

FAST SITE[®] SYSTEM



S18

S24

S30

S36



Cml Middle
East
سي ام ال الشرق الأوسط

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Our History

Our origins

Del Carlo Group is a conglomerate of four leading Italian companies in the fields of galvanization, industrial painting and the manufacturing of steel supports, with a total production area of 170,000 square meters.

The consolidated success of Del Carlo Group results from a long tradition for excellence, as well as a proven track record of market success evidenced by the longevity of the group's first hot-dip galvanizing unit and pole production factory which trace their roots all the way back to 1950 and 1960 respectively. The affinities and the values of the individual companies have merged to create a global group which is at present supporting some the world's leading companies in the energy, telecommunication, railway and infrastructure sectors.





A GROUP IN CONSTANT EVOLUTION

Team

Investment in research and development, application of advanced technologies, expertise and passion – these are the values that continue to support Del Carlo Group's evolution. Created through the vision and action of Lorenzo del Carlo, Del Carlo Group has since grown to become a reference in the Italian market within the sectors of public lighting, electricity transmission and distribution, railway infrastructures, galvanization and industrial painting.

Del Carlo Group's market leadership is assured by the dedication and competence of the expanded Del Carlo family, which in addition to its founder Lorenzo and son Alfredo includes passionate and enthusiastic managers.

A group of people united by common ideals where each individual is free to express their full potential and capabilities without reserve.



CML is a renowned manufacturer and supplier of telecommunication systems for major international operators as well as monotubular poles for mobile networks, radio-base and signal stations. Customized devices and systems are designed and built in accordance with the highest international technical standards for all requirements.

DEL CARLO GROUP IN THE WORLD

Local presence, global reach.

Del Carlo Group is structured to assure a close relationship with clients worldwide while maintaining efficient and timely service.

The Group's multinational presence continues to grow beyond European borders - including emerging markets in Africa and the Middle East.

MACOFER

LORENZO DEL CARLO

METALZINCO

CML

Group's plants
Sales presence

CHAPTER 1

INTRODUCTION TO THE FAST SITE® SYSTEM

The **FAST SITE® SYSTEMS** are a precast foundation made of reinforced and vibrated concrete built in order to contain the devices of a radio base station with the equipment and a steel pole that can reach a maximum height from 12 m up to 42 m (more precisely a pole of 36 m and a flagpole of 6 m). These are available for both, polygonal joint on poles and flanged poles, either with a flagpole or platform.

The **FAST SITE® SYSTEMS** (with registered patent no. 102020000011074 and trade mark) provide unmatched value through a concrete precast foundation system that is capable of satisfying the entire spectrum of needs of the different mobile phone operators.

In particular:

COST SAVING

The **FAST SITE® SYSTEMS** enable a cost saving on the whole realisation of the base radio raw land station.

FAST INSTALLATION

The **FAST SITE® SYSTEMS** enable a complete assembly (of the base and pole) in 2 working days.

POSSIBILITY OF REUSE

The **FAST SITE® SYSTEMS** can be disassembled and reused at any time.

VERSATILITY

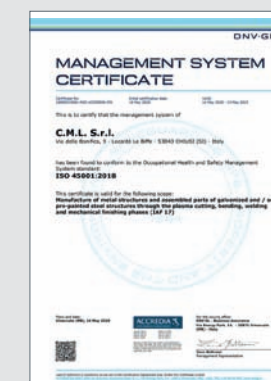
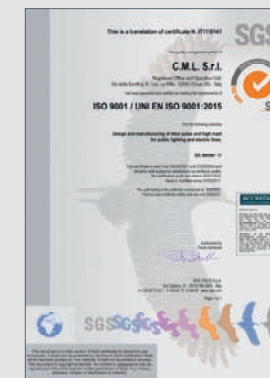
The **FAST SITE® SYSTEMS** allow the setup of a pole with shelter or with outdoor systems. Moreover, different placement alternatives of the system and of electric control panels are possible thanks to the cable tray placed along the perimeter of the base. The double Halfen channel, that contains the base, allows multiple configurations of the fence (the gate can be positioned on any of the 4 sides).

CERTIFICATION

The **FAST SITE® SYSTEMS** are entirely manufactured in our plants in Italy and leave the production plant with attachments and structural calculations, alongside certifications of the concrete and all the steel elements and accessories used for its construction. Quality documentation (quality book) is also included and supplied with complete and comprehensive instructions which allow the achievement of the work within a week from its beginning (all documentation for job handing over is provided).

CIRCULARITY

The **FAST SITE® SYSTEMS** represent an eco - friendly choice with the intent of maximizing your product's/service's "circularity rate" and allow your company to pursue those virtuous behaviours that best are compatible with the need of aiming at the highest result in terms of economic and environmental sustainability in the resource management.



FAST SITE® SYSTEM RANGE

REGISTERED PATENT no. 10202000011074

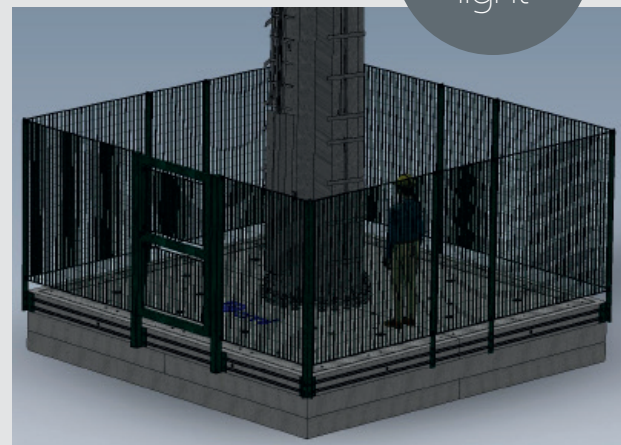
FAST SITE® SYSTEM S18
basement 5x5 m
on **2** levels

S18
ultralight



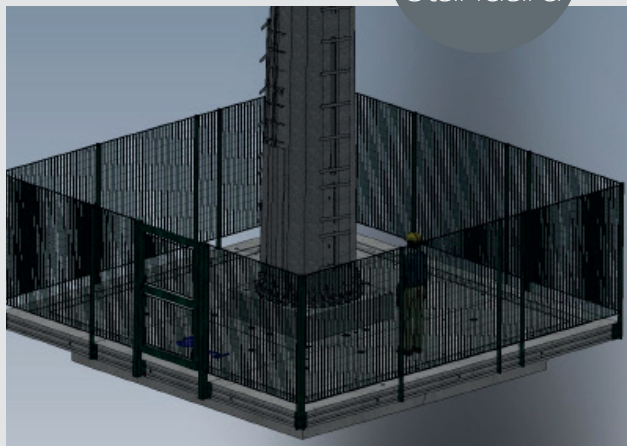
FAST SITE® SYSTEM S24
basement 5x5 m
on **3** levels

S24
light



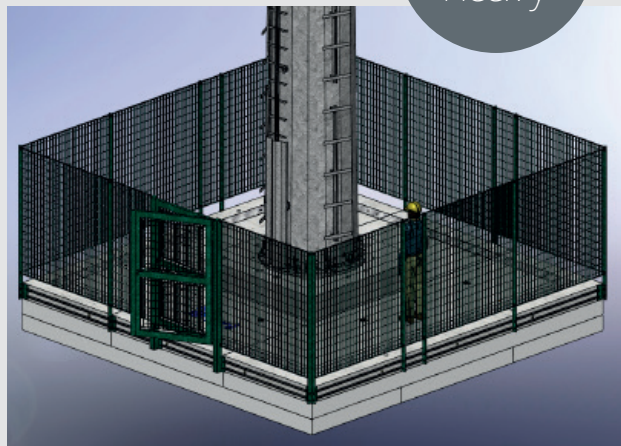
FAST SITE® SYSTEM S30
basement 6,5x6,5 m
on **3** levels

S30
standard

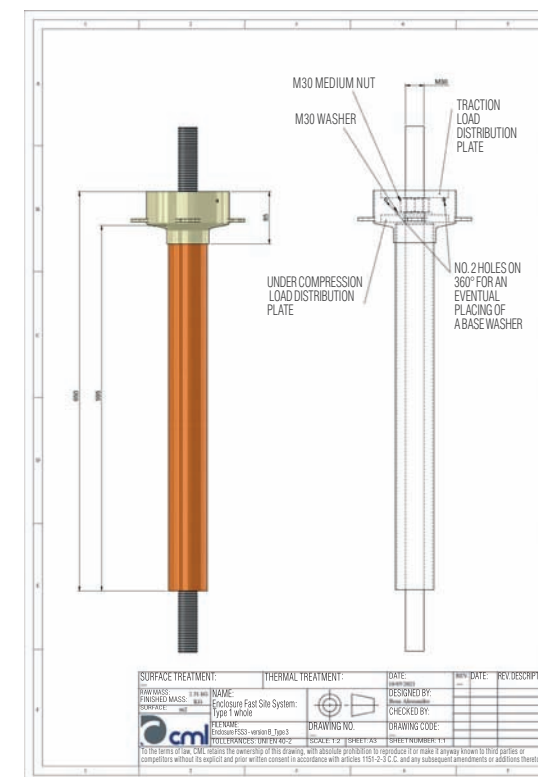
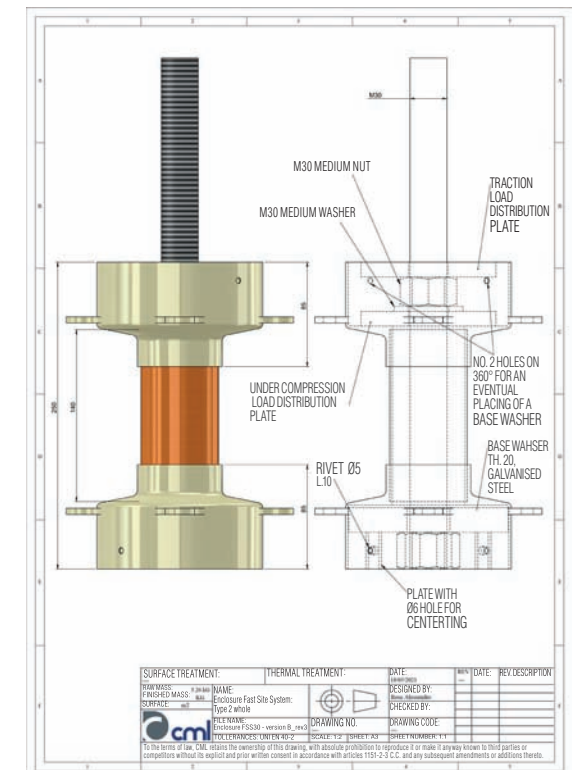
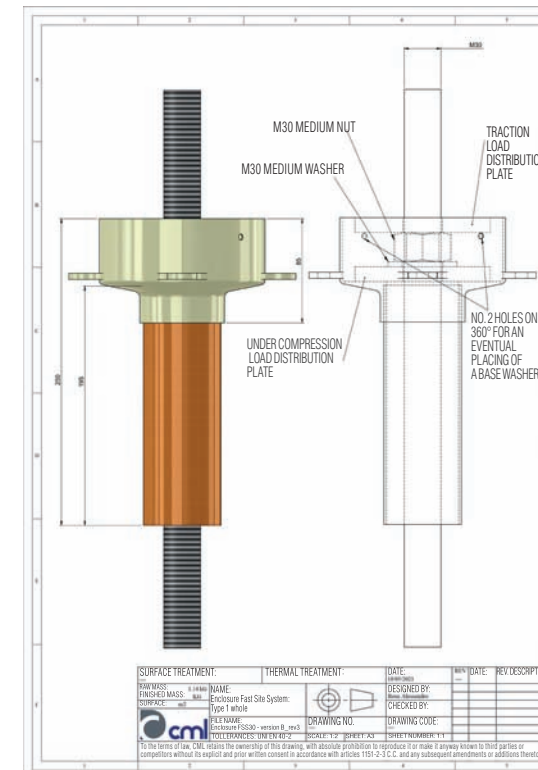


FAST SITE® SYSTEM S36
basement 6,5x6,5 m
on **3** levels

S36
heavy



The **FAST SITE® SYSTEM** presents also an additional innovation that allows a faster realisation, quality and maintenance over time of the performance. The vertical connections among the modules in CLS through threaded rods put into nylon printed enclosures. This system too has a registered patent with no. 10221000018919.



REFERENCE STANDARDS

- Law no. 1086 of 5th November 1971 "Regulations governing works made of concrete, normal and pre-compressed and with metal structure".
- C.N.R. - UNI 10011/88 Steel constructions; calculation instructions, execution, testing and maintenance.
- Eurocode 1: Basis of calculation and actions of structures
 - Part 1: Basis of calculation (UNI ENV 1991-1 del 31-10-1996);
 - Part 2-1: Actions on structures, densities, self-weight and imposed loads (UNI ENV 1991-2-1 of 31 October 1996);
 - Part 2-3: Actions on structures, snow loads (UNI ENV 1991-2-3 of 31st October 1996);
 - Part 2-4: Actions on structures, wind actions (UNI ENV 1991-2-4 of 31st March 1997);
- Eurocode 2: Design of concrete structures. Part 1-3: General Rules. Precast concrete elements and structures (UNI ENV 1992-1-3 of 30th September 1995);
- Eurocode 8: Design of structures for earthquake resistance
 - Part 1-1: General rules, seismic actions and rules for buildings (UNI ENV 1998-1-1 of 31st October 1997);
 - Part 1-2: General rules for buildings (UNI ENV 1998-1-2 of 31st October 1997);
 - Part 1-3: General rules – Specific rules for various structural materials and elements (UNI ENV 1998-1-3 of 31st March 1998);
- D.M. 17th January 2018 – "Technical standards for constructions" NTC 2018 and following circulars
- CNR-DT-207-2018



ADOPTED MATERIALS

The realisation of the **FAST SITE® SYSTEM** uses only certificated materials and of high quality. The mechanical features of the used materials for the realisation of the elements are listed below:

- Ordinary steel for reinforced concrete: ($f_{yk} = 450\text{MPa}$, $f_{yd} = 391.3\text{MPa}$)
 Safety coefficient: $\gamma_s = 1.15$
 Bars with improved adherence: steel type B450C
 Electro welded mesh: steel type B450C
- Steel for threaded rods: ($f_{yk} = 275\text{MPa}$, $f_{tk} = 430\text{MPa}$)
 Safety coefficient: $\gamma_s = 1.15$
 Threaded rods hot – dip galvanized in class 6.8
- Concrete for the modules (all the modules):
 Characteristic resistance: $R_{ck} \geq 40\text{MPa}$ ($f_{ck} = 40\text{MPa}$, $f_{cd} = 19.43\text{MPa}$ - $f_{ctd} = 1.71\text{MPa}$)
 Safety coefficient: $\gamma_c = 1.4$

The assumed coefficient γ_c is equal to 1,4 for all the modules because precast elements that are continuously produced and therefore considered as structural elements subject to continuous check of the concrete.

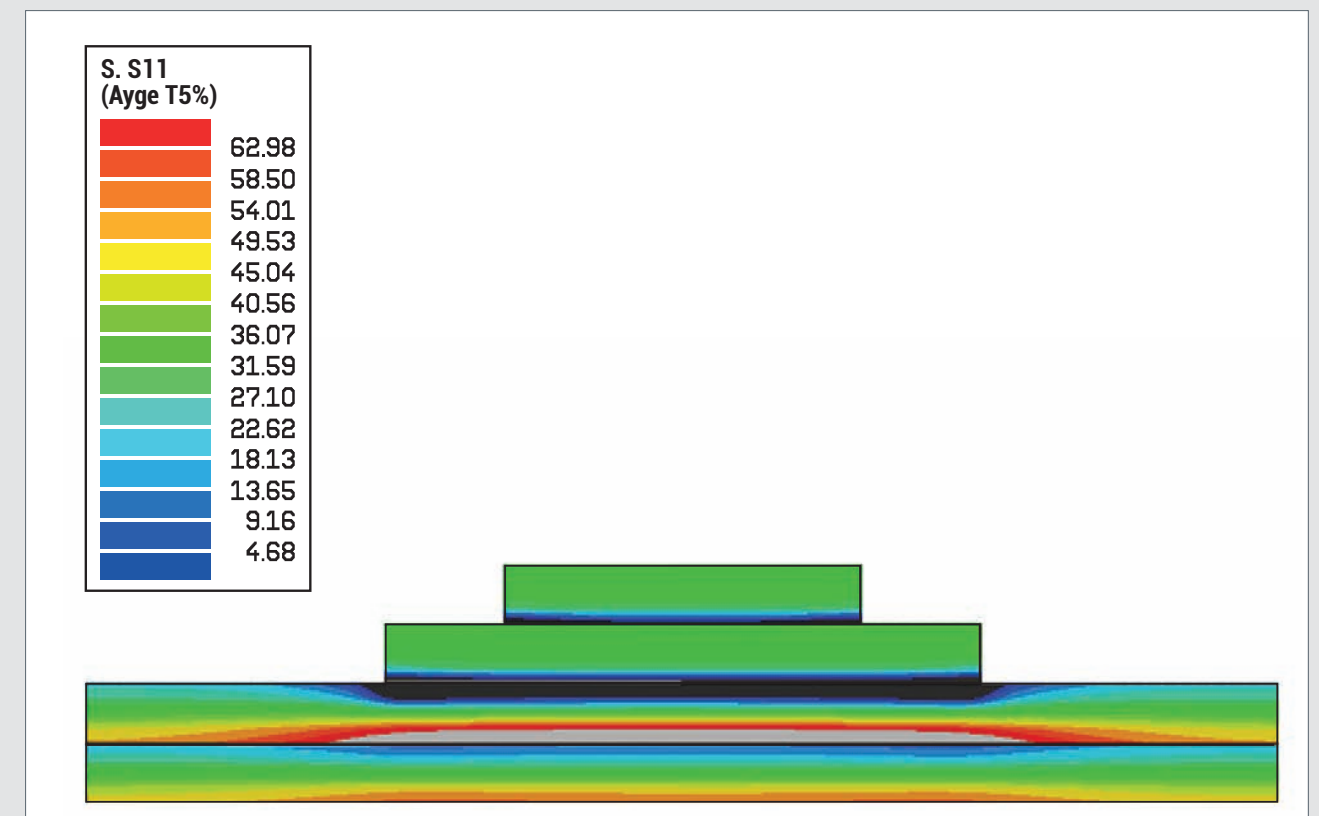


Fig. 1 Example of the strain development of the FAST SITE® SYSTEM



**FAST
SITE[®]**
SYSTEM 18

DESCRIPTION OF THE FAST SITE® SYSTEM 18

The base (with plan size of 5 m x 5 m and height equal to 500 mm) is made up of 4 reinforced concrete precast elements assembled together through steel threaded rods $\varnothing$ 30 mm of applicable length. The elements are placed into 2 layers as follows:

- the first layer (inferior) is in contact with the ground and is made up of 2 precast elements next to each other that have a load – bearing function (type E2 elements);
- the second layer (superior) is placed over the first one and consists of 2 elements next to each other that have a load – bearing function and that are placed crossing the previous ones (type E1 elements);

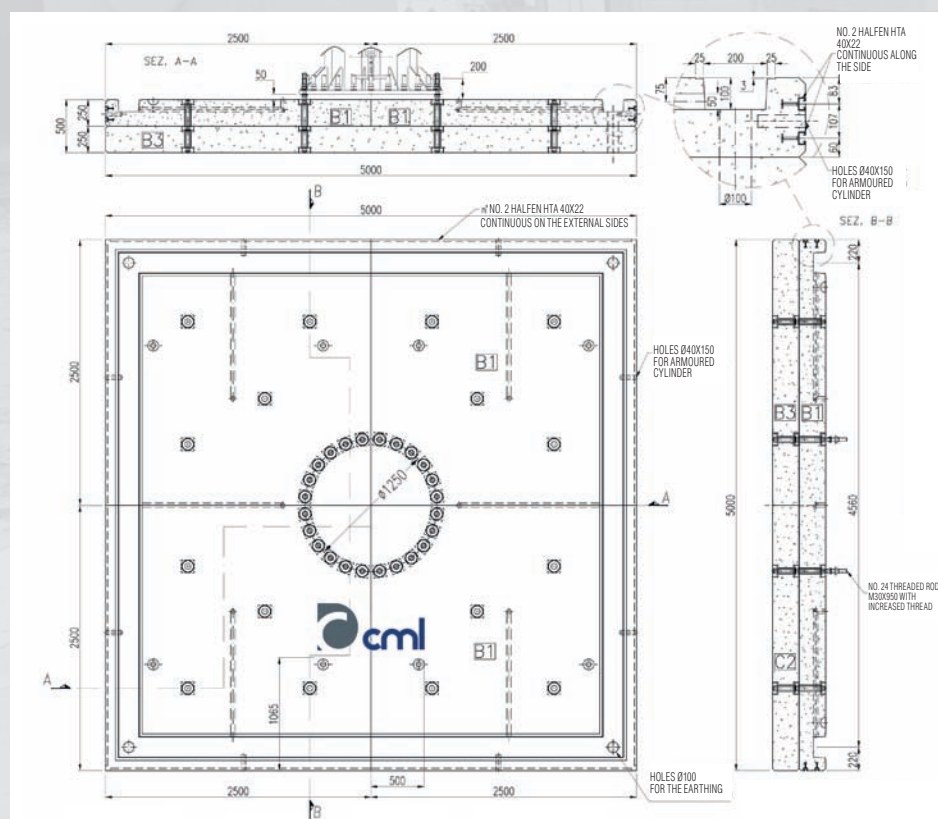


Fig. 2 - Plan and section of the FAST SITE® SYSTEM 18

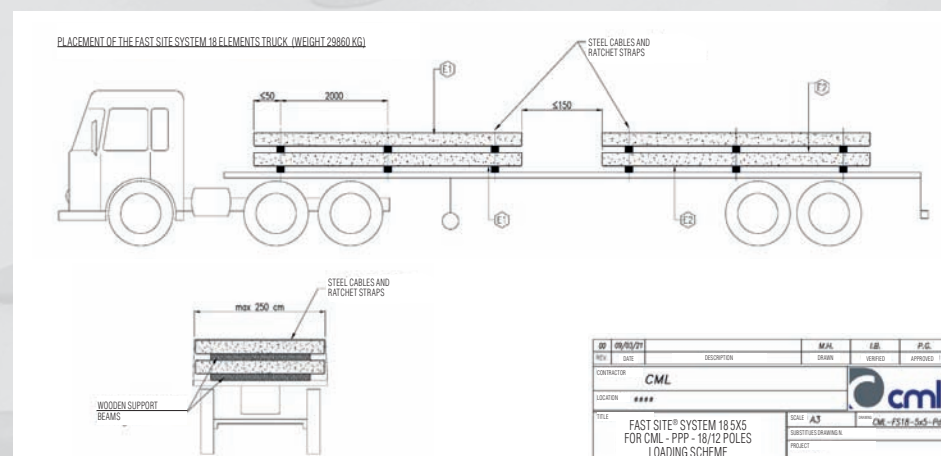


Fig. 3 - FAST SITE® SYSTEM 18 loading scheme

The prefabricated concrete elements in detail:

- **Type E1 element** (n° 2 pieces) - full parallelepiped of 2,50 x 2,50 x 0,25 m (weight 7.290 kg/each);
- **Type E2 element** (n° 2 pieces) - full parallelepiped of 2,50 x 2,50 x 0,25 m (weight 7.640 kg/each);

The total weight is therefore P=29.860 kg

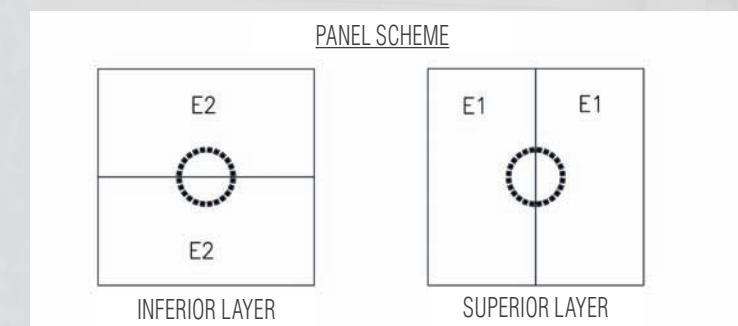


Fig. 4 - Layout of the FAST SITE® SYSTEM 18 modules

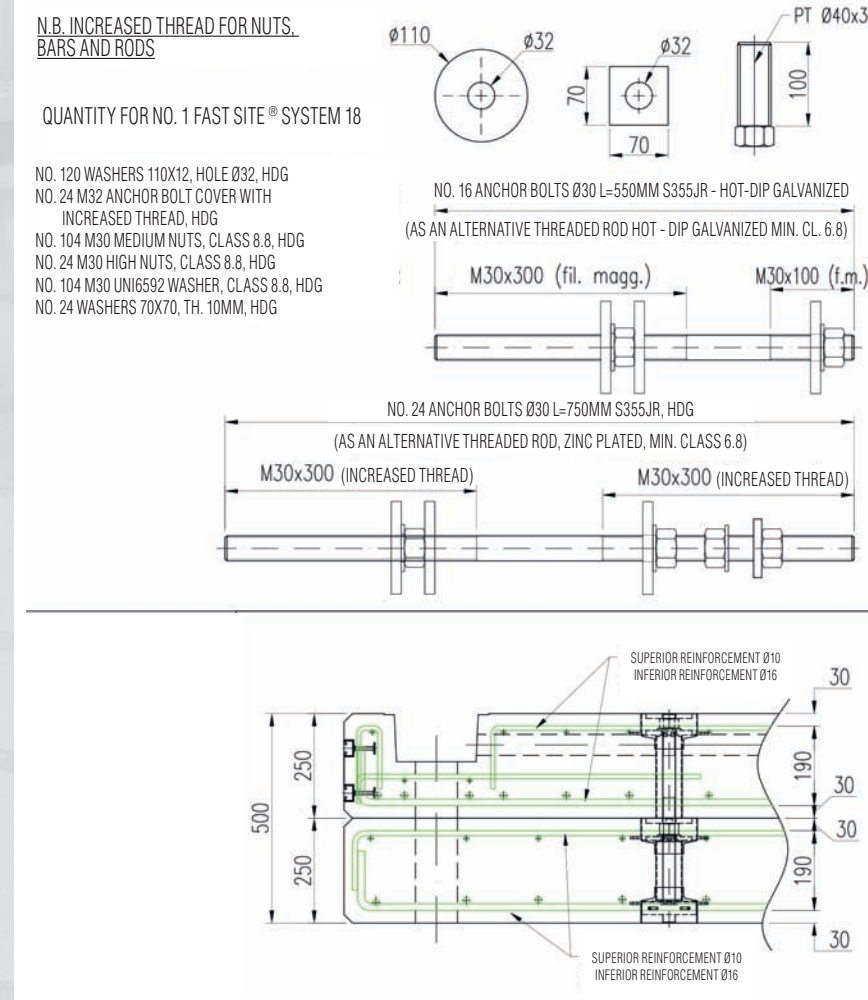


Fig. 5 - Connection of the FAST SITE® SYSTEM 18 modules

INTRODUCTION TO THE INSTALLATION

The **FAST SITE® SYSTEM 18** is designed for a simple and fast, as well as an extremely safe installation. This activity can be carried out by any company that has a minimum knowledge of the civil field.

The installation can be summed up in 6 stages:

1. Preparation of the possible excavation (if required) of 5,5x5,5 m and with about a 1 m depth (according to the conditions of the subsoil and the geological report) and preparation of the levelled bedding (based on the indications that CML supplies before and together with the calculation report);
2. Installation of the base slabs (modules E2) and placement of the connecting M30 threaded rods;
3. Installation of the second level (modules E1) overlaid on the previous ones and placement of the washers on the connecting enclosures of the M30 rods (previously placed during stage 1). Mounting of the nuts on the threaded rods;
4. Connecting of the earthings and closing of the cable tray with the proper panels (hot – dip galvanized embossed sheets or equivalent);
5. Placement of the pole (CML model type PPCML with heights from 12 to 18 meters and eventual flagpole up to 6m) on the **FAST SITE® SYSTEM 18** base;
6. Placement and tightening of the fence on the prepared Halfen channels.

If needed, the supply can include the external earthing made up of a naked copper rope ring of 70 mm² put under the foundations and integrated with no. 4 hot-dip galvanized steel electrodes which are 2m long (connected to the ring with special terminals which are visible from the shafts in the foundation). All the metal inserts are electrically connected to the reinforcement of the structure in order to grant the electrical continuity with the metal frame of the prefabricated structure.



For the structural connection of the different modules, no. 16 M30 threaded rods are used (M30: S355 and hot – dip galvanized – Asnom. = 353 mm²) that are 500 mm long and no. 24 M30 threaded rods (as described above) that are 750 mm long, each with 2 + 2 nuts. The rods are fixed on the base with a nut and washers and on the elements of the first layer and then blocked on top also with a nut and counter plate (the counter plates are appropriately designed and all the accessories, as well as the hardware are hot – dip galvanized). The above – mentioned threaded rods pass through appropriate nylon printed positioning enclosures (enclosures of different heights). The enclosures are put into the E1 module and equipped with flange plate in S355 and th. 30 mm (all hot – dip galvanized) in order to enable the tightening of the threads without putting them under the module itself (in favour of safety and of assembly timing). The above-mentioned enclosures (by pieces of naked copper wire connected with reinforced bars of concrete block) also grant the electrical continuity and the earthing of the connecting threaded rods.

The E2 elements are equipped with a double Halfen HTA 40x22 continuous channel on the external border. This solution allows the positioning of the fence on any of the sides (in an extremely fast way) independently from the positioning of the platform itself (thus the entrance gate can be placed regardless of the side).

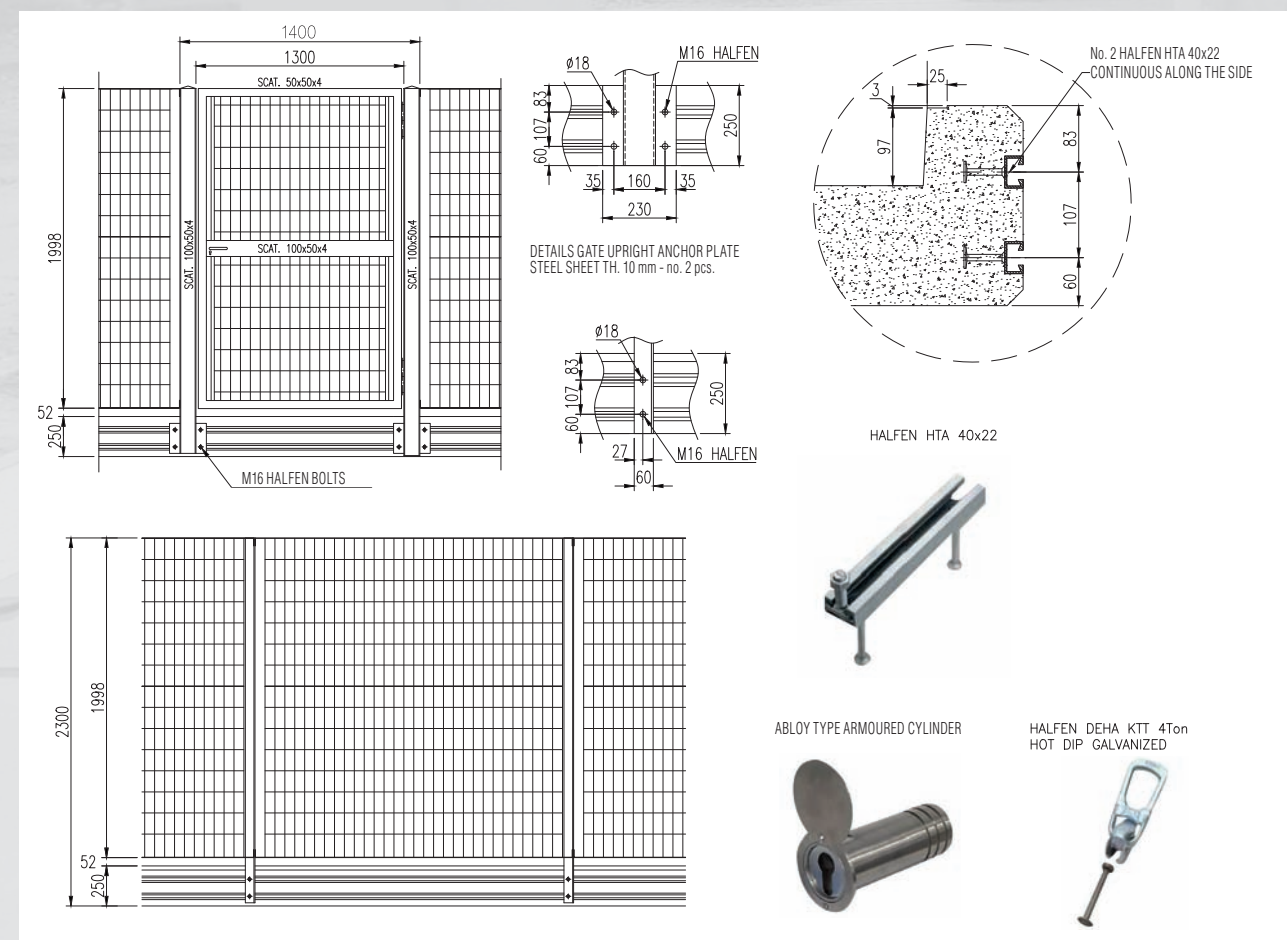


Fig. 6 - FAST SITE® SYSTEM 18 Fence

The lifting of the different modules is made through Halfen type DEHA KIT 4 tons hangers (hot – dip galvanized). Each module is equipped with no. 4 hangers of 4 tons each placed on the borders (considering the heaviest modules – E1 equal to 8 tons – the hangers, for a total of 16 tons, grant a high level of safety during the lifting). The **FAST SITE® SYSTEM 18** has in addition on the border of the E1 module the predisposition for an eventual positioning of an Abloy type armoured cylinder.

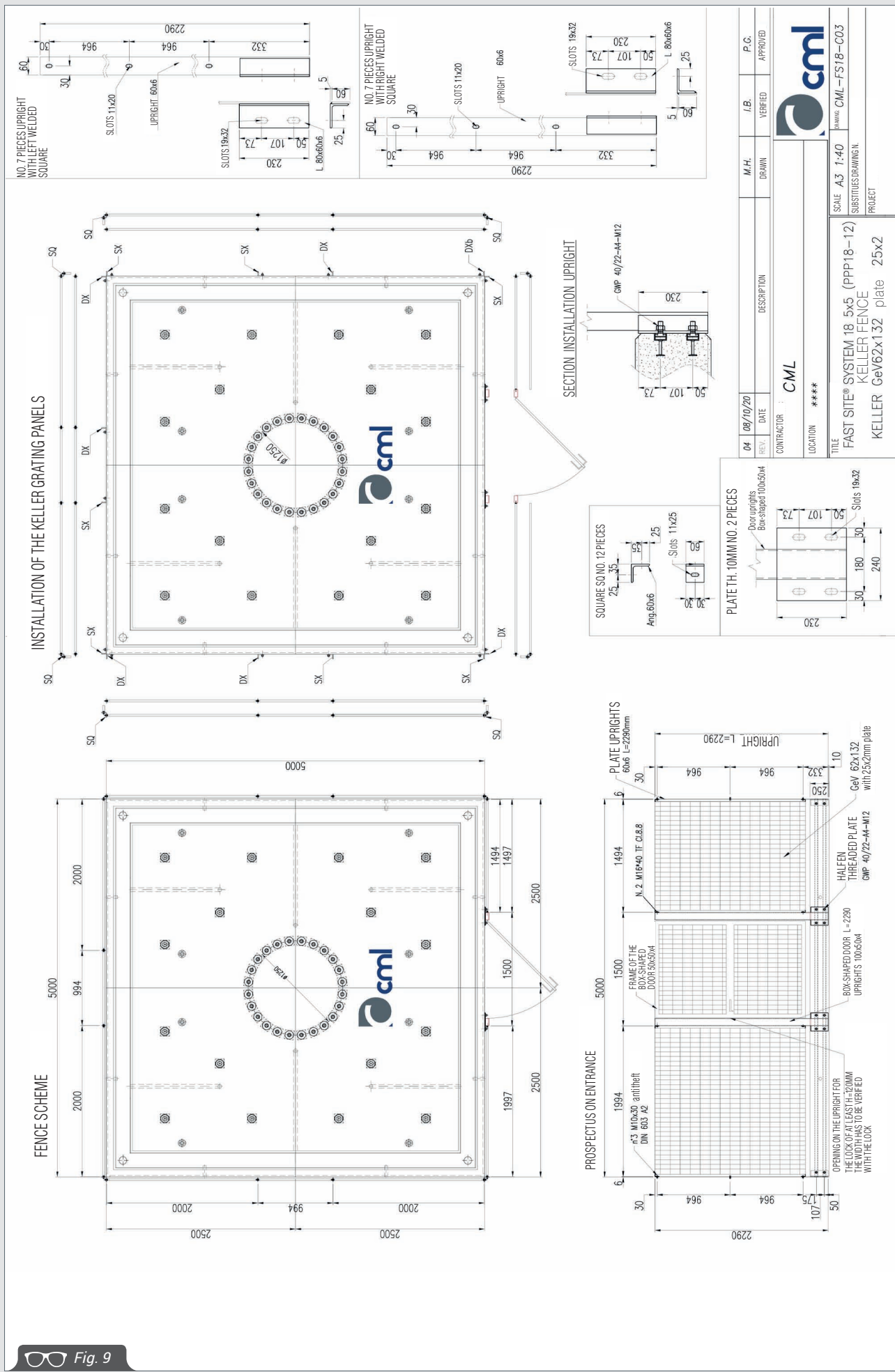


Fig. 9

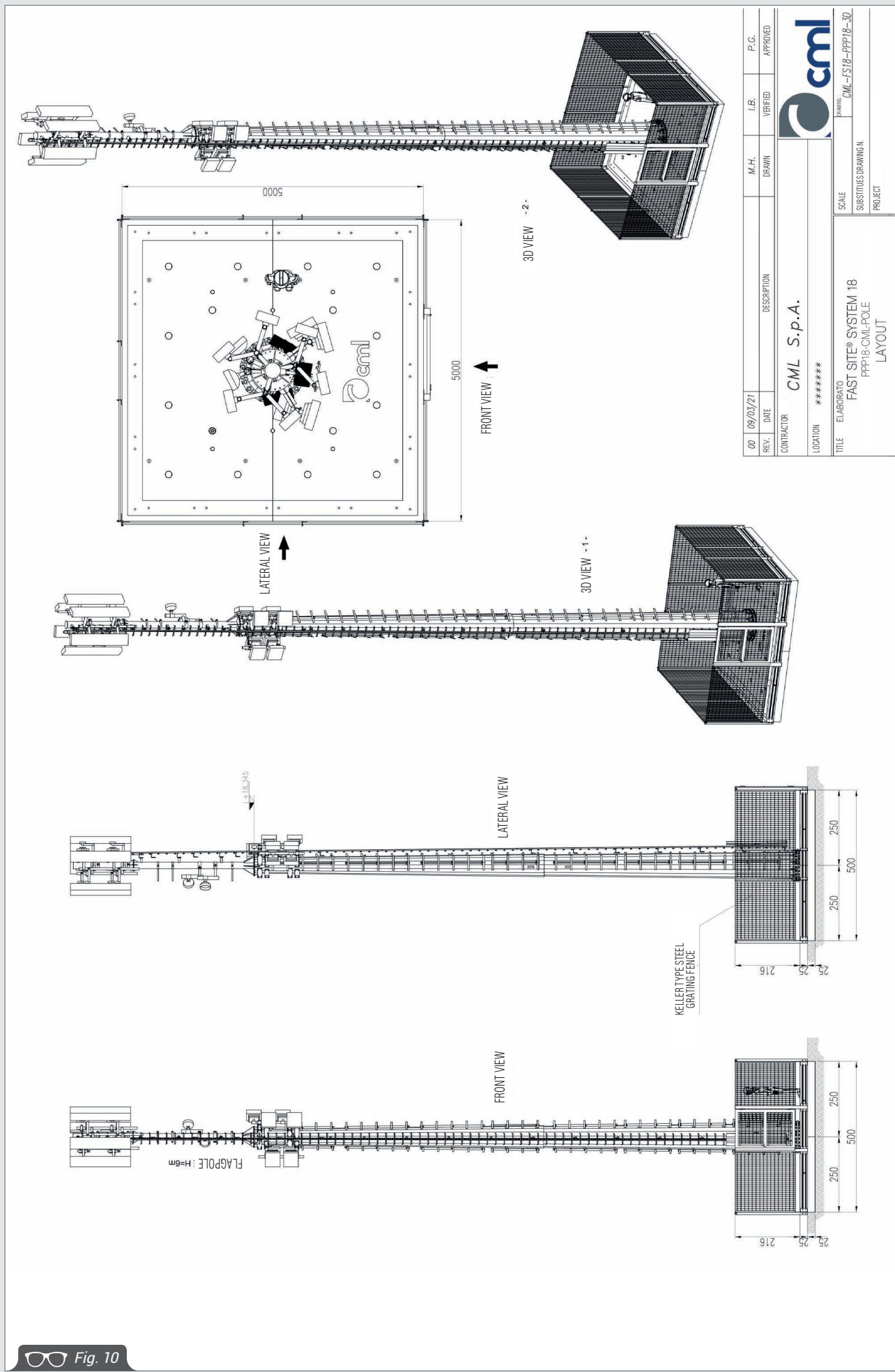


Fig. 10

List of materials CLS PANELS - FAST SITE® SYSTEM 18

ART	DESCRIPTION	DETAILS	DIMENSIONS (mm)	WEIGHT (kg)	Q.TY (No)	TOTAL WEIGHT	MATERIAL	SURFACE TREATMENT
1	BASEMENT E1	Superior panel (CML-FS-E1)	250x2500x2000	7290	2	14580	Reinforced CLS	Raw
2	BASEMENT E2	Inferior panel (CML-FS-E2)	250x2500x2000	7640	2	15280	Reinforced CLS	Raw

List of materials ENCLOSURE - FAST SITE® SYSTEM 18

ART	DESCRIPTION	DETAILS	DIMENSIONS (mm)	WEIGHT (kg)	Q.TY (No)	TOTAL WEIGHT	MATERIAL	SURFACE TREATMENT
1	ENCLOSURE Type 1	No. 1 enclosure in PA6 Ø135 and PVC tube L=195	250	0,25	40	10	PA6 + PVC	none
2	ENCLOSURE Type 2	No. 2 enclosures in PA6 Ø135 and PVC tube L=140	250	0,5	40	20	PA6 + PVC	none
3	M30 BASE WASHERS	Base washers for type 2 enclosures	Ø135 ed H=30mm	***	40	0	S355JR	Galvanized
4	RIVETS	Steel and alluminium rivet for the connection	Ø5mm x 22mm	***	80	0	Steel and alluminium	none
5	PRINTED ENCLSOSURES	PA6 printed enclosures Ø135 and h=50mm	Ø135 ed H=50mm	***	120	0	PA6	none
6	PVC TUBE	PVC tube Ø63mm th. 2mm in 3 m bars	Ø63 th. 2mm l=3m	***	5	0	PVC	none
GLOBAL NET WEIGHT (kg) -->						29860		

List of materials ANCHOR BOLTS - FAST SITE® SYSTEM 18

ART	DESCRIPTION	DETAILS	DIMENSIONS (mm)	WEIGHT (kg)	Q.TY (No)	TOTAL WEIGHT	MATERIAL	SURFACE TREATMENT
1	CONNECTING BOLTS	Bolt Ø30 threaded end M30x300 -100	500	2,78	16	44,4	S355JR	Hot - dip galvanized
2	THREADED RODS	Bolt Ø30 threaded end M30x300	750	4,16	24	99,9	S355JR	Hot - dip galvanized
3	M30 INSTALLATION WASHER	M30 washer for threaded rod installation	Ø110 foro Ø32 th. 12mm	0,80	120	96	S275JR	Hot - dip galvanized
4	M30 MEDIUM NUTS	M30 medium nuts		0,23	104	23,6	C.L 6S	Hot - dip galvanized
5	M30 HIGH NUTS	M30 high nuts		0,30	24	7,2	C.L 6S	Hot - dip galvanized
6	M30 WASHER	M30 UNI 6592 washer		0,04	88	3,52	High resistance	Hot - dip galvanized
7	ANCHOR BOLT COVER	M30 anchor bolt cover	80	0,5	24	12	C.L 6S	Hot - dip galvanized
8	POLE WASHER	Load distribution washer	70x70x10	0,4	24	9,6	S355JR	Hot - dip galvanized
GLOBAL NET WEIGHT (kg) -->						287		



List of materials EARTHING FAST SITE® SYSTEM 18

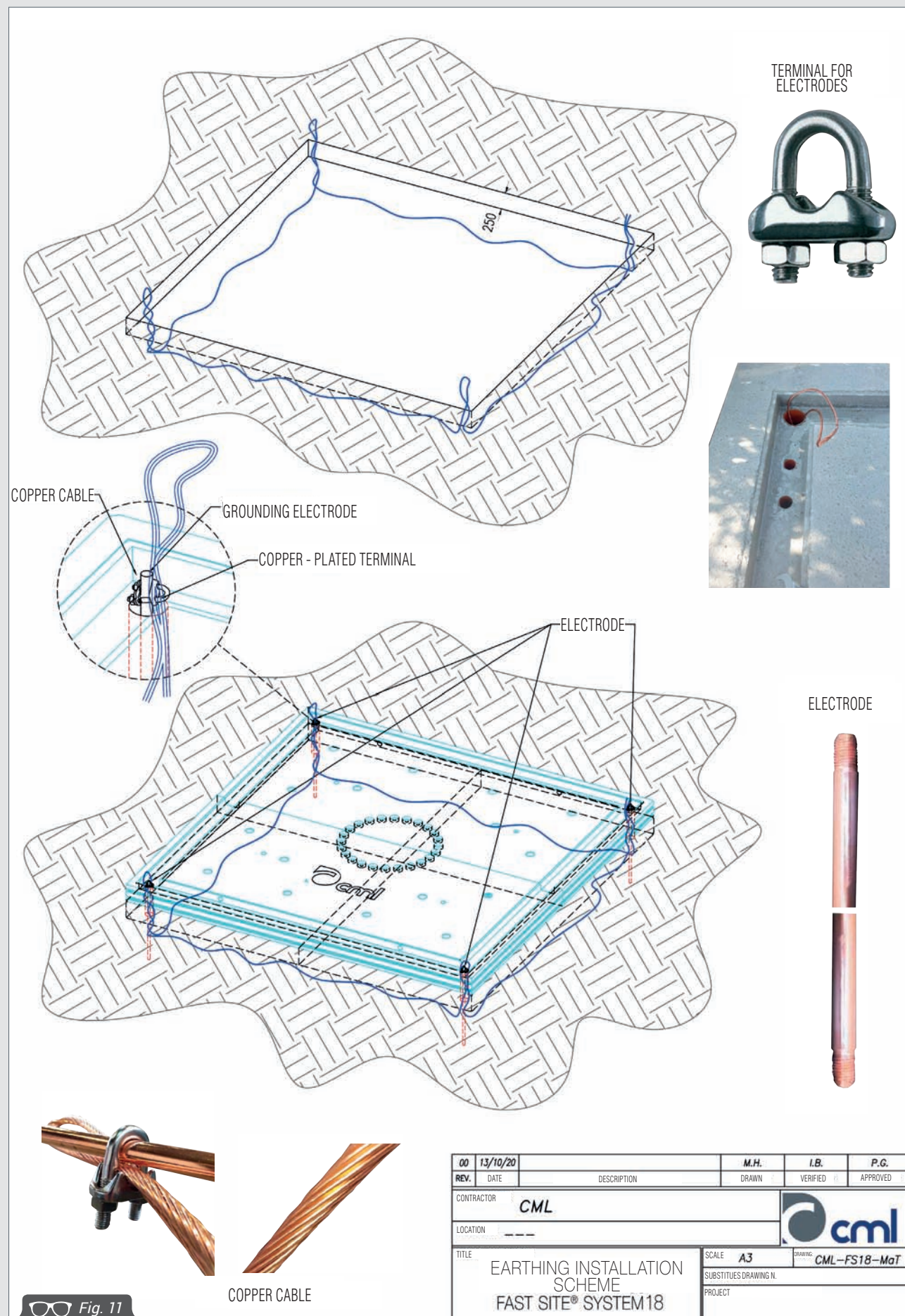
ART	DESCRIPTION	DETAILS	DIMENSIONS (mm)	TOTAL WEIGHT	Q.TY (No)
1	COPPER CABLE	Copper cable 70mm²	70mm²	m	25 m
2	COPPER PLATED ELECTRODE	Copper plated electrode ø18	1500	n°	4
3	TERMINAL FOR ELECTRODES	Terminal for electrodes ø20	Ø20	n°	4

List of materials FENCE - FAST SITE® SYSTEM 18

ART	DESCRIPTION	DETAILS	DIMENSIONS (mm)	WEIGHT (kg)	Q.TY (No)	TOTAL WEIGHT	MATERIAL	SURFACE TREATMENT
1	PANEL 1	Keller fence panel (mesh 62x132 ≠ 25x2) gev 62x132	1986x1994	38,4	7	269	S235JR	Hot - dip galvanized
2	PANEL 2	Keller fence panel (mesh 62x132 ≠ 25x2) gev 62x132	1986x988	19,0	3	57	S235JR	Hot - dip galvanized
3	PANEL 3	Keller fence panel (mesh 62x132 ≠ 25x2) gev 62x132	1986x1494	28,8	1	29	S235JR	Hot - dip galvanized
4	LEFT POST	Flat plate 60x6 with welded left profiles	2290	7,95	7	56	S235JR	Hot - dip galvanized
5	RIGHT POST	Flat plate 60x6 with welded right profiles	2290	7,95	7	56	S235JR	Hot - dip galvanized
6	GROUP OF PROFILES	Angular profile 60x6	60	0,33	12	4	S235JR	Hot - dip galvanized
7	HALFEN BOLTS	Halfen HS 40/22-M16x40 4,6 bolts and nuts	M16x40		36		INOX A4	
8	GATE	Tubular 50x50x3	1280x1988	64,1	1	64,1	S235JR	Hot - dip galvanized
9	GATE UPRIGHT	Tubular 100x50x4	2290	44,3	2	88,7	S235JR	Hot - dip galvanized
10	GATE HANDLE	Gate lock handle			1		PVC	
11	LOCK	Gate lock			1		S235JR	Hot - dip galvanized
12	CYLINDER	Cylinder for gate lock			1			
13	HINGES	Gate hinges			2		S235JR	Hot - dip galvanized
14	PANEL SCREWS	TDE M10x30 ANTITHEFT screws	M10x30		40		INOX A4	
15	CHANNEL COVER	Embossed sheet th. 3 mm	245x1200	6,92	12	83,1	S235JR	Hot - dip galvanized
16	CHANNEL COVER	Embossed sheet th. 3 mm	245x955	5,51	4	22,0	S235JR	Hot - dip galvanized
17	PE CAPS FOR RODS	ILU 139,7 closing caps for threaded rods holes	Ø135		16	0,0	PE	
18	PE CAPS FOR HOOKS	ILU 105 Closing caps for lifting hooks holes	Ø100		8	0,0	PE	
GLOBAL NET WEIGHT (kg) -->						728		

List of materials INSTALLATION - FAST SITE® SYSTEM 18

ART	DESCRIPTION	DETAILS	DIMENSIONS (mm)	WEIGHT (kg)	Q.TY (No)	TOTAL WEIGHT	MATERIAL	SURFACE TREATMENT
1	46 WRENCH	Swan neck wrench for M30 nuts	46		1	0	S235JR	Hot - dip galvanized
2	LIFTING EYEBOLT	Halfen Deha 4 ton lifting kit			4	0	S235JR	Hot - dip galvanized
3	CENTERING DEVICES	Conical bushing internal Ø30 large pitch			40	0	S235JR	Hot - dip galvanized
4	BROOM	Broom with steel bristles			1	0	S235JR	



**FAST
SITE®**
SYSTEM 24

DESCRIPTION OF THE FAST SITE® SYSTEM 24

The base (with plan size of 5m x 5m and height equal to 750 mm) is made up of 6 reinforced concrete precast elements assembled together through steel threaded rods $\varnothing$ 30 mm of applicable length. The elements are placed into 3 layers as follows:

- the first layer (inferior) is in contact with the ground and is made up of 2 precast elements next to each other that have a load – bearing function (type B3 elements);
- the second layer (intermediate) is placed over the first one and consists of 2 elements next to each other that have a load – bearing function and that are placed crossing the previous ones (type B2 elements);
- the third one (superior) is placed over the second one and consists of 2 elements next to each other that have a load – bearing function and that are placed crossing the previous ones (type B1 elements).

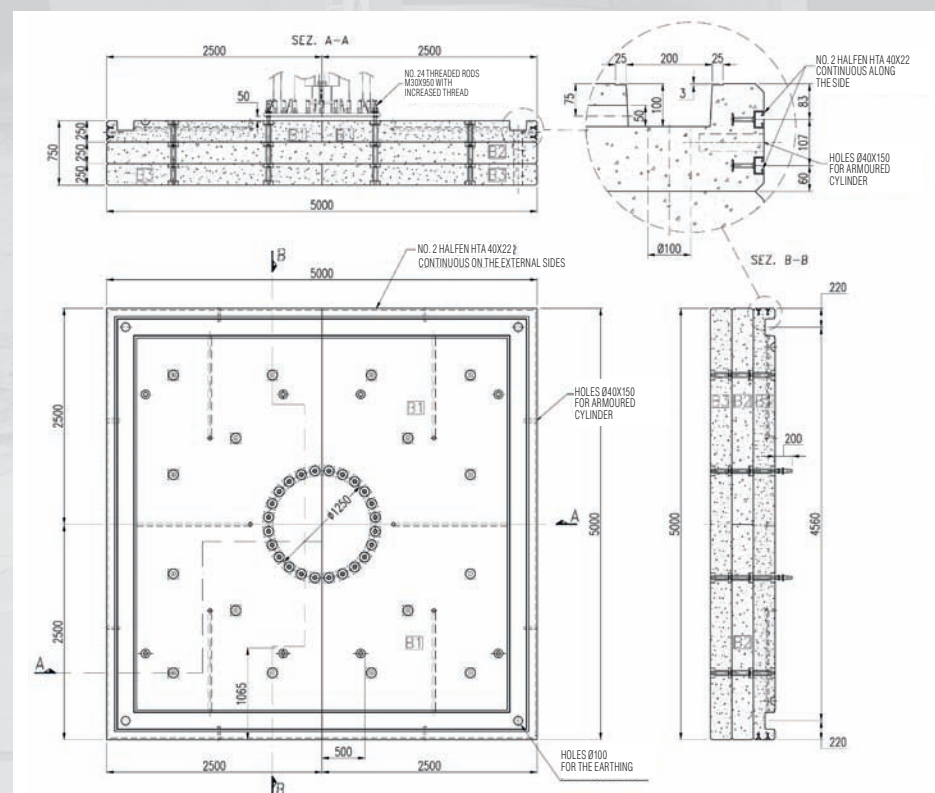


Fig. 12 - Plan and section of the FAST SITE® SYSTEM 24

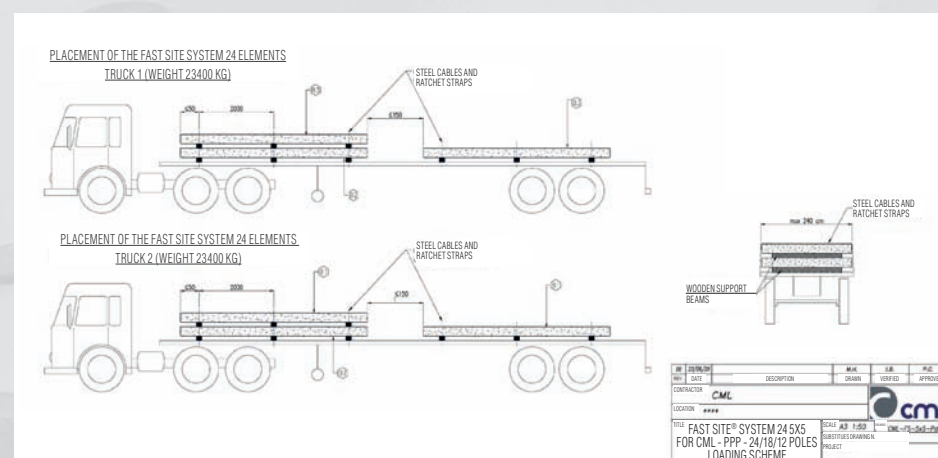


Fig. 13 - FAST SITE® SYSTEM 24 loading scheme

The prefabricated concrete elements in detail:

- **Type B1 element** (n° 2 pieces) - full parallelepiped of 2,50x2,50x0,25 m (weight 7.670 kg/each);
- **Type B2 element** (n° 2 pieces) - full parallelepiped of 2,50x2,50x0,25 m (weight 8.040 kg/each);
- **Elemento tipo B3** (n° 2 pieces) - full parallelepiped of 2,50x2,50x0,25 m (weight 8.040 kg/each).

The total weight is therefore P = 47.500 kg.

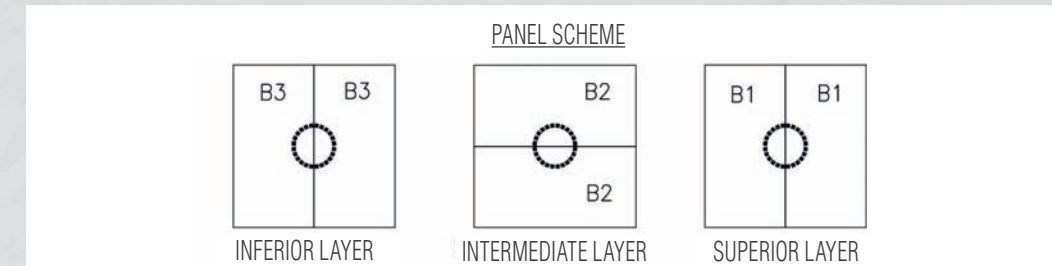


Fig. 14 - Layout of the FAST SITE® SYSTEM 24 modules

N.B. INCREASED THREAD FOR NUTS, TIE BARS AND RODS QUANTITY FOR No. 1 FAST SITE® SYSTEM 24

NO. 200 WASHERS 110X12, HOLE $\varnothing$ 32, HDG
NO. 24 M30 ANCHOR BOLT COVER WITH INCREASED THREAD, HDG
NO. 144 M30 MEDIUM NUTS, CLASS 8.8, HDG
NO. 24 M30 HIGH NUTS, CLASS 8.8, HDG
NO. 24 WASHERS 70X70, TH. 10MM, HDG
NO. 144 M30 UNI6592 WASHER, CLASS 8.8, HDG

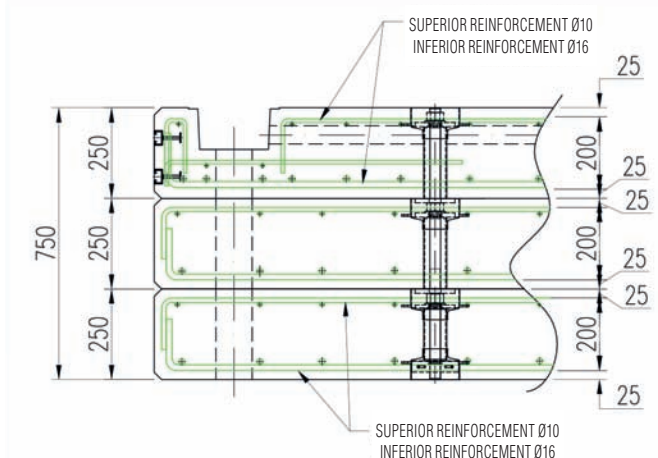
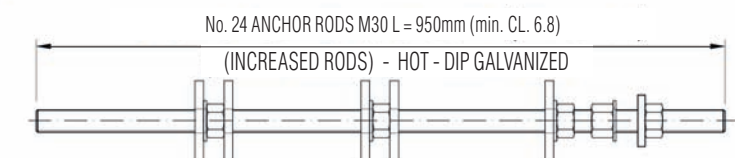
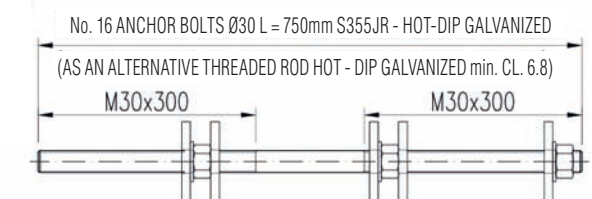
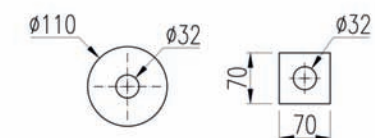
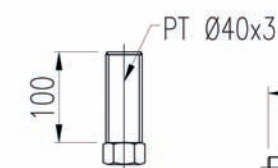


Fig. 15 - Connection of the FAST SITE® SYSTEM 24 modules

INTRODUCTION TO THE INSTALLATION FAST SITE® SYSTEM 24

The **FAST SITE® SYSTEM 24** is designed for a simple and fast, as well as an extremely safe installation. This activity can be carried out from any company that has a minimum knowledge of the civil field.

The installation can be summed up in 7 stages:

1. Preparation of the possible excavation (if required) of 5,5x5,5 m and with about a 1,2 m depth (according to the conditions of the subsoil and the geological report) and preparation of the levelled bedding (based on the indications that C.M.L. supplies before and together with the calculation report);
2. Installation of the base slab (modules B1) and placement of the connecting M30 threaded rods;
3. Installation of the second level (modules B2) overlaid on the previous ones and placement of the washers on the connecting enclosures of the M30 rods (previously put during stage 1); mounting of the nuts on the threaded rods;
4. Assembly of the superior layer (modules B3) through the same procedure as mentioned in stage 3;
5. Connecting of the earthings and closing of the cable tray with the proper panels (hot – dip galvanized embossed sheets or equivalent);
6. Placement of the pole (CML model type PPPCML with heights from 12 to 24 meters and eventual flagpole up to 6m) on the **FAST SITE® SYSTEM 24** base;
7. Placement and tightening of the fence on the prepared Halfen channels.

If needed, the supply can include the external earthing made up of a naked copper rope ring of 70 mm² put under the foundations and integrated with no. 4 hot-dip galvanized steel electrodes which are 2m long (connected to the ring with special terminals which are visible from the shafts in the foundation). All the metal inserts are electrically connected to the reinforcement of the structure in order to grant the electrical continuity with the metal frame of the prefabricated structure.



For the structural connection of the different modules, no. 16 M30 threaded rods are used (M30: S355 and hot – dip galvanized - Asnom.= 353 mm²) that are 750 mm long and no. 24 M30 threaded rods (as described above) that are 950 mm long, each with 2 + 2 nuts. The rods are fixed on the base with a nut and washers and on the elements of the first layer and then blocked on top also with a nut and counter plate (the counter plates are appropriately designed and all the accessories, as well as the hardware are hot – dip galvanized). The above - mentioned threaded rods pass through appropriate nylon printed positioning enclosures (enclosures of different heights). The enclosures are put into the B3 module and equipped with flange plate in S355 and th. 30 mm (all hot – dip galvanized) in order to enable the tightening of the threads without putting them under the module itself (in favour of safety and of assembly timing). The above-mentioned enclosures (by pieces of naked copper wire connected with reinforced bars of concrete block) also grant the electrical continuity and the earthing of the connecting threaded rods.

The elements B3 are equipped with a double Halfen HTA 40x22 continuous channel on the external border. This solution allows the positioning of the fence on any of the sides (in an extremely fast way) independently from the positioning of the platform itself (thus the entrance gate can be placed regardless of the side).

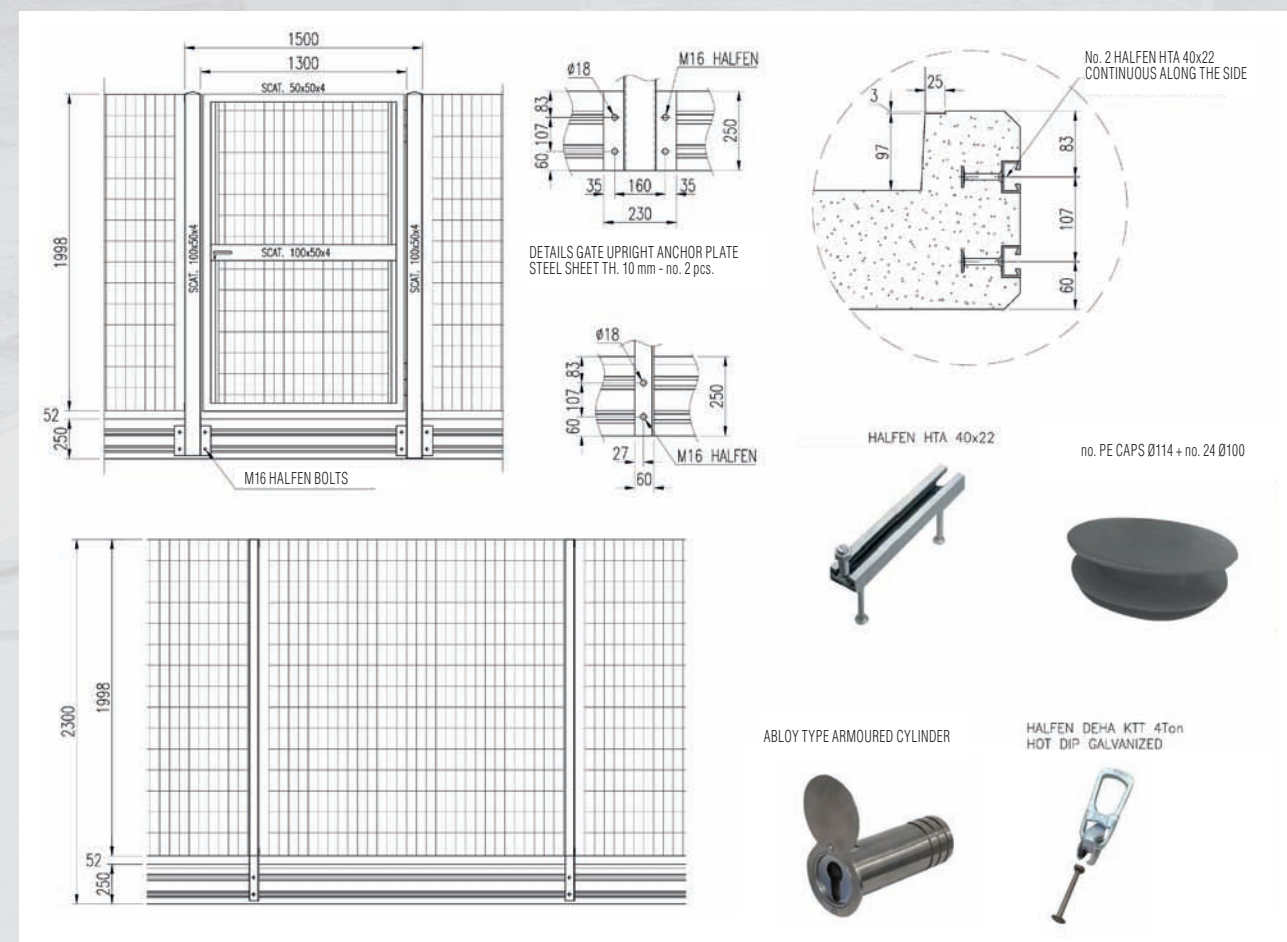
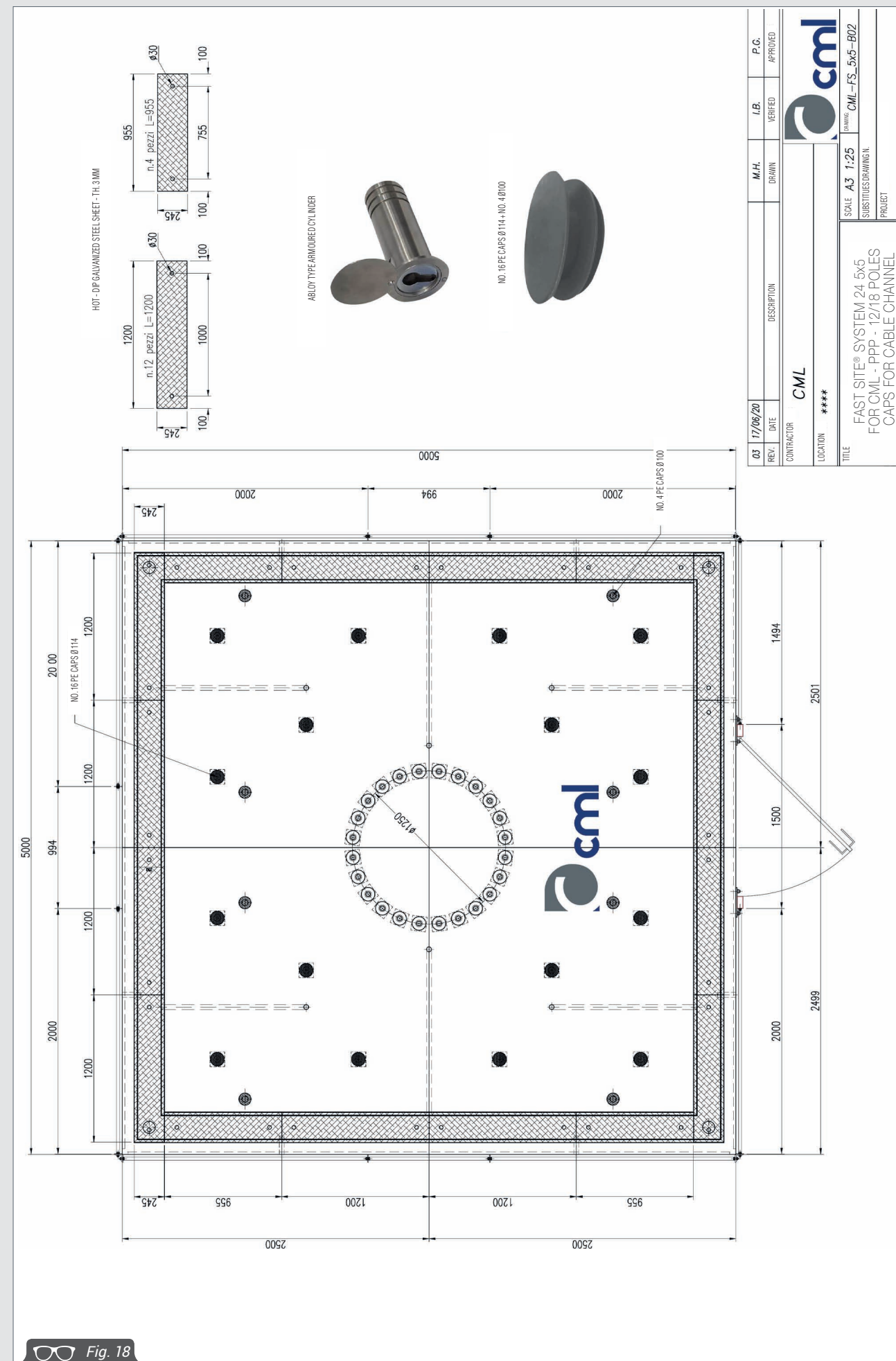
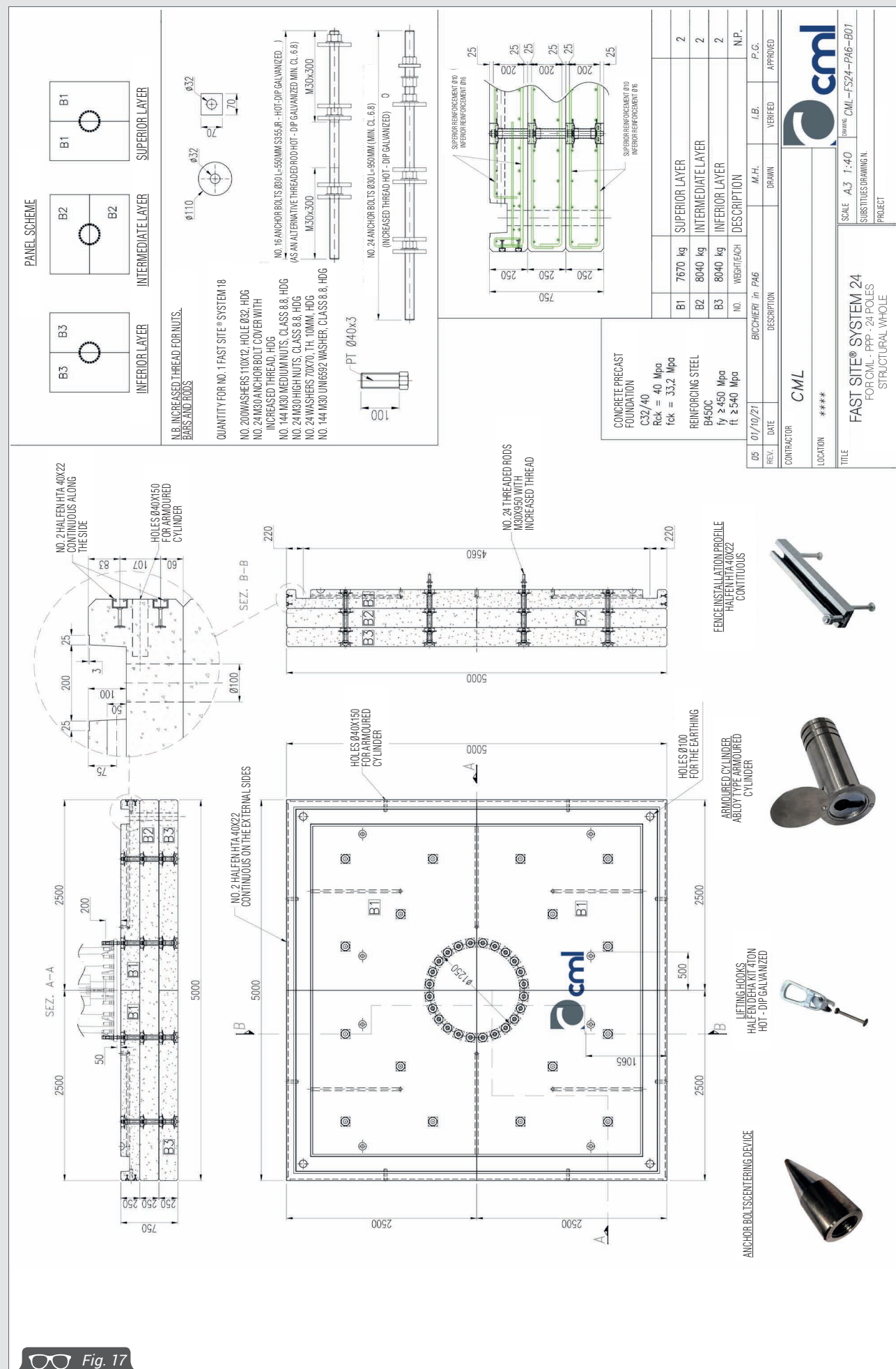
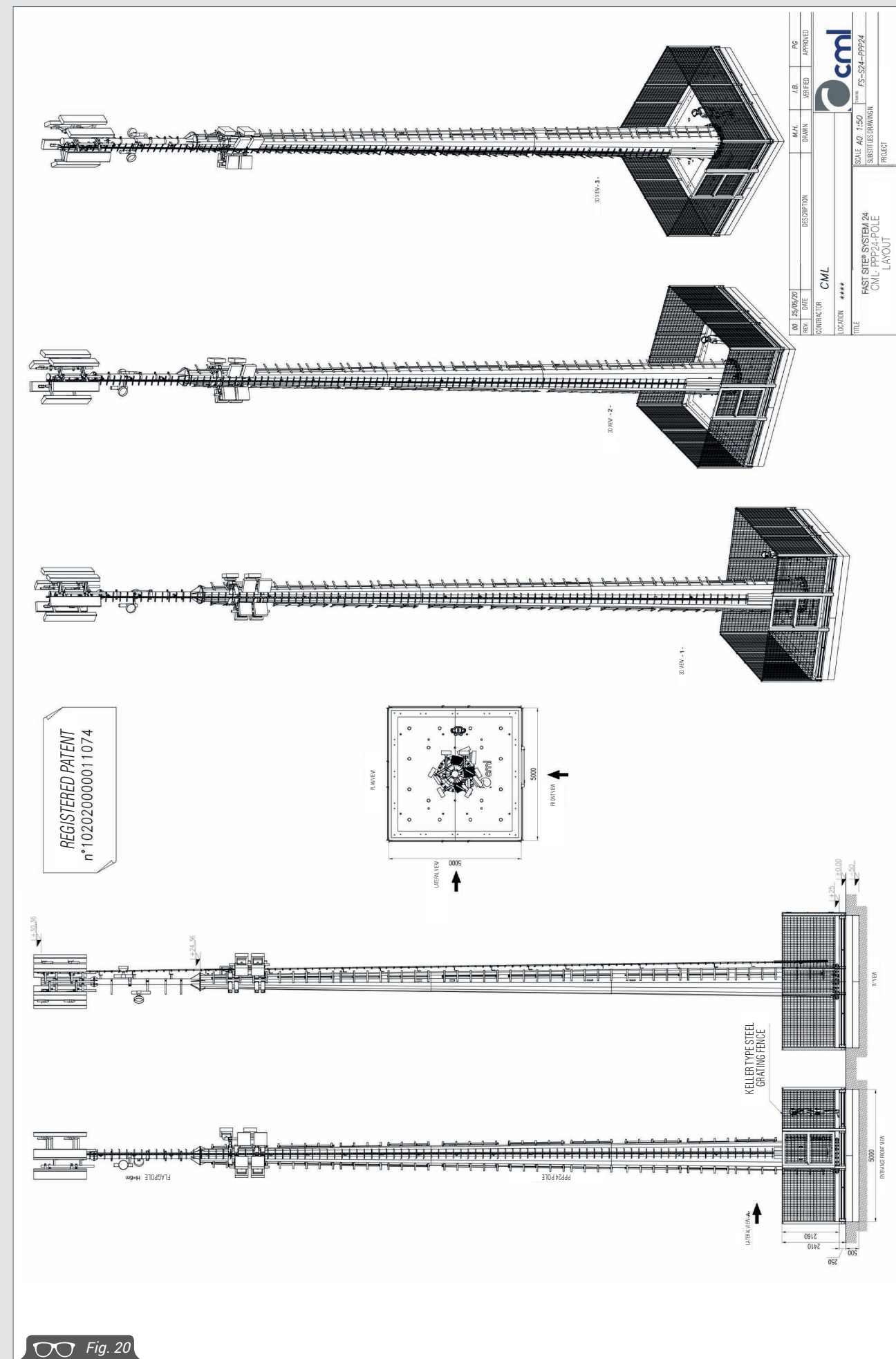
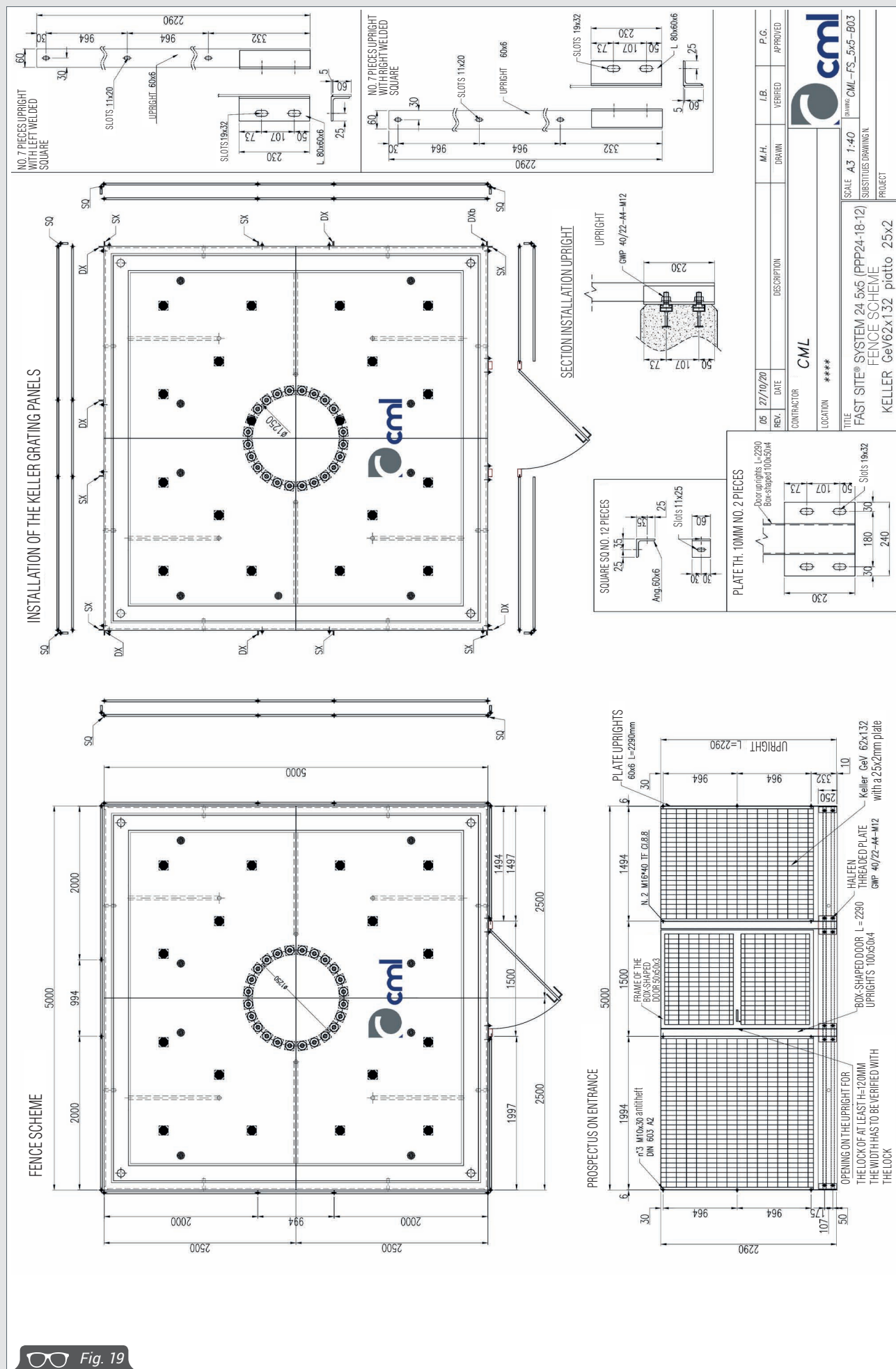


Fig. 16 - FAST SITE® SYSTEM 24 Fence

The lifting of the different modules is made through Halfen type DEHA KIT hangers (hot – dip galvanized). Each module is equipped with no. 4 hangers of 4 tons each placed on the borders (considering the heaviest modules – B1 equal to 8 tons – the hangers, for a total of 16 tons, grant a high level of safety during the lifting). The **FAST SITE® SYSTEM 24** has in addition (in the border of the B1 module) the predisposition for an eventual positioning of an Abloy type armoured cylinder type.





List of materials CLS PANELS - FAST SITE® SYSTEM 24

ART	DESCRIPTION	DETAILS	DIMENSIONS (mm)	WEIGHT (kg)	Q.TY (No)	TOTAL WEIGHT	MATERIAL	SURFACE TREATMENT
1	BASEMENT B1	Superior panel (CML-FS-B1)	250x2500x2000	7670	2	15340	Reinforced CLS	Raw
2	BASEMENT B2	Intermediate panel (CML-FS-B2)	250x2500x2000	8040	2	16080	Reinforced CLS	Raw
3	BASEMENT B3	Inferior panel (CML-FS-B3)	250x2500x2000	8040	2	16080	Reinforced CLS	Raw

List of materials ENCLOSURES FOR PANELS FAST SITE® SYSTEM 24

ART	DESCRIPTION	DETAILS	DIMENSIONS (mm)	WEIGHT (kg)	Q.TY (No)	TOTAL WEIGHT	MATERIAL	SURFACE TREATMENT
1	ENCLOSURE Type 1	No. 1 enclosure in PA6 Ø135 and PVC tube L=195	250	0,25	80	20	PA6 + PVC	none
2	ENCLOSURE Type 2	No. 1 enclosure in PA6 Ø135 and PVC tube L=140	250	0,5	40	20	PA6 + PVC	none
3	M30 BASE WASHERS	Base washers for type 2 enclosures	Ø135 ed H=30mm	***	40	0	S355JR	Galvanized
4	RIVETS	Steel and alluminium rivet for the connection	Ø5mm x 22mm	***	80	0	Steel and alluminium	none
5	PRINTED ENCLSOSURES	PA6 printed enclosures Ø135 and H=50mm	Ø135 ed H=50mm	***	160	0	PA6	none
6	PVC TUBE	PVC tube Ø63mm th. 2mm in 3 m bars	Ø63 th.2mm L=3m	***	8	0	PVC	none
GLOBAL NET WEIGHT (kg) -->						47660		

List of materials ANCHOR BOLTS - FAST SITE® SYSTEM 24

ART	DESCRIPTION	DETAILS	DIMENSIONS (mm)	WEIGHT (kg)	Q.TY (No)	TOTAL WEIGHT	MATERIAL	SURFACE TREATMENT
1	CONNECTING BOLTS	Bolt Ø30 threaded end M30x300 -100	750	3,56	16	57	S355JR	Hot - dip galvanized
2	THREADED RODS	Bolt Ø30 threaded end M30x300	950	4,51	24	108,24	S355JR	Hot - dip galvanized
3	M30 INSTALLATION WASHER	M30 washer for threaded rod installation	Ø110 hole Ø32 th. 12mm	0,80	200	160	S355JR	Hot - dip galvanized
4	M30 MEDIUM NUTS	M30 medium nuts		0,23	144	32,7	C.I. 6S	Hot - dip galvanized
5	M30 HIGH NUTS	M30 high nuts		0,30	24	7,2	C.I. 6S	Hot - dip galvanized
6	M30 WASHER	M30 UNI 6592 washer		0,04	98	3,92	High resistance	Hot - dip galvanized
7	ANCHOR BOLT COVER	M30 anchor bolt cover	80	1,0	24	24	C.I. 6S	Hot - dip galvanized
8	POLE WASHER	Load distribution washer	70x70x10	0,4	24	9,6	S355JR	Hot - dip galvanized
GLOBAL NET WEIGHT (kg) -->						393		



List of materials EARTHING FAST SITE® SYSTEM 24

ART	DESCRIPTION	DETAILS	DIMENSIONS (mm)	TOTAL WEIGHT	Q.TY (No)
1	COPPER CABLE	Copper cable 70mm²	70mm²	m	25 m
2	COPPER PLATED ELECTRODE	Copper plated electrode Ø18	1500	n°	4
3	TERMINAL FOR ELECTRODES	Terminal for electrodes Ø20	Ø20	n°	4

List of materials FENCE FAST SITE® SYSTEM 24

ART	DESCRIPTION	DETAILS	DIMENSIONS (mm)	WEIGHT (kg)	Q.TY (No)	TOTAL WEIGHT	MATERIAL	SURFACE TREATMENT
1	PANEL 1	Keller fence panel (mesh 62x132 ≠ 25x2) gev 62x132	1986x1994	38,4	7	269	S235JR	Hot - dip galvanized
2	PANEL 2	Keller fence panel (mesh 62x132 ≠ 25x2) gev 62x132	1986x988	19,0	3	57	S235JR	Hot - dip galvanized
3	PANEL 3	Keller fence panel (mesh 62x132 ≠ 25x2) gev 62x132	1986x1494	28,8	1	29	S235JR	Hot - dip galvanized
4	LEFT POST	Flat plate 60x6 with welded left profiles	2290	7,95	7	56	S235JR	Hot - dip galvanized
5	RIGHT POST	Flat plate 60x6 with welded right profiles	2290	7,95	7	56	S235JR	Hot - dip galvanized
6	GROUP OF PROFILES	Angular profile 60x6	60	0,33	12	4	S235JR	Hot - dip galvanized
7	HALFEN BOLTS	Halfen HS 40/22-M16x40 4,6 bolts and nuts	M16x40		36		INOX A4	
8	GATE	Tubular 50x50x3	1280x1988	64,1	1	64,1	S235JR	Hot - dip galvanized
9	GATE UPRIGHT	Tubular 100x50x4	2290	44,3	2	88,7	S235JR	Hot - dip galvanized
10	GATE HANDLE	Gate lock handle			1		PVC	
11	LOCK	Gate lock			1		S235JR	Hot - dip galvanized
12	CYLINDER	Cylinder for gate lock			1			
13	HINGES	Gate hinges			2		S235JR	Hot - dip galvanized
14	PANEL SCREWS	TDE M10x30 antitheft screws	M10x30		40		INOX A4	
15	CHANNEL COVER	Embossed sheet th. 3 mm	245x1200	6,92	12	83,1	S235JR	Hot - dip galvanized
16	CHANNEL COVER	Embossed sheet th. 3 mm	245x955	5,51	4	22,0	S235JR	Hot - dip galvanized
17	PE CAPS FOR RODS	ILU 139,7 closing caps for threaded rods holes	Ø135		16	0,0	PE	
18	PE CAPS FOR HOOKS	ILU 105 Closing caps for lifting hooks holes	Ø100		8	0,0	PE	
GLOBAL NET WEIGHT (kg) -->						728		

List of materials INSTALLATION - FAST SITE® SYSTEM 24

ART	DESCRIPTION	DETAILS	DIMENSIONS (mm)	WEIGHT (kg)	Q.TY (No)	TOTAL WEIGHT	MATERIAL	SURFACE TREATMENT
1	46 WRENCH	Swan neck wrench for M30 NUTS	46		1	0	S235JR	Hot - dip galvanized
2	LIFTING EYEBOLT	Halfen Deha 4 ton lifting kit			4	0	S235JR	Hot - dip galvanized
3	CENTERING DEVICES	Conical bushing internal Ø30 large pitch			40	0	S235JR	Hot - dip galvanized
4	BROOM	Broom with steel bristles			1	0	S235JR	

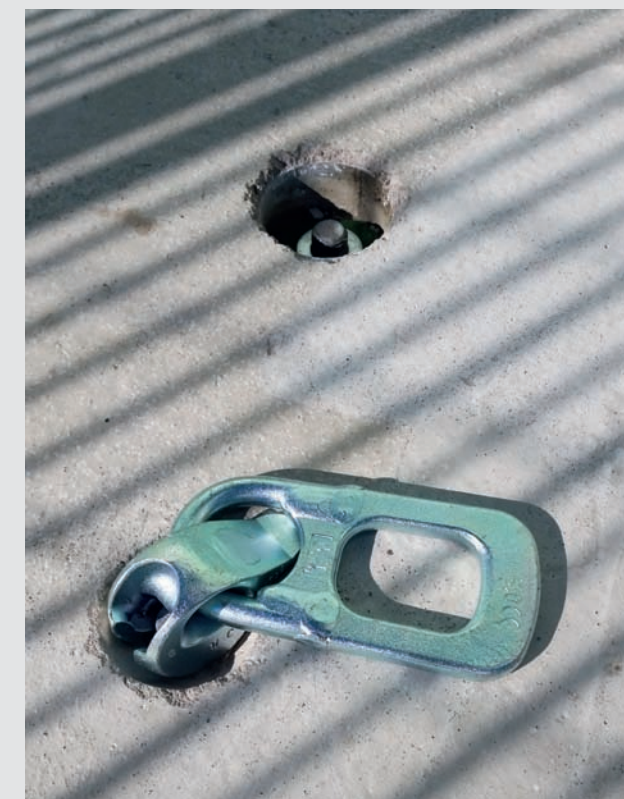
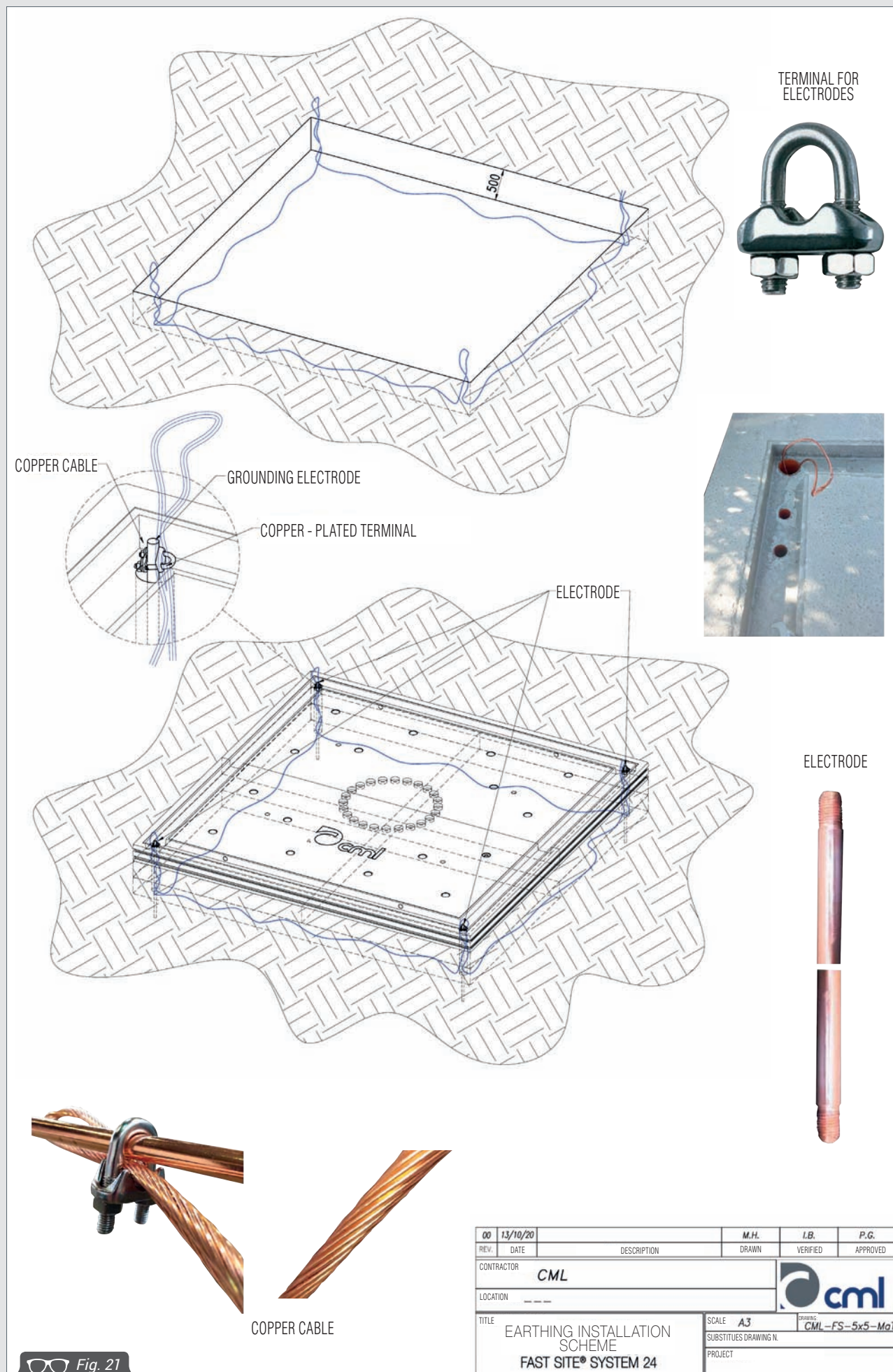


Fig. 21



**FAST
SITE®**
SYSTEM 30

DESCRIPTION OF THE FAST SITE® SYSTEM 30

The base (with plan size of 6,5m x 6,5m and height equal to 1150 mm) is made up of 9 reinforced concrete precast elements assembled together through steel threaded rods $\varnothing$ 30 mm of applicable length. The elements are placed into 3 layers as follows:

- the first layer is in contact with the ground and is made up of 2 precast elements next to each other that have a load – bearing function (type A7 elements);
- the second layer is placed over the first one and consists of 2 elements next to each other that have a load – bearing function and that are placed crossing the previous ones (type D6 elements);
- the third one is placed over the two previous ones and is made up of 5 elements, one of which is central and load – bearing (type D1 element) where the pole and 4 elements with the sole ballasting function (two type A3 type and two type A2 elements) are fixed on.

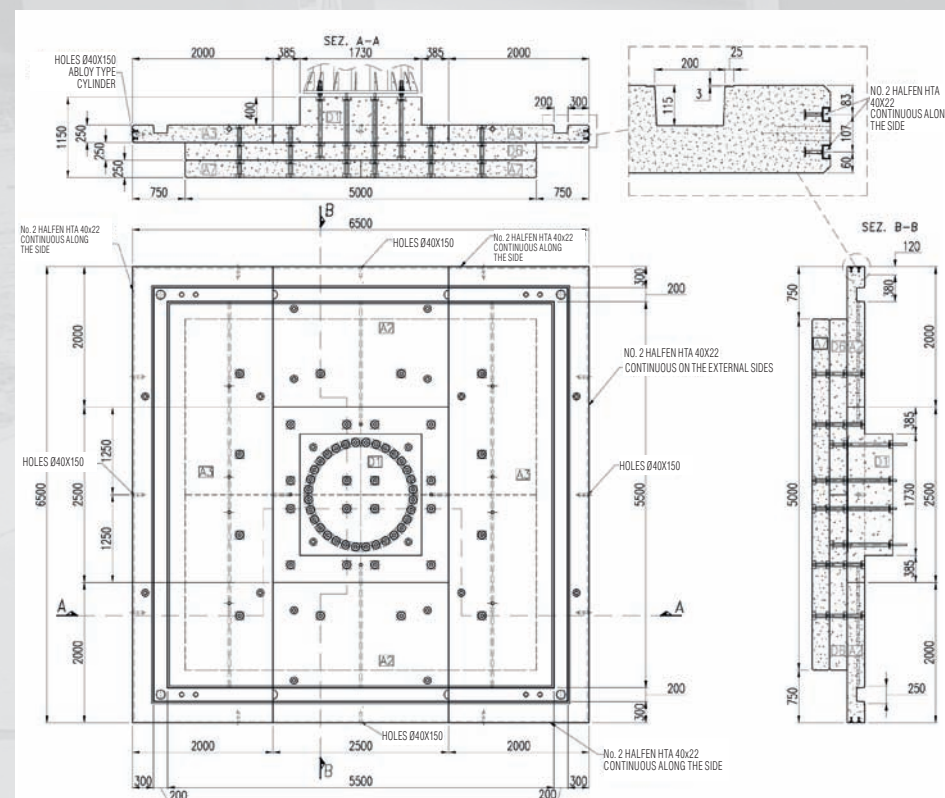


Fig. 22 - Plan and section of the FAST SITE® SYSTEM 30

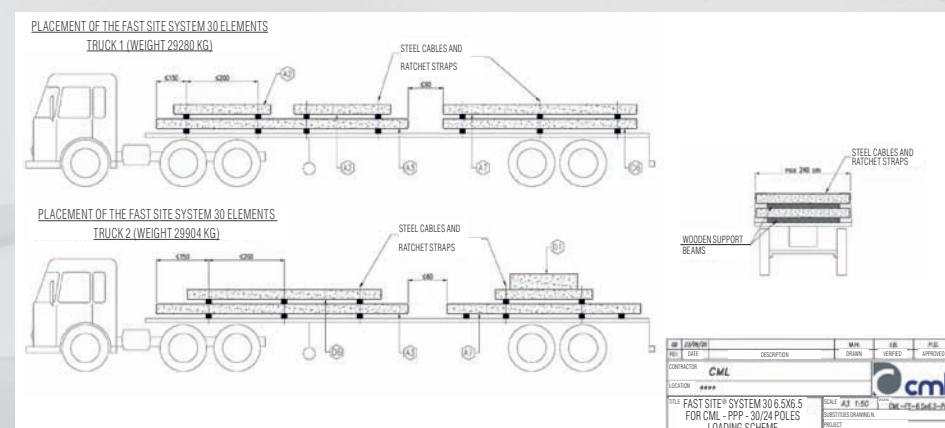


Fig. 23 - FAST SITE® SYSTEM 30 loading scheme

The prefabricated concrete elements in detail:

- **Type A7 element** (n° 2 pieces) - full parallelepiped of 5,00x2,50x0,25 m (weight 8.040 kg);
- **Type D6 element** (n° 2 pieces) - full parallelepiped of 5,00x2,50x0,25 m (weight 8.040 kg);
- **Type A2 element** (n° 2 pieces) - full parallelepiped of 2,50x2,00x0,25 m (weight 2.870 kg);
- **Type A3 element** (n° 2 pieces) - full parallelepiped of 6,50x12x0,25 m (weight 7.800 kg);
- **Type D1 element** (n° 1 pieces) - double – height parallelepiped of 2,50x2,50x0,40 m e 1,75x1,75x0,25 cm (weight 7.000 kg).

The total weight is therefore P = 60.500 kg.

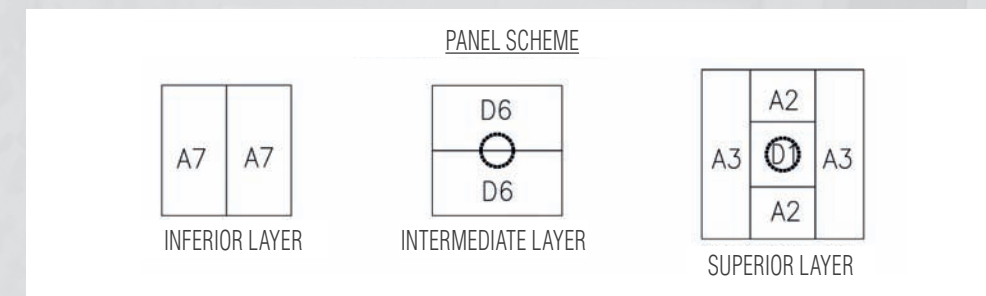


Fig. 24 - Layout of the FAST SITE® SYSTEM 30 modules

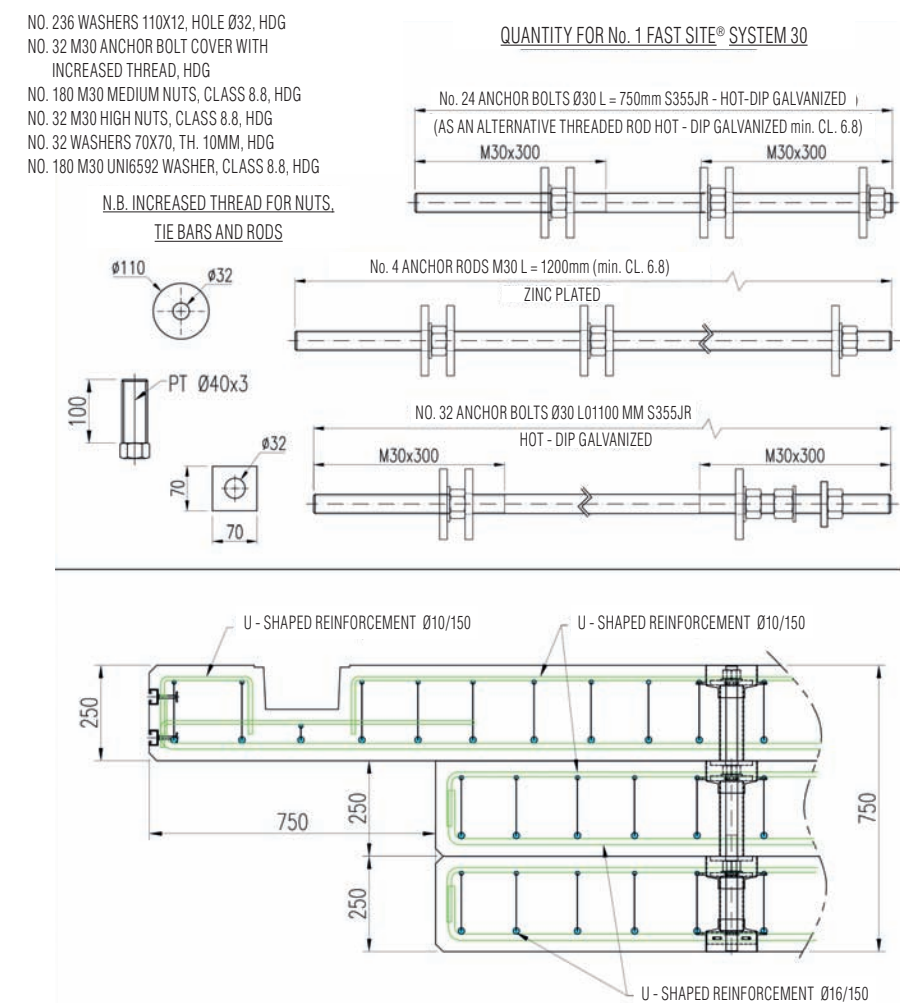


Fig. 25 - Connection of the FAST SITE® SYSTEM 30 modules

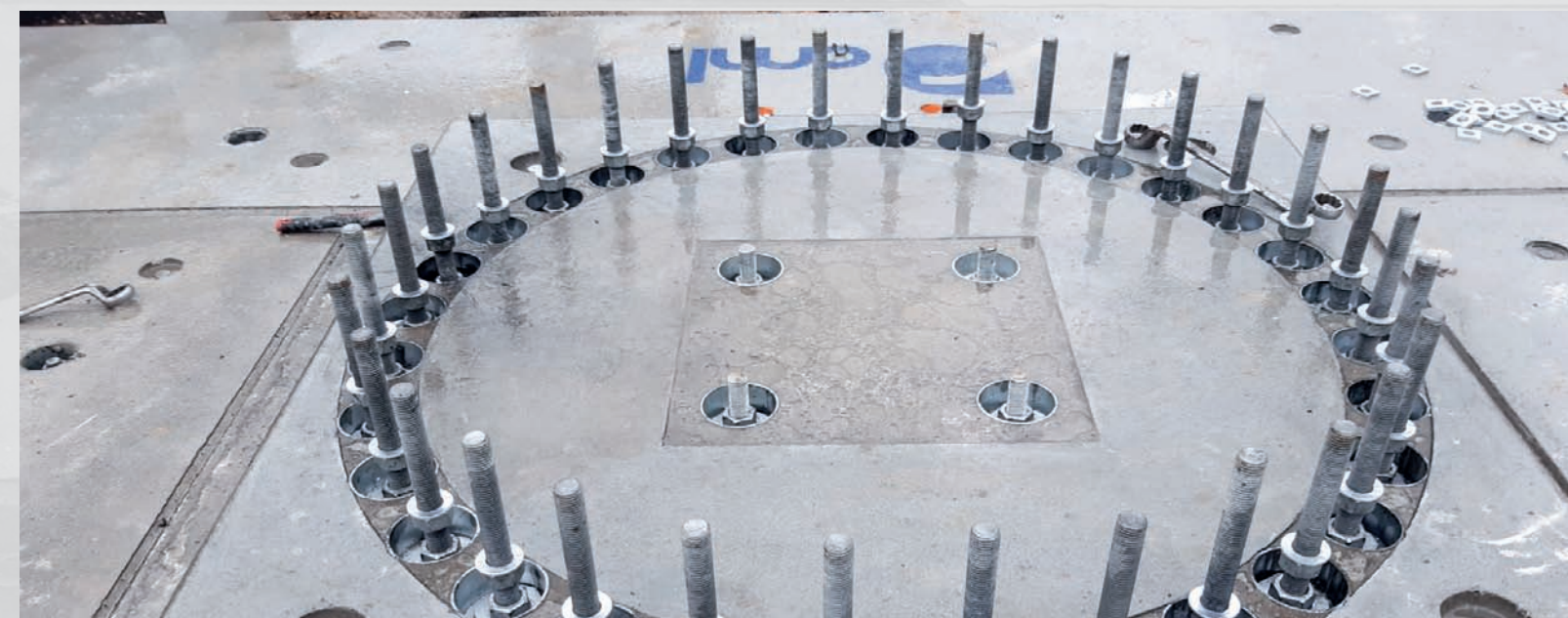
INTRODUCTION TO THE INSTALLATION FAST SITE® SYSTEM 30

The **FAST SITE® SYSTEM 30** is designed for a simple and fast, as well as an extremely safe installation. This activity can be carried out from any company that has a minimum knowledge of the civil field.

The installation can be summed up in 7 stages:

1. Preparation of the possible excavation (if required) of 6,5 x 6,5 m (5x5 m on the surface) and with about a 1,2 m depth (according to the conditions of the subsoil and the geological report) and preparation of the levelled bedding (based on the indications that CML supplies before and together with the calculation report);
2. Installation of the base slab (modules A7) and placement of the connecting M30 threaded rods;
3. Installation of the second level (modules D6) overlaid on the previous ones and placement of the washers on the connecting enclosures of the M30 rods (previously put during stage 1). Mounting of the nuts on the threaded rods;
4. Assembly of the central layer (modules D1) and then of the lateral modules (A2-A3) through the same procedure as mentioned in stage 3;
5. Connecting of the earthings (positioned on the modules A2 and A3) and closing of the cable tray with the proper panels (hot – dip galvanized embossed sheets or equivalent);
6. Placement of the pole (CML model type PPCML with heights from 12 to 30 meters and eventual flagpole up to 6m) on the **FAST SITE® SYSTEM 30**;
7. Placement and tightening of the fence on the prepared Halfen channels.

If needed, the supply can include the external earthing made up of a naked copper rope ring of 70 mm² put under the foundations and integrated with no. 4 hot dip galvanized steel electrodes which are 2m long (connected to the ring with special terminals which are visible from the shafts in the foundation). All the metal inserts are electrically connected to the reinforcement of the structure in order to grant the electrical continuity with the metal frame of the prefabricated structure.



For the structural connection of the different modules, no. 24 M30 threaded rods are used (M30: S355 and hot – dip galvanized -Asnom.= 353) that are 750 mm long, and no. 4 M30 threaded rods (as described above) that are 1200 mm long, each with 2 + 2 nuts and no. 32 M30 threaded rods (in S355 and hot – dip galvanized) that are 1100 mm long. The rods are fixed on the base with a nut and washers and on the elements of the first layer and then blocked on top also with a nut and counter plate (the counter plates are appropriately designed and all the accessories, as well as the hardware are hot – dip galvanized). The above - mentioned threaded rods pass through appropriate nylon printed positioning enclosures (enclosures of different heights). The enclosures are put into the A7 module and equipped with flange plate in S355 and th. 30 mm (all hot – dip galvanized) in order to enable the tightening of the threads without putting them under the module itself (in favour of safety and of assembly timing). The above-mentioned enclosures (by pieces of naked copper wire connected with reinforced bars of concrete block) also grant the electrical continuity and the earthing of the connecting threaded rods.

The elements A2/A3 are equipped with a double Halfen HTA 40x22 continuous channel on the external border. This solution allows the positioning of the fence on any of the sides (in an extremely fast way) independently from the positioning of the platform itself (thus the entrance gate can be placed regardless of the side).

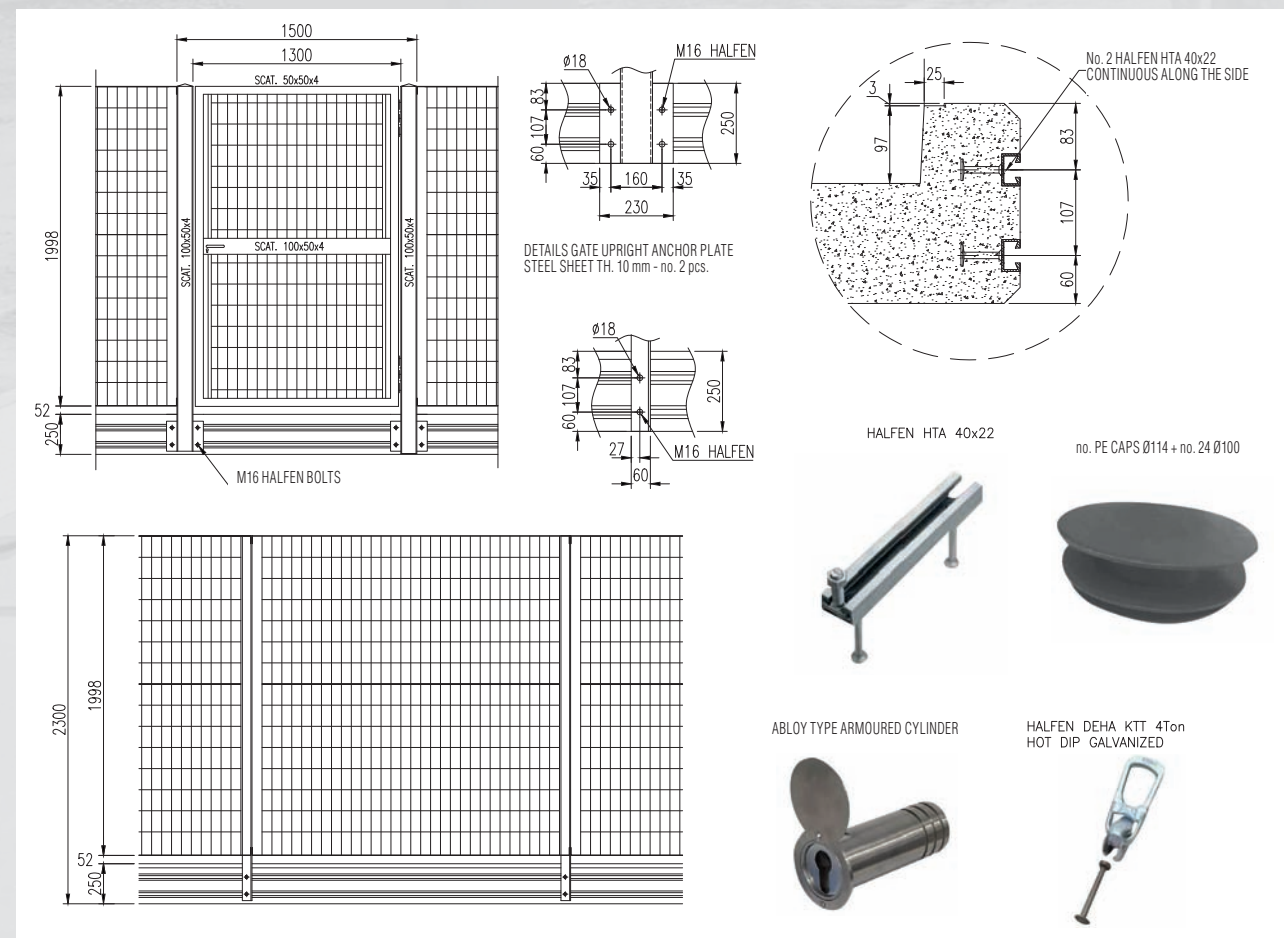
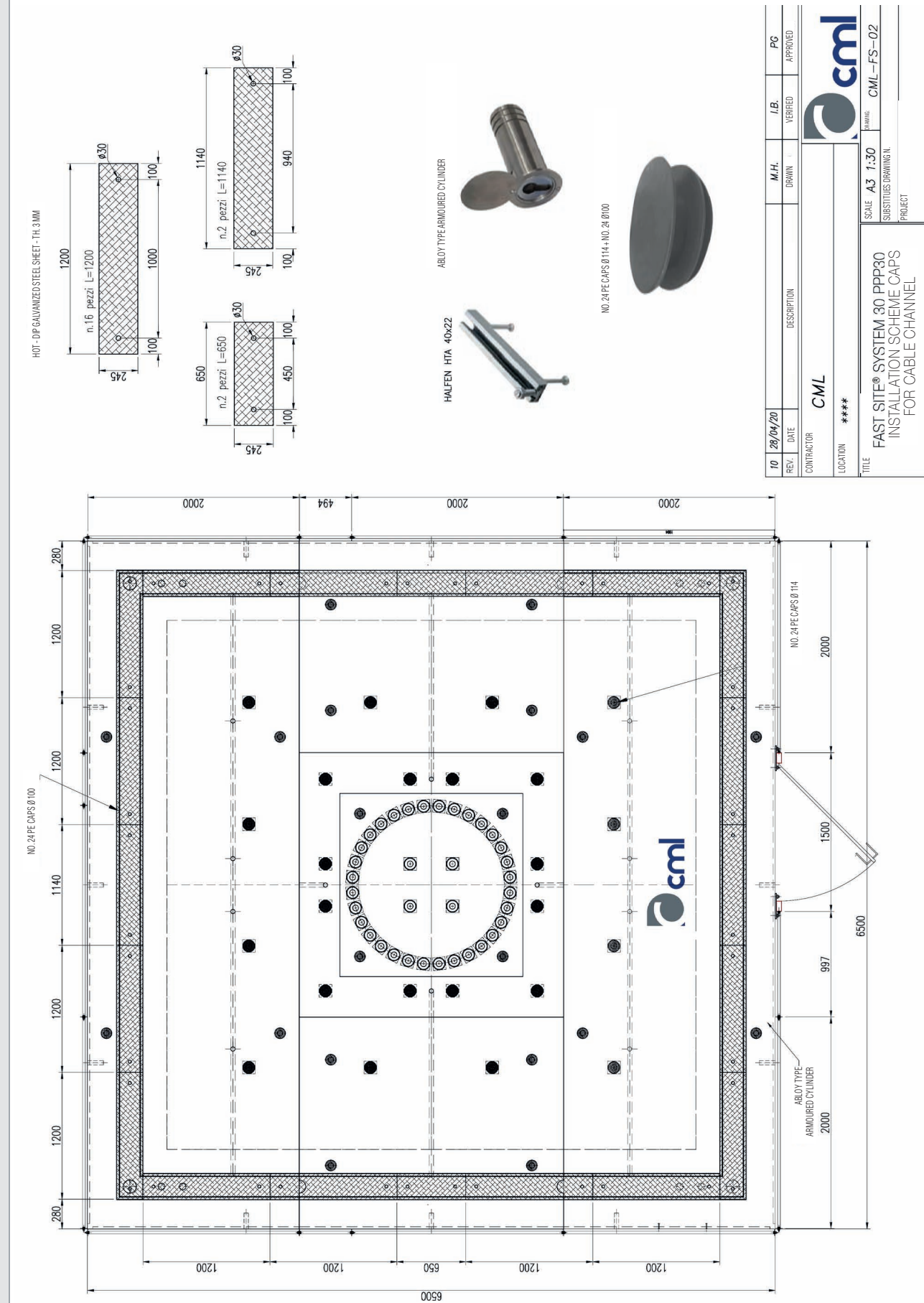
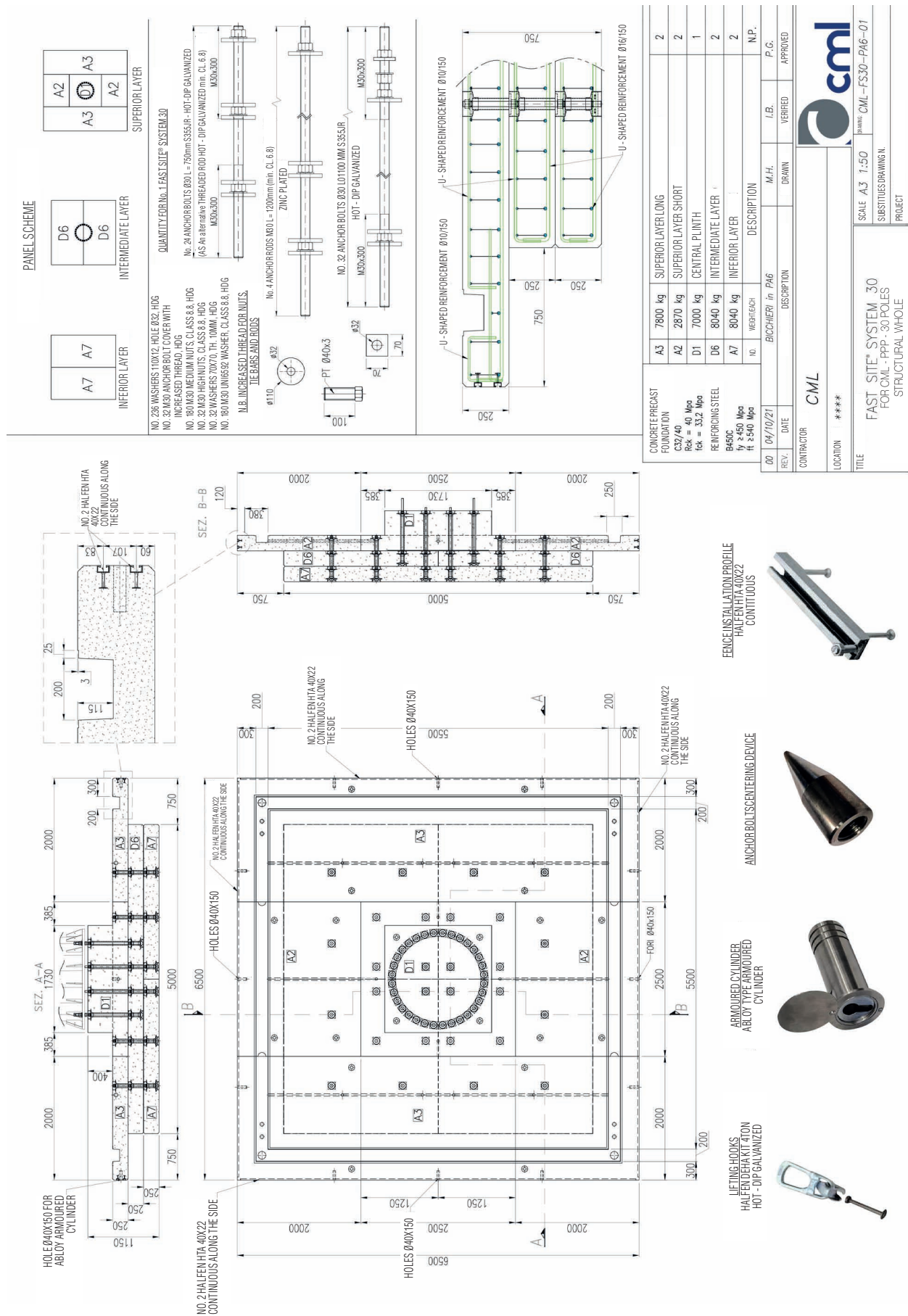
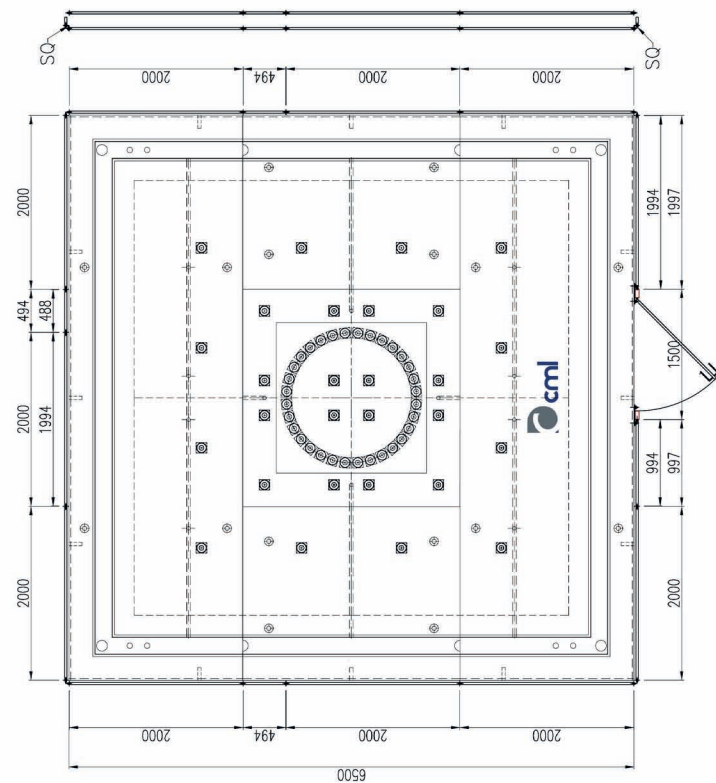


Fig. 16 - FAST SITE® SYSTEM 30 Fence

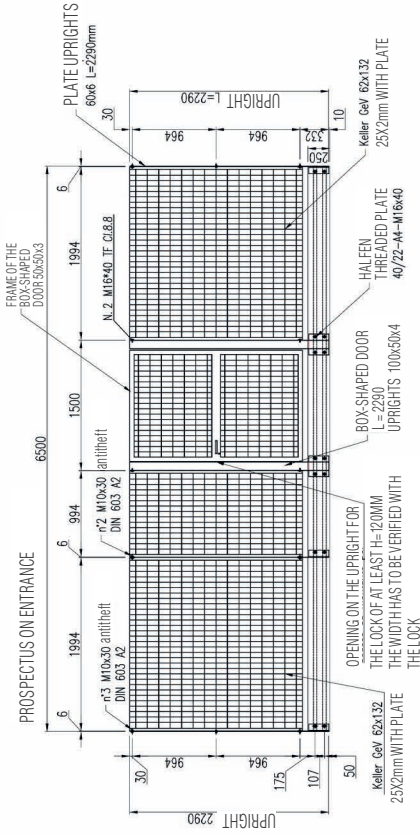
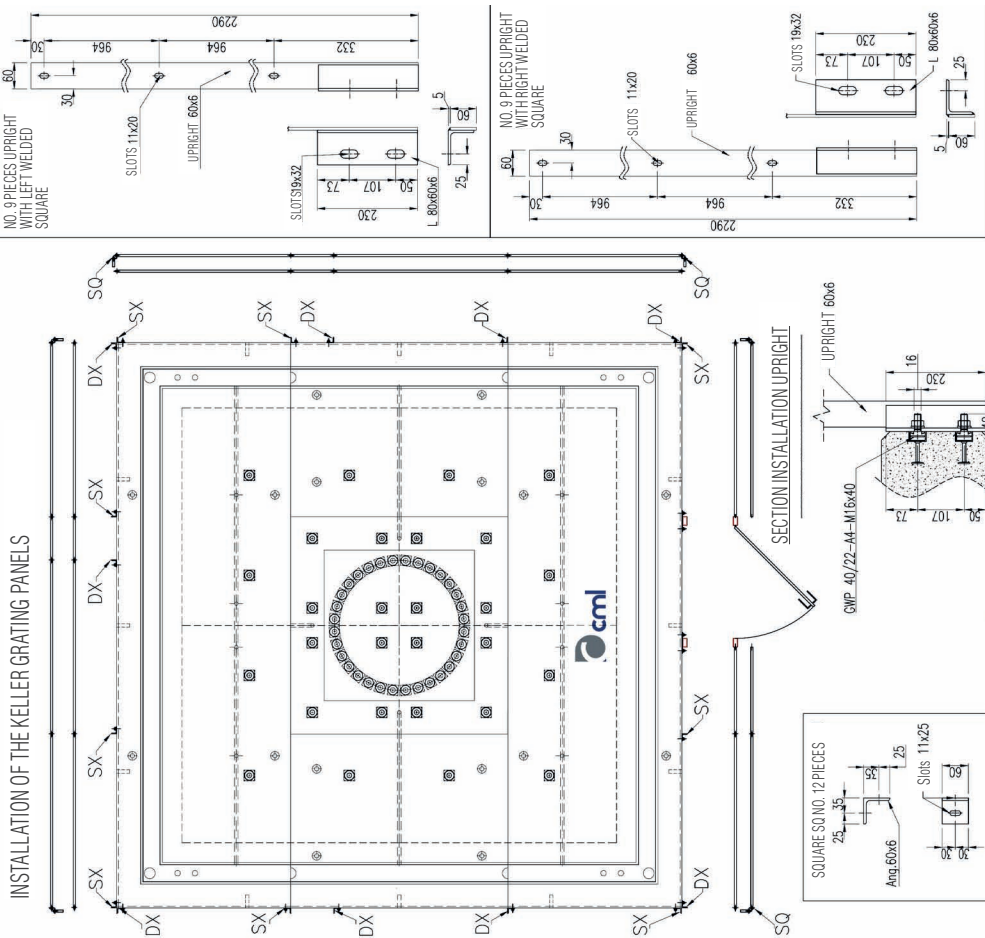
The lifting of the different modules is made through Halfen type DEHA KIT hangers (hot – dip galvanized). Each module is equipped with no. 4 hangers of 4 tons each placed on the borders (considering the heaviest modules – D6 and A7 equal to 8 tons – the hangers, for a total of 16 tons, grant a high level of safety during the lifting). The **FAST SITE® SYSTEM 30** has in addition (in the border of the A1 module) the predisposition for an eventual positioning of an Abloy type armoured cylinder.



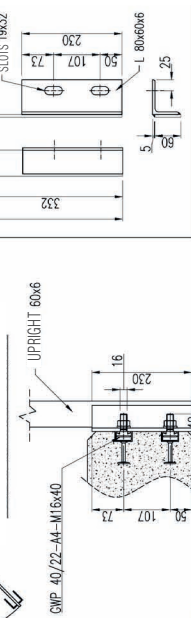
FENCE SCHEME



INSTALLATION OF THE KELLER GRATING PANELS



SECTION INSTALLATION UPRIGHT



SQUARE SQ NO. 12 PIECES

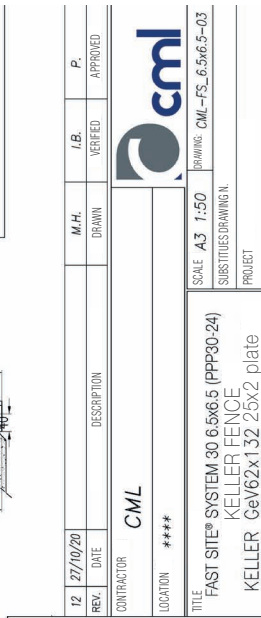
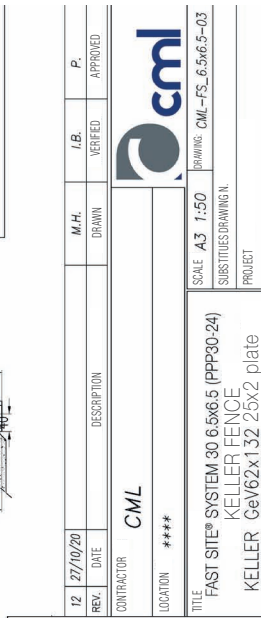


PLATE TH. 10MM NO. 2 PIECES



REV.	DATE	DESCRIPTION	M.H.	I.B.	P.
12	27/10/20				
CONTRACTOR CML					
LOCATION ****					
TITLE FAST SITE® SYSTEM 30 6.5x6.5 (PPP30-24)					
SUBSTITUTION DRAWING KELLER FENCE					
PROJECT KELLER GeV62x132 25x2 plate					

Fig. 29

FAST SITE® SYSTEM 30

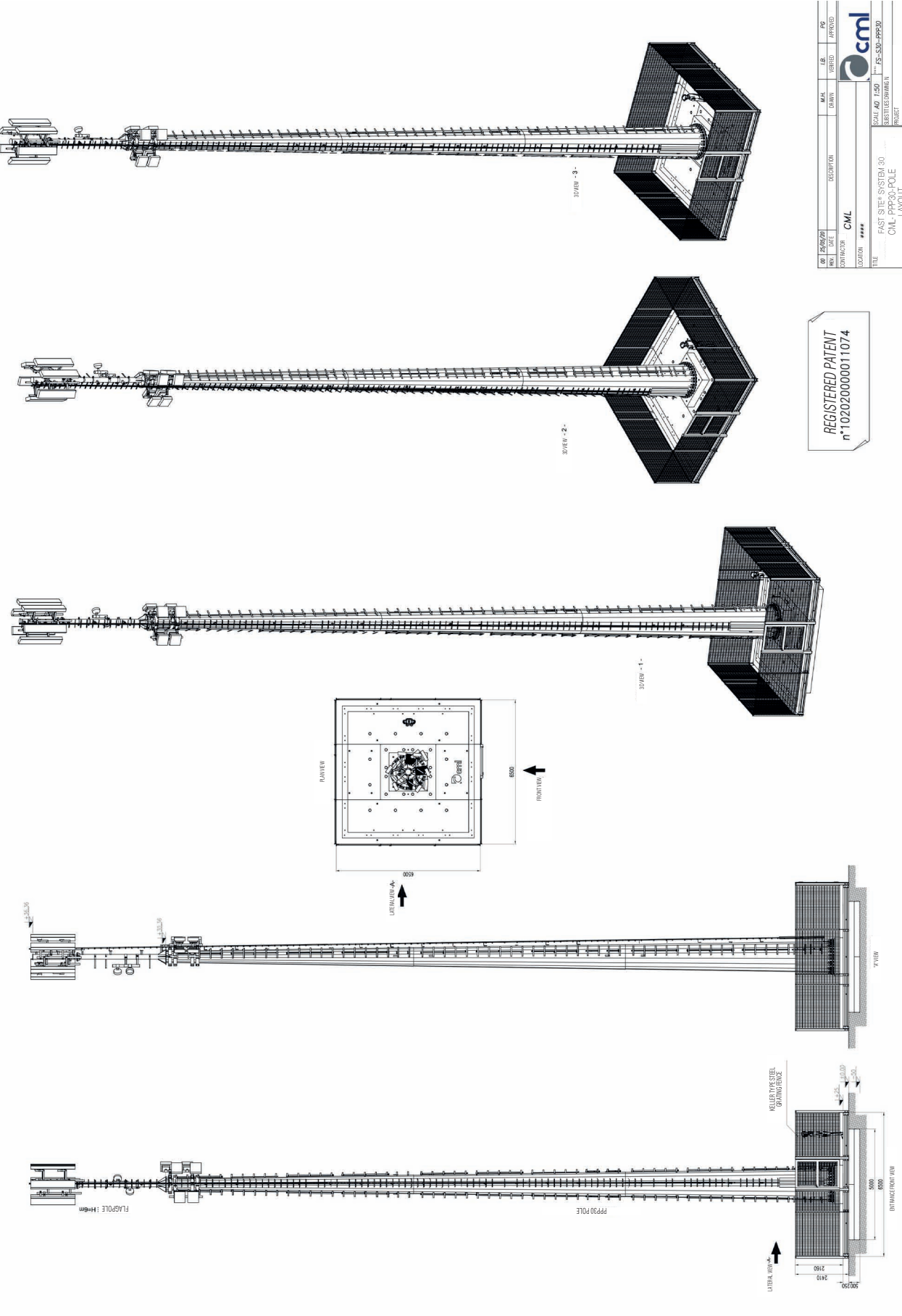
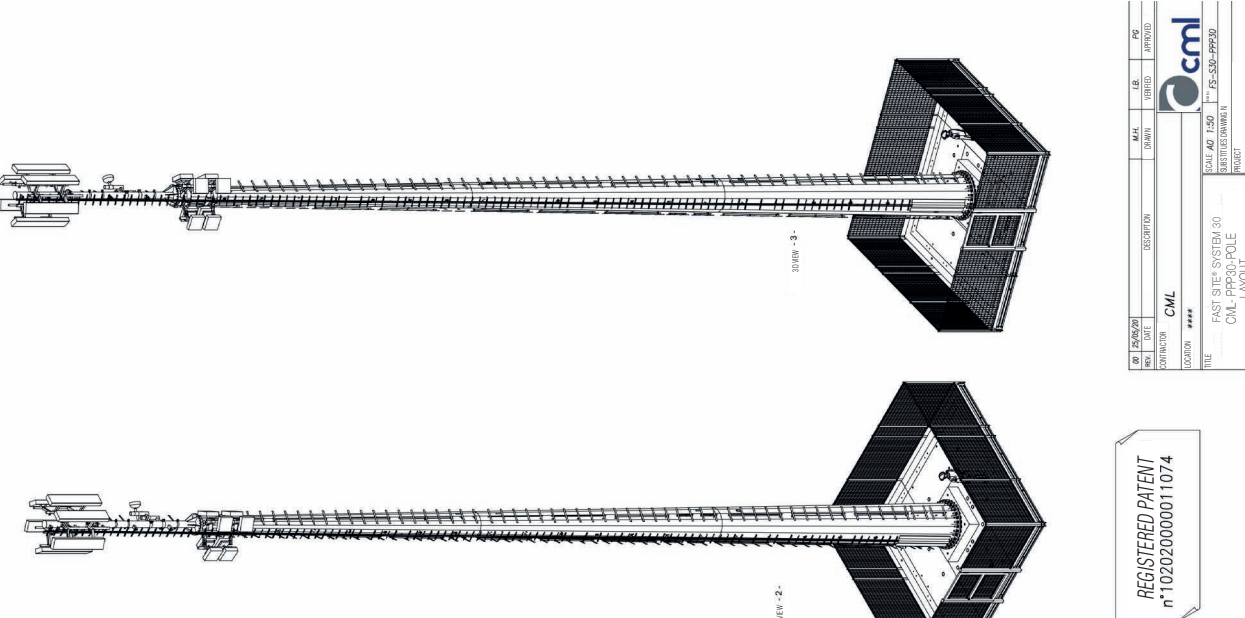


Fig. 30



REV.	DATE	DESCRIPTION	M.H.	I.B.	P.
12	27/10/20				
CONTRACTOR CML					
LOCATION ****					
TITLE FAST SITE® SYSTEM 30					
SUBSTITUTION DRAWING CML-PPP30-POLE					
PROJECT KELLER FENCE					

REGISTERED PATENT n°10202000011074

List of materials CLS PANELS - **FAST SITE® SYSTEM 30**

ART	DESCRIPTION	DETAILS	DIMENSIONS (mm)	WEIGHT (kg)	Q.TY (No)	TOTAL WEIGHT	MATERIAL	SURFACE TREATMENT
1	BASEMENT A2	Superior lateral panel (CML-FS-A2)	250x2500x2000	3000	2	6000	Reinforced CLS	Raw
2	BASEMENT A3	Long superior lateral panel (CML-FS-A3)	250x2000x6500	7680	2	15360	Reinforced CLS	Raw
3	CENTRAL PLINTH D1	Central plinth panel (CML-FS-D1)	600x2500x2500	6624	1	6624	Reinforced CLS	Raw
4	BASEMENT D6	Intermediate panel (CML-FS-D6)	250x2500x5000	7800	2	15600	Reinforced CLS	Raw
5	BASEMENT A7	Intermediate panel (CML-FS-A7)	250x2500x5000	7800	2	15600	Reinforced CLS	Raw

List of materials ENCLOSURES FOR PANELS **FAST SITE® SYSTEM 30**

ART	DESCRIPTION	DETAILS	DIMENSIONS (mm)	WEIGHT (kg)	Q.TY (No)	TOTAL WEIGHT	MATERIAL	SURFACE TREATMENT
1	ENCLOSURE Type 1	No. 1 enclosure in PA6 Ø135 and PVC tube L=195	250	0,25	52	13	PA6 + PVC	none
2	ENCLOSURE Type 2	No. 1 enclosure in PA6 Ø135 and PVC tube L=140	250	0,5	30	210	PA6 + PVC	none
3	ENCLOSURE Type 3	No. 1 enclosure in PA6 Ø135 and PVC tube L=595	250	0,75	27	18	PA6 + PVC	none
4	M30 BASE WASHERS	Base washers for type 2 enclosures	Ø135 ed H=30mm	***	60	0	S355JR	Galvanized
5	RIVETS	steel and alluminium rivet for the connection	Ø5mm x 22mm	***	120	0	Steel and alluminium	none
6	PRINTED ENCLOSURES	PA6 printed enclosures Ø135 and h=50mm	Ø135 ed H=50mm	***	208	0	PA6	none
7	PVC TUBE	PVC tube Ø63mm th. 2mm in 3 m bars	Ø63 th. 2mm L=3m	***	14	0	PVC	none
GLOBAL NET WEIGHT (kg) -->						59425		

List of materials ANCHOR BOLTS - **FAST SITE® SYSTEM 30**

ART	DESCRIPTION	DETAILS	DIMENSIONS (mm)	WEIGHT (kg)	Q.TY (No)	TOTAL WEIGHT	MATERIAL	SURFACE TREATMENT
1	CONNECTING BOLTS	Bolt Ø30 threaded end M30x300	750	3,56	24	85,5	S355JR	Hot - dip galvanized
2	THREADED RODS	M30 threaded rod	1100	5,23	32	167,2	S355JR	Hot - dip galvanized
3	M30 INSTALLATION WASHER	M30 washer for threaded rod installation	1150	5,5	4	21,85	S355JR	Hot - dip galvanized
4	M30 MEDIUM NUTS	M30 medium nuts	ø110 foro ø32 th. 12mm	0,80	236	188,8	C.I. 6S	Hot - dip galvanized
5	M30 HIGH NUTS	M30 high nuts		0,23	180	40,9	C.I. 6S	Hot - dip galvanized
6	M30 WASHER	M30 UNI 6592 washer		0,30	32	9,6	High resistance	Hot - dip galvanized
7	ANCHOR BOLT COVER	M30 anchor bolt cover		0,04	124	4,96	C.I. 6S	Hot - dip galvanized
9	POLE WASHER	Load distribution washer	70x70x10	0,4	32	12,8	S355JR	Hot - dip galvanized
10	ANCHOR BOLT COVER	M30 anchor bolt cover with increased thread	100	0,51	32	16,32	C.I. 8,8	Hot - dip galvanized
Global NET weight (kg) -->						580		

List of materials EARTHING **FAST SITE® SYSTEM 30**

ART	DESCRIPTION	DETAILS	DIMENSIONS (mm)	TOTAL WEIGHT	Q.TY (No)
1	COPPER CABLE	Copper cable 50 mm²	70 mm²	m	30 m
2	COPPER PLATED ELECTRODE	Copper plated electrode Ø18	1500	n°	4
3	TERMINAL FOR ELECTRODES	Terminal for electrodes Ø20	Ø20	n°	4

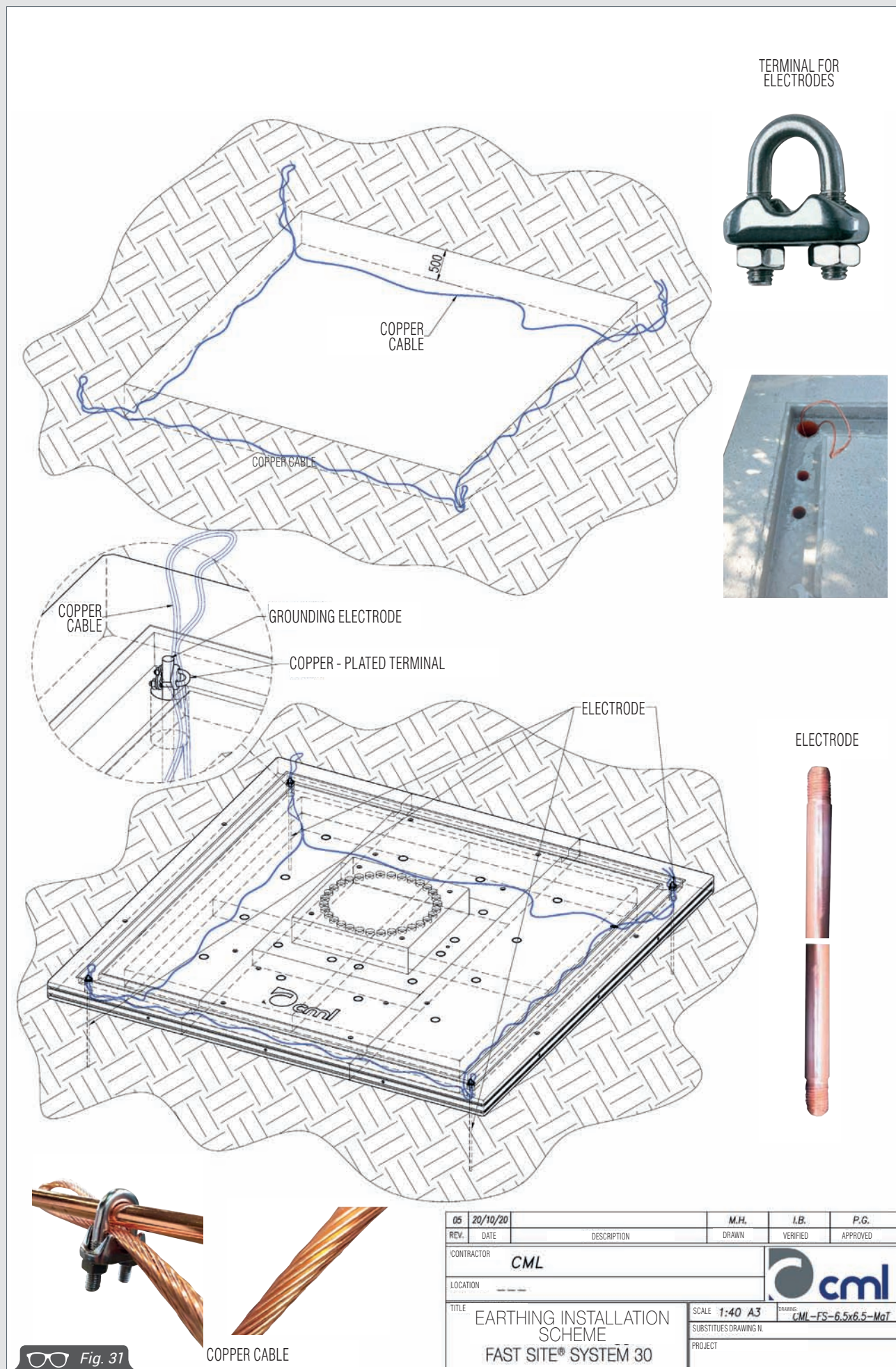
List of materials FENCE **FAST SITE® SYSTEM 30**

ART	DESCRIPTION	DETAILS	DIMENSIONS (mm)	WEIGHT (kg)	Q.TY (No)	TOTAL WEIGHT	MATERIAL	SURFACE TREATMENT
1	PANEL 1	Keller fence panel (mesh 62x132 ≠ 25x2) gev 62x132	1986x1992	38,4	11	423	S235JR	Hot - dip galvanized
2	PANEL 2	Keller fence panel (mesh 62x132 ≠ 25x2) gev 62x132	1986x488	9,4	3	28	S235JR	Hot - dip galvanized
3	PANEL 3	Keller fence panel (mesh 62x132 ≠ 25x2) gev 62x132	1986x994	19,1	1	19	S235JR	Hot - dip galvanized
4	LEFT POST	Flat plate 60x6 with welded left profiles	2290	7,95	9	72	S235JR	Hot - dip galvanized
5	RIGHT POST	Flat plate 60x6 with welded right profiles	2290	7,95	9	72	S235JR	Hot - dip galvanized
6	GROUP OF PROFILES	Angular profile 60x6	60	0,33	12	4	S235JR	Hot - dip galvanized
7	HALFEN BOLTS	Halfen HS 40/22-M16x40 4,6 bolts and nuts	M16x40		44		INOX A4	
8	GATE	Tubular 50x50x3	1280x1988	72,6	1	72,6	S235JR	Hot - dip galvanized
9	GATE UPRIGHT	Tubular 100x50x4	2290	44,3	2	88,7	S235JR	Hot - dip galvanized
10	GATE HANDLE	Gate lock handle			1		PVC	
11	LOCK	Gate lock			1		S235JR	Hot - dip galvanized
12	CYLINDER	Cylinder for gate lock			1			
13	HINGES	Gate hinges			2		S235JR	Hot - dip galvanized
14	PANEL SCREWS	TDE M10x30 antitheft screws	M10x30		48		INOX A4	
15	CHANNEL COVER	Embossed sheet th. 3 mm	245x1200	6,92	16	110,8	S235JR	Hot - dip galvanized
16	CHANNEL COVER	Embossed sheet th. 3 mm	245x1140	6,58	2	13,2	S235JR	Hot - dip galvanized
17	CHANNEL COVER	Embossed sheet th. 3 mm	245x650	3,75	2	7,5	S235JR	Hot - dip galvanized
18	PE CAPS FOR RODS	ILU 139,7 closing caps for threaded rods holes	Ø135		24	0,0	PE	
19	PE CAPS FOR HOOKS	ILU 105 Closing caps for lifting hooks holes	Ø100		20	0,0	PE	
GLOBAL NET WEIGHT (kg) -->						910		

List of materials INSTALLATION - **FAST SITE® SYSTEM 30**

ART	DESCRIPTION	DETAILS	DIMENSIONS (mm)	WEIGHT (kg)	Q.TY (No)	TOTAL WEIGHT	MATERIAL	SURFACE TREATMENT
1	46 WRENCH	Swan neck wrench for M30 NUTS	46		1	0	S235JR	Hot - dip galvanized
2	LIFTING EYEBOLT	Halfen Deha 4 ton lifting kit			4	0	S235JR	Hot - dip galvanized
3	CENTERING DEVICES	Conical bushing internal Ø30 large pitch			48	0	S235JR	Hot - dip galvanized
4	BROOM	Broom with steel bristles			1	0	S235JR	







**FAST
SITE®**
SYSTEM 36

DESCRIPTION FAST SITE® SYSTEM 36

The base (with plan size of 6,5m x 6,5m and height equal to 1150 mm) is made up of 11 reinforced concrete precast elements assembled together through steel threaded rods Ø 30 mm of applicable length. The elements are placed into 3 layers as follows:

- the first layer is in contact with the ground and is made up of 3 precast elements next to each other that have a load – bearing function (type C3 and C4 elements);
- the second layer is placed over the first one and consists of 3 elements next to each other that have a load – bearing function and that are placed crossing the previous ones (type C1 and C2 elements
- the third one is placed over the two previous ones and is made up of 5 elements, one of which is central and load – bearing (type D2 element) where the pole and 4 elements with the sole ballasting function (two type A3 type and two type A2 elements) are fixed on.

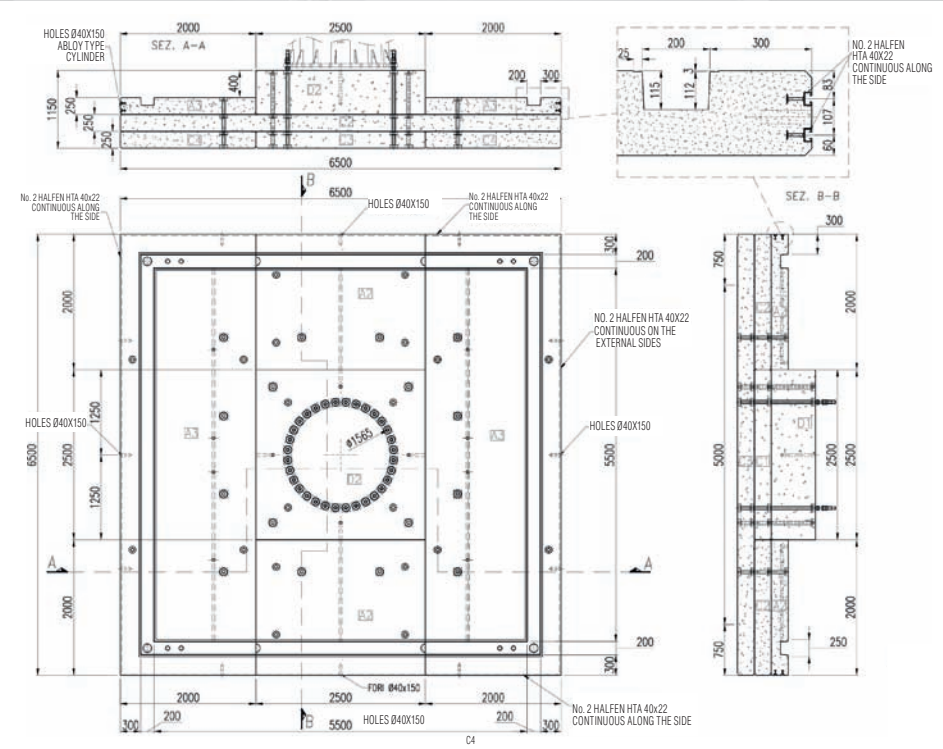


Fig. 32 - Plan and section of the FAST SITE® SYSTEM 36

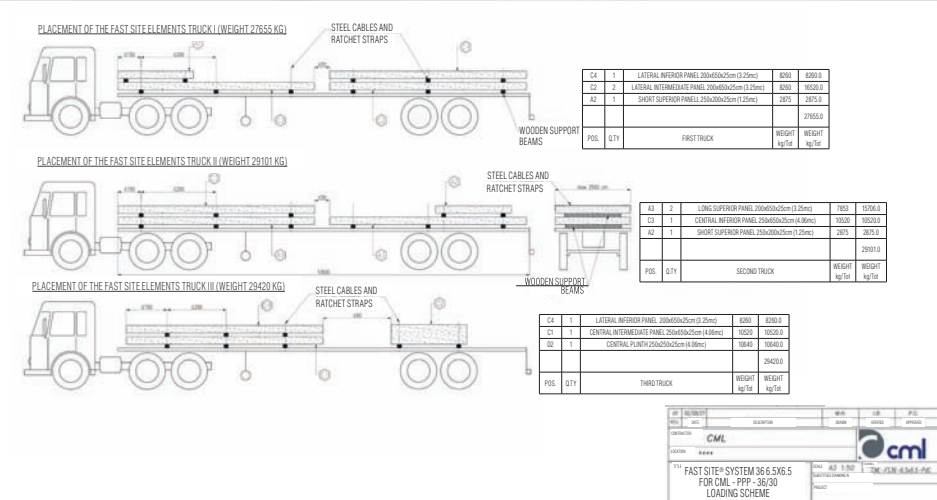


Fig. 33 - FAST SITE® SYSTEM 36 loading scheme

The prefabricated concrete elements in detail:

- **Type A3 element** (2 pieces) - full parallelepiped of 5,00x2,50x0,25 m (weight 7.853 kg);
- **Type A2 element** (2 pieces) - full parallelepiped of 2,50x2,00x0,25 m (weight 2.875 kg);
- **Type D1 element** (1 piece) - full parallelepiped of 2,50x2,00x0,65 m (weight 9.953 kg);
- **Type C1 element** (1 piece) - full parallelepiped of 2,50x6,50x0,25 m (weight 9.953 kg);
- **Type C2 element** (2 pieces) - full parallelepiped of 6,50x2,00x0,25 m (weight 7.963 kg);
- **Type C3 element** (1 piece) - full parallelepiped of 2,50x6,50x0,25 m (weight 9.953 kg);
- **Type C4 element** (2 pieces) - full parallelepiped of 6,50x2,00x0,25 m (weight 7.963 kg);

The total weight is therefore P=83.167 kg (apart from fences and accessories).

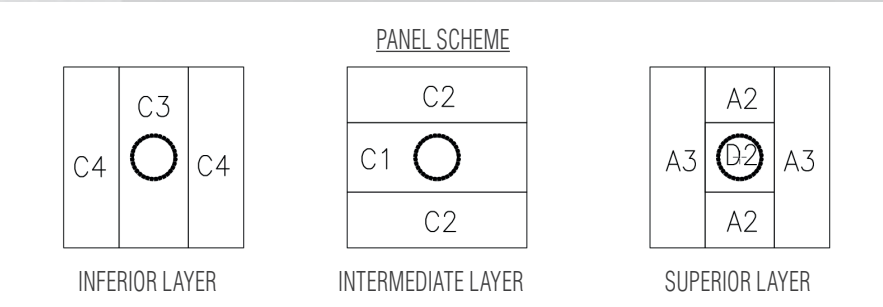


Fig. 34 - Layout of the FAST SITE® SYSTEM 36 modules

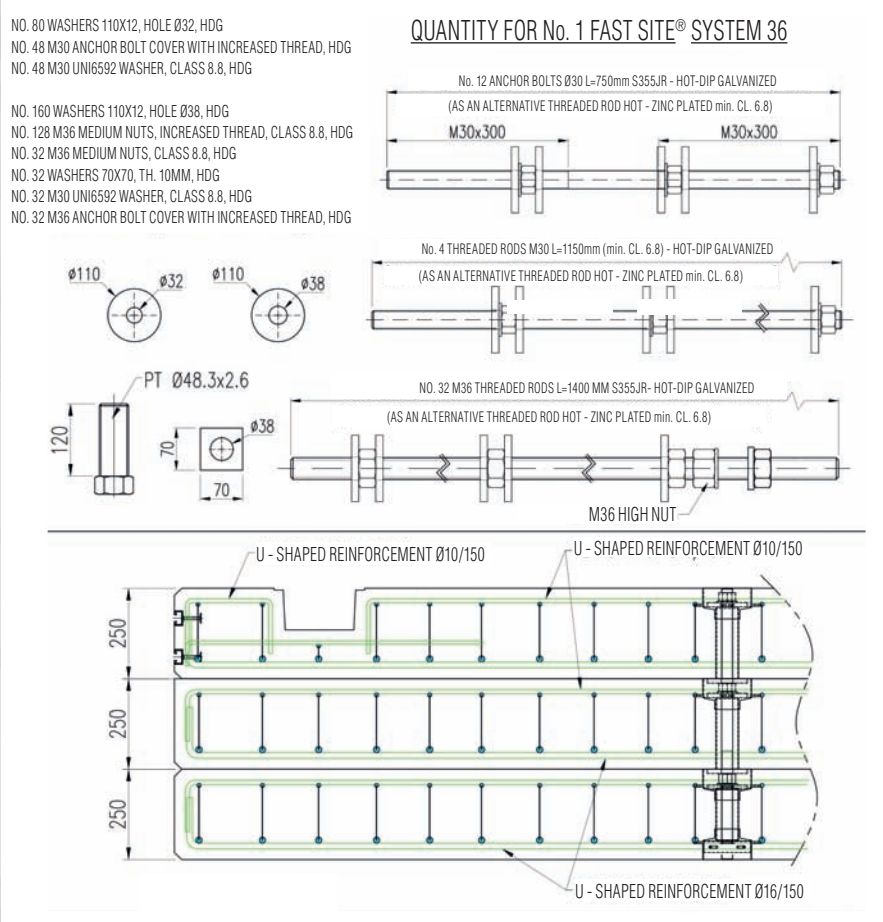


Fig. 35 - Connection of the FAST SITE® SYSTEM 36 modules

For the structural connection of the different modules, no. 12 M30 threaded rods are used (M30: S355 and hot – dip galvanized – Asnom.= 353 mm²) that are 750 mm, no. 4 M30 threaded rods (as described above) that are 1200 mm long and no. 32 M36 threaded rods (M36: S355 and hot – dip galvanized), each with 2 + 2 nuts. The rods are fixed on the base with a nut and washers and on the elements of the first layer and then blocked on top also with a nut and counter plate (the counter plates are appropriately designed and all the accessories, as well as the hardware are hot – dip galvanized). The above - mentioned threaded rods pass through appropriate nylon printed positioning enclosures (enclosures of different heights). The enclosures are put into the C3 and C4 modules and equipped with flange plate in S355 and th. 30 mm (all hot – dip galvanized) in order to enable the tightening of the threads without putting them under the module itself (in favour of safety and of assembly timing). The above-mentioned enclosures (by pieces of naked copper wire connected with reinforced bars of concrete block) also grant the electrical continuity and the earthing of the connecting threaded rods. The elements A2/A3 are equipped with a double Halfen HTA 40x22 continuous channel on the external border. This solution allows the positioning of the fence on any of the sides (in an extremely fast way) independently from the positioning of the platform itself (thus the entrance gate can be placed regardless of the side).

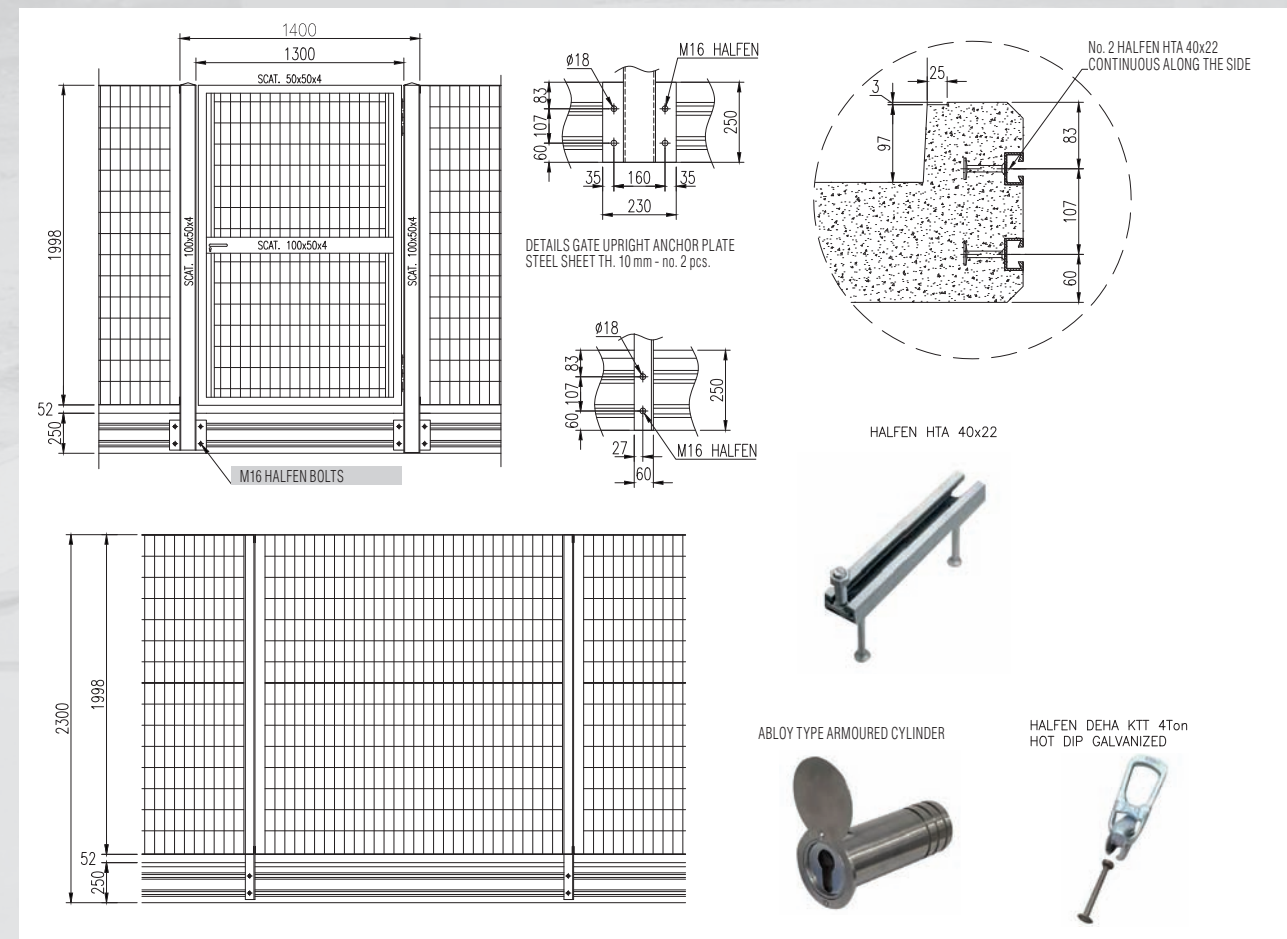


Fig. 36 - Fence FAST SITE® SYSTEM 36

The lifting of the different modules is made through Halfen type DEHA KIT hangers (hot – dip galvanized). Each module is equipped with n. 4 hangers of 4 tons each placed on the borders (considering the heaviest modules – D2, C1 and C3 equal to 30 tons – the hangers, for a total of 16 tons grant a high level of safety during the lifting).

The **FAST SITE® SYSTEM 36** has in addition (in the border of the A3 module) the predisposition for an eventual positioning of an Abloy type armoured cylinder.

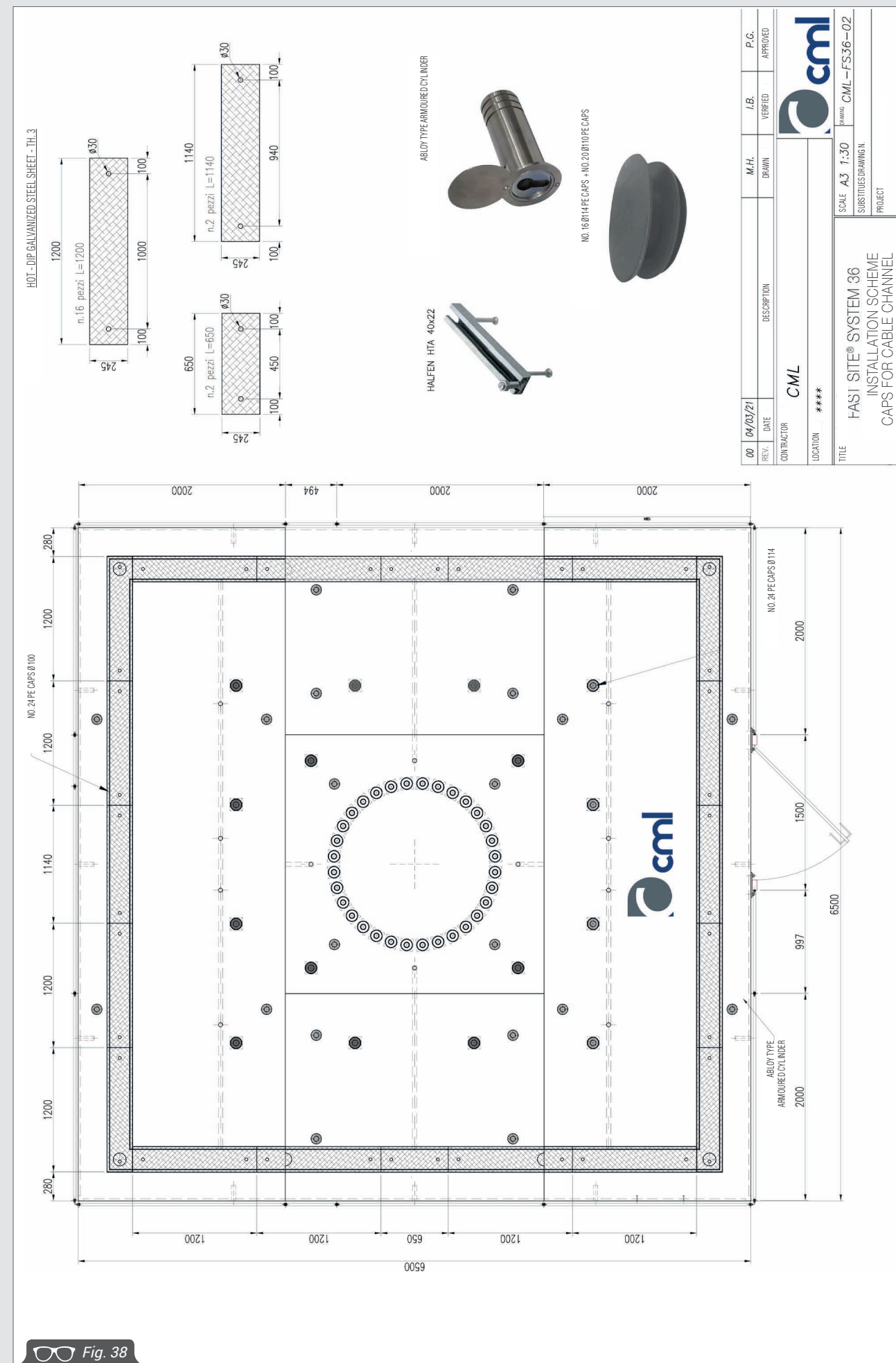
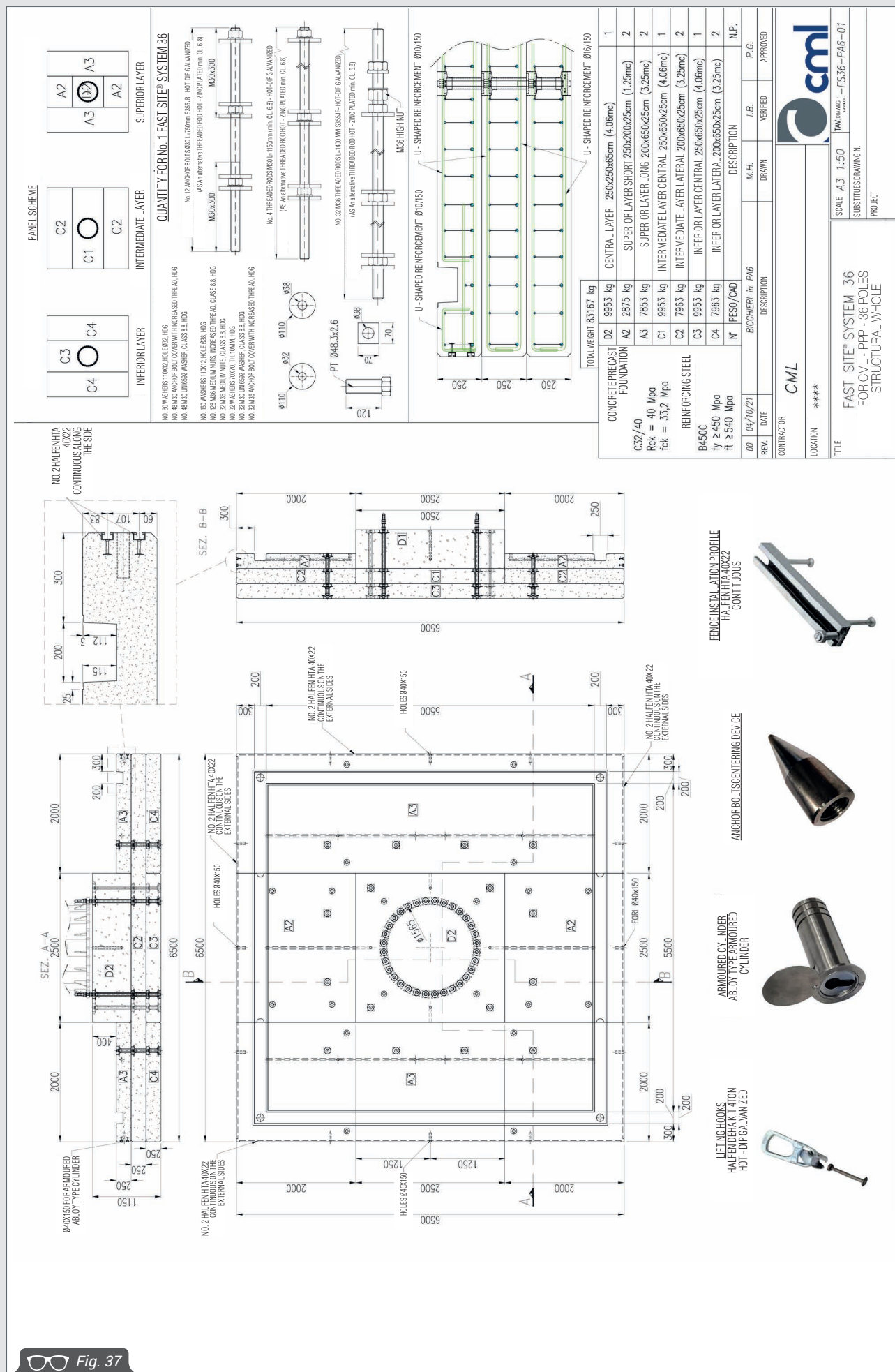
INTRODUCTION TO THE INSTALLATION FAST SITE® SYSTEM 36

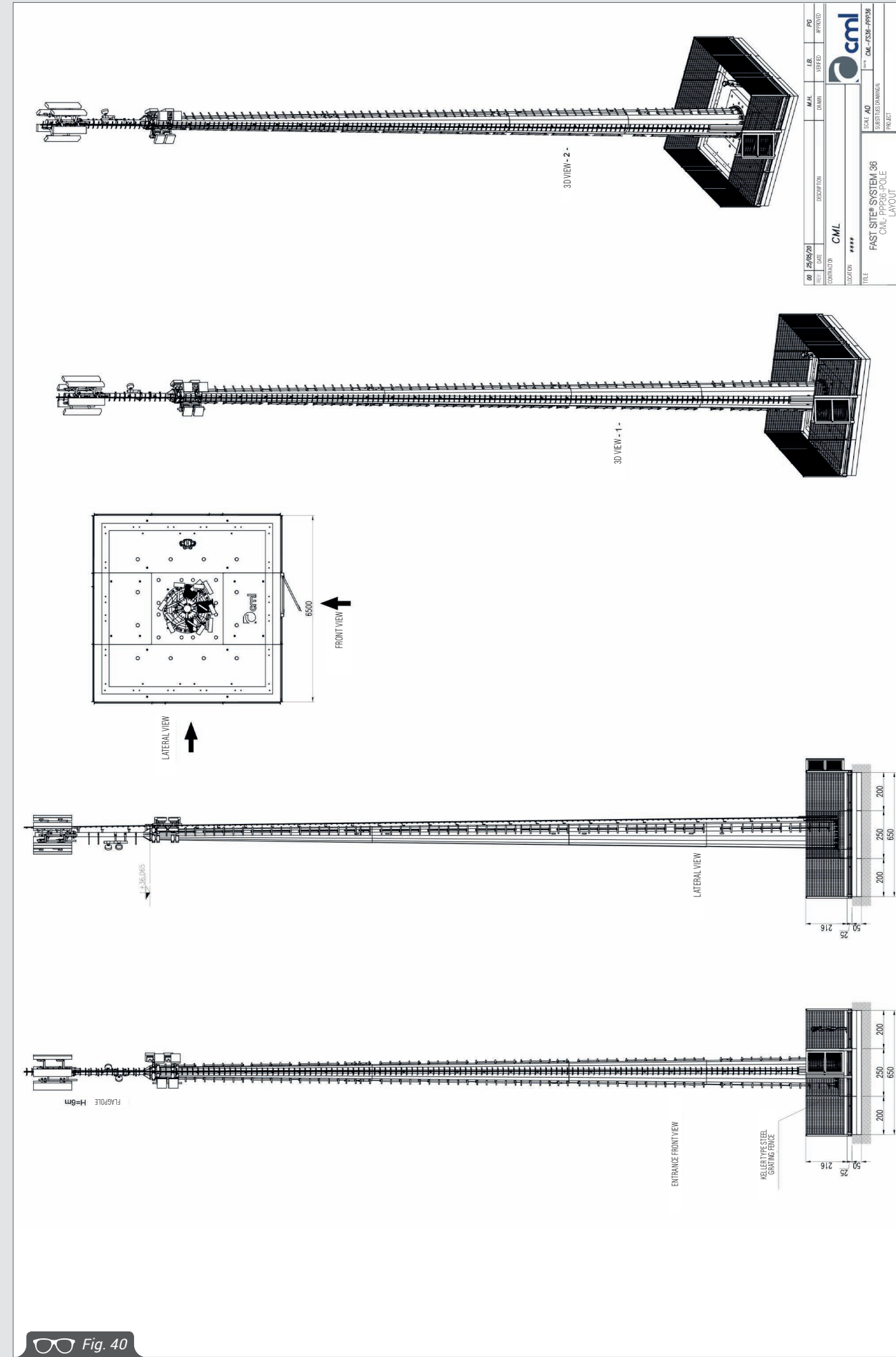
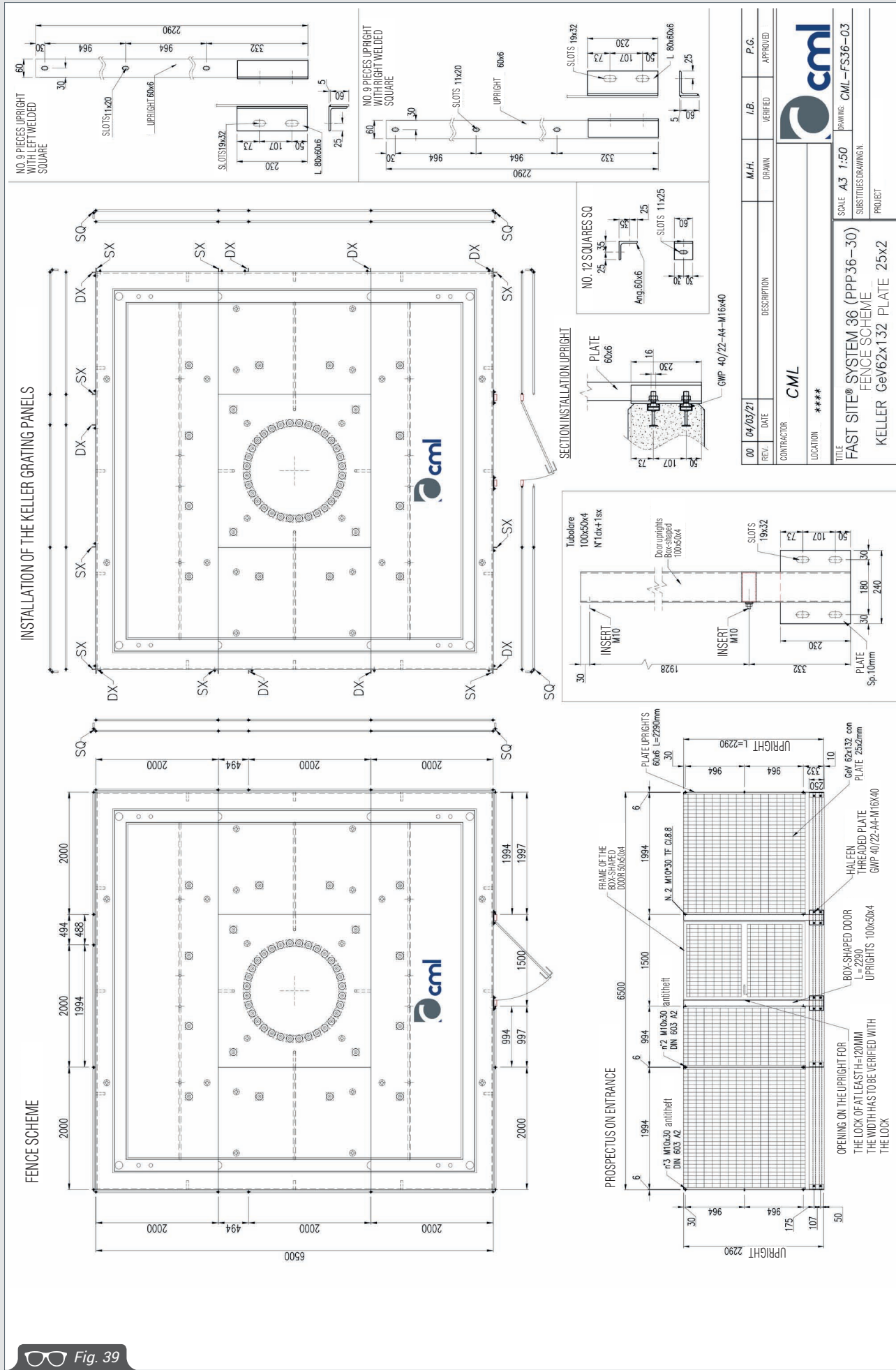
The **FAST SITE® SYSTEM 36** is designed for a simple and fast, as well as an extremely safe installation. This activity can be carried out from any company that has a minimum knowledge of the civil field.

The installation can be summed up in 7 stages:

1. Preparation of the possible excavation (if required) of 6,5x6,5 m and with about a 1,2 m depth (according to the conditions of the subsoil and the geological report) and preparation of the levelled bedding (based on the indications that CML supplies before and together with the calculation report);
2. Installation of the base slab (modules C3 and C4) and placement of the connecting M30 and M36 threaded rods;
3. Installation of the second level (modules C1 and C2) overlaid on the previous ones and placement of the washers on the connecting enclosures of the M30 and M36 rods (previously put during stage 1). Mounting of the nuts on the threaded rods
4. Assembly of the central layer (modules D2) and then of the lateral modules (A2-A3) through the same procedure as mentioned in stage 3;
5. Connecting of the earthings (positioned on the modules A2 and A3) and closing of the cable tray with the proper panels (hot – dip galvanized embossed sheets or equivalent);
6. Placement of the pole (CML model type PPCML with heights from 12 to 36 meters and eventual flagpole up to 6m) on the; **FAST SITE® SYSTEM 36**;
7. Placement and tightening of the fence on the prepared Halfen channels..

If necessary the supply can include the external earthing made up of a naked copper rope ring of 70 mm² put under the foundations and integrated with n. 4 hot dip galvanized steel electrodes which are 2m long (connected to the ring with special terminals which are visible form the shafts in the foundation). All the metal inserts are electrically connected to the reinforcement of the structure in order to grant the electrical continuity with the metal frame of the prefabricated structure.





List of materials CLS PANELS - FAST SITE® SYSTEM 36

ART	DESCRIPTION	DETAILS	DIMENSIONS (mm)	WEIGHT (kg)	Q.TY (No)	TOTAL WEIGHT	MATERIAL	SURFACE TREATMENT
1	BASEMENT C3	Central inferior panel (CML-FS36-C3)	250x2500x6500	9953	1	9953	Reinforced CLS	Raw
2	BASEMENT C4	Lateral inferior panel (CML-FS36-C4)	250x2000x6500	7963	2	15926	Reinforced CLS	Raw
3	BASEMENT C1	Central intermediate panel (CML-FS36-C1)	250x2000x6500	9953	1	9953	Reinforced CLS	Raw
4	BASAMENTO C2	Intermediate lateral panel (CML-FS36-C2)	250x2000x6500	7963	2	15926	Reinforced CLS	Raw
5	CENTRAL PLINTH D2	Central plinth panel (CML-FS36-D2)	600x2500x2500	9953	1	9953	Reinforced CLS	Raw
6	BASEMENT A3	Superior lateral panel (CML-FS36-A3)	250x2000x6500	7853	2	15706	Reinforced CLS	Raw
7	BASEMENT A2	Superior lateral panel (CML-FS36-A2)	250x2000x2500	2875	2	5750	Reinforced CLS	Raw

List of materials ENCLOSURES FOR PANELS FAST SITE® SYSTEM 36

ART	DESCRIPTION	DETAILS	DIMENSIONS (mm)	WEIGHT (kg)	Q.TY (No)	TOTAL WEIGHT	MATERIAL	SURFACE TREATMENT
1	ENCLOSURE Type 1	No. 1 enclosure in PA6 Ø135 and PVC tube L=195	250	0,25	28	7	PA6 + PVC	none
2	ENCLOSURE Type 2	No. 2 enclosures in PA6 Ø135 and PVC tube L=140	250	0,5	16	8	PA6 + PVC	none
3	ENCLOSURE Type 3	No. 1 enclosure in PA6 Ø135 and PVC tube L=595	250	0,75	4	3	PA6 + PVC	none
4	ENCLOSURE Type 4	No. 2 enclosures in PA6 Ø135 and PVC tube L=140	250	0,25	32	8	PA6 + PVC	none
5	ENCLOSURE Type 5	No. 1 enclosure in PA6 Ø135 and PVC tube L=195	250	0,25	32	8	PA6 + PVC	none
6	ENCLOSURE Type 6	No. 1 enclosure in PA6 Ø135 and PVC tube L=595	650	0,75	32	24	PA6 + PVC	none
7	M30 BASE WASHERS	Base washers for type 2 enclosures	Ø135 ed H=30mm	***	16	0	S355JR	Galvanized
8	M36 BASE WASHERS	Base washers for type 4 enclosures	Ø135 ed H=30mm	***	32	0	S355JR	Galvanized
9	RIVETS	steel and alluminium rivet for the connection	Ø5mm x 22mm	***	96	0	Steel and alluminium	none
10	PRINTED ENCLSOSURES	PA6 printed enclosures Ø135 and h=50mm	Ø135 ed H=50mm	***	192	0	PA6	none
11	PVC TUBE	PVC tube Ø63mm th. 2mm in 3 m bars	Ø63 th.2mm L=3m	***	14	0	PVC	none
GLOBAL NET WEIGHT (kg) -->						83368		

List of materials ANCHOR BOLTS - FAST SITE® SYSTEM 36

ART	DESCRIPTION	DETAILS	DIMENSIONS (mm)	WEIGHT (kg)	Q.TY (No)	TOTAL WEIGHT	MATERIAL	SURFACE TREATMENT
1	CONNECTING BOLTS	Connecting bolts	750	3,56	12	42,75	S355JR	Hot - dip galvanized
2	M30 THREADED RODS	M30 threaded rod with large pitch (3,5mm)	1150	5,46	4	21,85	S355JR	Hot - dip galvanized
3	M36 THREADED RODS	M36 threaded rod with large pitch (4mm)	1400	9,7	32	309,12	S355JR	Hot - dip galvanized
4	M36 I NSTALLATION WASHER	M36 washer for threaded rod installation	Ø110 foro Ø32 th. 12mm	0,80	80	64	S275JR	Hot - dip galvanized
5	M30 MEDIUM NUTS	M30 medium nuts	Ø110 foro Ø38 th. 12mm	0,80	160	128	Cl. 6S	Hot - dip galvanized
6	M36 MEDIUM NUTS	M36 medium nuts		0,22	48	10,7	Cl. 6S	Hot - dip galvanized
7	M36 HIGH NUTS	M36 high nut		0,40	128	50,7	Cl. 6S	Hot - dip galvanized
8	M36 WASHER	M3 UNI 6592 washer		0,48	32	15,5	C.I. 8,8	Hot - dip galvanized
9	M36 WASHER	M36 UNI 6592 washer		0,09	96	8,832	High resistance	Hot - dip galvanized
11	M30 WASHER	M30 UNI 6592 washer		0,08	40	3,2	High resistance	Hot - dip galvanized
12	POLE WASHER	Load distribution washer with ø38 hole	70x70x10	0,4	32	12,8	S355JR	Hot - dip galvanized
13	ANCHOR BOLT COVER	M36 anchor bolt cover with increased thread	100	0,51	32	16,32	Cl. 6S	Hot - dip galvanized
GLOBAL NET WEIGHT (kg) -->						690		

List of materials EARTHING FAST SITE® SYSTEM 36

ART	DESCRIPTION	DETAILS	DIMENSIONS (mm)	TOTAL WEIGHT	Q.TY (No)
1	COPPER CABLE	Copper cable 70 mm²	70 mm²	m	30 m
2	COPPER PLATED ELECTRODE	Copper plated electrode Ø18	1500	n°	4
3	TERMINAL FOR ELECTRODES	Terminal for electrodes Ø20	Ø20	n°	4

List of materials FENCE FAST SITE® SYSTEM 36

ART	DESCRIPTION	DETAILS	DIMENSIONS (mm)	WEIGHT (kg)	Q.TY (No)	TOTAL WEIGHT	MATERIAL	SURFACE TREATMENT
1	PANEL 1	Keller fence panel (mesh 62x132 ≠ 25x2) gev 62x132	1986x1992	47,1	11	518	S235JR	Hot - dip galvanized
2	PANEL 2	Keller fence panel (mesh 62x132 ≠ 25x2) gev 62x132	1986x488	11,5	3	35	S235JR	Hot - dip galvanized
3	PANEL 3	KELLER FENCE PANEL (MESH 62x132 ≠ 25x2) GEV 62x132	1986x994	23,5	1	23	S235JR	Hot - dip galvanized
4	LEFT POST	Flat plate 60x6 with welded left profiles	2290	7,95	9	72	S235JR	Hot - dip galvanized
5	RIGHT POST	Flat plate 60x6 with welded right profiles	2290	7,95	9	72	S235JR	Hot - dip galvanized
6	GROUP OF PROFILES	Angular profile 60x6	60	0,33	12	4	S235JR	Hot - dip galvanized
7	HALFEN BOLTS	Halfen HS 40/22 M16x40 4,6 bolts and nuts	M16x40		44		INOX A4	
8	GATE	Tubular 50x50x3	1280x1988	72,6	1	72,6	S235JR	Hot - dip galvanized
9	GATE UPRIGHT	Tubular 100x50x4	2290	44,3	2	88,7	S235JR	Hot - dip galvanized
10	GATE HANDLE	Gate lock handle			1		PVC	
11	LOCK	Gate lock			1		S235JR	Hot - dip galvanized
12	CYLINDER	Cylinder for gate lock			1			
13	HINGES	Gate hinges			2		S235JR	Hot - dip galvanized
14	PANEL SCREWS	TDE M10x30 antitheft screws	M10x30		48		INOX A4	
15	CHANNEL COVER	Embossed sheet th. 3 mm	245x1200	6,92	16	110,8	S235JR	Hot - dip galvanized
16	CHANNEL COVER	Embossed sheet th. 3 mm	245x1140	6,58	2	13,2	S235JR	Hot - dip galvanized
17	CHANNEL COVER	Embossed sheet th. 3 mm	245x650	3,75	2	7,5	S235JR	Hot - dip galvanized
18	PE CAPS FOR RODS	ILU 139,7 closing caps for threaded rods holes	Ø135		16	0,0	PE	
19	PE CAPS FOR HOOKS	ILU 105 Closing caps for lifting hooks holes	Ø100		20	0,0	PE	
GLOBAL NET WEIGHT (kg) -->						1016		

List of materials INSTALLATION - FAST SITE® SYSTEM 36

ART	DESCRIPTION	DETAILS	DIMENSIONS (mm)	WEIGHT (kg)	TOTAL WEIGHT	MATERIAL	SURFACE TREATMENT
1	46 WRENCH	Swan neck wrench for M36 NUTS	46	1	0	S235JR	Hot - dip galvanized
2	55 WRENCH	Swan neck wrench for M30 NUTS	55	1	0	S235JR	Hot - dip galvanized
3	LIFTING EYEBOLT	Halfen Deha 4 ton lifting kit		4	0	S235JR	Hot - dip galvanized
4	M30 CENTERING DEVICES	Conical bushing internal Ø30 large pitch		4	0	S235JR	Hot - dip galvanized
5	M36 CENTERING DEVICES	Conical bushing internal Ø36 large pitch		32	0	S235JR	Hot - dip galvanized
6	BROOM	Broom with steel bristles		1		S235JR	

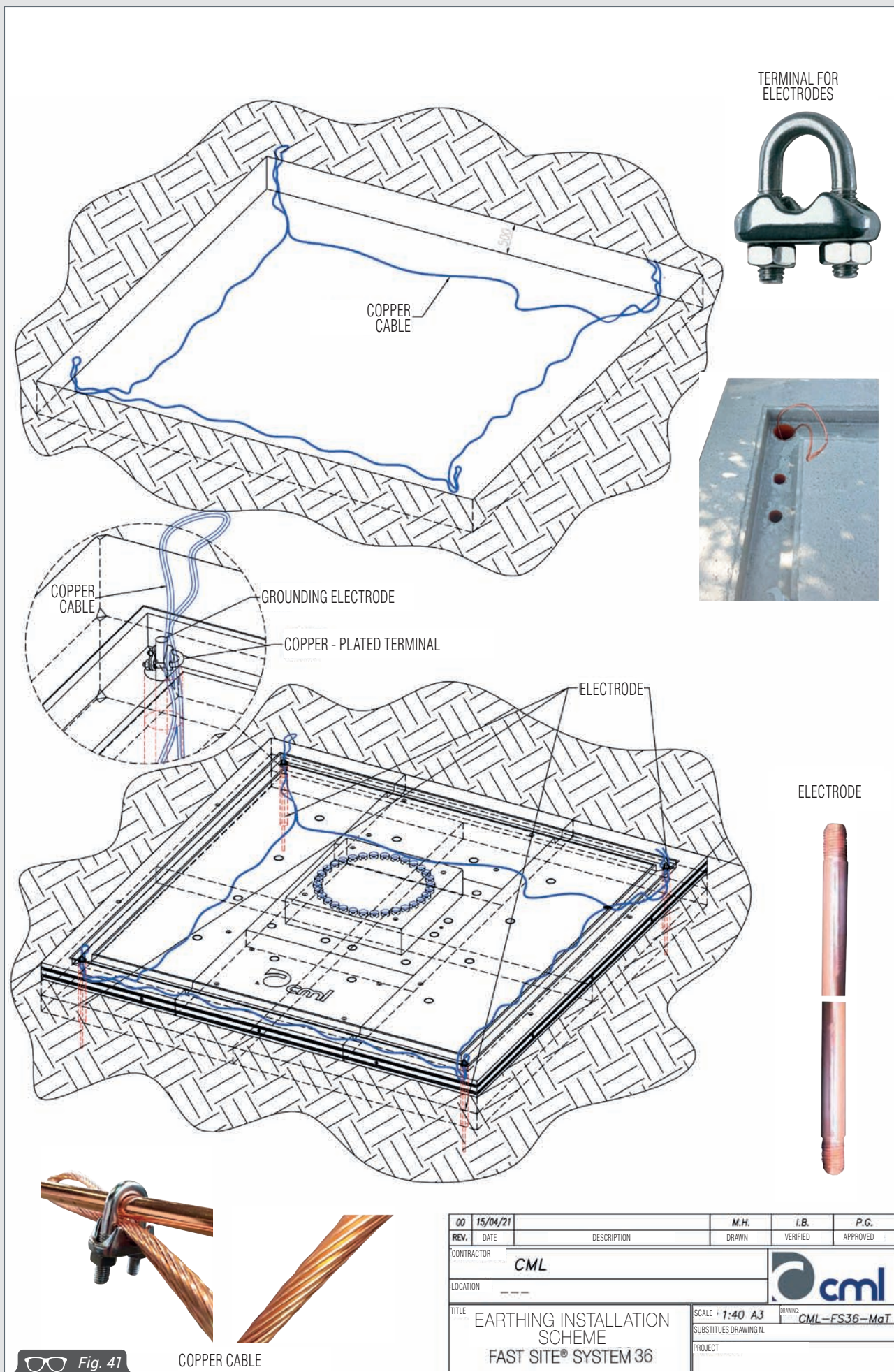


Fig. 41

COPPER CABLE



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