

Date: Tue, 29 Nov 2005 13:37:33 -0600  
From: John Krider <krider@fnal.gov>  
To: Stephen Pordes <stephen@fnal.gov>, Petros Rapidis  
<rapidis@fnal.gov>  
Subject: grid meaasurements

Petros and Stephen,

I measured the Icarus cathode grid and two of the MN-73 grids we purchased. I averaged measurements at several different places on each grid. Variations from the average are less than +/-0.1 mil. The Icarus grid has line width = 1.93 mils, center to center pitch = 100.0 mils (10 lines/inch), calculated transparency = 96%; Fermilab grids have line width = 5.6 mils, center to center pitch = 79.1 mils, (12.64 lines/inch), calculated transparency = 86% and foil thickness = 0.5 mil

The Precision Eforming catalog doesn't have a part with the Icarus dimensions. Our mesh is closer to MN-74 (5.2 mil width) than MN-73 (4.2 mil width), but MN-73 is what we ordered and it is written on the packaging for each grid.

John

Date: Tue, 29 Nov 2005 21:59:54 -0600 (CST)  
From: Stephen Pordes <stephen@fnal.gov>  
To: John Krider <krider@fnal.gov>  
Cc: Petros Rapidis <rapidis@fnal.gov>  
Subject: Re: grid measurements

Hi John,

thankyou..that's great. This isn't exactly what's in the details of the Icarus memo nor is it close to the manufacturer's specs.

the rho and  $(1+\text{rho})/(1-\text{rho})$  for the Icarus and the FNAL PrM (assuming that the radius to be used is 1/2 the grid material width) are: 0.06 and 1.13 for the Icarus; 0.24 and 1.63 for the FNAL version..

The 1.13 is quite similar to the value  $E(\text{drift})/E(\text{cathode field})$  >1,1 we found from the data we took in gas with the Icarus device.

Stephen