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## Accuflect® Solar Cell Furnace Reflectors

Accuflect® IR is an excellent medium wave and short wave infrared reflector with excellent performance extending into the visible wavelengths.

Many infrared applications can be modified to take advantage of the highly efficient diffuse reflection characteristics of Accuflect® IR.

Applications can be found throughout solar cell manufacturing in both crystalline and thin film segments of the business. Some of the applications include:

- Preheating of solar cells prior to sputtering or diffusion
- Drying
- Firing of metallized layers
- Deposition of antireflection coatings
- Rapid thermal annealing of thin films
- Cell to cell bonding

The infrared systems use short wave emitters with emission wavelengths on the order of 1 to 2 microns. This allows for very high watt densities. The peak emission wavelength can also be "tuned" to more closely match the absorption spectrum of the solar cell materials. Advantages of using Accuflect® IR in the solar cell fabrication processes relying on infrared radiation include:

- More uniform IR radiation in the heat process zone
- Solar materials "see" a planar emission source rather than a line or point source reducing process variability due to distance from the emitter
- Refractoriness eliminates the need for active cooling of the reflector surfaces
- Low thermal impedance allows tight process control loops
- Cleanliness in high temperature process zones
- Recuperative effect of reflection back onto the emitters reduces electrical power input
- Radiation from the warm reflector surfaces helps heat the solar materials improving process efficiency

See Also:

General Information

[Accuflect® Light Reflector](#)

[Accuflect® Infrared Reflector](#)

Other Custom Accuflect Products

[Laser Cavity Reflectors](#)

[Intense Pulsed Light Reflectors](#)

[Luminaire Reflectors](#)

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Design Notes

[Accuflect® Ceramic Laser Cavity Design](#)

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[Reflection Properties of Accuflect® Light Reflecting Ceramic](#)

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1-908-213-7070