HVAC, PLUMBING AND FIRE PROTECTION

TYPES OF SERVICES

HVAC

- Hygrothermal comfort of building users,
- Heat generation,
- Boiler systems (up to several MW),
- Heat pumps (air/air, air/water, water/water),
- Rooftop gas absorption units,
- VRF, split system,
- Solar heating and cooling,
- Industrial and commercial cooling,
- Electric heaters, radiators, heated floors,
- Radiant ceilings and panels, chilled beams,
- Technical supervision and command control.

PLUMBING

- Domestic hot water heaters,
- Sanitary equipment and fittings,
- Solar generation,
- Natural gas and hydrocarbons,
- Compressed air,
- Special fluids: argon, acetylene, vacuum.

VENTILATION

- Air handling units (single and double flux),
- Hygrothermal air conditioning and filtration,
- Night ventilation,
- Natural ventilation,
- Ground coupled heat exchangers (ground-air),
- Air duct distribution, Coanda effect.

FIRE PROTECTION

- Fire hose stations, sprinklers,
- Mechanical and natural smoke extraction,
- Extinguishers.

SECTORS

- Sociocultural and cultural,
- Education,
- Office and administration,
- Sociomedical, hospitals and research,
- Housing,
- Sports facilities,
- Restaurants and hotels,
- Industry and technology.

OUR CLIENTS

- Architects, property developers,
- Industry,
- Independent firms: banking, insurance, service sector,
- Local, regional and metropolitan authorities,
- Government departments, armed forces

THERMAL REGULATIONS, DAYLIGHT FACTOR AND BUILDING ENERGY SIMULATION

TYPES OF SERVICES

- Checks on materials used
- Heating, domestic hot water (particularly solar), cooling, ventilation,
- Calculation of building energy consumption,
- Analysis of the daily factor inside a building, size and position of windows.

FRENCH THERMAL REGULATIONS (TR) 2012

The TR 2012 calculations include all types of buildings such as individual or collective housing or service sector buildings.
TR 2012 calculations help to define energy-efficient buildings and to limit the environmental impacts of energy consumption by specifically focusing on the use of renewable energy. A CSTB approved software is used to complete the calculations.

DAYLIGHT FACTOR

A decision-making tool for natural lighting. It measures the Daylight Factor (DF) inside a building. The DF is the amount of daylight available inside a building on an overcast day

BUILDING ENERGY SIMULATION (BES)

BES consists of modelling a building and simulating its operation in order to optimise its thermal capacity. It applies to new buildings as part of design optimisation and to existing buildings for the definition of renovation works. BES also calculates the energy consumption of a building.

CALCULATION OPTIONS

- Treatment of thermal bridges,
- Definition of energy performance,
- Orientation of window areas,
- Types of sun protection,
- Insulation and building joinery,
- Room volumetrics and depth.

SECTORS

- Individual and collective housing,
- Service sector buildings,
- Social and cultural,
- Office and administration,
- Sociomedical, hospitals and research,
- Sports centres.

TYPES OF STRESS

- Snow and wind,
- Temperature.

LABELS APPLIED

- HPE 2012,
- THPE 2012,
- HPE EnR 2012,
- THPE EnR 2012,
- BBC 2012.

SOFTWARE

- ARCHIWIZARD,
- PERRENOUD,
- CLIMAWIN,
- RELUX,
- AUTOCAD,
- REVIT,
- PLEIADE COMFIE.