

## PER-643: For good indoor air quality: preventive and reactive measures

Duration: 2 days

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### TRAINING DESCRIPTION

Our expectations regarding the quality of the indoor environment, where we spend most of our time, are high. Mostly, we expect that those environments do not have a negative effect on our health. In addition, we want the indoor environment to be comfortable, to have a positive impact on our work performance, and to improve the performance of our children at school.

Indoor air quality plays an important role in our daily life, affecting our health, comfort, and productivity.

This training will allow participants to understand the causes of the main indoor air quality problems and the measures to be applied in order to avoid them as well as to learn the right way to conduct an indoor air quality investigation that allows them to identify the problem and find an appropriate solution.

### LEARNING OBJECTIVES

At the end of the training, the participant will be able to:

- Identify the various pollutants that could be found indoors and their sources as well as their impact on the occupants;
- Conduct an effective investigation of indoor air quality: sampling and measurements as well as the choice and use of different instruments;
- Identify the elements to be taken into consideration during the design, commissioning, and maintenance of buildings and ventilation systems in order to obtain a healthy and comfortable indoor environment for all occupants.

### METHODOLOGY

Presentations and discussions (70%), case studies (30%)

### CONTENT

#### INDOOR AIR QUALITY:

- Definitions - Origins of the problem
- Impact of IAQ on our lives
- Main causes of IAQ problems

## **THE DIFFERENT INDOOR AIR POLLUTANTS AND THEIR MAIN SOURCES:**

- Sources of indoor air pollution
- The main pollutants found in indoor air

## **IAQ PROBLEMS AND THERMAL COMFORT (ASHRAE 55)**

### **INDOOR AIR QUALITY ASSESSMENT - INVESTIGATION STRATEGY PROPOSED BY THE WORLD HEALTH ORGANIZATION:**

- Initial assessment
- Detailed assessment
- Instruments and methods to assess IAQ

## **ASSESSMENTS OF MOISTURE AND MOLD PROBLEMS IN BUILDINGS**

### **INDOOR AIR QUALITY AND HEALTH, COMFORT AND PRODUCTIVITY**

#### **VENTILATION AND IAQ:**

- Ventilation systems and IAQ
- Points to consider in order to avoid IAQ problems caused by ventilation systems
- Ventilation and humidity
- Alternative methods (other than ventilation) to improve IAQ

#### **DAMPNESS AND ITS IMPACT ON THE BUILDING, IAQ AND OCCUPANTS:**

- Typical humidity problems in homes
- Impacts of excessive moisture on building materials and air quality
- Health problems associated with damp buildings

## **IAQ STANDARDS, IAQ REGULATIONS AND LEGISLATION and IAQ GUIDELINES**

#### **KEY ELEMENTS TO CONSIDER TO AVOID IAQ PROBLEMS:**

- Measures to be applied to ensure a healthy and comfortable environment
- Parameters to monitor to maintain good IAQ
- Criteria to be observed during the design, construction, operation and maintenance of the building and the ventilation systems