Subject: **Cooling Update from Thursday, May 16th**
Date: Fri, 17 May 2002 16:03:55 -0700
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Hi All,

Some things discussed:

1. 6063 fittings from Western Tool came back, were bad, were redone, still aren't great, but will be sent next week with some dumbbell tube samples to EB for testing. Jon W. has a quote for 180 more, but at a much lower cost than we paid originally (from a new vendor). He is getting another quote for comparison.

2. Jon has a temporary setup for leak checking sector welds, but it is not Gil-proof, so he is making a better one to send to EB with the sector fitting samples.

3. Tom J. has 5 full sector tubes ready to go for shipping to EB towards the end of next week. He has another 10-15 tubes in progress.

4. Tom W. has presented test results for the 10 glued luer lock samples. 7 of 10 have made it through to the stage of thermal cycling (which is in progress as you read this, assuming you read this on friday, before 6 pm). We suspect that the 3 "failures", which work sometimes and don't others, are due to low torque on the fitting. This is hypothesized because we know the torque is low, and we don't yet have a way to measure it (see next item).

5. Tom J. will please glue up a few more luer lock samples on glue extension tubes. Fred will use these to examine how much torque to use for good sealing, and he will make a tool for measuring this torque. We will then see if the failed luer locks (after testing is done) re-seal with a higher torque.

6. Jon W. is making some fitting samples that are loctited to a tube. These will be irradiated (not in C3F8) and then pull tested to see if failure occurs in the loctite or in the tube (hopefully in the tube itself). Loctite will be used to "backup" the fitting welds in order to guarantee toughness.

7. 4 more stave fittings were welded and photographed and leak checked, and they were all good (all 4 welds). We are working with Marco and company at CERN to determine if we can use laser welding for the stave tubes. These samples have been sent to Marco for further testing. One issue is whether the tube and fitting will still be able to seal after welding, as there may be some issues with surface quality and geometry.

Thanks all, and have a good weekend!

Neal