**AIR CONDITIONING**

**DESIGN BASIS REPORT**

**AIR CONDITIONING FOR OFFICE BUILDING,**

**BASIS OF DESIGN FOR NEW AIR CONDITIONING SYSTEM**

# CODES AND STANDARDS:

Apart from the specific equipment standards and specifications, the following broad certifying agency / standards have been considered while designing the system in accordance with the Thermodynamic Principles.

* ASHRAE Standards
* ASHRAE : 90.1 – Energy Standard for Buildings Except Low – Rise Residential Buildings
* ISHRAE : Weather Data
* ARI : Cooling Coil ratings

# DESIGN PARAMETERS

OUTDOOR DESIGN DATA:

CITY NAME …………… BANGALORE

LOCATION ……………………………………. INDIA

LATITUDE ……………………………………. 12.58° N.

ELEVATION ……………………………………… 3020 FT

SUMMER DESIGN DRY-BULB………………… 96.0°F

SUMMER COINCIDENT WET-BULB…………… 78.0°F

RELATIVE HUMIDITY …………………………… 45.0 %

SUMMER DAILY RANGE………………………… 22.0 °F

MONSOON DESIGN DRY-BULB………………… 82.0 °F

MONSOON COINCIDENT WET-BULB…………… 78.0 °F

RELATIVE HUMIDITY ……………………………… 82.0 %

WINTER DESIGN DRY-BULB……………………… 58.0 °F

WINTER DESIGN WET-BULB……………………… 54.0 °F

RELATIVE HUMIDITY ……………………………… 78.0 %

## INSIDE DESIGN CONDITIONS:

The Indoor Temperature to be maintained is as follows:

TEMPERATURE : 72ºF ± 1.8 ºF (22 ºC ± 1ºC)

RELATIVE HUMIDITY : 55+/-5 % considered only for

Calculation Purpose (\* Variable)

# ESTIMATed COOLING LOAD:

Cooling load is about **54.5TR** as assessed using computer programme based on ASHRAE / ISHRAE methodology.

# proposed air conditioning SYSTEM DESCRIPTION

## RECOMMENDATION: It is recommended to install multiple units of DUCTABLE Type Air conditioning System, CASSETTE TYPE & HI WALL TYPE SPLIT AIR CONDITIONER SYSTEMS.

The air conditioning system shall comprise of Air-cooled Condensers Having Scroll type Compressors condensing unit The Refrigerant used will be R22

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**CASETTE TYPE INDOOR UNIT**

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**HI WALL TYPE SPLIT AIR CONDITIONER**

**DUCTABLE TYPE SPLIT AIR CONDITIONER**