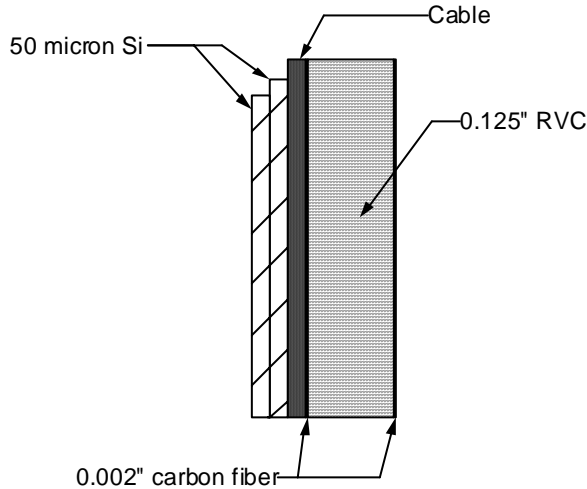


LG 01/13/2005

### Current thickness of HFT

I believe that the current design for the ladders that make up each layer of the HFT detector is as follows.



The sequence of components (left to right) is;

1. RDO chip @ 50  $\mu\text{m}$  Si
2. Adhesive @ 50  $\mu\text{m}$
3. MIMOSA detector @ 50  $\mu\text{m}$  Si
4. Adhesive @ 50  $\mu\text{m}$
5. Cable assembly.
6. Adhesive @ 50  $\mu\text{m}$
7. carbon fiber / RVC beam

The % interaction length and Si equivalents are given below;

<b>Component</b>	<b>% radiation length</b>	<b>Si equivalent (<math>\mu\text{m}</math>)</b>
RDO chip	0.0534	50
Adhesive	0.0143	13.39
MIMOSA detector	0.0534	50
Adhesive	0.0143	13.39
Cable assembly	0.08963	83.92
Adhesive	0.0143	13.39
Carbon fiber / RVC beam	0.11	103
<b>Total</b>	<b>0.349</b>	<b>327.09</b>

We also need to keep in mind that there is an angle with respect to the beampipe perpendicular as well as an edge overlap on the detectors as deployed. This will increase the functional thickness.