

## Information on material before Spectrometers: Spring 2016

### Target (Loop 3):

Entrance window thickness: 0.147 mm Al 7075

Target Diameter: 2.630"

Target length: 15 cm

Wall thickness: 0.203 mm Al 7075

Tip radius: 1.315"

Tip thickness: 0.147 mm Al 7075

Above information can be found here:

<http://hallaweb.jlab.org/12GeV/experiment/E12-07-108/Documents/Target/HallATargetConfiguration21915.pdf>

Technical drawings of the target can be found here:

[http://hallaweb.jlab.org/12GeV/experiment/E12-07-108/Documents/Target/A\\_TGT\\_2-17.zip](http://hallaweb.jlab.org/12GeV/experiment/E12-07-108/Documents/Target/A_TGT_2-17.zip)

<http://hallaweb.jlab.org/12GeV/experiment/E12-07-108/Documents/Target/Loop3.zip>

Survey Report for the target can be found here:

[http://hallaweb.jlab.org/12GeV/experiment/E12-07-108/Technical\\_Docs/survey\\_reports/Spring2015/DT\\_A1606.doc](http://hallaweb.jlab.org/12GeV/experiment/E12-07-108/Technical_Docs/survey_reports/Spring2015/DT_A1606.doc)

### After Target:

Scattering chamber exit window: 16.0 mil ( i.e. 0.016") of Al 2024-T3

Air from scattering chamber to HRS vacuum: 10.62" (LHRS) , 13.95" (RHRS)

Window on spectrometer entrance: 12.0 mil (i.e. 0.012") kapton

Scattering chamber technical drawing can be found here:

[/u/group/halla/www/hallaweb/html/12GeV/experiment/E12-07-108/Technical\\_Docs/drawings/A06114-03-03-0100\\_rev-.pdf](/u/group/halla/www/hallaweb/html/12GeV/experiment/E12-07-108/Technical_Docs/drawings/A06114-03-03-0100_rev-.pdf)

Technical drawing for sieve / spectrometer entrance can be found here:

[/u/group/halla/www/hallaweb/html/12GeV/experiment/E12-07-108/Technical\\_Docs/drawings/A07108-15-01-0400.pdf](/u/group/halla/www/hallaweb/html/12GeV/experiment/E12-07-108/Technical_Docs/drawings/A07108-15-01-0400.pdf)

[/u/group/halla/www/hallaweb/html/12GeV/experiment/E12-07-108/Technical\\_Docs/drawings/A07108-15-01-0401.pdf](/u/group/halla/www/hallaweb/html/12GeV/experiment/E12-07-108/Technical_Docs/drawings/A07108-15-01-0401.pdf)

[/u/group/halla/www/hallaweb/html/12GeV/experiment/E12-07-108/Technical\\_Docs/drawings/A07108-15-01-0401RevA.pdf](/u/group/halla/www/hallaweb/html/12GeV/experiment/E12-07-108/Technical_Docs/drawings/A07108-15-01-0401RevA.pdf)

Older Sieve design (not in use):

[/u/group/halla/www/hallaweb/html/12GeV/experiment/E12-07-108/Technical\\_Docs/drawings/A07108-15-01-0300.pdf](/u/group/halla/www/hallaweb/html/12GeV/experiment/E12-07-108/Technical_Docs/drawings/A07108-15-01-0300.pdf)

HRS Schematics:

[/u/group/halla/www/hallaweb/html/12GeV/experiment/E12-07-108/Publications/Technical/Spectrometer/HRS\\_Schematics.pdf](/u/group/halla/www/hallaweb/html/12GeV/experiment/E12-07-108/Publications/Technical/Spectrometer/HRS_Schematics.pdf)

[/u/group/halla/www/hallaweb/html/12GeV/experiment/E12-07-108/Publications/Technical/Spectrometer/Right\\_HRS\\_GMP.pdf](/u/group/halla/www/hallaweb/html/12GeV/experiment/E12-07-108/Publications/Technical/Spectrometer/Right_HRS_GMP.pdf)

### Material Information:

Density of Al 7075: 2.81 g/cc

Density of Al 2024-T3: 2.78 g/cc

Temperature of LH2 Target: 19K

Pressure of LH2 Target: 25psi

Density of LH2 Target (19K, 25psi): 0.0723 g/cc (training slides), 0.07248 g/cc (NIST table)