

## INFRARED

### CARBON INFRARED TECHNOLOGY CIR CREATING FLEXIBLE, HIGH EFFICIENCY HEATING PROCESSES

#### Infrared Heating Technology

Innovative infrared (IR) heating technology is used today for fast, targeted heating in a wide range of material processes. Heraeus manufactures infrared modules and complete infrared heating systems in all shapes and sizes. This IR technology, easily integrated into existing finishing and processing operations, heats curved surfaces, complex shapes, papers, films, foils as well as thicker materials.

#### Radiation Spectrum:

##### Carefully selected infrared emitters increase efficiency

By choosing the correct IR emitter for a specific application, the radiation spectrum is matched to the target material's absorption properties. Matching the radiation spectrum with the target material optimises efficiency and process speed and reduces energy costs by up to 50%.

#### Carbon IR Emitters: The new technology

Heraeus carbon emitters have achieved what was never possible before by combining the advantages of medium wave radiation with very fast response times. Carbon IR emitters operate at a wavelength especially suited for materials such as plastics, paper and textiles. For these materials, as well as for drying and adhesion applications, the carbon emitters achieve a significantly higher efficiency than that possible with short wave emitters. Consequently, heating processes are much faster and use less energy resulting in cost savings. The emitters are also ideal for fast cycle processes since they can be switched on and off in 1 to 2 seconds.

#### Customer Specs: The emitter integrates into the installation

Carbon IR emitters are manufactured to match customer size and power specifications. The emitter arrays can also be custom-built for a particular installation based on individual heat density and structural requirements.

#### Heraeus Technology: Heraeus offers complete infrared technology

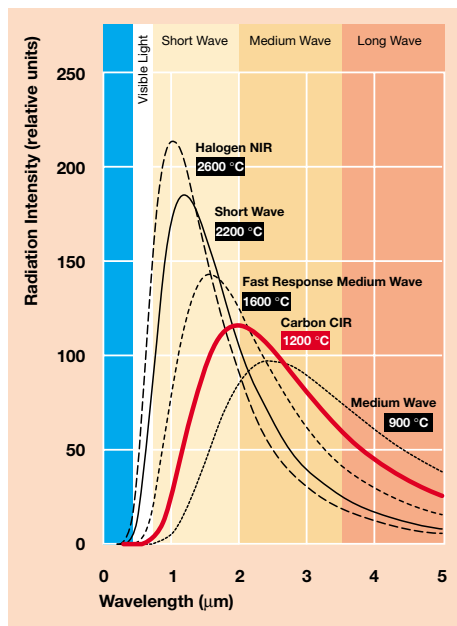
- InfraLight – Halogen infrared emitters
- Twin tube infrared emitters in all applicable wavelengths
- Carbon infrared emitters.
- IR modules and systems for all industrial applications.
- Expert consulting from the industry leader
- Technical centre for customer materials testing and trials to verify the IR system designs which are tailor-made for customer heating processes.

**With more than 40 years of experience in infrared technologies, we are recognised worldwide as the market leaders.**



S O L U T I O N S F O R I N F R A R E D





## CARBON IR EMITTER PRODUCT RANGE

- Diameter 19 mm
- Heated Length BL 100 – 1500 mm
- Maximum Power/Length 33 W/cm
- Maximum Surface Power Output in Emitter Arrays 100 kW/m<sup>2</sup>

Carbon IR Emitters with a tube diameter of 19 mm can be supplied from stock in three standard lengths

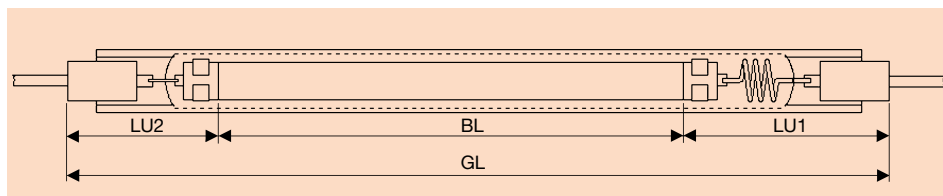
Rating	Voltage	Total length GL	Heated length BL	Unheated length LU1	Unheated length LU2	Leads length	Part number
[W]	[V]	[mm]	[mm]	[mm]	[mm]	[mm]	
1000	57.5	430	300	75	55	500/500	45132828* 45132877**
2000	115	730	600	75	55	500/1000	45132833* 45132876**
4000	200	1145	1000	90	55	500/500	45134446*

\* with gold reflector      \*\* without reflector

Spectrum of the carbon IR emitter compared with other Heraeus infrared emitters taken at the same power for all emitter types. The spectra indicate that halogen emitters radiate the most power in the short wave region (wavelengths less than 2 µm). At 3 µm however, the carbon emitter output is higher than the halogen emitter by approximately 200 %.

IR radiation is especially effective and efficient when used for drying operations, processing plastic films and for other heating applications at wavelengths greater than 2.5 µm.

The Heraeus IR product range supplies the optimum spectrum for each application. We can advise you on the selection of economical and efficient infrared emitters to match your requirements.



**Carbon IR emitter array testing in the Application Centre at Heraeus Noblelight**

**Dimensions: 75 cm x 50 cm**  
**Power Rating: 30 kW**  
**Power density: 70 kW/m<sup>2</sup>**



**SYS or Heratron power controllers are used to control the carbon IR emitters and emitter arrays.**



We reserve the right to change the pictures and technical data of this brochure.

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