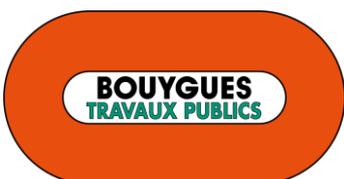




MATÉRIEL

PLANTS & EQUIPMENTS STANDARDS



INTERNATIONAL



A member of Bouygues Construction



PLANTS & EQUIPMENTS STANDARDS

This document lists the requirements for the fabrication, purchase or rental of plants and equipments for international construction sites.

These requirements must be integrated in the pricing budgets and reflected in the orders and clearly mentioned as a point of entry into any subcontracted contracts.

Some equipments can be studied and manufactured locally. A special study must be requested and the following elements must be collected from the supplier :

- Materials certificates
- Welders certification
- Certificate of origin of the manufactured equipment
- Brief description of origin of the manufacturing process
- Manufacturing plan with dimensions
- Calculation note
- List and protocol of quality control points (dimensions, welding, etc...)
- Destructive testing if necessary

Be careful to take in account in your consultations to select equipment where the manual load port does not exceed 25kg.

Power tools :

There is a unique BYCN listing catalog that's meet the groups requirements and specifications.



[Link to the power tools catalog](#)
Click on the button

PLANTS & EQUIPMENTS STANDARDS

Click on the numbers to access to the equipment of your choice



1 Housekeeping / Storage / Production

2 Collective protection

3 Shoring

4 Scaffolding

5 Vertical formwork

6 Concrete equipments

7 Tower crane

8 Derrick

9 Construction hoists / elevators

10 Mobile crane

11 Site machinery

DIRECT ACCESS



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PLANTS & EQUIPMENTS STANDARDS

1



Housekeeping / Storage
Production

EQUIPMENTS STANDARDS

Housekeeping | Storage | Production

Legend

To ask our suppliers in case of :

 New purchase  2nd hand purchase  Rental



Containers



- Shoring equipment, small equipment, and formwork accessories are delivered in 5 sides covered stillages and slinged in 4 points



Washing podium



- For concrete bucket



Concrete bucket

- Ban buckets with spreader bar



Generator, compressor



- Automatic shutdown in case of overheating
- Low oil warning system
- Generators with refrigerant for hot countries and electrical resistance in cold countries)
- Engine casing
- Electrical differential protection in accordance with local régulation
- Grounding connector
- Retention tray



Compressed air network



- Anti-whip cables on the connections
- Buffer tanks with compressed air with manufacturer's plate for periodic control
- Purge control valve

EQUIPMENTS STANDARDS

Housekeeping | Storage | Production

Legend

To ask our suppliers in case of :

 New purchase  2nd hand purchase  Rental



Electrical cabinets



Padlocked and equipped with lifting ears

Face plates

- o to block access to live circuits



Electric units and cabinets

- o IP rate compliant with local regulations (the IP rating determines the degree of protection against the penetration of solid bodies (1st digit) and liquids (2nd digit))

Sockets are non-removable from outside

Wood workshop

Wood dust vacuums

- o connected to cutting tools



Spare parts availables

- o Protective casing by example



Temporary mobile workshop

- o referenced by DISTRIMO (with necessary security : protection cover control, dust extractor)



EQUIPMENTS STANDARDS

Housekeeping | Storage | Production

Legend

To ask our suppliers in case of ::

 New purchase  2nd hand purchase  Rental

Reinforcement workshop

Cutting machines



- Conformity to the machine directive 2006/42/CE and its subsequent amendments, with associated CE marking
- Molded steel frame – no access to the moving parts
- No wheels – the machine is on a fixed frame, that can be moved on a pallet truck or using lifting rings
- Protection of the blades by a folding metal housing, equipped with a mechanical handle to secure the cut to the presence of the housing in folded position
- The cutting action of the operator (foot pedal or handle) should result in only one cut
- Device for holding bars in place to prevent jumps / whipping during the cut (on both sides benches)
- Emergency stop button

EQUIPMENTS STANDARDS

Housekeeping | Storage | Production

Legend

To ask our suppliers in case of :

 New purchase  2nd hand purchase  Rental

Reinforcement workshop

Bending machines



- Conformity to the machine directive 2006/42/CE and its subsequent amendments, with associated CE marking
- Molded steel frame – no access to the moving parts
- Protection of the bending area by a ribbed metal cover, allowing the operator to see. Hood equipped with a limit switch to secure the bending to the presence of the hood in the folded position
- Bending is triggered by action on the pedal but must stop immediately by removing the foot
- Emergency stop with anti-panic bar



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PLANTS & EQUIPMENTS STANDARDS

2



Collective protection

EQUIPMENTS STANDARDS

Collective protection

Legend

To ask our suppliers in case of :

 New purchase  2nd hand purchase  Rental

Guardrails



- Anti-uptift posts locally manufactured tolerated if proof of resistance by calculation note.
Example of a compliant post : multifunction model

- Wood prohibited for posts and rails. Possible for toe boards

- Compulsory toe boards



- Galvanised steel horizontal rails 26*32

- Prohibition of clamp posts

- Bodyguard barrier accepted



Guardrails support (as per site requirement)



- Raised sliding



- Riv-protect and flat slab rail posts support plates



Lift shafts fall protection



- Gemagrille, G Protekt type system or similar, covering the whole opening



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PLANTS & EQUIPMENTS STANDARDS

3



Shoring

EQUIPMENTS STANDARDS

Shoring

Legend

To ask our suppliers in case of :

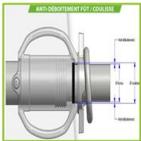
 New purchase
  2nd hand purchase
  Rental

Props

- Props with fixed nominal load (and not variable depending on extension). Safety factor of 1.65 min.   



- Information about the load capacity engraved on each prop   



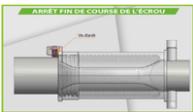
- Permanent anti-disengagement making it impossible for the outer tube and inner tube to disengage   



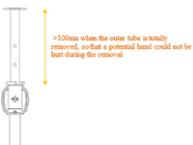
- Unlosable steel pin, with nominal diameter 13mm at least   

- At least 300mm of the inner tube remains within the outer tube when the prop is fully extended   

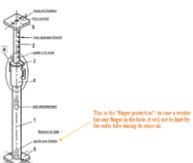
- Measure preventing an accidental disengagement of the adjustment sleeve from its threading   



- Hand protection, the inner tube stopping 100mm short of the outer tube (between the top of the outer tube and the head of the inner tube)   



- Fingers protection, preventing fingers being pinched between the bottom of the inner tube and the outer tube   



- Reinforced outer tube base plate, making the lower part of the outer tube more resistant to deformation (due to the frequent use of hammer for the props removal)   

EQUIPMENTS STANDARDS

Shoring

Legend

To ask our suppliers in case of :

 New purchase  2nd hand purchase  Rental

Towers



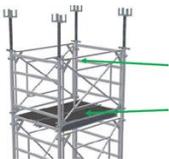
- The foot jack and the tower are connected using an integrated locking system   



- Attach the pin systems to the elements as to make their loss impossible   



- Integrate means of access inside the tower (planking/ladder) so that they can be used at every level. The last level is fully planked (including a trap door)   



- Give preference to frame systems, allowing scaffolders to remain safe inside the towers during assembly and dismantling   



- Secure the planking to prevent lift-out   

- Delivery and storage in frame with strapping or mandatory basket



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PLANTS & EQUIPMENTS STANDARDS

4



Scaffolding

EQUIPMENTS STANDARDS

Scaffolding

Legend

To ask our suppliers in case of :

 New purchase  2nd hand purchase  Rental

Scaffolding



- Minimum load recovery of floors according to type of work to be carried out
- Access by floor trap and inclined ladder
- Floor trap with automatic closing
- Access ladders locked on floors
- Anti-uplift floors
- Anti-uplift anchors
- Storage and handling in mandatory basket on site

As per design, scaffolding is either type 1 or type 2 :

- Type 2 : worker can put in place a guardrail located level L+1 standing on level L and being protected by guardrail in place
- Type 1 : worker can ONLY put in place a guardrail located level L+1 standing on level L and being protected by guardrail in place



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PLANTS & EQUIPMENTS STANDARDS

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Vertical formwork

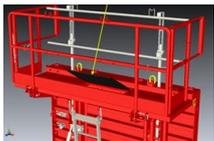
EQUIPMENTS STANDARDS

Vertical formwork

Legend

To ask our suppliers in case of :

 New purchase  2nd hand purchase  Rental



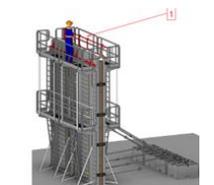
- Integrated push-pull prop (min 2)



- Access through floor trap and ladder (ascent back against the form)



- Guardrails on the form side



- Walkways equipped with rear and side guardrails



- Intermediate walkways for great heights (every 3m) to facilitate such works as the tightening of the rod, the connections between two formwork panels...





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PLANTS & EQUIPMENTS STANDARDS

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Concrete equipments

EQUIPMENTS STANDARDS

Concrete materials

Legend

To ask our suppliers in case of :



New purchase



2nd hand purchase



Rental

Concrete batching plant



Main control

- The operator's cabin is lockable, and equipped with bars at windows

Silos

- The supplier shall provide safe access to silos with walkways and handrails. If needed the supplier shall provide crinoline ladders or stairs
- Silos access ladders shall be equipped with intermediate landing platforms if needed

Mixer

- A lockable electrical switch installed in the vicinity of the mixer to allow a power disconnection of the mixer during maintenance or repair
- The mixer is designed to be easily cleaned and the system manages a self-cleaning process

Lighting on the batching plant :

- Light beacons will be positioned on the plant's equipment to secure accesses and platforms of the plant for normal use or maintenance

EQUIPMENTS STANDARDS

Concrete materials

Legend

To ask our suppliers in case of :

 New purchase  2nd hand purchase  Rental

Concrete batching plant



General health and safety specifications

- Moving parts are mechanically covered to ensure personnel protection
- Emergency stop placed : on both sides of the plant structure at ground level ; on any location based on risk assessment in the machinery room
- A mechanical and electrical interlock system is supplied to prevent from access to moving parts (mixer, conveyors, skip, agitating tank blades,...)
- The level of protection of all electrical equipment shall be as follow :

Standard equipment other than electric motors : IP55

Standard electric motors : IP55

Electrical cabinets and distribution boxes : IP66 (IP55 if provided with special protection against spray and splashing)

EQUIPMENTS STANDARDS

Concrete materials

Legend

To ask our suppliers in case of :



New purchase



2nd hand purchase



Rental



Fixes and mobile pumps



- Grid sensor to prevent opening when pump is running
- Emergency stop
- Hydraulic pressure indicator
- Covering of the machine to prevent any oil splashes in the event of a hydraulic connection breaking
- Make sure that the pump pressure matches the pressure allowed by the pipes and clamps
- Use bolt clamps or lever clamps with cotter pin for pipes assembly
- It is forbidden to empty concrete pipes with compressed air to avoid the risk of projection (concrete, ball) and whipping. Carry out cleaning with water

EQUIPMENTS STANDARDS

Concrete materials

Legend

To ask our suppliers in case of :

 New purchase  2nd hand purchase  Rental

Concrete mast



- Emergency stop on the mast and on the radio control
- Flash/operation beacon
- Access walkway and caged ladder for assembly and maintenance
- Installation of a strop in addition to the collar to keep the hose suspended
- Make sure that the hoses and clamps match the pump pressure
- Safe access to slinging points or permanently accessible sling for slinging and unslinging
- Provide mast stability equipment in storage and transport mode



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PLANTS & EQUIPMENTS STANDARDS

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Tower crane

EQUIPMENTS STANDARDS

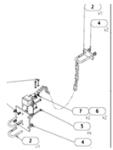
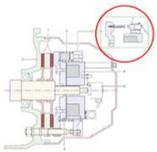
Tower crane

Legend

To ask our suppliers in case of :

 New purchase  2nd hand purchase  Rental

The plant



- Anemometer



- Hoists equipped with brake release sensor and brake pad wear sensor



- Presence detection sensor on counter-jib preventing the lifting winch from operating (to prevent the crane operator from operating when the sensor detects the presence of a person)



- Crane lifting capacity plate at the bottom of the crane



- Air conditioners in electrical cabinets to prevent accumulation of condensation on frequency inverters



- Anti-rotation cable



EQUIPMENTS STANDARDS

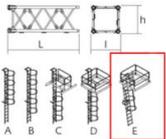
Tower crane

Legend

To ask our suppliers in case of :

 New purchase  2nd hand purchase  Rental

The operator



- “Man down alert” safety device for cabin operators



- Cabin indicator : in the case of exceeding the maximum load limit or the moments due to the loads



- Inclined ladders + landings in the mast



- Sunshades + wipers in cabin



The movements

- Radio with crane operator kit : hands-free system (pedal + earphones) for communication with the ground



- Mandatory use of an anti-collision system and management of interferences as soon as there are 2 cranes working in the same area



- Shunt box at the bottom of the crane, which can be controlled by the lifting supervisor





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PLANTS & EQUIPMENTS STANDARDS

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Derrick crane

EQUIPMENTS STANDARDS

Derrick crane

Legend

To ask our suppliers in case of :

 New purchase  2nd hand purchase  Rental

Derrick



- Crane lifting capacity plate at the bottom of the crane
- Brake opening and brake wear sensor
- Anemometer
- Mechanical locking system for the electronic load monitoring system (e.g key box)



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PLANTS & EQUIPMENTS STANDARDS

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Construction hoists /
elevators

EQUIPMENTS STANDARDS

Construction hoists / elevators

Legend

To ask our suppliers in case of :

 New purchase  2nd hand purchase  Rental

Bottom section



- Base fence height of 2m



- Bottom landing doors with electro-mechanical interlocking system and door opening



- Emergency stop button

- Bottom final limit switch and overtravel limit switch

- Absorber/buffer at lower end of the mast

- Key switch for electrical lockout (switch off supply to the elevator)



- Call button



- Lockable access to the lockout power switch

EQUIPMENTS STANDARDS

Construction hoists / elevators

Legend

To ask our suppliers in case of :

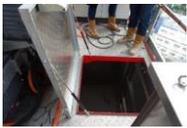
 New purchase  2nd hand purchase  Rental

Elevator car



- The floor must be designed for loads resistance, non-slip and must allow water to flow off freely

- Walls must extend over the entire height between the floor and the roof, whilst gaps must not allow a 25mm diameter ball from passing through



- Having a non-skid roof



- Control panel with emergency stop button



- Elevator car doors with electro-mechanical interlocking system and door opening sensor

- Load safety

- Overspeed protection device with stop-fall brake, with rack and pinion gear separate from the power unit



- Gear rack sensor

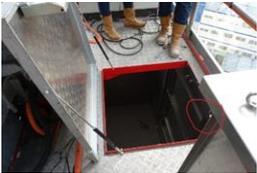
EQUIPMENTS STANDARDS

Construction hoists / elevators

Legend

To ask our suppliers in case of :

 New purchase  2nd hand purchase  Rental



Elevator car



- Roof access hatch opening sensor
- Fold-up with electro-mechanical interlocking system and opening detection if the fold length >15cm
- Access ladder to the roof
- Intercom or telephone connection
- Access hatch to the roof
- Roof equipped with guardrails
- Roof control box equipped with an emergency key stop switch and double hold-down to activate an order (1 ascend control button + 1 descend control button + 1 validation button)



EQUIPMENTS STANDARDS

Construction hoists / elevators

Legend

To ask our suppliers in case of :

 New purchase  2nd hand purchase  Rental

Elevator car



- Reduction of movement speeds when activating the roof control box or when activating an “erection” mode (when the roof control box or an erection mode is activated, other control options and call button are turned off)
- Electric motor with manual braking device
- Roof swing jib with mechanical locking and position sensor
- Extinguisher
- Elevator car lighting with back-up power supply
- Operating instructions
- Safety instructions and what to do if the elevator stops

EQUIPMENTS STANDARDS

Construction hoists / elevators

Legend

To ask our suppliers in case of :

 New purchase  2nd hand purchase  Rental

Masts



- Fasteners and anchor bolts class 8.8 minimum with locknut or double nuts

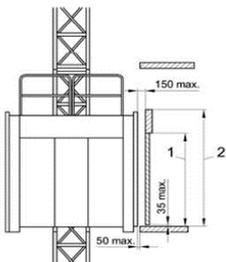
On each floor



- Landing doors with full height of 2m with electro-mechanical interlocking system and door opening sensor

- Call button with emergency stop

- Maximum dimensions (mm) to be taken into account (see picture on the leftside)



Top section



- Upper final limit switch and overtravel limit switch
- Last mast section in red color and without gear rack



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PLANTS & EQUIPMENTS STANDARDS

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Mobile crane

EQUIPMENTS STANDARDS

Mobile crane

Legend

To ask our suppliers in case of :

 New purchase  2nd hand purchase  Rental

Mobile crane



- Provide spreader plates / outrigger pads adapted to the crane model (following manufacturer's data)
- Provide plates storage tray
- Provide slings adapted to the capacity of the crane
- Anemometer
- Mechanical locking system for the electronic load monitoring system (e.g key box)
- External warning (light or sound) in the event of neutralization of the state of charge control
- Crawler crane : special vigilance on adequacy of stabilizers and ground recovery capacity



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PLANTS & EQUIPMENTS STANDARDS

11



Site machinery

EQUIPMENTS STANDARDS

Site machinery

Legend

To ask our suppliers in case of :



New purchase



2nd hand purchase



Rental

All types of machinery



- Flashing light and reverse-beep

Telescopic forklift-truck



- Aggravating movements arrestor system
- Automatic tilt correction on inclined surfaces system
- Cabin with rollover protection systems (ROPS) and falling material protection systems (FOPS)
- Seat equipped with safety seatbelt
- Accessory : lifting jib (if using the trolley for lifting)
- External warning (light or sound) in the event of neutralization of the state of charge control

