



INTERIOR PRINTING FEATURES

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There is a constant demand in the printing services market for large-format printed products for interior decoration and outdoor advertising. Given the growing demands on the quality and uniqueness of visual solutions in interiors, the need to use new technologies is becoming more urgent. Innovative digital printing technologies are being introduced to create unique and inimitable interiors and to decorate points of sale. Production of large-format products for interior decoration of apartments, offices, exhibitions, concerts, shopping centres, restaurants, cafes and other establishments is called interior printing.

The article analyses the dynamics of patenting technologies and materials for large-format printing in the interior for the period 2013–2023. The geography of the sample was variable, namely, the search was carried out in such countries as England, Germany, Ukraine, the USA, and Japan [1]. The dynamics of patenting inventions is growing from year to year, reaching a significant number in 2023–273 units. Countries such as England, Germany, France, Japan, and the USA demonstrate a stable development of the research topic from 2013 to 2023. In particular, the USA is characterized by the highest rate of invention development, which increased from 10 inventions in 2013 to 65 in 2023.

Interior printing differs from other types of printed products in the following ways.

1. Viewing images from a distance. Interior products, as a rule, are located at a considerable distance from the observer, so the quality of interior printing prints is subject to increased requirements for clarity, contrast and brightness.
2. Resistance to environmental influences. Interior products should be resistant to light, moisture and other operating factors.
3. Printed products used indoors should not emit harmful substances.
4. Different types of fabrics are used to make products, including natural, synthetic and mixed fibres.

Products intended for interior decoration have the following requirements for printed image quality:

- high image clarity. The size of images printed for interiors can be quite large, so it is important that the image is clear and understandable from any viewpoint;
- brightness and contrast of the image. Interior products are often placed in a room illuminated by artificial light, so it is important that the image is bright and contrasty so that it is clearly visible in any lighting conditions;
- resistance to light. Interior products are usually placed on walls or other surfaces that are exposed to various light sources, so it is important that the image is resistant to light, especially UV radiation;
- resistance to moisture. Some types of interior products, such as photo wallpaper, can be exposed to moisture, so it is important that the image is resistant to moisture and does not change geometric and colour characteristics.



The most commonly used types of products for interior decoration:

- photo wallpapers, for the production of which such materials as paper, non-woven fabric, vinyl, self-adhesive materials are most often used. Photo wallpapers are widely used to decorate rooms, as they allow you to create unique and unique interiors;

- reproductions of artworks (photographs) are printed images of artworks created by artists or personalized photographs. Reproductions of artworks are often used to decorate interiors, as they allow you to add a touch of classics and elegance to the interior. Materials such as paper, fabric, and film are most often used to print reproductions of artworks;

- products for decorating points of sale. Interior printing is widely used to decorate points of sale, for example, advertising banners, information boards, photo wallpapers with logos and other corporate symbols are placed on retail surfaces. Materials such as paper, fabric, film, and plastic are most often used to decorate points of sale.

The composition of fabrics for interior printing can be synthetic, natural and mixed. Synthetic fabrics are made of synthetic fibres such as polyester, polyethylene, polyvinyl chloride (PVC), and have high mechanical strength, resistance to external influences, and low cost. Synthetic fabrics are often used for both outdoor advertising and interior decoration. Natural fabrics are made from natural fibres, such as cotton, linen; they have good performance characteristics, but are more expensive than synthetic fabrics. They are often used for indoor advertising and interior decoration.

When preparing original layouts for the manufacture of interior products, the following indicators should be taken into account: viewing distance and image size; image detail and contrast; the texture of the material to be printed on.

For printing on fabric, it is recommended to use latex printing. Latex inks do not contain any harmful substances and do not produce any emissions, which makes it possible to use this type of printing in rooms with people, such as children's rooms. For printing on paper, it is recommended to use solvent or eco-solvent printing. These technologies produce high-quality images that do not fade in the sun. For indoor printing, it is recommended to use eco-friendly inks such as latex, eco-solvent, or UV inks. When choosing a printer, it is necessary to take into account the following factors: printing technology, printer size, print speed and print quality.

To print on other materials, such as plastic, foam, and others, it is necessary to choose a technology that matches the properties of a particular material.

The choice of inkjet printing technology and ink type for interior printing depends on the following factors: type of material to be printed; requirements for image quality and durability; product safety requirements (environmental component).

References

1. Espacenet: free access to over 150 million patent documents. <https://worldwide.espacenet.com>