

IRR are electromagnetic waves with wavelength 7500 to $4,00,000$ nm. Any heated body emits infrared rays ex, sun, gas fire, electric fire etc.

Production and sources of IRR -

Various kinds of infrared lamps are used for therapy

1. Non luminous generators
2. Luminous generators

Non luminous Generator \rightarrow

- This consist of coil of wire bound around on cylinder of insulating material such as fire-clay or porcelain. When electric current is passed through the coil it produces heat.

IRR are first emitted from the heated wire and then from the fireclay which is heated by conduction.

More usually the coil of wire is embedded in the fireclay and placed behind the plate of fire-clay.

The emission is then entirely from the fire clay which is commonly painted black.

- Both types of element are connected into a circuit by a 'screw cap device' and placed at the focal point of a parabolic gently curved spherical reflector.
- Non luminous generator provide IRR only.
- Non luminous generator produce IRR radiation with wavelength from 1500nm down to 750nm.
- Maximum emission is in the region of 4000nm.

For diagram
 2. Luminous Generator →

• The luminous generator produce IRR, means of one or more incandescent lamp which consist of a wire

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filament enclosed in a glass bulb which may be evacuated or may contain an inert gas at low pressure.

- The filament is made up of tungsten the passage of an electric current through the filament produces heat, infrared ray, visible rays and a few UV rays are emitted.
- The spectrum is from 350-4000 nm.
The maximum emission is in the region of 1000 nm.
- Luminous generator emits infrared, visible rays as well as few UV rays.