

Far Detector Pallet Flatness QC Procedure

I. Objective

The Far Detector Pallets (Fermilab Dwgs #MD-486833 & MD-486995) have a specified flatness tolerance of 0.060" and will need to be verified prior to acceptance and shipping of pallets to the Ash River site for installation.

II. Materials Needed

- A. White Paint Marker, or Black Permanent Marker, or Soap Stone
- B. Feeler Gauge QC Tool (Fermilab Dwg #MB-489400) or a standard set of thickness feeler gauges
- C. Flatness QC Bar (Fermilab Dwg #MD-489399) or a standard straight/flat edge 9' long and tape measure
- D. Blank QC Flatness Report

III. Procedure

- A. Label Pallet with a number designation such as P-#. (P-1 thru P-12 have already been measured and recorded at Fermilab.) And record this Pallet number along with the date onto a Blank QC Flatness report.
- B. Using the Flatness QC Bar mark the pallets with the Plane Centerlines and Point lines as shown on Fermilab Dwg #MD-489388.
 - 1. Mark Points across the Table End & designate Left (L) and Right (R)
 - 2. Mark Planes along Left Side
 - 3. Mark Points across the Pallet Top
 - 4. Mark Planes along the Right Side
- C. Place the Flatness QC Bar at Plane 1 designations on both sides of the pallets. Using the Feeler Gauge QC Tool measure the gap between the pallet and the QC Bar. Record only those places that are larger than 0.060" onto the QC Flatness report.
- D. Repeat for the remainder of the planes.
- E. Turning the Flatness QC bar 90 degrees now measure the gaps along the point lines at all of the plane intersections. Record only those places that are larger than 0.060" onto the QC Flatness Report. Only measure point lines 1, 5, 9, 13 & 17.
- F. Repeat for each pallet.