Hall A Target Configuration

David Meekins

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1 Target Configuration

Table 1 shows the list of targets available for the June 2004 running in Hall A. The list starts with the uppermost target. A solid target ladder is attached to the stack below the optics and dummy sleds. See acompanying photos.

Table 1: Target postions and materials.

Position	Target	BDS position	Max Current μA
Loop1 20cm	20 cm He	32973667	120
Loop2 20cm	20cm LH2	25306465	120
24 cm Optics	±12 cm C foils	20677987	100
21cm Optics	±6 cm C foils	18402147	100
20 cm dummy	±10cm Al foils	17439587	30
BeO	BeO viewer	14085475	100
Carbon	Carbon	12459875	100
Ta	Tantalum foil	10834275	20
Pb	Lead/diamond	9208675	100
Empty		7583075	100

2 Target Cell Thicknesses

The window thicknesses are given below Target cell lengths

Table 2: Cell window thicknesses.

Position	Measurement spot	Material	Thickness (mm)
Loop 1	Entrance	Al 7075-T6	0.279±0.02
	Exit		0.277±0.02
	Side		0.311±0.02
Loop 2	Entrance	Al 7075-T6	0.178±0.02
	Exit		0.071±0.02
	Side		0.137±0.02

Table 3: Cell Lengths. Note that these lengths have been measured for cell pressures of 1 atm absolute.

Position	Length (mm)
Loop 1	19.99±0.02
Loop 2	19.95±0.02

3 Dummy/Optics Target Thicknesses

The foil thicknesses and materials are given in Table 4.

Table 4: Optics target foil thicknesses and materials. Note that the carbon foils are not made of pyrolytic graphite but simple graphite. The foils are cut from a single foil.

Target	Material	Thickness (mg/cm^2)
12cm Foil 1	C 99.8%	17.14±0.03
12cm Foil 2	C 99.8%	17.14±0.03
24cm Foil 1	C 99.8%	17.14±0.03
24cm Foil 2	C 99.8%	17.14±0.03

The Dummy targe foils were constructed from Al6061-T6 aluminum. Their thicknesses follow.

Table 5: Dummy target foil thicknesses and materials.

Target	Material	Thickness (mm)
Foil 1	AL 6061	0.99±0.02
Foil 2	AL 6061	1.01±0.02

4 Solid Target Thicknesses

The following table gives the solid target thicknesses

Table 6: Solid target thicknesses.

Target	Material	Thickness
BeO	BeO	0.149 ± 0.001 (g/cm^2)
C	carbon 99.8%	0.0838 ± 0.0005 (g/cm^2)
Ta	Tantalum	0.0202 ± 0.0001 (g/cm^2)
Pb	Pb/C	(see Bob Michaels)