Subject: **Minutes From Cooling Meeting Tuesday March 19th**
Date: Wed, 20 Mar 2002 19:15:17 -0800
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Hi All:

Agenda:

1. Sector carriers and tubes for my trip this friday to EB in New York - UPDATE.

2. Status of current laser welding, making weld extension pieces, and material testing of last batch of samples.

3. Sizes and types of tubes and fittings that need to be made for use at PP0. This has implications on packing and layout, as well as on the prototype cooling circuit which will ideally be tested in Marseille in June.

Minutes:

1. Jon and Tom J. have most parts back for 10 carriers (I will take 5 to EB). The fittings have small burrs on the threads that need to be removed so they fit into their adjuster nuts, but this will not take much time. After deburring, the fittings will be cleaned for assembly. I will take tubes in carriers with fittings already attached and clean (3 luer and 2 indium). The end protectors need to be modified slightly so that they can cover the tube and fitting (right now they only fit over the tube). Jon is also buying a carrying case so that I can look like an important business person while traveling (and so the tubes are protected, as well, I guess). This should all be ready friday afternoon, as I leave at 5 (but maybe more like 3 or 4, if I can get out that early).

2. Laser welding has been held up by the fact that the 4 mm tubing being welded now is 3003 (harder to weld). EB is supposed to have this done by the time I get there. The capillary tubing was tested, as well as the weld extension material, and it's all 1060, so it should weld much more easily. As of now, the only tube that is 3003 is the 4 mm tubing (we haven't yet tested the 2 mm tubing that's on order). Weld extension pieces have not been spun down yet, but I will check on that again tomorrow to see if I can take at least one to EB with me (but no guarantees). Composition test results can be found at:

http://www-eng.lbl.gov/~hartman/pixel/cooling/Composition_tests.htm

3. I have ordered and tabulated all of the required tubing sizes within the Pixel volume. This table can be found below:

http://www-eng.lbl.gov/~hartman/pixel/cooling/cooling_system_tubing_sizes_19MAR02.htm

I have also made a model and drawing of the entire sector circuit, without fittings at PP1. In order to save parts and allow the use of a slightly smaller fitting, I have proposed making only one new type of fitting for the 8 mm

tube, which retains the same taper and nut sizes (and potentially same tightening tool, as well) as the rest of the fittings. However, this requires that the weld be made on the outside of the fitting (see attached pdf file). I have sent this to EB to see how feasible the weld is, but it's 1060 tubing, so I think it should be okay. In order to have this fitting for the complete circuit test in June, we need to start making them in early April. The rest of the circuit fittings can be made by drilling out capillaries or blanks of fittings we already have (for 2 mm tubing, for example). I will talk with Fred about this new piece as soon as time permits (perhaps next week).

Any comments or questions? Please let me know.

Thanks alot,
Neal

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