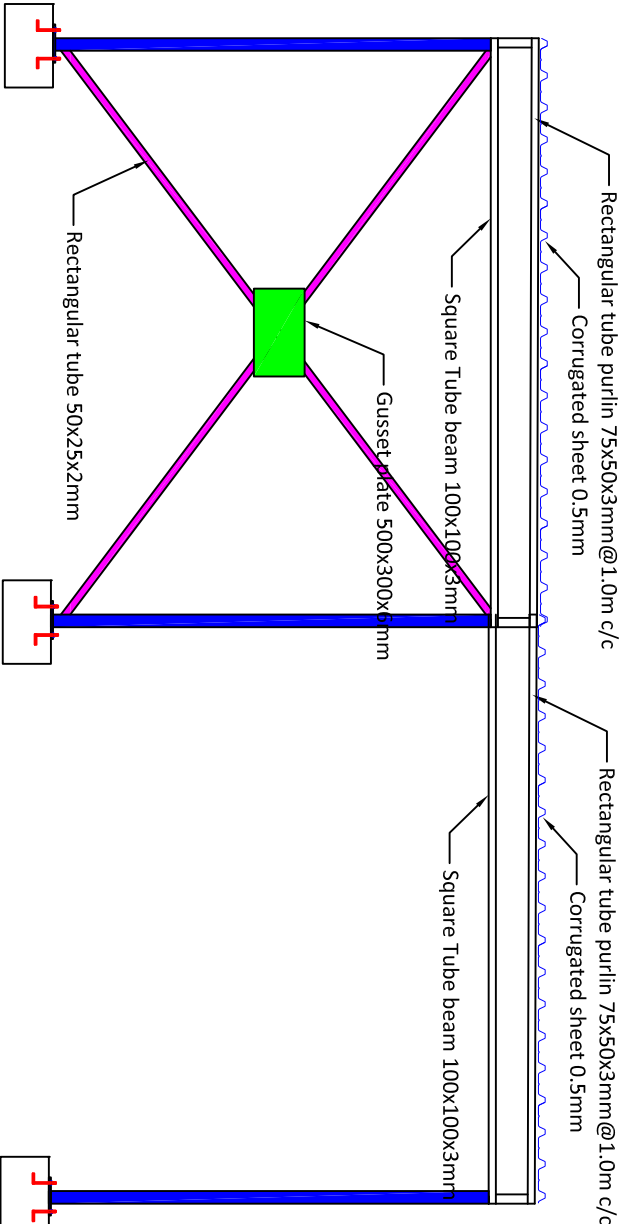
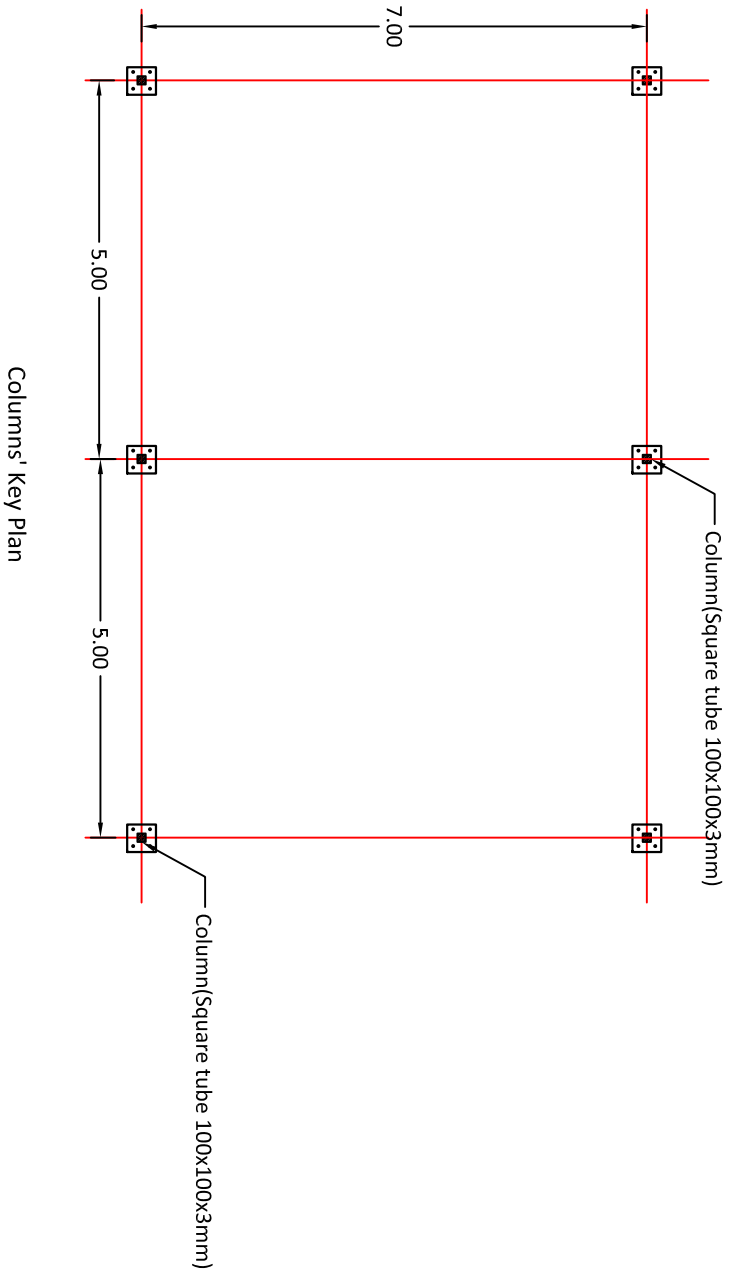
Detail of Slab on grade(Concrete with BRC)

| | | |
|--|------------------|------------|
| Maintenance Factory of East Mosul Municipality | | |
| Drawn by: Soran Rostam Aziz | | |
| Sheet Title: | | |
| Detail of slab on grade(Concrete with BRC) | | |
| Scale: NTS | Date:May 17,2017 | DWG No. 08 |



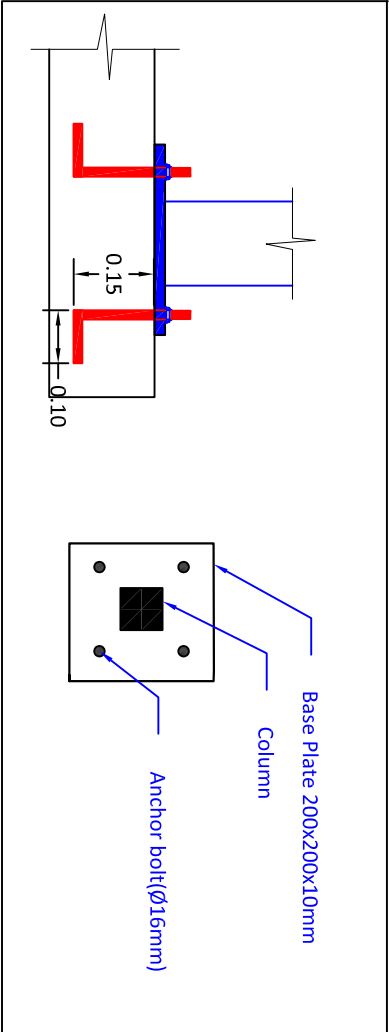
Note:

The lateral bracing in the direction of 7.0m, should be provided at the end spans and every four spans, and that for the direction of 5.0m, should be provided every five spans(only backside).



Note:

The lateral bracing in the direction of 7.0m, should be provided at the end spans and every four spans, and that for the direction of 5.0m, should be provided every five spans(only backside).



Maintenance Factory of East Mosul Municipality

Drawn by: Soran Rostam Aziz

Sheet Title:
Shed for Parking

Scale: NTS Date:May 17,2017 DWG No.09

