

PHOSPHORESCENT POWDERS

To prolong the night by starlight, use a phosphorescent product!
Powders for producing glow-in-the-dark printings

CHEMICAL NATURE

Photo luminescent pigments are characterized by their ability to absorb and store light energy and release this energy for a long period of time in darkness.

Phosphorescence colour	Designation
Yellow	AM 9261
Red	AM 9297
Blue	AM 9266
Purple	AM 9296

APPLICATIONS

The total afterglow time and intensity of phosphorescent inks depend first of all on their pigment concentration.

We recommend to incorporate a maximum of 40% of powder in a transparent varnish (UV or solvent-based).

The second important factor is the amount of pigment in the dry film which depends obviously on the ink deposit on the substrate. Usually afterglow inks are printed with fairly coarse PET-meshes in the range of 34 to 77 threads/cm (85 to 195 threads/inch). To improve the brightness, a white under layer is recommended.

The final relevant factors are the intensity and type of light source which is used to load up the phosphorescent ink.

Basically, all ultraviolet – daylight- and artificial light sources with a high energy output are suitable. Exceptions are the yellow emission type sodium vapour lamps and any red light. The stronger the intensity of the light sources, the brighter the afterglow effect.

Examples of applications

Clocks and watches, lightings apparatus and fixtures, energy efficient night lights, fishing lures, security products, electronic equipment, military equipment, aircraft interiors and exteriors, cars, motorcycles and bicycles, fire protection, escape route markings in buildings, camping equipment, campground and other outdoor signage, fashion, stationery.

	AM 9261	AM 9297	AM 9266	AM 92-96
Body colour	Pale green	Off white	Pale blue	Off white
Average Particle size	10-60 microns	10-15 microns	10-60 microns	10-35 microns
Excitation wavelengt	200-450 nm	200-450 nm	200-450 nm	200-450 nm
Emission wavelengt	520 nm	611 nm	490 nm	390 nm
Afterglow extinction	> 12 h	> 8 h	> 12 h	> 8 h
Luminance after 10 mn	> 400 mcd/m ²	> 80 mcd/m ²	> 500 mcd/m ²	> 60 mcd/m ²
Luminance after 60 mn	> 30	> 10	> 50	> 10
Specific gravity	3,6	3,0	3,7	4,0
Light fastness (Blue Woll Scale)	7	7	7	7
Temperature limit for application	500 °C	500 °C	900 °C	500 °C





STORAGE

The guaranteed shelf life of our inks, undiluted, in the original, unopened container is applicable to inks stored in a dry, well-aired environment at a temperature between 15 to 25 °C (59-77 °F).

- Standard UV inks: 1 year
- Standard solvent based inks: 1 year
- Special shades in solvent or UV: 1 year
- Fluorescent colours: 3 months
- Gold and silver: 3 months
- Transparent shades: 6 months
- Special products, hardeners: 1 year

HEALTH AND SAFETY

The vast majority of printing inks and related products formulated by Encres DUBUIT contain no substances of very high concern (SVHC) candidates for authorization (as of June 25, 2020) in concentrations greater than 0.1% by mass. Our products comply with the requirements of Directives 2011/65 / EU (RoHS 2), 2015/863 / EU (RoHS 3) and 94/62 / EC (heavy metal concentration levels present in packaging). For more information about our regulatory compliance, please consult our Eco System document, available on request.

Encres DUBUIT guarantees the quality of our products. However, we cannot guarantee the final result, because we exercise no control over individual operating procedures. Our responsibility is limited solely to the exchange of ink or varnish. The quality of a substrate to be printed can vary, as well as an overprinted ink; therefore, the above information is given in good faith based on the state of our art and prior experience. This statement also applies to our technical assistance. When using our inks and varnishes on a new substrate or when changing operating procedures, we strongly recommend testing first a full-scale production to ensure compatibility. Please refer to our General Conditions of Sales.

