

QA/QC

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Plans for the stavelets 8/21/19 (CV, PG, VC)

Goal: load heaters and measure thermal performance before and after irradiation to validate the glue adhesive choice and application

Ideally we would like to do this w and w/o araldite dots – YES

- 3 stavelets available (with heaters scraped off)
 - Notice that dimensions/material is different - **which of them is the closest to the actual detector?**
 - We had 5 in total
 - <https://docs.google.com/spreadsheets/d/1sRQGQEt-tPp5GND5u0Be2pRa7l8mnm7PT83Qhs2Tdlk/edit#gid=0>
- 7 compatible heaters available (~quad size) + **additional new heaters**
- How many heaters per stavelet? which size?
 - **Do we want to have 2 heaters on one side and 1 on the other?**
 - **This configuration would be only close to the the ring one (and not even completely), so most likely only two heaters on the same side**
- Which fixture for loading?
- Thickness SE4445 100 or 150? **Both**
- Can we measure thermal performance w/o the test box?
 - IR camera only to begin with
 - Ideally we want to do a thermal cycle -40C+40C
 - If we are late we can think of testing them at CERN with Nicola's setup
 - **Nicola has a home-made setup to thermal test small coins (see <https://docs.google.com/document/d/1ayth5fWjUCcth11pEL1smGKOGTwjPY11cE2172EGlcM/edit>)**
 - **The stavelets would not fit**
 - **We need to decide exactly what to test and how to test it**

If we say we want to test heaters on stavelets with and without araldite, each of them with 100 and 150 um SE4445 we have

SE4445 + Araldite (100)

SE4445 + Araldite (150)

SE4445 (100)

SE4445 (150)

For a statistically meaningful test we would probably need 3 samples for each configuration, but we don't have enough stavelets.

So maybe more samples for the configuration we would like to use in the actual detector:

3x SE4445 + Araldite (100)

3x SE4445 + Araldite (150)

2x SE4445 (100)

2x SE4445 (150)

What about the non-perfect edges? Do we test this to somehow? Given Charlie's calculation even if ~20% of the surface is not cover by glue, we would have a 1° difference in Temperature which the IR camera can't even detect

General question: test also with the RTDs?