



INFRARED CONVEYING SYSTEM

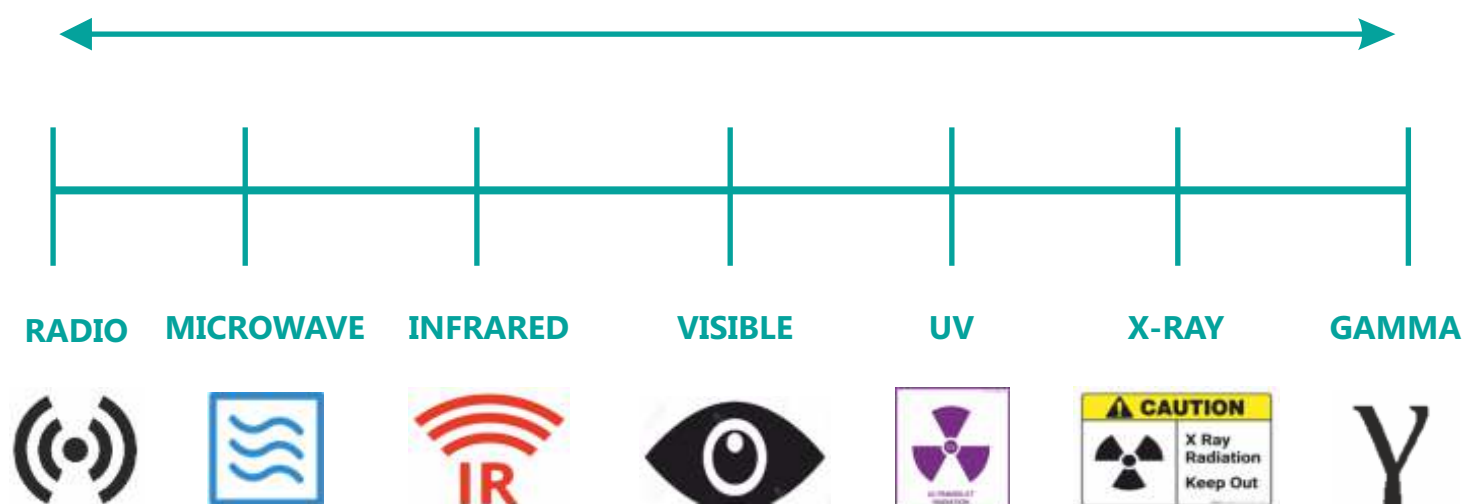


WHAT IS INFRARED RADIATION?

Infrared radiation lies on the electromagnetic spectrum. The electromagnetic spectrum is the range of electromagnetic radiation. The infrared part of the spectrum lies between microwaves and visible light waves.

The full spectrum is Radio - Microwave - Infrared - Visible Light - Ultraviolet - X-Ray - Gamma Ray. Radio waves have the longest wavelength and the least energy, whereas gamma rays have the shortest wavelength and the most energy.

ELECTROMAGNETIC SPECTRUM



All objects emit infrared radiation, including the sun. This is why we feel warm when the sun is shining. Even in winter when the temperature is cold we still feel warm due to the apicity (warmth of the sun in winter).

Another notable source is a fire. You will note that if you sit near a fire your arm will feel warm unless you put something in front of it which will stop the infrared energy from the fire reaching it. This is because of the infrared energy emitted from a fire.





What is an electromagnetic wave?

All materials are made up of atoms in motion. As any object absorbs heat energy, the vibrational motion of its atoms increases. Temperature, or heat, is a measurement of the severity of this vibrational motion. Absolute zero (-460 °F) is the temperature at which there is no vibrational motion in an object's atom. Absolute Temperature in °R = °F + 460. Absolute Temperature in °R = °F + 460. Atoms contain positive (protons) and negative (electrons) electrically charged particles. A charged particle creates a field around itself called an electric field. When a charged particle is moved, it generates a magnetic field. Atoms of a hot object vibrate violently. The charged particles that make up the atom are being accelerated back and forth as the „hot“ atom oscillates. Each time the atom moves, the electric and magnetic fields created by the charged particles are disturbed. This disturbance in the electric and magnetic fields is called an electromagnetic wave.

How do electromagnetic waves move? Electromagnetic waves are similar to other waves in that they are described by their velocity, frequency & wavelength. Unlike waves on water or sound waves in the air, electromagnetic waves do not require a medium to travel through. They can travel through the vacuum of space. The radiant energy from the sun travels through 93,000,000 miles of space before reaching the earth. When an object absorbs the electromagnetic waves, they excite the atoms of the object causing them to vibrate, thus raising the temperature.



APPLICATIONS

- PLASTICS & RUBBER INDUSTRY
- CHEMICAL POWDER DRYING
- PHARMACEUTICAL FOR REMOVAL OF MOSITURE
- FOOD & CONFECTIONARY INDUSTRIES
- REMOVAL OF SURFACE MOISTURE FROM ARTICLES
- FOUNDRIES
- AUTOMOBILE INDUSTRY
- GLASS INDUSTRY
- MINERAL & ORES
- TEXTILE PLANTS



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