

Pseudo E-Beam Holograms



The technology of electron beam lithography provides most modern and dynamic global industry - microelectronics.

We offer a wide assortment of E-beam holograms which are created using powerful electron beams. We manufacture E-beam holograms for complete security to the product from their duplicated ones. An e-beam hologram technology is based on synthesizing of micro relief with specified parameters by electronic beam, which can be focused in a spot with a few nanometer sizes.

Exactly the e-beam technology of hologram origination is used in products as security applications. This technique is to provide high resolution for nano features and vivid and sharp images. By using E-beam hologram technique, we can also add color control and animated hidden text and images to make it more authentic. Our E-beam Holograms incorporate security elements that cannot be manufactured using other technologies. E-beam technology creates originals of computer-synthesized e-beam holograms with high level of protection parameters.

E-Beam Hologram is the latest development in the hologram origination techniques, and allows very high resolution for nano features and very sharp imagery. Color control and animated hidden images are only some of the new features that this technique has introduced. Security ratings for this are medium to high, depending on the complexity of the features proposed.

Silicon is the base material for the production of microprocessors. It indicates the start of the silicon age of holography. Holograms created by this technology are recorded to a silicon substrate by a perfectly focused controlled electron beam. This presents a very sensitive instrument for recording the hologram structure; this is much finer than the laser beam.

The electron beam records the hologram structure which is engraved line after line, and the whole process of recording is controlled and operated by computer. Once generated an electron beam hologram not only covers all aspects of laser originated holography but it can contain far more complicated holographic design, in which we can precisely define visual and hidden features at any point within the hologram. These unique characteristics of holography generated by electron beam enable encoding of a large number of security features into the holographic structure.

- o The e-beam technology resolution is two order of magnitude higher than resolution of optical recording systems.
- o E-beam origination allows to get micro texts up to few micron height, high resolution elements and other features beyond the reach of optical recording method.
- o E-beam equipment is a high tech and expensive one requiring substantial intellectual investments .

Specifications of E-Beam Holograms

- o High-resolution line patterns.
- o Switch effect.
- o Kinematic images.
- o Concealed images.
- o True color images.
- o Micro-texts
- o Nano-texts
- o CLR images (including dynamic and multilevel) to be controlled by special laser device.