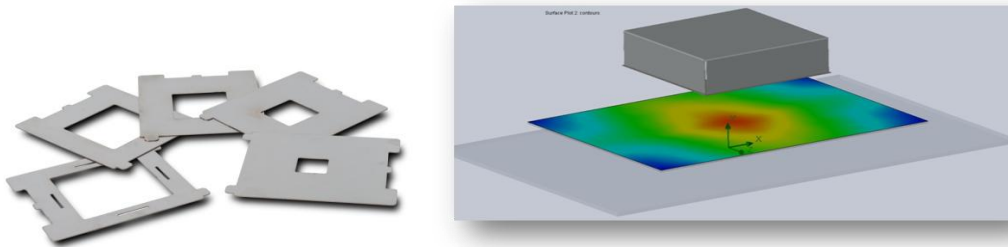


Why do we recommend 3D IR-Concentrator

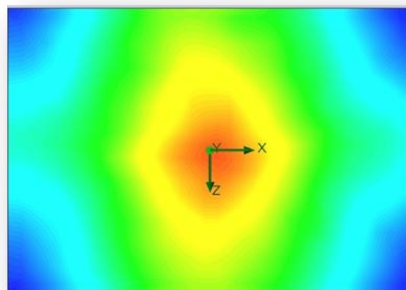
The following working characteristics of the process are improved by use of IR- Concentrators:

- Heat distribution in a heating zone is more even.
- Heating zone size is optimized by size.
- Effectiveness of Top heater was improved without power increase.
- The gap between PCB and Top heater increased.
- Vision of a soldering zone is improved. Control sensor is easier to install to PCB and to manage.

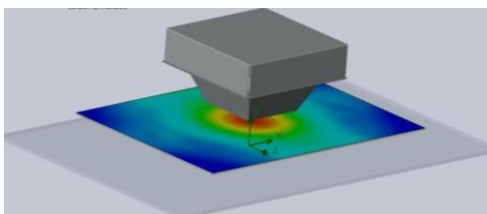
And all these improvements in BGA soldering process are achieved by simple replacement of top heat screens with 3D IR-Concentrators.



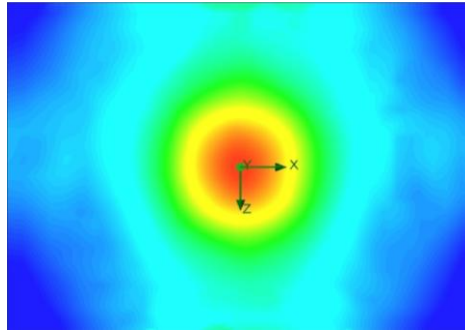
Pic 1. Top heater screens and its heating model



Pic. 2 Heating zone shape created by heater with screens



PIC.3 New model of PCB heating up with 3D IR Concentrator



PIC 4 Shape of heating zone created with 3D IR- Concentrator

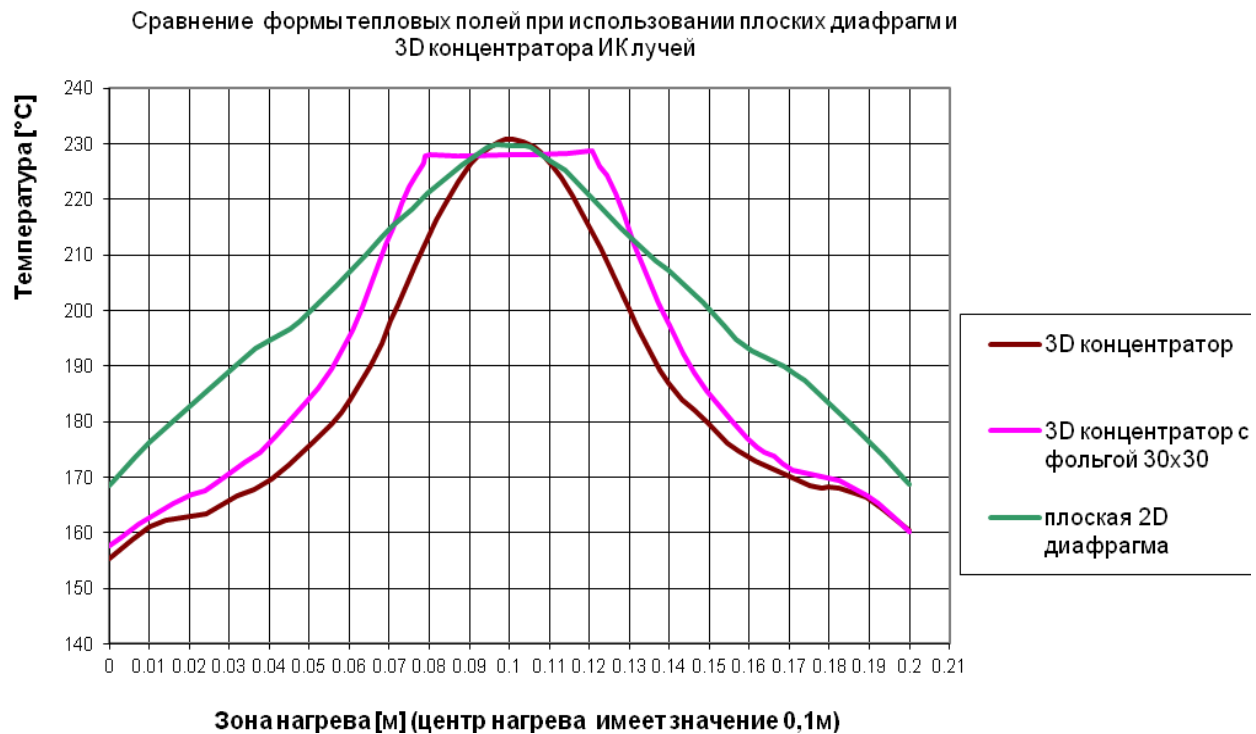


Diagram of heating zone shape and size comparizon

Diagram presents a cross sections of heating zones on PCB made with flat screen, and 3D IR-Concentrator. It is seen from the diagram that extra screen made on aluminum foil creates practically ideal zone 40x40 mm. (X –axis has a 10 mm scale).

Recommendations for use of 3D IR concentrators

3D IR concentrators are easy-use components.

1. IR Concentrators are installed instead of standard screens on a Top Heater.

2. The Heater has to be low down to a level when a gap between top edge of BGA component and low edge of IR Concentrator is 9-10 mm.
3. Soldering termoprofiles (processes) can be used with no additional adjustments, BUT IR concentrator has to have bigger window size. For example if screen 40x40 is replaced a concentrator 50x50 recommend.