BUSINESS UNITS

FRAUNHOFER FEP – ONE OF THE LEADING RESEARCH AND DEVELOPMENT PARTNERS FOR SURFACE TECHNOLOGIES AND ORGANIC ELECTRONICS

Flat and Flexible Products

We develop technologies, processes and key components for the vacuum coating of flexible products such as polymer films and thin metal foils, textiles, membranes and paper. Surface refinement with thin layers enables these materials to be used in a variety of innovative products. A very effective, favorable-cost process for modifying the surfaces of flexible materials is vacuum web coating, so-called roll-to-roll processes.

[www.fep.fraunhofer.de/ffp](http://www.fep.fraunhofer.de/ffp)

Coating of Metal Sheets and Strips, Energy Technologies

We are concerned with the large-area vacuum coating of metal sheets and strips at high deposition rates. In addition to the environmental friendliness the advantage of our processes is the almost inexhaustible range of layer materials which far exceeds the materials that can be used for conventional surface modification.

[www.fep.fraunhofer.de/mpb](http://www.fep.fraunhofer.de/mpb)

Development of Customized Electron Beam Systems and Technologies

We use electrons as a versatile tool. The thermal effect of electrons is used for welding or evaporating metals, and for modifying the surface layer of metals. The chemical-biological effect of electrons is used to cure organic materials, change their surface properties, and sterilize materials.

[www.fep.fraunhofer.de/est](http://www.fep.fraunhofer.de/est)

Coating and Electron Beam Processing of Parts

We coat 3-dimensional objects made of metal, ceramics, or glass in order to adapt their surface properties and so improve their functionality and service life. Using vacuum coating technologies such as sputtering technology, plasma-activated high-rate deposition, and high-rate PECVD, we improve the resistance of tools and components to corrosion, scratching, and abrasion.

[www.fep.fraunhofer.de/ebb](http://www.fep.fraunhofer.de/ebb)
We develop processes and technologies to precisely and homogenously apply electrical, optical, acoustic, and magnetic layers and layer systems on large areas. This provides the basis for new products in the area of optics, electronics, sensor technology, photovoltaic systems, storage media, and biomedical technology.

Flexible Organic Electronics

Organic semiconductors allow large area components as organic light emitting diodes or organic solar cells on flexible substrates. With modules on thin substrates, as metal- and polymer films or ultrathin flexible glass, completely new lighting solutions (integrated into curved surfaces) can be realized. Especially the transparency of modules matters.

Microdisplays and Sensors

Fraunhofer FEP offers its customers the development of complete prototypes and systems of OLED-based microdisplays and sensor components. The entire range of activities for OLED-on-Silicon applications, from CMOS design, OLED stack tuning, optic design, system integration, interface programming is covered by our scientists and engineers.

Medical and Biotechnological Applications

Fraunhofer FEP has been developing technologies for modifying and coating surfaces for many years. Today, this expertise is allowing us to apply biofunctional coatings to surfaces and to customize surface properties. We are increasingly using this know-how for medical technology, for example to functionalize dressing material, or to improve the biocompatibility of implants.