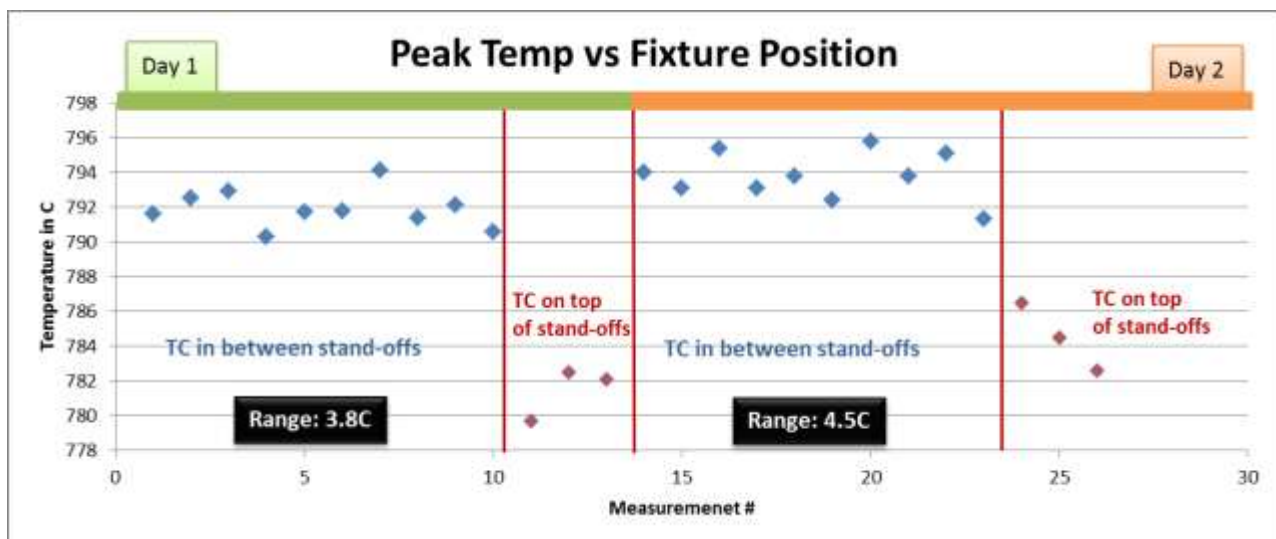


TECHNICAL SUPPORT BULLETIN

Subject: Peak Temperature Vs Fixture Position

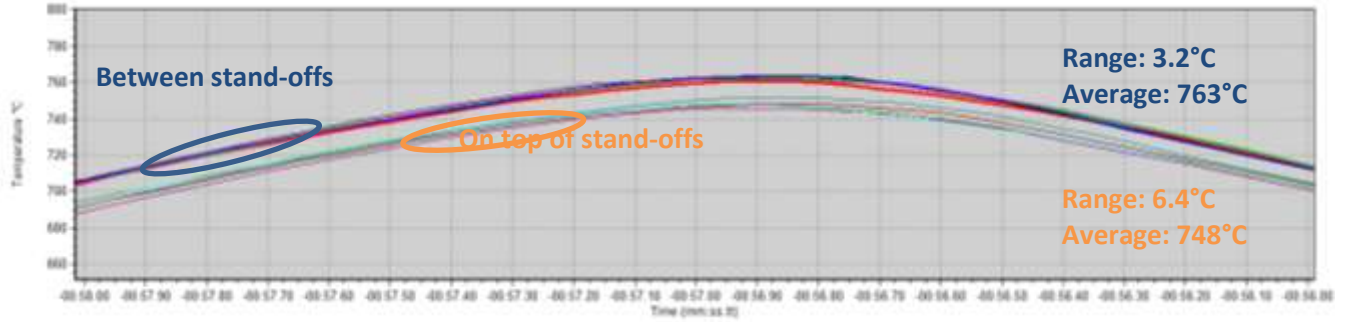
Purpose: During the Safire Firing Furnace characterization a groundbreaking discovery was made; finding the positioning of the fixture relative to the stand-offs on the belt extremely important for peak temperature measurements. Before this discovery, we routinely measured a temperature range of 15°C, but as you can see below, this range dropped to less than 5°C after we positioned the fixture with the TC between two stand-offs.



Average peak temperature between stand-offs is 792°C. However, when measuring the temperature above the stand-offs, we obtain a reading of 781°C. This means that by randomly putting the fixture on the belt, temperature “instability” of more than 10°C is introduced.

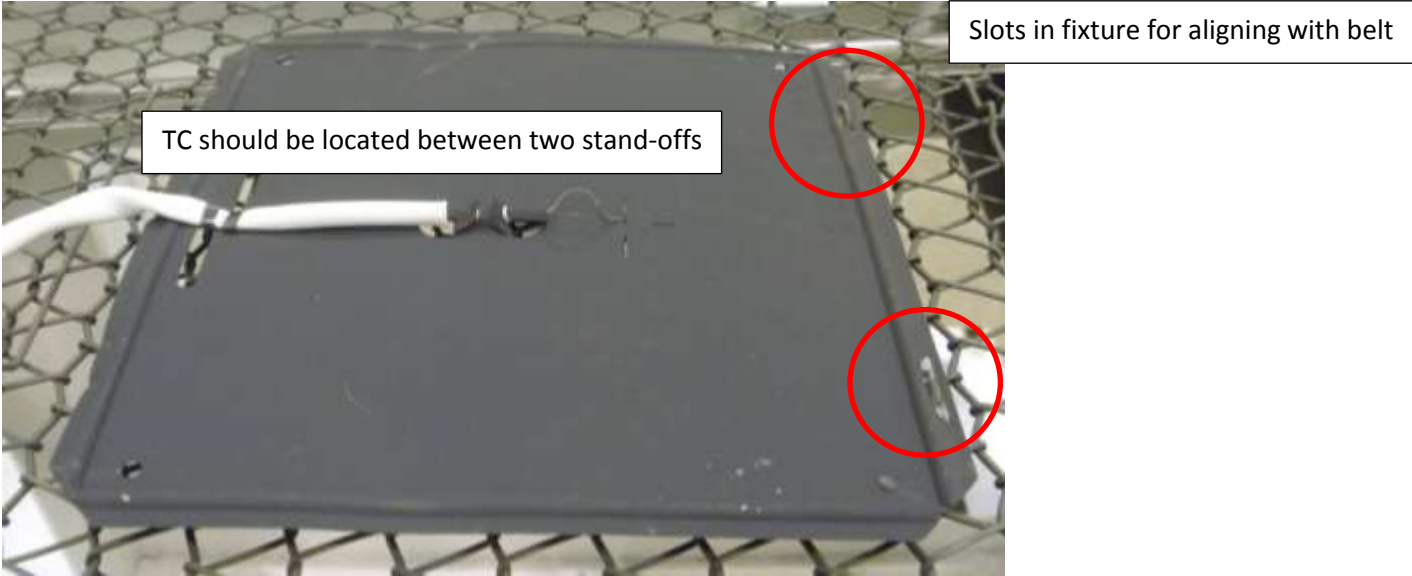
It is important to note that this improved measurement technique will not improve furnace performance or cell efficiency, but it enables us to characterize firing furnaces more accurately.

The same test was repeated on a CF with very similar results. Below graph shows five measurements between stand-offs and five on top of the stand-offs. For the measurements between stand-offs, the range was 3.2°C and for the measurements on top of the stand-offs, it was 6.4°C. As in the case of the Safire Firing Furnace, the average difference in peak temperature was more than 10°C.



We made nominal design changes to the fixture, which further improved the measurement accuracy and consistency.

For a regular stand-off belt:



For an edge support belt:

