BluMEP

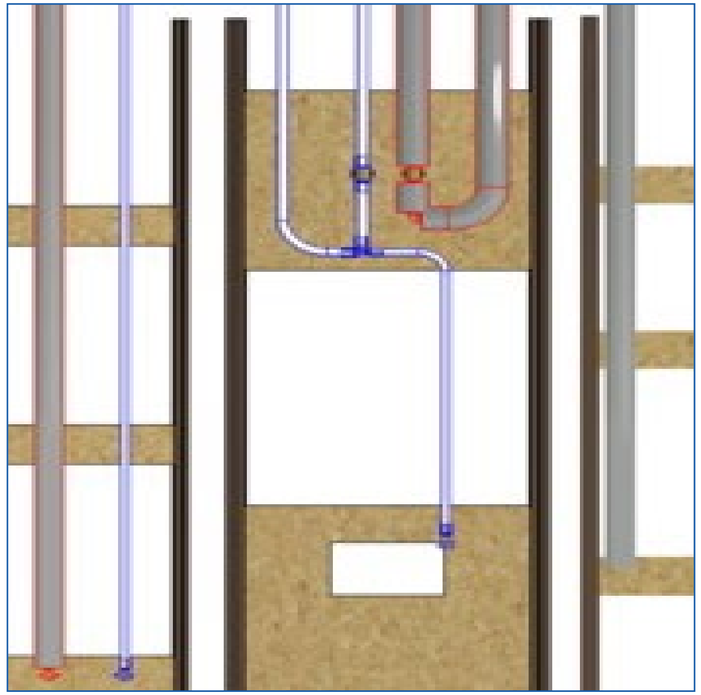
The starter engine of prefabricated MEP modules in Portugal

“You can use an eraser on the drafting table or a sledgehammer on the construction site.”

— Frank Lloyd Wright

BluMEP Products

1. DHW System



2. Infrastructured Plates

3. MEP Racks

1

DHW System

DHW System

A Domestic Hot Water (DHW) System delivers hot water to fixtures used by people at the sink, shower, tub and any other appliance where water may contact humans. This prefabricated product could be implemented on housing or hospitality clients.

DHW System

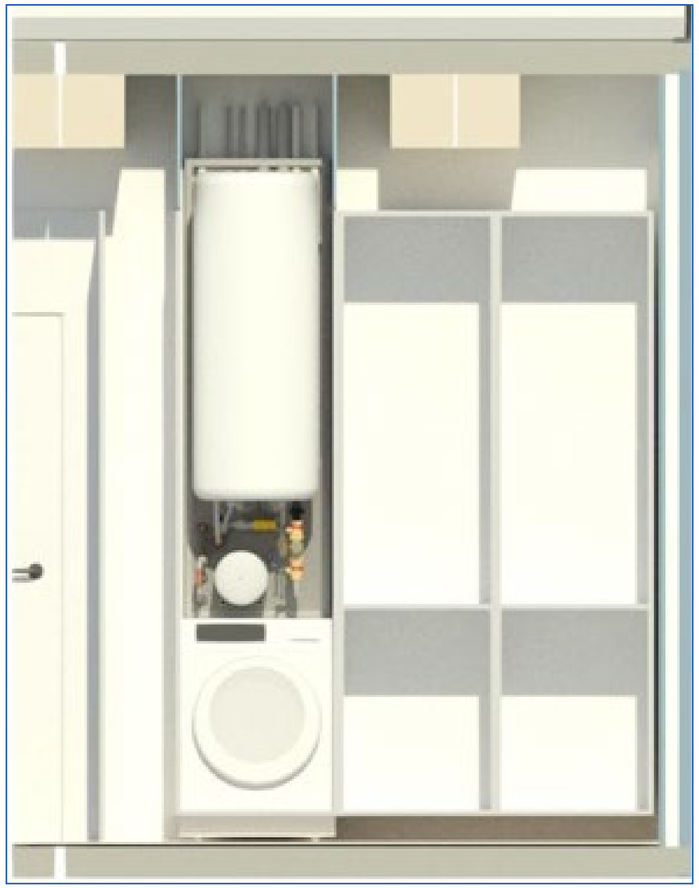


Fig.1 - A Domestic Hot Water (DHW) System delivers hot water to fixtures used by people at the sink, shower, tub and any other appliance where water may contact humans.

2

Infrastructured Plates

Infrastructured Plates

With this prefabricated solution it’s possible to industrialize the assembly of the mechanicals/ electrical infrastructures offsite.

After finished and tested, it could be integrated in the prefabricated bathrooms of Blufab or assembled onsite, easily, saving precious time.

Infrastructured Plates

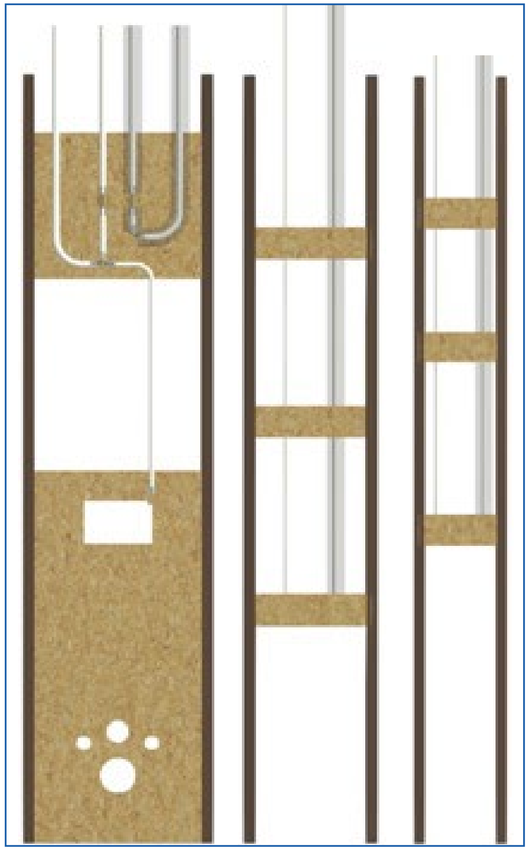


Fig.2 -Infrastructured plates Revit Model

Fig.3 -Hydraulic infrastructure plates on the infrastructure walls on site

Fig.4 -Piping and accessories test bench.

3

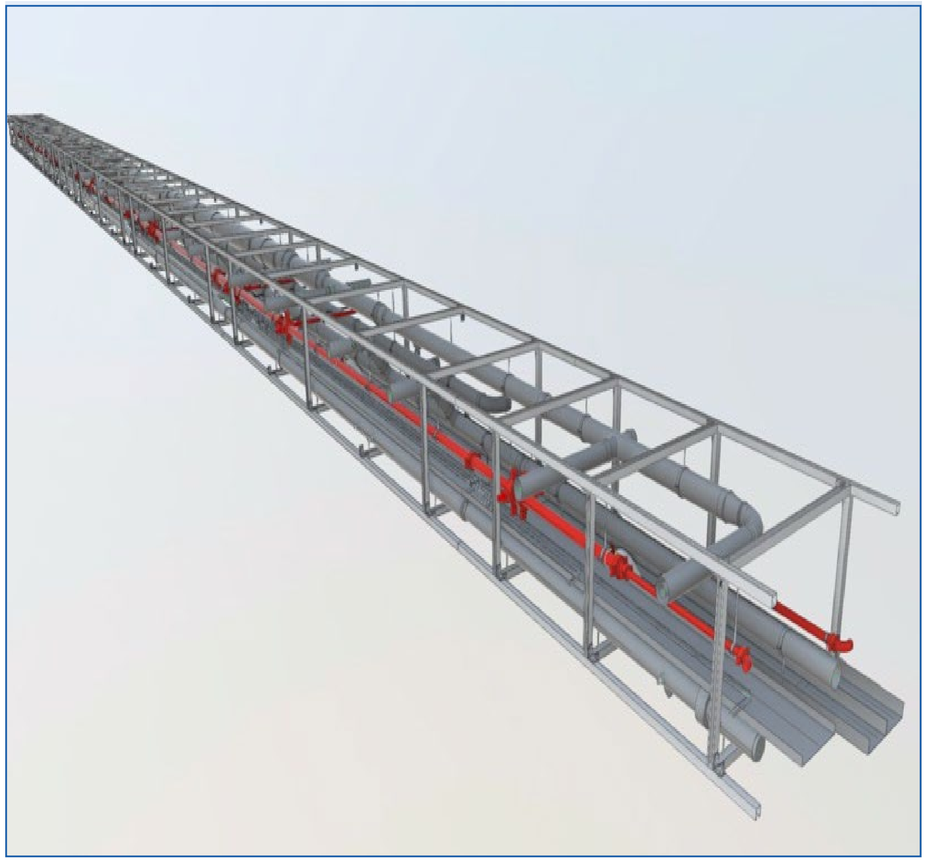
Multi-trade MEP Racks

Multi-trade MEP Racks

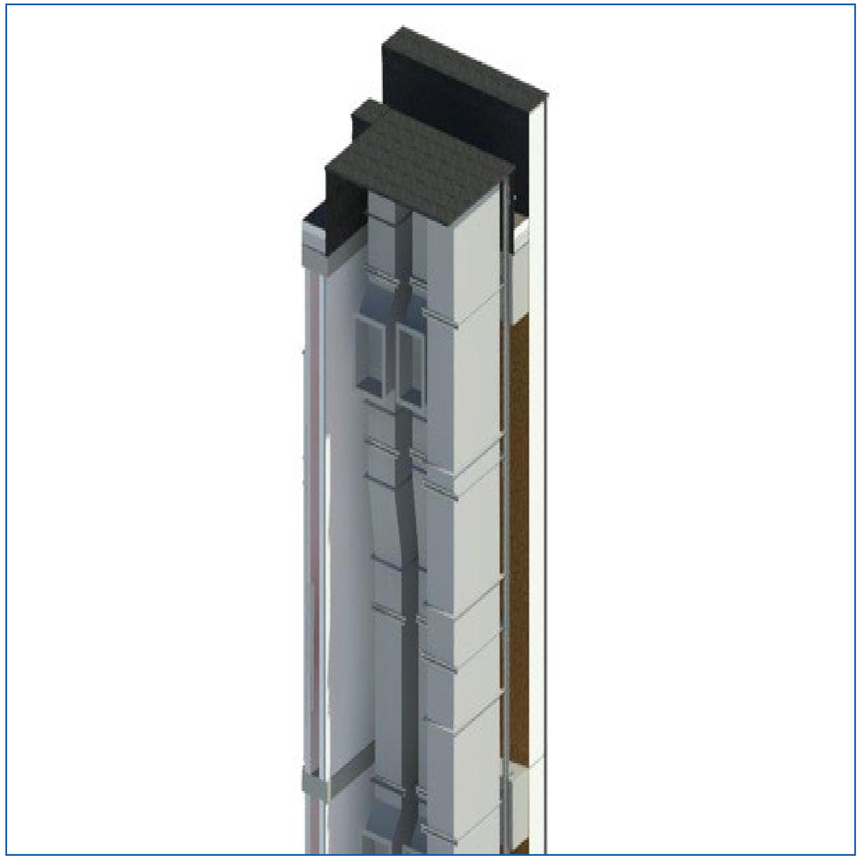
When there is a concentration of MEP infrastructures, it’s possible to introduce the Rack solution.

With this solution, it’s possible to avoid conflicts between the MEP installation companies, when the respective onsite work is being executed – the compatibility off all infrastructure and architecture was already considered, when the model of the rack was planned.

MEP Racking Types



Horizontal Racks



Vertical Racks

Multi-trade MEP Racks

M E P

Mechanical Eletrical Plumbing Systems

MEC: ventilation systems;
MEC: refrigeration system;
HID: hot and cold water supply system;
HID: fire protection system;
ELE: electrical cable tray.

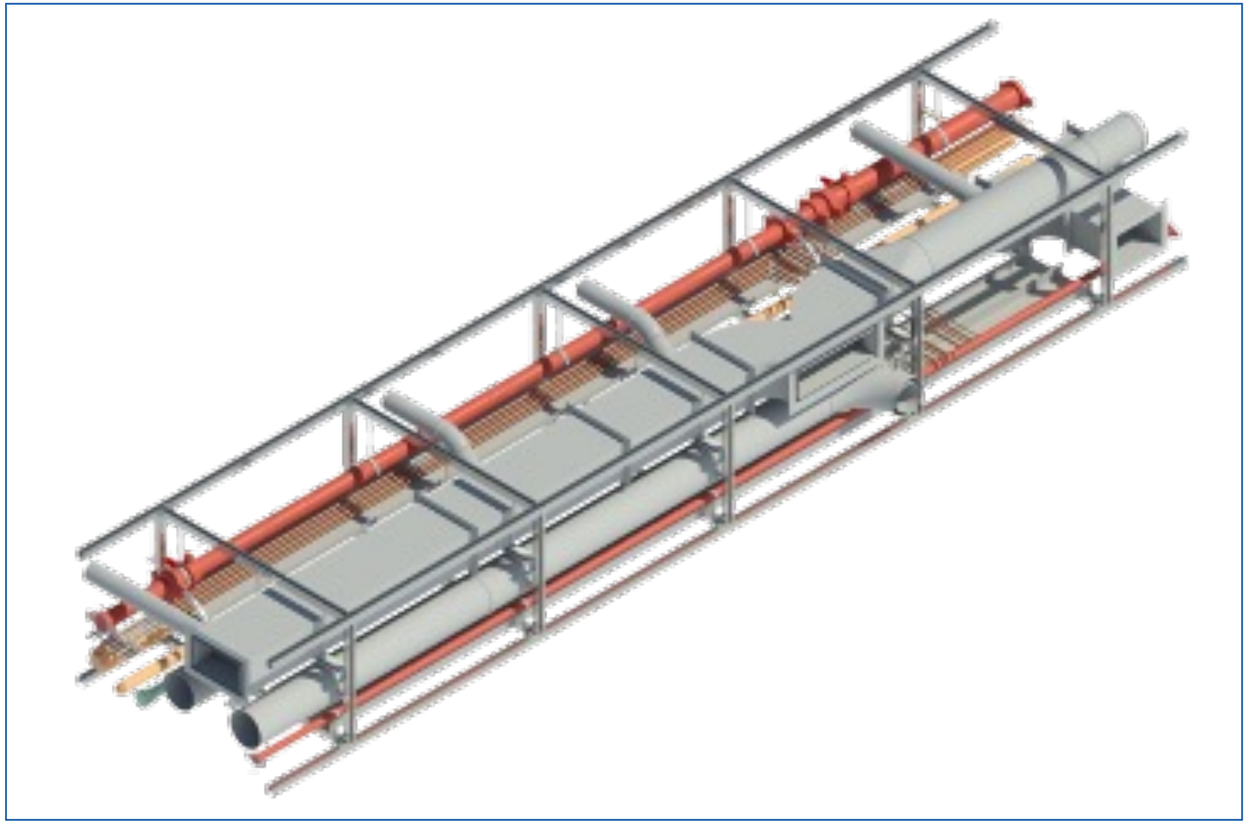


Fig.5 -MEP rack containing all the systems and subsystems that make up the MEP specialties.

MEP Racks Phases

01 Previous Analysis

02 Bim Modeling

03 Manufacturing drawing and BIM, BAM, BOM

04 Fabrication

05 Transportation

06 Installation

01. Previous Analysis

In this early stage, it’s possible to analyze what prefabrication solutions can be implemented in the project – client with consulting and construction companies should be involved.

Fig.6 -BIM collaboration process allows one to share relevant and accurate information with other people, such as designers, managers, stakeholders, and so on.

02. BIM Modeling

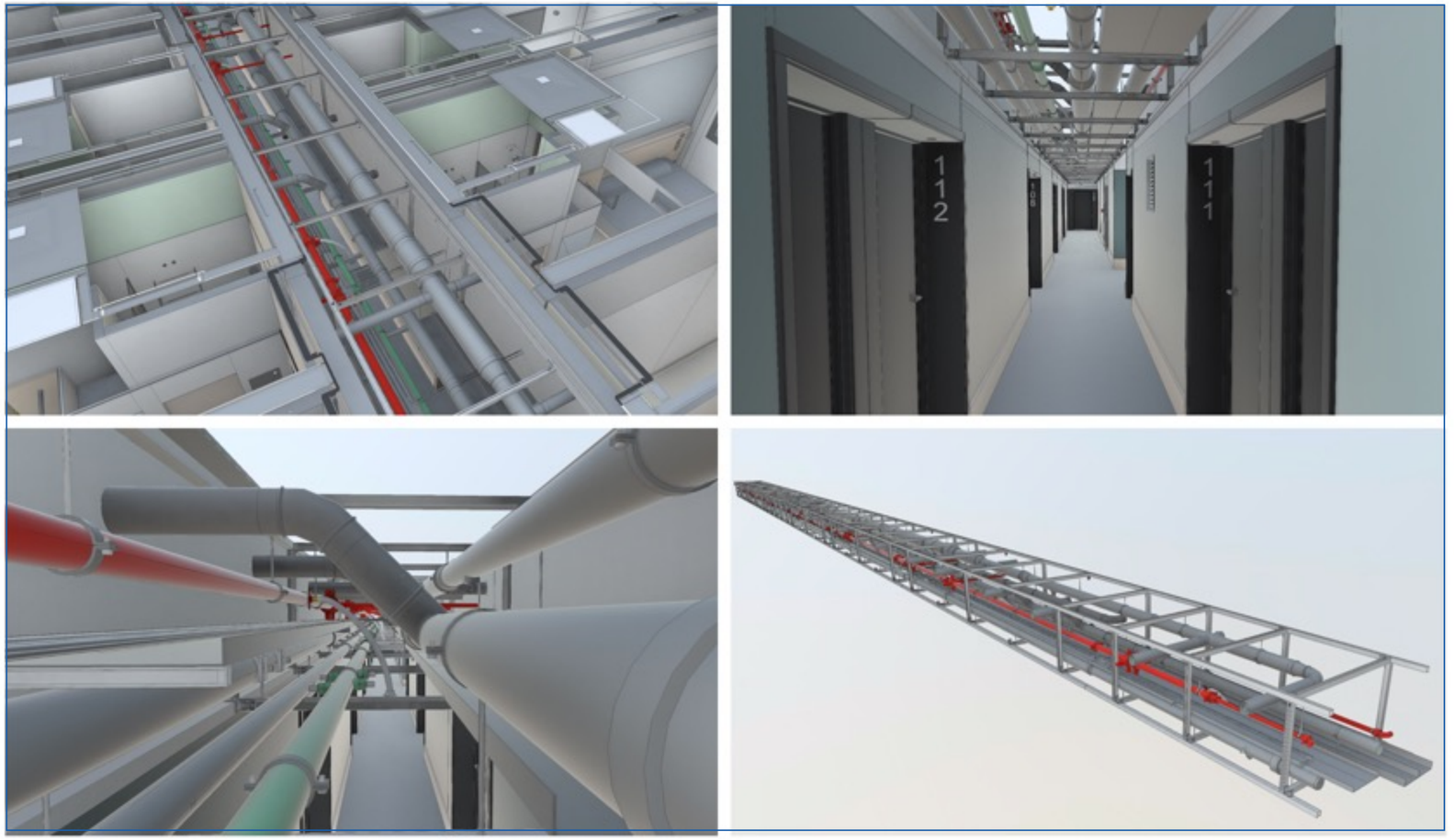


Fig.7 - Details of the incorporation of the horizontal racks in the architecture.

03. Manufacturing Drawing and BIM, BAM, BOM

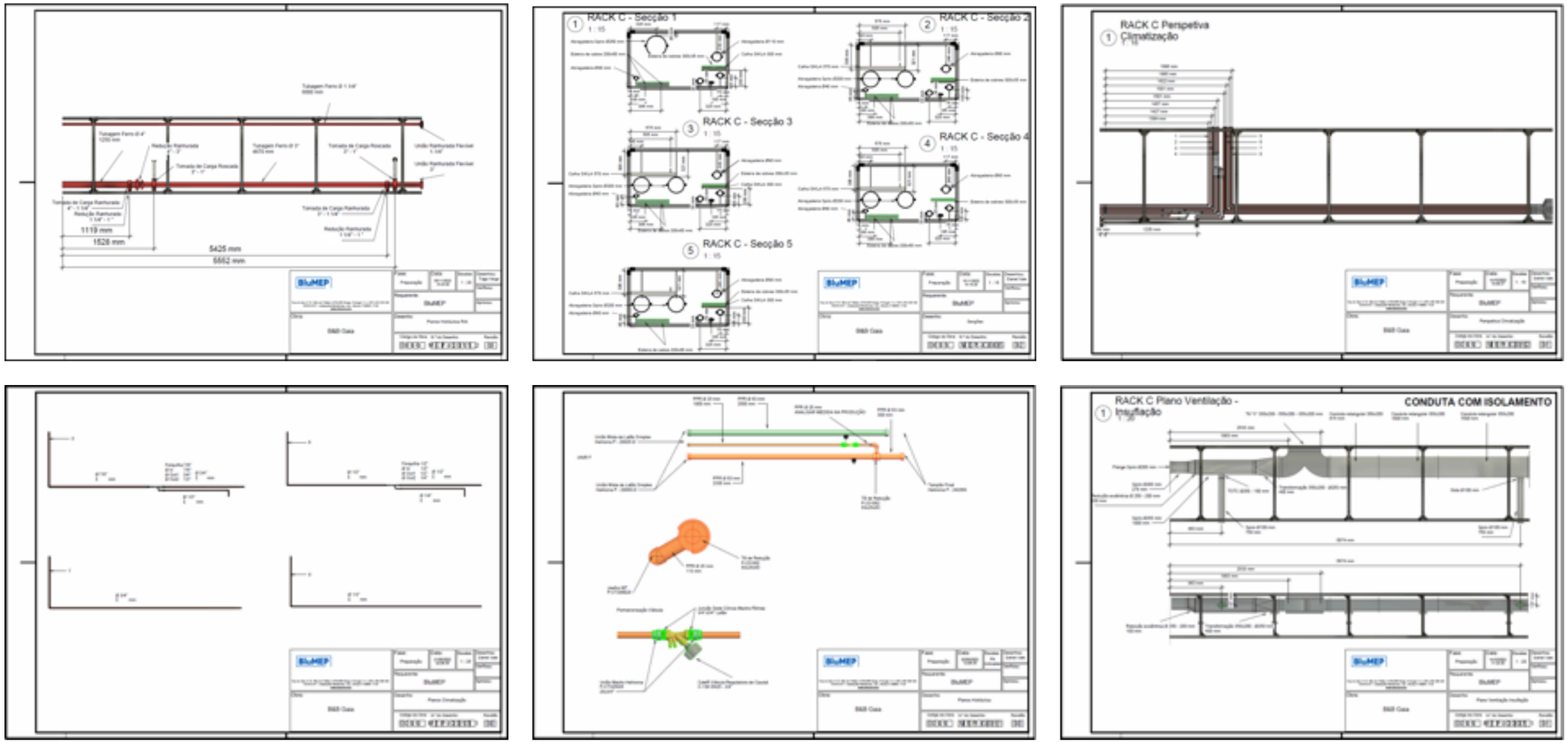


Fig.8 - Manufacturing drawings of different rack systems.

04. Fabrication

Fig.9 - Pipes, cable tray and ducts already assembled on the rack structure.

04. Fabrication

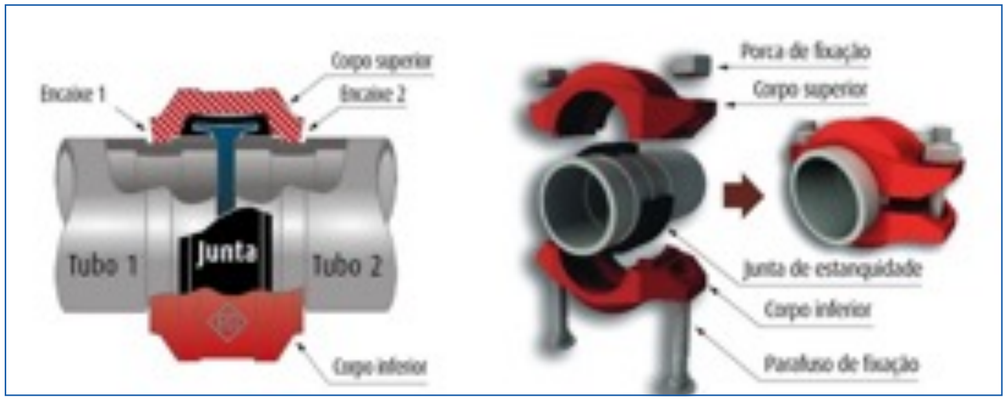


Fig.10 - Operation of Groove Flexible Coupling Pipe Fitting used in the water supply system against fires.

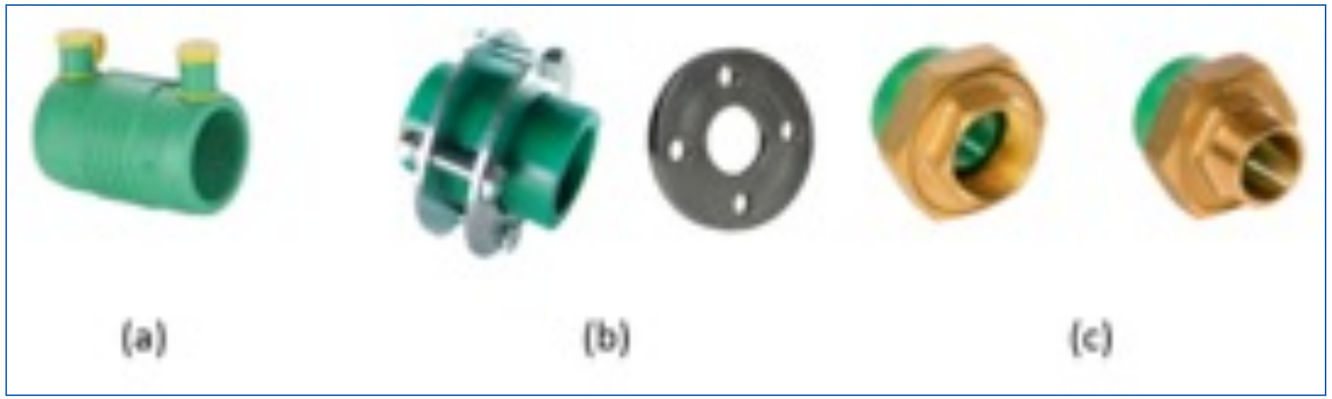


Fig.11 - Possible joints for PPR piping: (a) joint by electrowelding; (b) union with steel flange; (c) mixed male-female brass union.

04. Fabrication

Fig.12 - Insulated copper piping pressurized with Nitrogen at 41 bar, so that the welder responsible for the joints on site is aware of the occurrence of leaks, during transport or assembly of the modules. Long and laborious process.

Fig.13 - LOCKRING system: productive, ecological and efficient.

05. Transportation

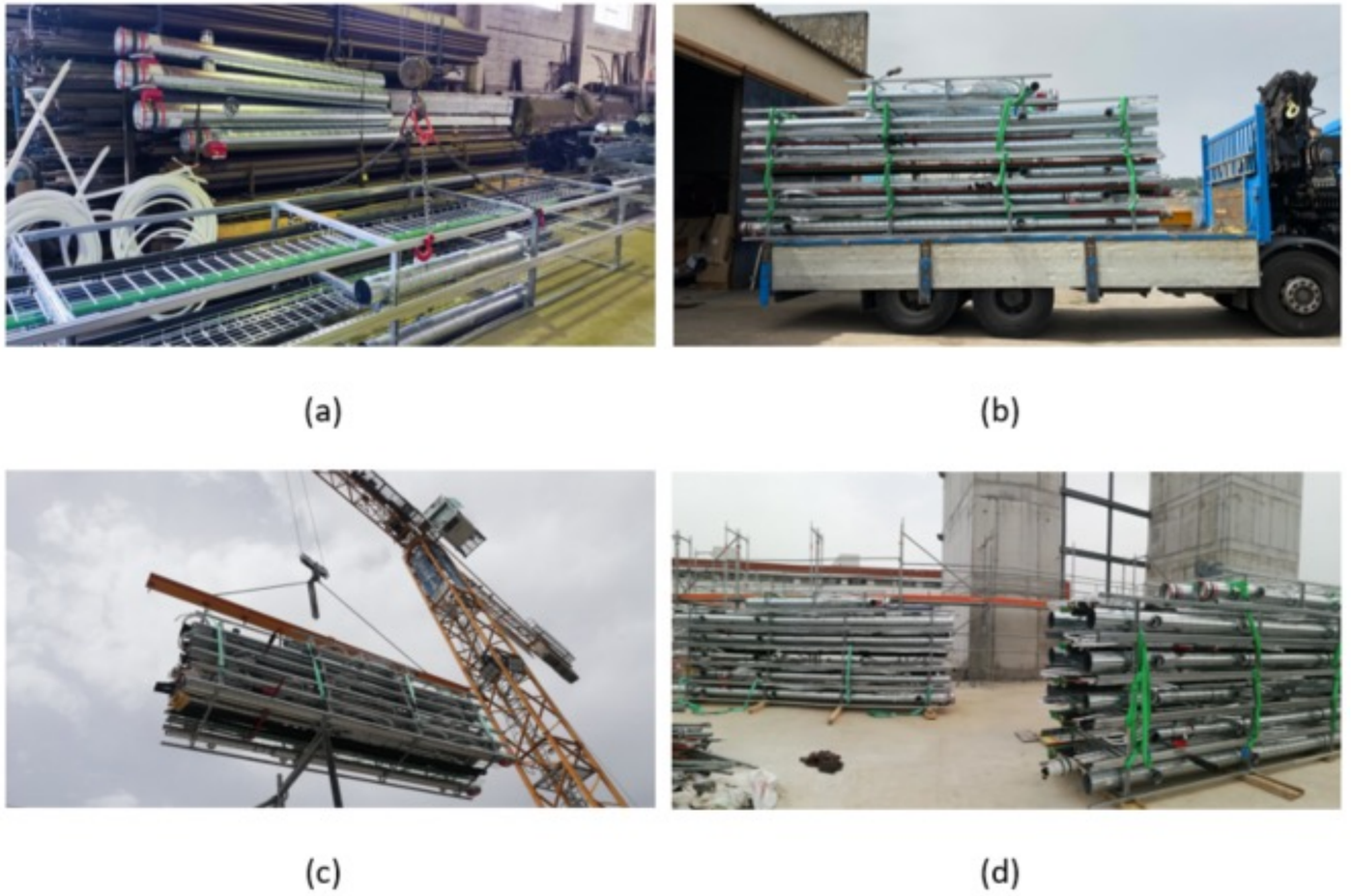


Fig.14 - Transport stages of MEP modules from the factory to the site.

06. Installation

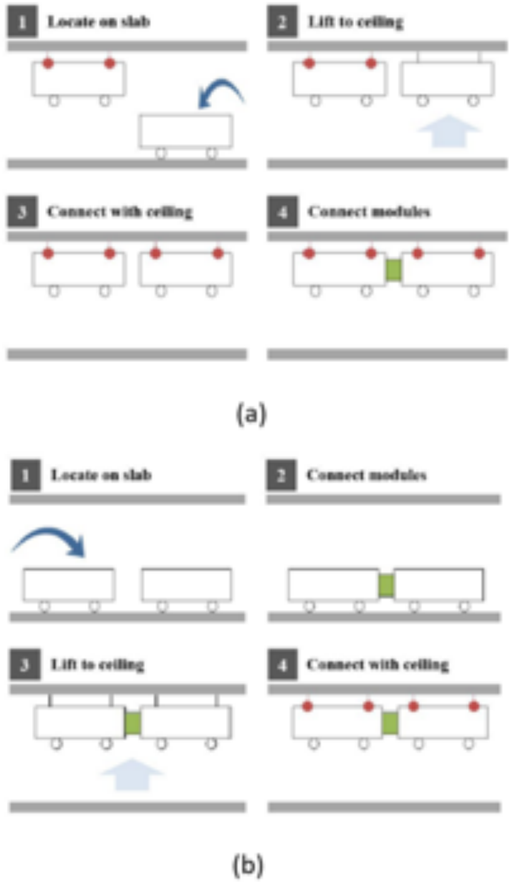


Fig.15 - Stages of the assembly process of the MEP modules on site, from surveying, alignment, fixing and joining the modules.

Thanks!

Rua do Anjo, Nº 27,
Mire de Tibães, Apartado 2702
4700-565 Braga – Portugal

T (+351) 253 305 400
F (+351) 253 305 499