By using a reflector, the radiation can easily be directed, increasing usable IR power up to 180%. Integrated or external reflectors can be used depending on the application. Integrated reflectors guarantee high quality, easy handling and heat protection of the IR-lamp’s housing.

Integrated reflectors are directly flame-sprayed on the quartz tube. In most cases the reflector is made of alumina ceramic. It has an efficiency of approx. 80%. The high temperature resistance of the alumina ceramic reflector of up to 1000 °C also helps even in applications without forced air cooling to guarantee the reflector functionality over the lamp’s life. The effectiveness is shown in the graphics on the right.

It is customary to use the terms short wave, medium wave and long wave to classify IR-lamps. These definitions are easily remembered, but from a technical point of view they are incorrect.

Integrated reflectors guarantee high quality, easy handling and heat protection of the IR-lamp’s housing.
Solid state or monolithic lamps, i.e. incandescent lamps, continuously emit radiation within two of the above-mentioned wavelength ranges. The diagram shows a typical spectrum of an incandescent lamp at different colour temperatures.

Depending on the required wavelength, different types of IR-lamps can be used: short-wavelength IR-lamps, medium-wavelength open quartz tube lamps, long-wavelength ceramic-tube or metal-tube lamps.

Develop together with USHIO
USHIO is a partner that listens to your ideas and requirements. Let us optimize your processes according to your specifications and expectations. Use our expertise to develop a tailor-made solution together that matches your needs.