HOW TO CHOOSE SHORTWAVE IR LAMP

Each applications has a unique heating requirement and care must be taken to choose the shortwave lamp which provides optimum heating while keeping power consumption to a minimum.

There are certain parameters which help determine the wattage of the lamp. These are:

1) Nature of the material being heated. Each material has different absorbtion characteristics. So, certain materials will absorb infrared radiation more readily as compared to others. These materials can be easily heated by a low wattage heater also. On the other hand the materials that absorb less readily will require a higher wattage heater.

2) Thickness of the material being heated. In case of thick materials either high wattage heaters are required or they need to be heated from both sides. If heating is done only from one side in case of sheets 2.5mm and above, there is a possibility of the surface getting burnt before heat can penetrate to the other end.

3) Residence time. The residence time required to heat a product depends on many factors like its mass, colour, absorbtion characteristic, initial temperature and the final temperature to be achived. The most efficient installation would mean the shortest possible residence time and hence high production speed. This would require high wattage heaters.

4) Wavelength. Certain material absorb radiation of a particular wavelength readily. If this data is available then one needs to choose the heater accordingly. For each heater there is a dominany wavelength.