

Electron Beam Irradiation Services

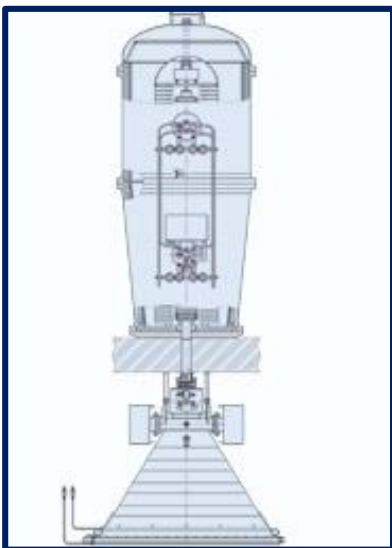
Introduction

In order to increase the competitiveness of Philippine industries, PNRI offered electron beam (EB) irradiation services in addition to its existing gamma irradiation services. This was made possible through the establishment of the EB Facility which was inaugurated in December 2014. This is the first EB Facility in the Philippines intended for R&D and semi-commercial irradiations. It has an energy of 2.5 MeV and 100 kW power.



Operation

The electron beam accelerates electrons using high-voltage rectifiers in the accelerator vessel. The accelerated electrons then exit through the beam extraction assembly and hit the samples for modification.



Product Handling Systems:

Cart Conveyor System

The cart conveyor system is used to transport samples inside the irradiation room using trolleys. The samples are recommended to be as thin as possible.



Liquid Handling System

The EB Facility can irradiate liquids such as Carrageenan Plant Growth Promoter (CPGP) which can increase the yield of rice and protects it from infestation.



Applications

EB Irradiation is used for applications such as:

- Degradation (e.g. Carrageenan Plant Growth Promoter)
- Crosslinking (e.g. Super Water Absorbent (SWA), Hydrogel, Hemostat)
- Radiation Grafting (e.g. Non-Woven Fabric)
- Sterilization of medical products
- Food irradiation (e.g. beef patties)

Irradiation Services Section

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