



B3200 ENERGY MEASUREMENT STACK

Technical and Usage Information

General Information

The B3200 dosimeter stack was developed for penetration range energy measurements in electron beam process systems with probable energies between 100kV and 300kV. The B3200 product was developed for use with the S5100 *WINDose for Excel* software product to provide automated calculation of energy with a plot of the dosimeter measurements with slope and intercept calculations. The product is designed to be implemented as a standard product to be used to monitor the reproducibility of an electron beam operating in the specified energy range. More accurate energy measurements may be possible with this product when incorporating some further application analysis. For details and information on a prescribed method for monitoring energy for this energy range see ISO/ASTM 51818 or contact GEX Corporation.

Instructions for Use

The product holds a stack of *B3WINDose*TM dosimeters. The average batch thickness of the dosimeters is found on the dosimeter box. The B3 radiochromic film material is polyvinyl butyral (PVB). The paper overlay on each dosimeter provides separation with an approximate 50 micron air gap between film layers.

Keep the B3200 package sealed until just prior to use so that the environmental conditions are maintained. Use a target of 30 kGy or somewhere in the midrange of your calibration curve. For consistent results always target the same dose.

Attach the stack firmly to the material or fixture on which it will be carried on. Be sure to orient the stack in the down web direction as the fixture is designed to move over web rollers in that fashion.

Post Irradiation Handling

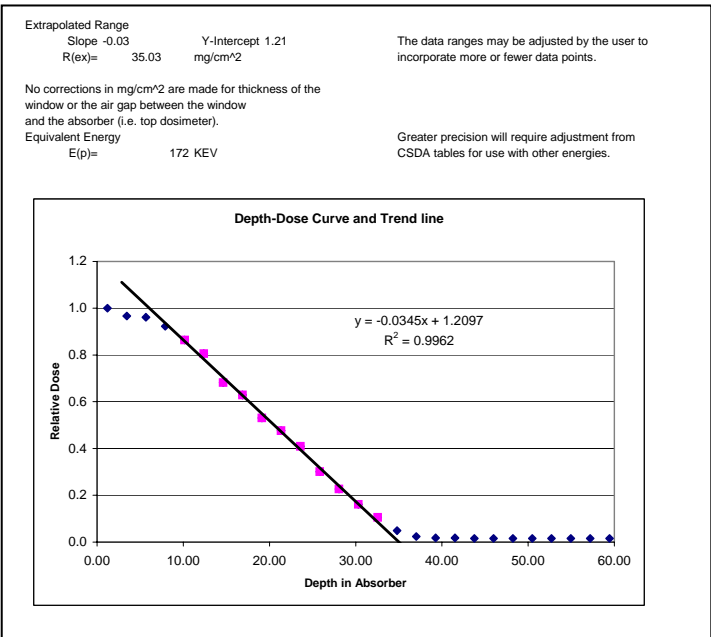
Minimize exposure to ultraviolet sources and follow a post-irradiation protocol as with all B3 dosimeter products

Measurements

After exposure, remove the paper overlay from the top of the stack (this may require using a sharp cutting instrument) being careful not to damage the films and read the dosimeters. They are sequentially numbered from lowest to highest top to bottom. Use the automated *WINDose for Excel* worksheet program (S5100) for the dose measurements with automated plotting. For information, contact GEX Corporation.

Reference

ISO/ASTM 51818 - Standard Practice for Dosimetry in an Electron Beam Facility for Radiation Processing at Energies Between 80 and 300 keV.



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