Subject: Re: Chamber Construction Manual
Posted by Clemens Adler on Thu, 02 Dec 2004 17:29:32 GMT
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Hello chamber builders,
I updated the chamber construction manual (to version 1.1).
It can be found at:
http://www.physi.uni-heidelberg.de/~adler/TRD/ConstructionManual/TRD-CCM _v1.1.pdf

The changes from the last version (1.0) are noted at the very beginning (under "Changes").

I would like to elaborate a little about the reasons for the changes:

1. Moving of the field cage ground connection to anode cable side:
This is done, since the field cage ground has to be connected to the shield of the Drift HV wire, which is connected at the side where the anode cables are connected to the chamber. This is necessary, to ensure that the HV power supply gets the currents it delivered returned.
The only reason for this change is that we don't have to put a longer cable acronss the chamber to connect the field cage.

2. Do not clean away solder flux after soldering of cathode or anode wires:
Cleaning is not really possible anyway, and the danger of breaking a wire (especially with anodes) is too high.
According to experienced people normal colophony based flux is not a problem if covered with glue (which is the case there).
Also GSI Detektorlab has build many chambers without cleaning the flux away and there was never any problem.

3. Previously I recommended using solder without flux core and additional flux at some point int the construction manual. Due to the above point however, this does not make too much sense anymore. And I think everybody (except Dubna maybe) is using solder with flux core anyway. As said above however it should be colophony based flux without activators (halogen or other organic avtivators).

4. Sanding of the wire ledges before use:
This is one reason why we think we had the anode wire breaking problem in Heidelberg, because we did not sand over the edges of the wire ledges. Joerg never had the Problem at GSI, and they always did it and he strongly recommends it. And if you think about it it does make sense.

so far for now.

cheers,
Clemens