



Exposure Conditions

- Environmental exposure chamber
- Furnaces
- Open terrace CO₂ test
- Fog room
- Walk-in chamber
- Miscellaneous



Environmental exposure chamber

Working Principle

The chambers produce the required exposure conditions in terms of temperature and relative humidity.



Applications

Exposure chambers are used to study carbonation of concrete, corrosion.

The test results can be used to evaluate the durability of concrete systems.

Ultra Thermo Scientific - Environmental test chamber





Furnaces

Working Principle

Heating unit with electricity as the heat source for achieving very high temperatures.



Furnaces

Applications

Used for polymerization reactions for Geopolymer concrete.

Resistance of cement concrete, bricks against high temperature (fire).



Open terrace CO₂ tests

Working Principle

Concrete samples exposed to natural conditions with sheltered and open condition for exposure of sunlight (drying) and rain (wetting)

Applications

To analyze corrosion of reinforcement, carbonation of concrete under different exposure conditions.



Open terrace arrangements

Fog room

Working Principles

Spraying of small droplets of water to be suspended on air as fog.



Fog room

Applications

For curing of concrete sample to assist hydration of cement.

Better than water ponds as these avoid leaching of salts.



Walk-in chamber

Working Principle

Environmental chamber with temperature and relative humidity control units.

Applications

Casting of concrete can be done within this chamber at different temperature and relative humidity.

Cold weather concreting can be mimicked inside the chamber.



Miscellaneous

Autoclave

Concrete samples are exposed to high temperature and pressure.

Used for steam curing of concrete under pressure.



UV Chamber

Exposure of structural steel embedded in concrete to ultra violet radiation.

Corrosion test on coated rebars.

Depolymerization of polymer coatings under UV radiation

