



BYCN GUIDELINES

POWERED PRODUCTION EQUIPMENT

we  life

JULY 2025

BOUYGUES
CONSTRUCTION

Summary



1 Objectives and Scope

2 Lines of Defence

3 Life Saving Rules

A background image showing a line of industrial workers wearing orange hard hats and high-visibility safety vests. The workers are in profile, looking towards the right. The image is slightly blurred, with a white circular graphic element overlaid on the right side.

1

Objectives and Scope



Objectives

The objective of this document is to describe Bouygues Construction's requirements for **controlling risks related to the use of powered production equipment.**

It applies to all Bouygues Construction sites, irrespective of the party performing the work including:

- Internal employees
- External partners
- Subcontractors.

In the context of JV projects, specific project procedures include at least the provisions described in this document, as well as the non-contradictory provisions of our partners. They are adopted prior to launching production.

Lines of Defence and Life Saving Rules mentioned in these guidelines are to be **part of Unique Operational Manuals** established by each BYCN Entity / Business Unit.

In instances where any part of this document conflicts with or is of a lower standard than local regulations, the more stringent local regulations will take precedence.

Each BYCN Entity / Business Unit **inform and train their personnel** on the content of their Unique Operational Manual to maintain a high standard of safety and operational efficiency.

SCOPE



ALL POWERED MACHINES AND EQUIPMENT THAT INVOLVE A RISK OF:

Cutting



Crushing or dragging



Non-exhaustive list

SCOPE



INCLUDING



Production machinery in workshops and on building sites

Production machinery and “Major” equipment (tunnelling machines, concrete batching plants, conveyors, etc.)

Portable electrical equipment and tools

Maintenance activities on workshop machinery and site equipment (mixers, heavy equipment, site machinery*, portable power tools, etc.).

EXAMPLES

Wood and concrete saws, Circular saw, table saw, grinder, Surfacers, Mixer and blender, Bending machine, Hydraulic pumps, Hydraulic cylinders, Injection moulding machines, Concrete plant, Conveyor, Tunnelling..

Non-exhaustive list



EXCLUDING



Risks associated with the use of hand tools

(hammers, crowbars, pliers, etc.), manual and electric screwdrivers and drills.

Risks associated with the use of site machinery used for lifting

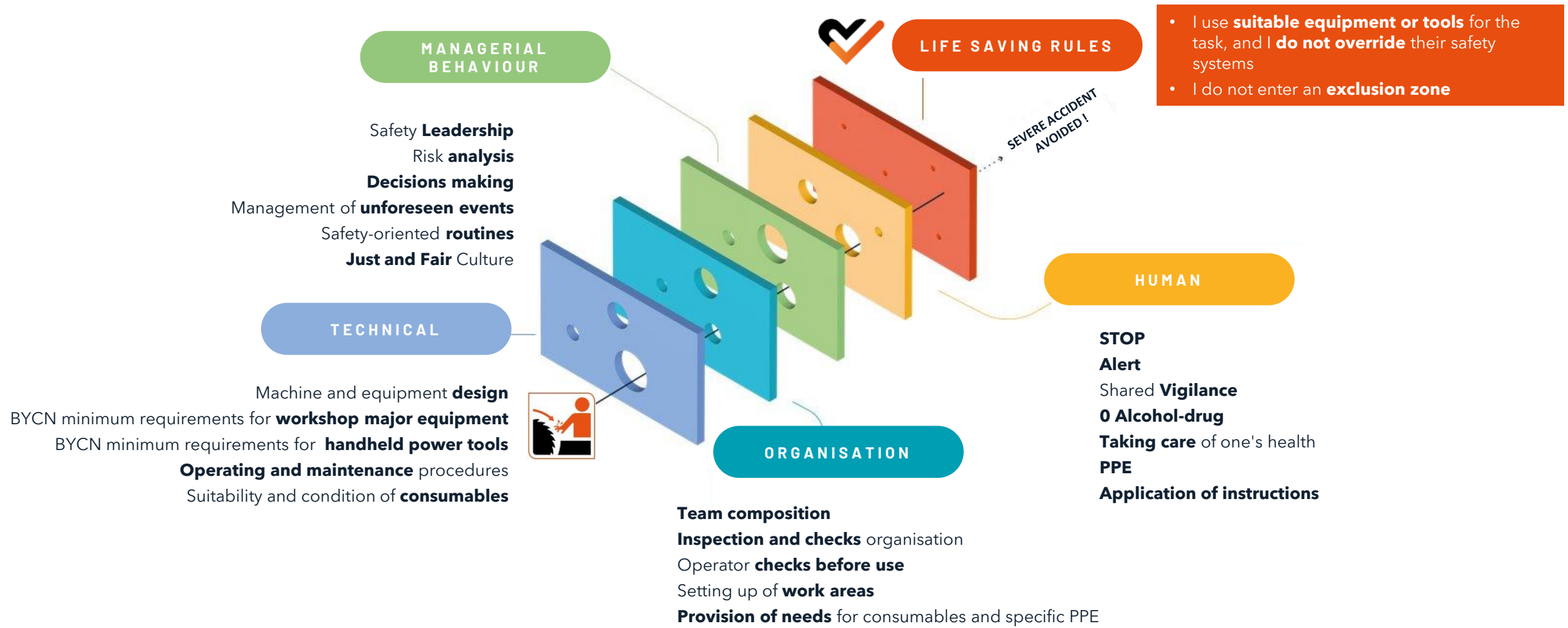
(loads or people), shovels, pallet trucks, etc. (excluding maintenance activities).

2

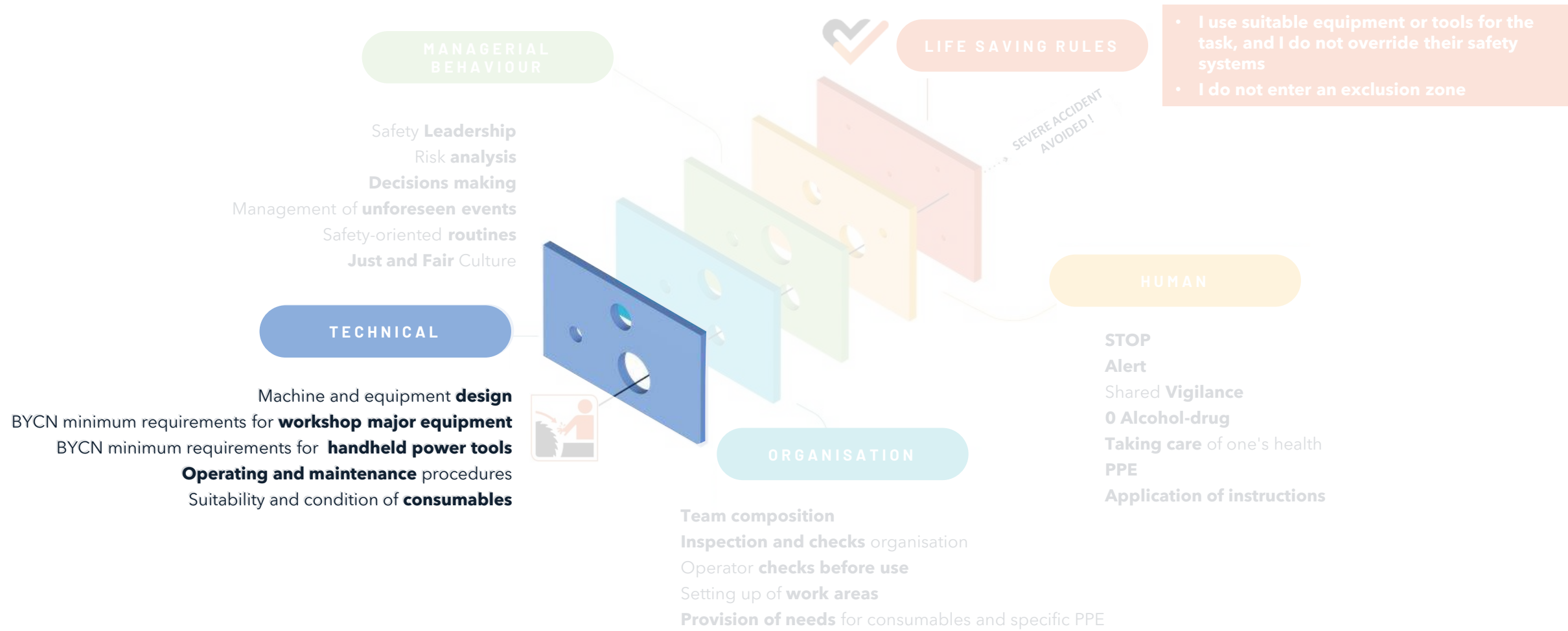
Lines of Defence



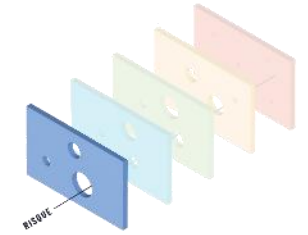
LINES OF DEFENCE POWERED PRODUCTION EQUIPMENT



LINES OF DEFENCE POWERED PRODUCTION EQUIPMENT



LINES OF DEFENCE POWERED PRODUCTION EQUIPMENT

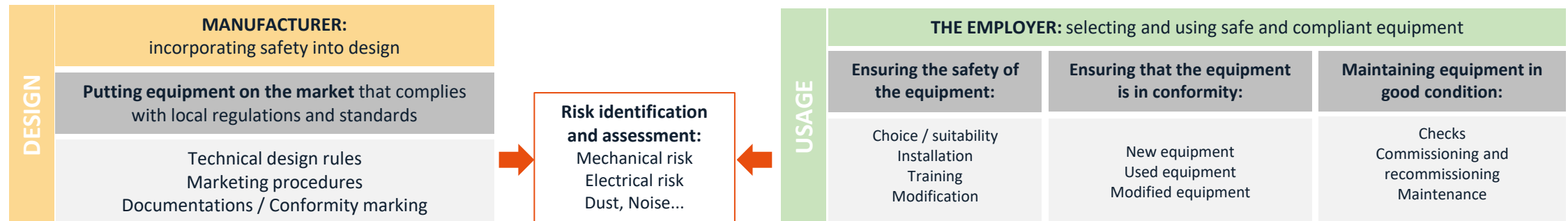


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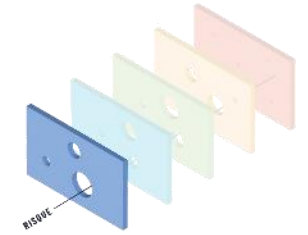


Machine and equipment design

- To avoid exposing operators to the risk of accidents or occupational illness, machines and equipment are designed, selected and used in compliance with the legal requirements and standards of each country, considering BYCN requirements as a minimum standard:



LINES OF DEFENCE POWERED PRODUCTION EQUIPMENT

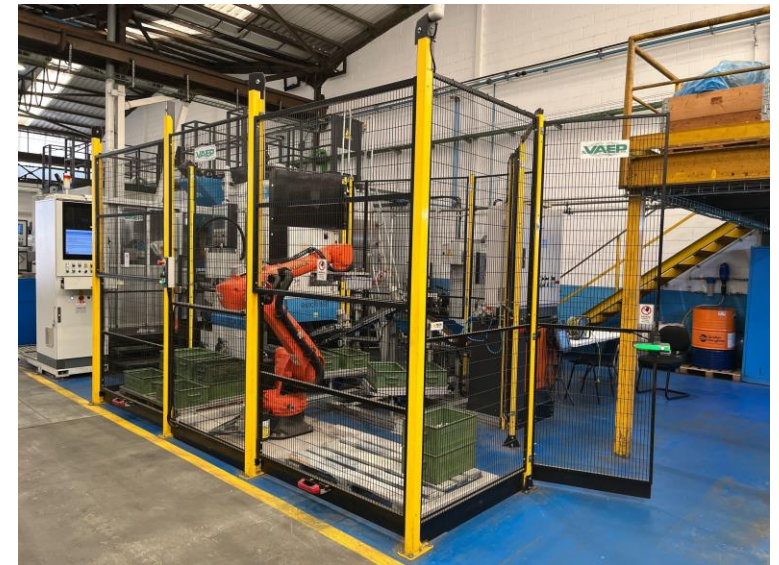


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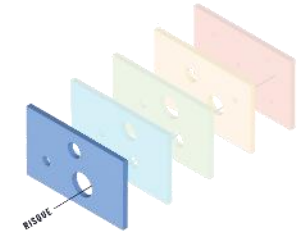


BYCN minimum requirements for workshop major equipment

- **For each piece of equipment, the moving parts present no risk to the operator or are fitted with appropriate guards and/or protective devices:**
 - no access to moving parts.
 - fixed guards, or movable ones (doors, covers, etc.) when access to the zone is frequent.
 - protective devices preventing access to hazardous areas (light curtains, specific controls, etc.).
 - adjustable guards, to limit access to moving parts of machines requiring operator intervention while they are operated (e.g., bandsaw blade).
- **Controls (push-buttons, levers, pedal-keyboards) are designed to prevent accidental operation.**
- **All the commands are labelled in understandable language by the operator.**



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BYCN minimum requirements for workshop major equipment



- **Start/stop modes**
 - Commissioning can only be carried out voluntarily.
 - Each workstation is equipped with an operating device enabling it to be safely shut down.
- **Electricity: direct contacts**

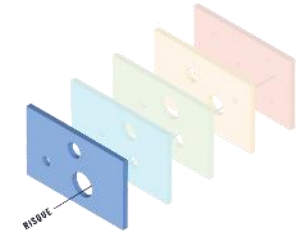
No live parts accessible, no intervention on a connected machine.
- **Hazardous materials or substances**

If hazardous materials or substances are emitted by the equipment or using equipment, capture devices are in place (wood or silica dust, welding fumes, etc.).
- **Extreme temperature**

Measures are taken to avoid the risk of burns (obstacles or insulating elements).
- **Accessibility**

Safe access is ensured, and all movements or intervention is necessary during operation, adjustment and maintenance of the machine.

LINES OF DEFENCE POWERED PRODUCTION EQUIPMENT



TECHNICAL



BYCN minimum requirements for handheld power tools



POWER TOOLS OFFICIAL BYCN GUIDELINES



BOUYGUES
CONSTRUCTION Shared innovation

- **Compliance**

CE certificate and compliance with local regulation.

- **Weight**

Weights are given for the tools, without consumables (unless specified). The goal is to provide tools as light as possible.

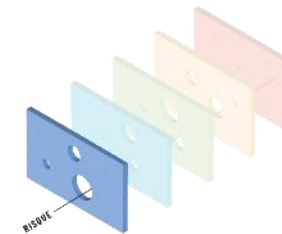
- **Gripper system**

- Handles and grip surface allowing a good power grip.
- The ergonomic grip makes the tool comfortable to work with, without excessive demand for the wrist (no twisting of the wrist or awkward postures).
- Non-slip grip (Soft-Grip).

- **Vibration**

- Vibration value level, must be as close as possible to 2,5 m/s².
- The value must not exceed 10m/s² (maximum cumulative use of 2 hours per day).
- Triaxial vibration value must be specified by the supplier and compliant with applicable standards.

LINES OF DEFENCE POWERED PRODUCTION EQUIPMENT



TECHNICAL



BYCN minimum requirements for handheld power tools



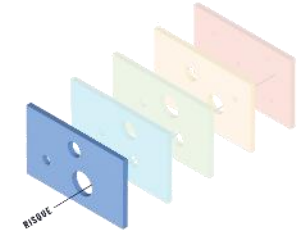
POWER TOOLS OFFICIAL BYCN GUIDELINES



- **Protection against electrical shocks**
Class 2, except for coring tool (class 1).
- **Protection against dust**
Tools are fitted with comp source dust capture system.
- Certain groups of equipment require additional protection. These are identified in the BYCN power tools catalogue (appendix 1).
- **Sound exposition level**
 - Sound exposition level, related to a base period of 8 hours, do not exceed 80 dB (A), PPE included.
 - Values are specified by the supplier and compliant with applicable standards.
- **Protection rating**
Protection rating 20, except for coring tools - PR55.
- **Safety features**
According to the type of tools: dead man's switch, quick acting brake system and protective casing (specified for each family).



LINES OF DEFENCE POWERED PRODUCTION EQUIPMENT



TECHNICAL



BYCN minimum requirements for handheld power tools

- Grinders with a diameter of less than 230 mm are prohibited. Only the FEIN 125 grinder is authorized. To substitute the use of 125 grinders, refer to the "Substitution Guide" (appendix 2).



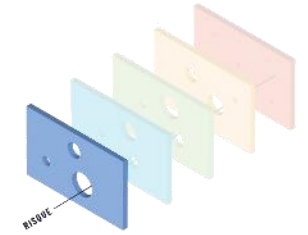
Substitute guide for small angle grinder



WE LOVE LIFE.
WE PROTECT IT.

LINES OF DEFENCE POWERED PRODUCTION EQUIPMENT

TECHNICAL



BYCN minimum requirements for handheld power tools



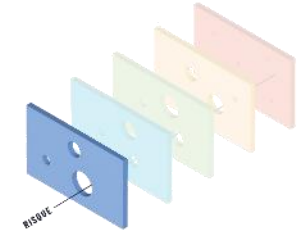
POWER TOOLS OFFICIAL BYCN GUIDELINES



- **Each country identifies handheld power tools by work activity respecting the BYCN minimum requirements:**
 - A steering committee composed of representatives from Health & Safety, Equipment and Purchasing define, based on the needs expressed by our operation teams, a catalogue of recent, safe, ergonomic products suited for the expressed needs.
 - The committee is responsible for updating the catalogue.
- If it is necessary to use a machine outside the country catalogue due to a specific need or technical impossibility, a derogation procedure must be put in place.

The site manager will draw up an exemption based on a full risk analysis and a specific operating procedure validated by the **business unit's Health & Safety manager**. At the end of the shift, the machine will be locked up so that it does not remain in "self-service".

LINES OF DEFENCE POWERED PRODUCTION EQUIPMENT

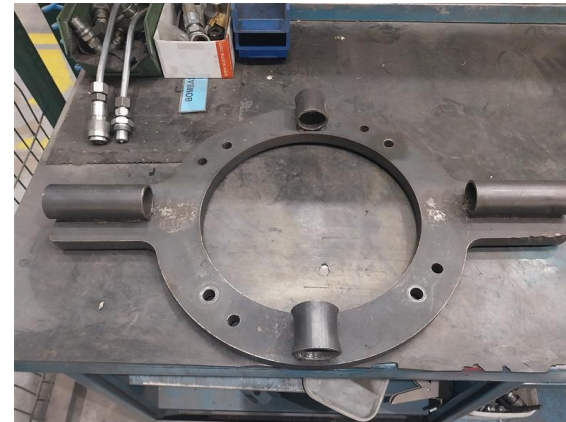


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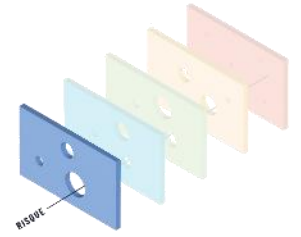


Operating and maintenance procedures

- Operating and maintenance procedures are defined, and address the following:
 - No maintenance work on a running machine.
 - The machine or equipment is fitted with clearly identified and lockable devices to isolate it from all sources of energy.
 - Wherever possible, adjustment and maintenance points are located outside hazardous areas.
 - Need to follow method maintenance according to designer and supplier instructions.
- If specific tools or auxiliary structures are requested for maintenance, this is defined and approved in advance (by Technical Department).



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TECHNICAL



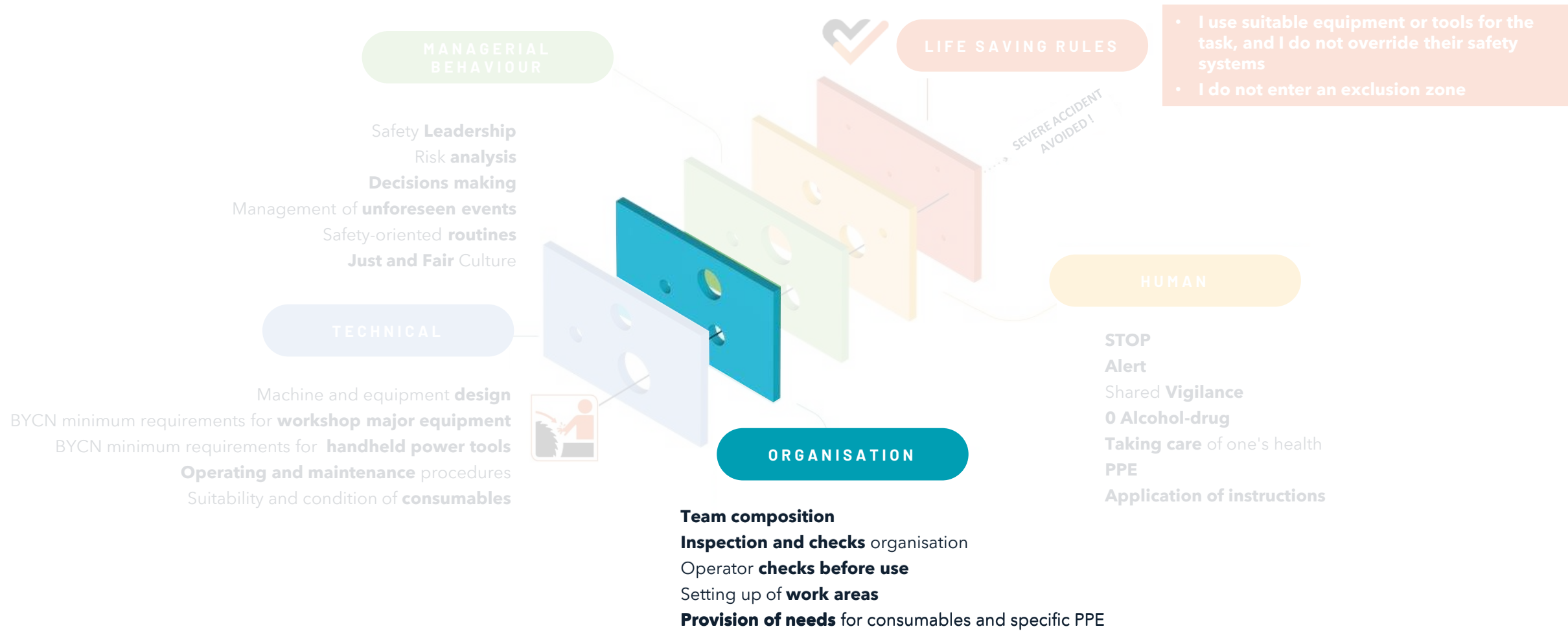
Suitability and conditions of consumables

Consumables are adapted to each equipment and in good condition:

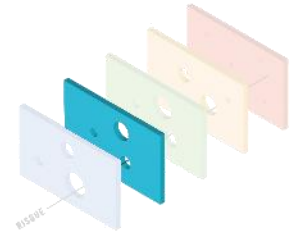
- Components used are in accordance with the manufacturer's technical documentation (choice of consumables, speed, etc.).
- Storage conditions prevent any deterioration of consumables.
- Cutting disks are 3.2 mm thick.



LINES OF DEFENCE POWERED PRODUCTION EQUIPMENT



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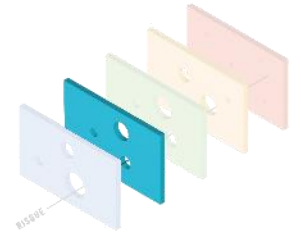
ORGANISATION



Team composition

- All the operators complete training before using any powered production equipment. **Unqualified staff do not take part.**
- This training provides all the safety instructions related to **the checking, the use and the upkeep** of the equipment in good condition.
- **This training is facilitated by a competent person, either in-house or externally** (manufacturer for instance), in accordance with the applicable local regulations.
- Training evidences are recorded for self production and temporary workers.

LINES OF DEFENCE POWERED PRODUCTION EQUIPMENT



ORGANISATION



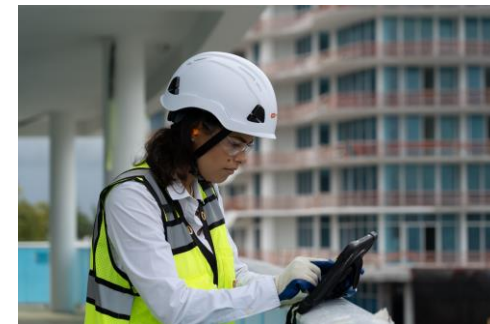
Inspection and checks organisation

- All powered production equipment are **inspected by a competent person** from within or outside the company, in accordance with local regulations or standards.
- The project manager ensures the conformity of production powered equipment putting in place the appropriate organisation to **check the good state of conservation** of these equipment.

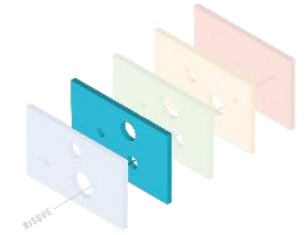


Operator checks before use

- Beyond checks organized at project level, **operators check before any use** that their equipment is in good working order (electrical cable, safety system in place and functional, condition of accessories and consumables).
- **In the case they detect a default**, the equipment is shut down, taken out of production and identified as faulty by appropriate signage.



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ORGANISATION



Setting up of work areas

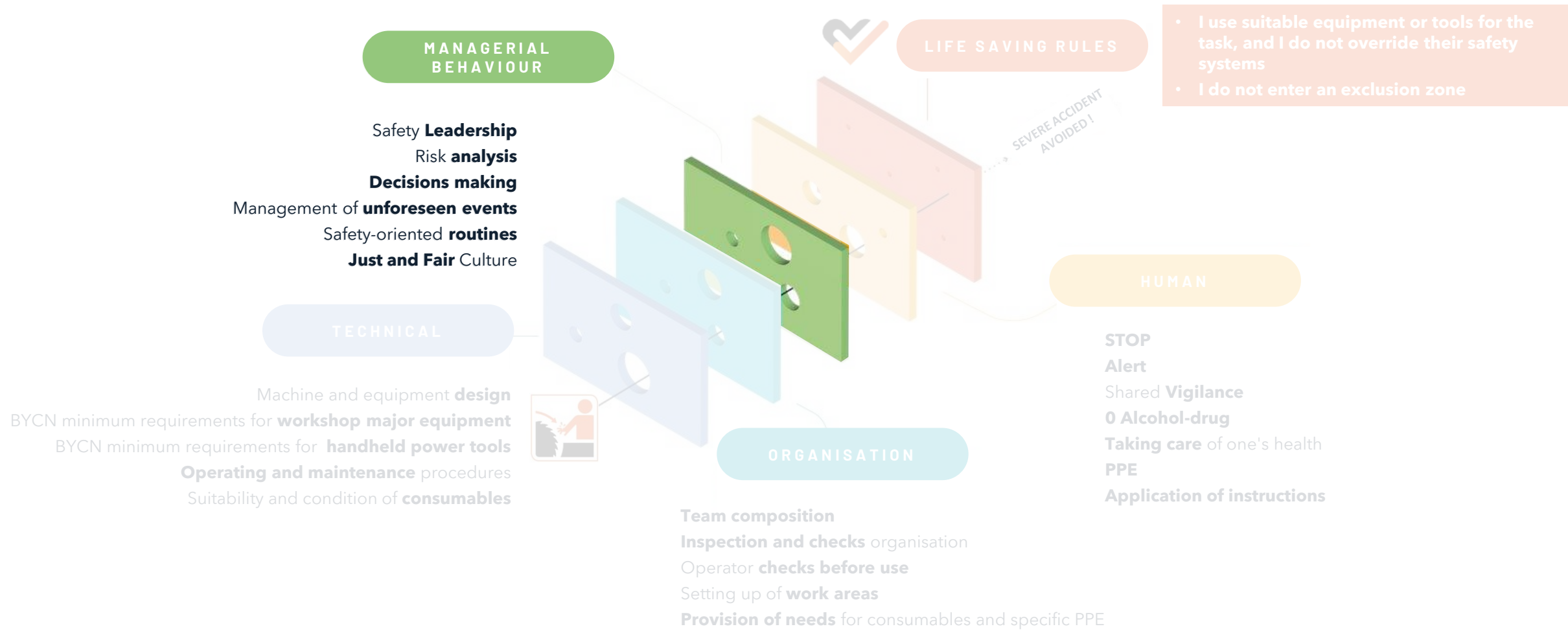
- Work areas are set up to take account of the task environment, and enable **work with stable postures**
- Operators are provided with **screens** in the event of projection risks, **smoke or dust collection systems** or any other safety devices.
- Workbenches and vacuum cleaners adapted to the work and to each type of equipment, will be made available to operators for **mobile workstations**.
- In workshops, **exclusion zones** are marked around major equipment with access reserved to authorized persons only.



Provision of needs for consumables and specific PPE

- For each powered production equipment, the **types of required consumables and specific PPE are identified and made available** on site in sufficient quantities.
- Stocks of **consumables** are subject to regularly **checks as for their condition** (expiry date, wear and tear, damage, etc.).

LINES OF DEFENCE POWERED PRODUCTION EQUIPMENT



LINES OF DEFENCE POWERED PRODUCTION EQUIPMENT



MANAGERIAL BEHAVIOUR



Safety Leadership

- Works Managers, Supervisors and Managers **carry out visits as Safety Leaders**
 - Focusing on Major Risks,
 - Engaging with people,
 - Saying STOP in the case of deviations,
 - Applying the Five Stars method.
- All managers and stakeholders on the and visiting the site **respect and apply the organizational rules.**

ENG

fivestars
safety intervention tool

REINFORCING SAFE BEHAVIOUR

Start intervention

- ★ Intervene **calmly** and **firmly**
- ★ Open conversation

Hello, (Mark) I was on my way to...

Target the act

- ★ Describe what you see

*I notice you are (wearing)...
I see the area is (tidy)...*

Agree approved methods

- ★ Confirm approved methods

(Wearing)...is exactly what is required

Reinforce safe behaviour

- ★ Show why this behaviour is positive

You're setting an excellent example to the new members...

Self-impact

- ★ Ask what are the positive consequences for them personally
- ★ Give an example

*What's the benefit for you...
Yesterday I heard a case of someone who didn't (wear)...and he...*

Every situation is different, Every person is different, Adapt to the situation and the individual.
© LHS Foundation

ENG

fivestars
safety intervention tool

DEALING WITH AN UNSAFE ACT

Start intervention

- ★ Intervene **calmly** and **firmly**
- ★ Open conversation

Hello, (Mark) I was on my way to...

Target the act (not the person)

- ★ Describe what you see avoiding judgement of the person

*I notice you are not (wearing)...
I see the area is (untidy)...*

Agree approved methods

- ★ Ask the person to describe how the task should be done safely
- ★ Inform them of approved methods

*What is the procedure for...?
As you know,...are required...*

Reason behind unsafe behaviour

- ★ Get them to explain why they were acting in this way
- ★ Listen and show you have understood
- ★ Ask them to identify solution

*Why are you (not wearing)...?
I see, if I understand you...
What can be done to (resolve)...?*

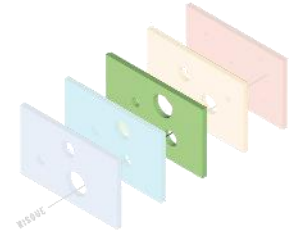
Self-impact

- ★ Ask how the negative consequences of this behaviour can impact on them
- ★ Give an example

*What could happen if you don't (wear)...?
And how would that impact on (your family)...?
For example, I saw a safety alert that...*

Every situation is different, Every person is different, Adapt to the situation and the individual.

LINES OF DEFENCE POWERED PRODUCTION EQUIPMENT



MANAGERIAL BEHAVIOUR



Risk analysis

- Project Managers ensure that:
 - Powered production equipment
 - Consumable
 - Work areas

are designed and updated taking into consideration risks analysis.

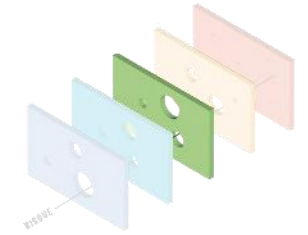


Decision making

- Project managers make decisions taking into consideration potential impacts on:
 - Powered production equipment and associated consumables to be used
 - Work areas

They put in place mitigation measures accordingly.

LINES OF DEFENCE POWERED PRODUCTION EQUIPMENT



MANAGERIAL BEHAVIOUR



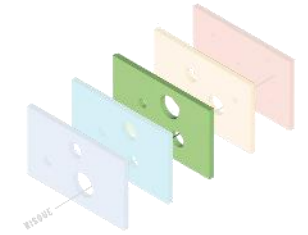
Management of unforeseen events

Project managers create favourable conditions for the safe management of unforeseen events, by:

- Identifying these situations and training their teams to identify them,
- Encouraging team members to bring these situations to their attention,
- Stopping activities for the necessary time to define ways to resume work safely,
- Creating an environment that stimulates questioning and collective thinking,
- Collectively analysing the situation safety wise, relying on support services and/or their hierarchy, if necessary,
- Prioritizing safety in decision-making,
- Communicating the chosen solution to their teams and any additional measures put in place,
- Sharing the encountered situations and decisions made to improve the company's processes, if applicable.



LINES OF DEFENCE POWERED PRODUCTION EQUIPMENT



MANAGERIAL BEHAVIOUR

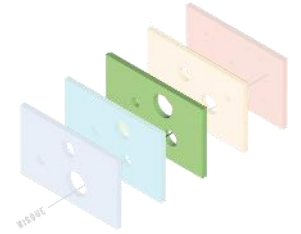


Safety-oriented routines

- Every management meeting starts with a safety focus
- Before starting work, the team leader organizes the daily warm-up
- Briefing/debriefing:
 - Before starting work, the team leader gathers the team (including temporary workers) for a short debriefing/briefing. He questions and reviews the activities of the previous day.
 - They review the tasks to be performed, including potential risks protection measures in place. The leader ensures that everyone understands their role and responsibilities and has the necessary means to work safely.
 - A briefing is also conducted in case of simultaneous activities, including with subcontractors.
- Tool-box meetings are regularly held for Bouygues Construction employees, temporary workers and subcontractors, to share information, encourage feedback, raise awareness about specific risks, and react to situations observed on the site.



LINES OF DEFENCE POWERED PRODUCTION EQUIPMENT



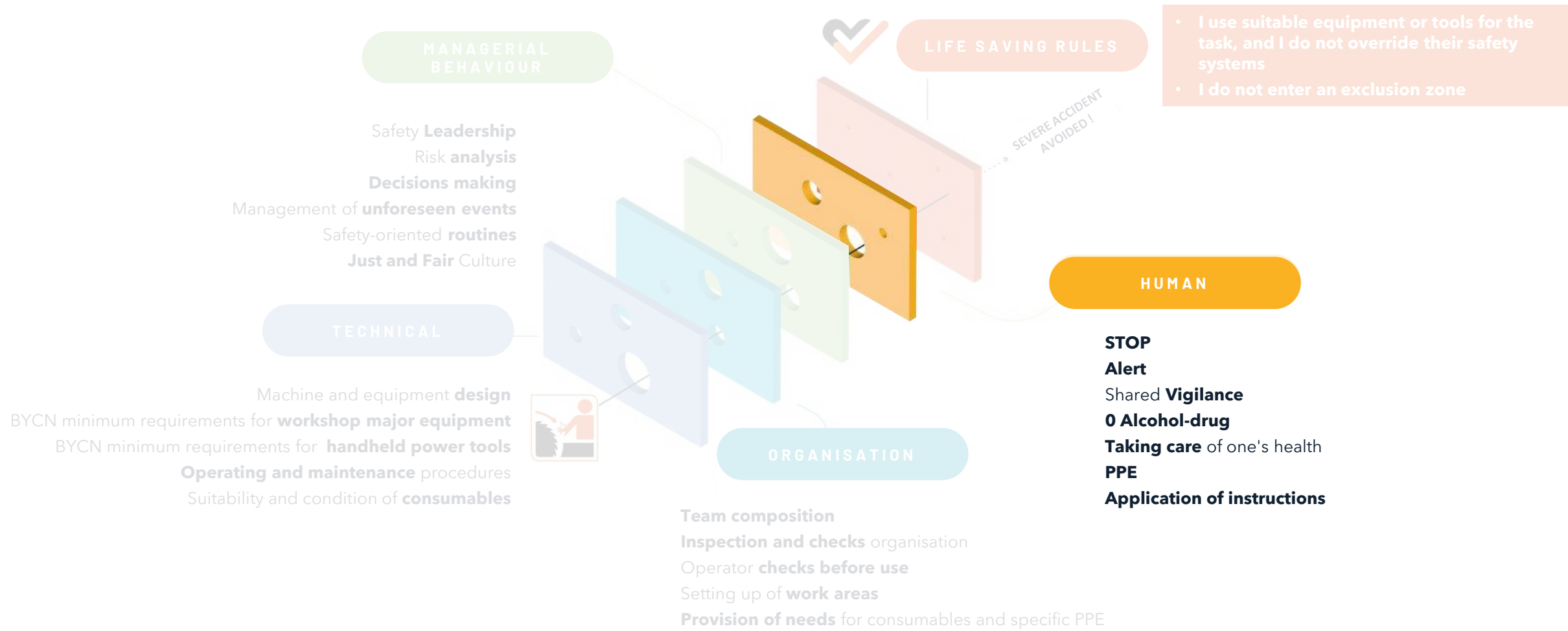
MANAGERIAL BEHAVIOUR



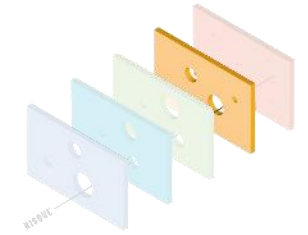
Just and Fair culture

- Project managers apply the Just and Fair referential that has been approved within their perimeter as close as possible to the action (safety visit, incident investigation..):
 - Recognizing expected behaviours
 - Sanctioning unacceptable behaviours
- The reporting of near misses is valued.
- More moderate managerial reactions are issued when investigations following spontaneous near-miss reports highlight unacceptable behaviours, in order to encourage transparency.

LINES OF DEFENCE POWERED PRODUCTION EQUIPMENT



LINES OF DEFENCE POWERED PRODUCTION EQUIPMENT



HUMAN



Stop - Alert

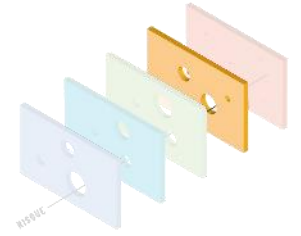
- In a situation that would put themselves or others in danger, **it is everyone's duty to say "STOP" and to ALERT** their management to find a solution to resume activity safely.
- **Everyone respond positively to an alert** that is reported to them.



Shared vigilance

- **Each person acts as a protective factor for their colleague or for the person working around them** by staying attentive and vigilant:
 - towards younger employees and temporary workers who are new to our company,
 - towards a colleague who is less alert or distracted,
 - and by intervening with this person or their management in case of risk.
- **360° or Take 5:** before starting or resuming a task everyone carry out a brief analysis of the working conditions around them, a 360° check, to ensure that no risks are present, that the equipment is adequate, and that they are equipped with the proper PPE to work safely.

LINES OF DEFENCE POWERED PRODUCTION EQUIPMENT



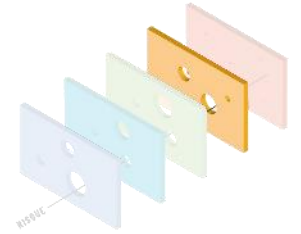
HUMAN



0 alcohol - drug

- **Possession** or **distribution** of drugs or alcohol at work or being under the influence of drugs or alcohol at work is prohibited.
- **Any employee who has any issue with drug or alcohol dependence** is encouraged, at any time, to request support to break the dependence. This support is paid for by the company, without prejudice to the remuneration or career of the employee concerned.
- **Each new temporary worker is tested** on the first day before starting their job.
- **Crane operators and machine drivers are tested** on the first day on site before starting their job, and then quarterly.
- A **random testing campaign** is organized on each project, covering all types of personnel at the workplace.
- **Any employee, subcontractor, temporary worker, on site or in offices can be tested** as part of this campaign, as well as in cases of suspicion or following an incident.
- **Penalties** may be applied to labour agencies and subcontractors whose employees test positive.
- **This constitutes a minimal standard:** the frequency of tests may be increased based on the results of previous tests.

LINES OF DEFENCE POWERED PRODUCTION EQUIPMENT



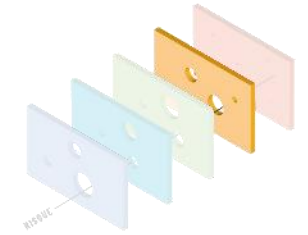
HUMAN



Taking care of one's health

- Adopt **wise principles** with regards to your sleep, diet, and lifestyle.
- **Attend warmup sessions** before starting work.
- **Never lift alone** manually any load weighing more than 25kg.
- Before handling, **make sure that the path is free** from obstacles.
- **Always ensure that proper manual lifting practices** are applied to protect from back injuries.
- **Properly set up your workstation**, seeking advice from ergonomists, doctors, or safety advisors if necessary.

LINES OF DEFENCE POWERED PRODUCTION EQUIPMENT



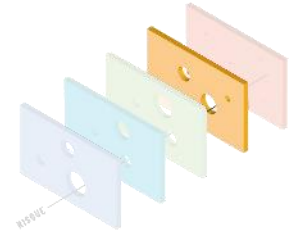
HUMAN



PPE

- **No one access a construction site without wearing the following standard PPE:**
 - Safety helmet with chin strap,
 - Safety spectacles,
 - Safety gloves,
 - Safety boots,
 - High visibility clothing.
- **Always carry hearing protections.**
- **Wearing hearing protection is mandatory** when noise intensity in the environment exceeds 80 dB(A): at a minimum, but not limited to, during hammering work, concrete vibrating, demolition, pumping, injection, and near construction equipment, machines, or power tools.
- **On operated sites** (e.g. premises operated by customers such as plant, factory, buildings under Facility Management contract, apartments occupied by inhabitants, etc), the PPE requirements are adapted to the site and to the risk assessment.
- **The standard PPE is to be complemented by specific PPE** adapted to the nature of the tasks, depending on the results of the risk assessment.

LINES OF DEFENCE POWERED PRODUCTION EQUIPMENT



HUMAN



Application of instructions

- Anybody checks a powered production equipment before using it.
- Use the appropriate equipment selected for the task.

3

Life Saving Rules

LIFE SAVING RULES

POWERED PRODUCTION EQUIPMENT



RISK **POWERED PRODUCTION EQUIPMENT**

- ✔ I use **suitable equipment or tools** for the task and I **do not override** their safety systems
- ✔ I do not enter an **exclusion zone**

IN CASE IT IS IMPOSSIBLE TO RESPECT ONE OF THESE RULES, I « STOP » AND ALERT MY HIERARCHY

Direction
Santé Sécurité Sûreté
DE BOUYGUES CONSTRUCTION

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