

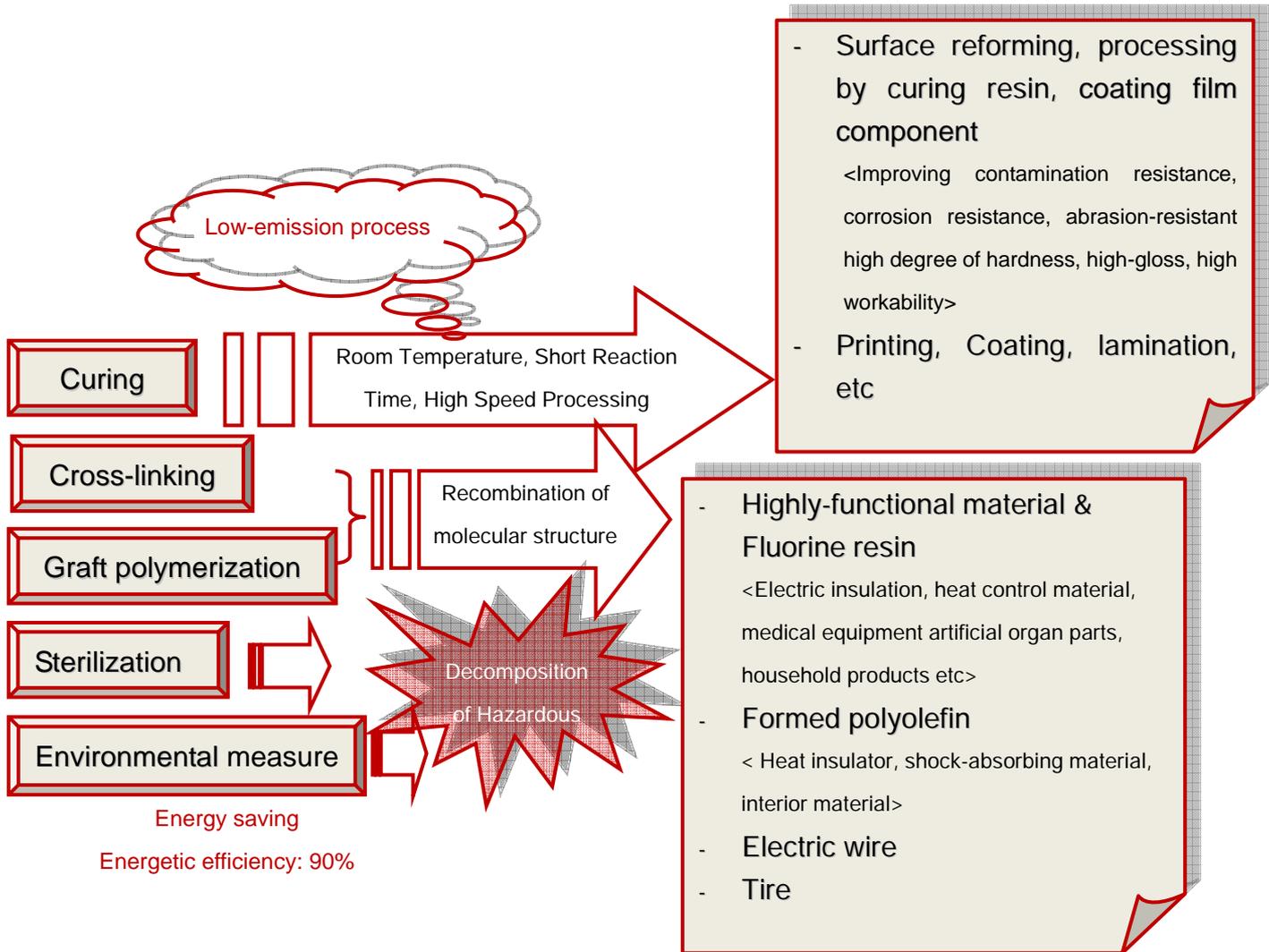
World First

The Electron Beam Implement using by UV irradiation developed for practical use

1. Introduction

Electron Beam is artificially-accelerated electron. This technology by using high Electron Beam energy is used for not only industrial equipment, kitchen equipment, household products, but also in a wide range of areas, such as printing and medical services and so on.

Traditional Electron Beam implement is using heat energy. However our implement, which developed WASEDA University (WASHIO laboratory office), is using UV energy. It doesn't need high-temperature heating and direct control system. In addition it is quite eco-friendly.



2. Outcome

A) Electron Beam control using by external light source without direct control circuit

External light source generates an electron. Conditioning doesn't need start of operation and particular circuit doesn't need for operation.

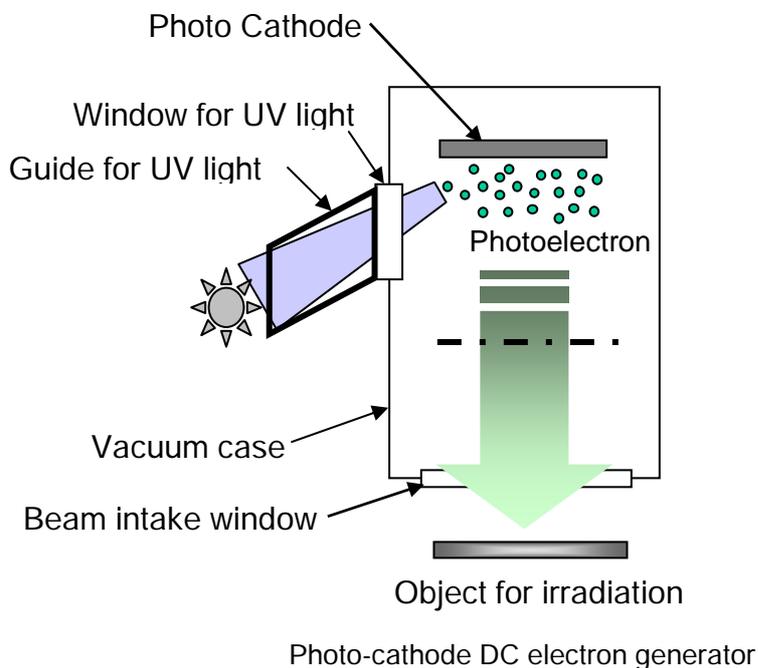
B) Maintenance can be minimized by using Photo-cathode system.

Unneeded high-temperature heating

Photo-cathode system is very few wear damage. Because it doesn't need high-temperature heating. So exchange frequency can be minimized or nothing. In addition, maintenance can be minimized due to cathode metal doesn't become gas and degree of vacuum is maintained.

C) Compact size and low cost due to simple structure (Parts quantity: 1/10)

Electron Beam implements by using UV irradiation is quite simple principle. Parts quantity is 1/10 compare to Thermionic cathode system. Thus control and maintenance is easy and also downsizing and low cost are also possible.



3. Comparison of UV Energy and Heat Energy

	UV <New Technology>	Heat<Traditional Technology>
Price	Low Price	High Price
Maintenance	Few or Nothing	Frequently
Implement Size	0.6(W)*0.6(D)*1.3(H)	Large-Size
Processing Time	Short	Long

4. Future

Firstly we will sell this product as a laboratory practical machine, next step, sell into industrial and medical market.