

The New Drying Technology **K-NIR** from **Bochonow®**



The latest K-NIR technology for professionals!

In between are some very interesting drying and curing technologies for the screen printing method available! The UV technology can be mentioned in particular.

But these technologies can not reach the technical capabilities in conventional, solvent based inks

Solvent-based systems may have some advantages over UV inks. Due to the volatile constituents in solvent-based inks the dry ink film thickness is only about 1/3 of the wet film, while with UV ink the dry film differs only insignificantly from the wet film thickness. This can be entirely desirable in many areas, but often you expect the opposite! Also achieving extremely matt surfaces, or a "soft-touch feeling" can be realized more simple with a solvent system than with UV ink. Adhesion, resistance, as well as issues of health and product safety (for example, incomplete cured UV ink layers) make the selection from among various methods necessary!

Whether a particular method is better or worse, can never be assessed a flat rate, but is always on the individual case and the considered parameters dependent.

That extremely fast processing even in solvent systems and in particular even at 2-K systems is possible, proves the new K-NIR method.

Drying/Curing within seconds with K-NIR means, that the mechanical and chemical resistance of a screen printing ink can be achieved after a short time (2-3 seconds!) through the use of K-NIR technology. When since then using conventional drying, these properties were achieved only by drying long days at room temperature!

Panels made of plastic or metal, moldings, ceramic tile, glass and much more, are the recent applications of the K-NIR units. The radiator units are being constructed in accordance with customer requirements and a variety of formats (square or rectangular) are produced. 100 x 30 mm to 1000 x 1000 mm reach the standard modules, which are available on request.

What is K-NIR?

Das K-NIR-Spektrum umfasst das komplette IR-A Spektrum, mit zusätzlichen Anteilen von IR-B bis ca. 1500 nm.

Durch den eigenen Brennerbau haben wir das Know-How und die Erfahrung die notwendigen Brennertechnologien auszuwählen und den spezifischen Anforderungsprofilen anzupassen.

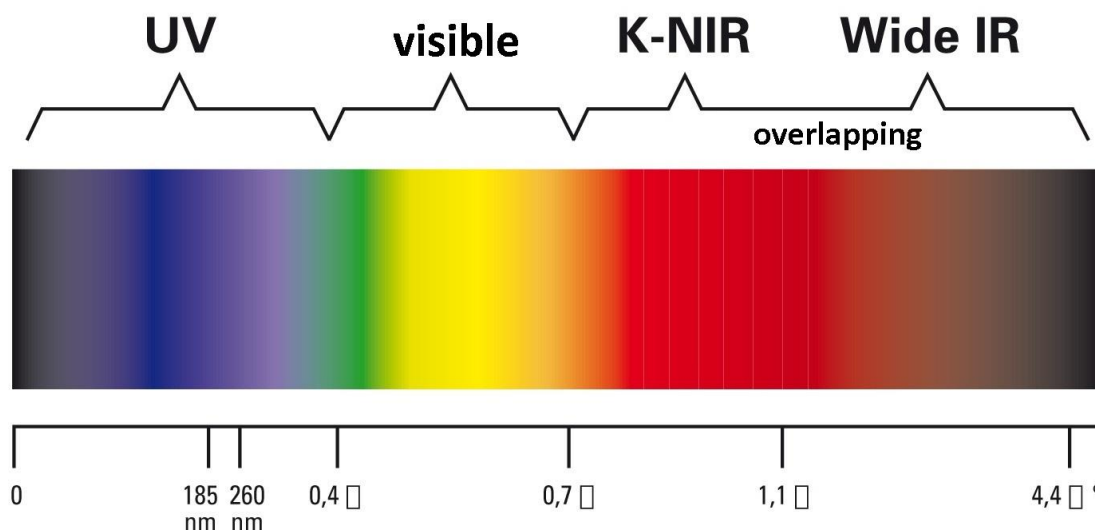
K-NIR is a part of the wavelength spectrum in the infrared region, which ties directly on the visible light range. We distinguish infrared radiation in various areas that are designated as near-infrared, mid-infrared and far-infrared. Near-infrared is again subdivided into the areas of IR-A with a range between 780 nm to 1400 nm, and IR-B between 1400 nm to 3000 nm. The penetration depth in materials is given mainly at the shorter wavelengths, beside the absorption (depending on the material) plays a significant role.

The K-NIR spectrum covers the complete IR-A range, with additional levels of IR-B to about 1500 nm.

Through its own bulb manufacturing plant, we have the know-how and experience to select the necessary bulb technologies and adapt to the specific requirement profiles.

K-NIR Technologie

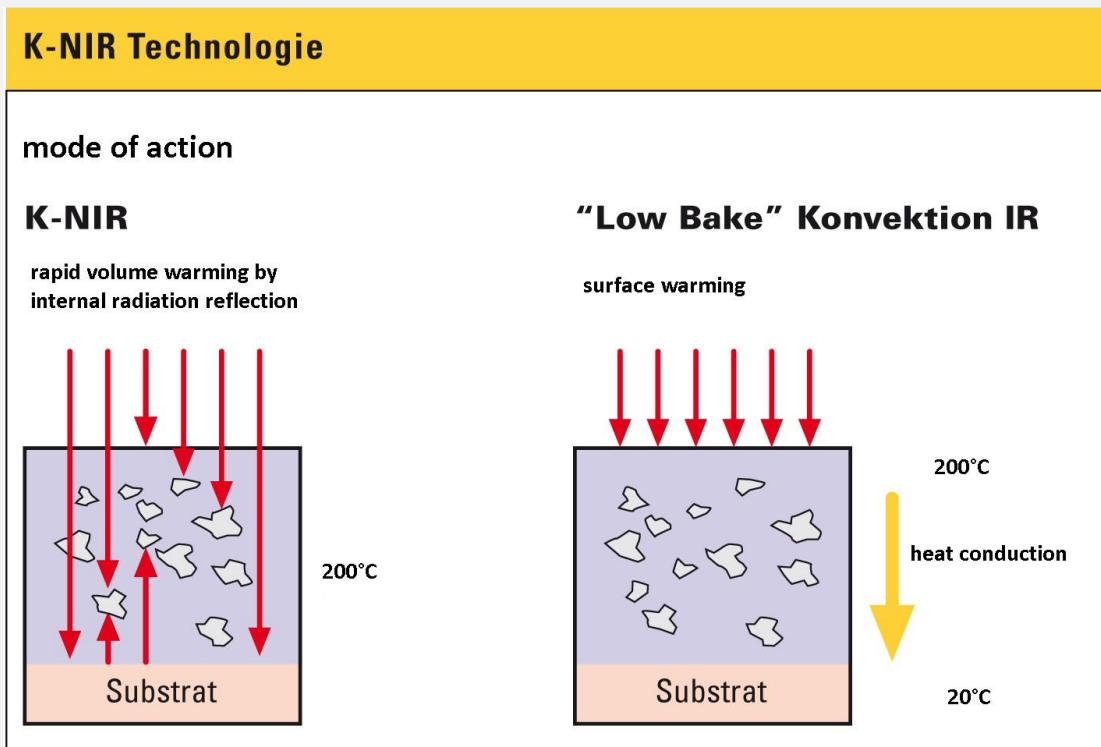
K-NIR radiation is a very high-energy part of the optical radiation, but only partially visible!



HOW DOES K-NIR WORK?

K-NIR penetrates deep into the ink film and causes a direct, strong increase in temperature in the ink film, with a slower heating of the printing material (substrate), in contrast to conventional thermal enforced drying, where a gradual heat transfer ("low-bake") from the surface toward the ground to takes place .

Thereby, the ink film is heated so much faster that process-optimised drying in seconds is possible, without heating the printing material excessively!



**K-NIR →
Curing/Drying in matter of seconds!**

Within seconds to dry/cure rather than the conventional "low-bake" with classical IR radiators!