

Supplier Award

In recognition of excellent supplier performance

Lamina Dielectrics Ltd



Thin-walled polyimide tubes for the ATLAS Transition Radiation Tracker

About 180,000 thin-walled polyimide tubes (or straws) of 4 mm diameter and 166 cm length have been supplied by Lamina Dielectrics Ltd to the ATLAS Transition Radiation Tracker (or TRT) over a period of approximately 18 months. The main challenge of this supply has been to meet the stringent mechanical specifications through the winding and bonding together of two thin strips of very delicate coated polyimide film.

The delivered straw diameters are all within the required total spread of 15 microns. The high quality of the bonding of the polyimide layers is demonstrated by the fact that under axial loading the coated film material breaks before the bond itself.

The raw material was supplied to Lamina Dielectrics Ltd by CERN. The company was able to detect a significant quantity of defective raw material thanks to methodological quality control procedures (one sample controlled thoroughly every 15 minutes). The manufacturing process itself proved to be very stable and the required quantity of straws has been produced well within schedule and specifications with significantly fewer losses of the expensive raw material than originally foreseen.

The delivered straws will operate at a high voltage of about 1600 V and will serve as the cathodes for the TRT detecting elements. They have been shown to survive an integrated dose of close to 20 C/cm without any significant change of their mechanical properties.

Geneva, 1/03/2001



P. Jenni

Dr. Peter Jenni
ATLAS Spokesperson



H. F. Hoffmann

Dr. Hans Hoffmann
CERN Director for
Technology Transfer