

Technical Information

50.S.002 | Radiation-curing Systems| Spot Inks, Mixing Systems



Radiation-curing CRS^{max} system

Standard basic inks and binder variants for the radiation-curing offset spot colour ink mixing system

The radiation-curing **CRS^{max}** ink mixing system (Computer-Recipe-System) includes print ready base colours with high pigment concentration and individual fastness properties. Besides the colours, transparent white, opaque white and black can also be found in the assortment. These mono-pigmented basic colours with binder and photoinitiator variants fulfil the wide range of application requirements. In contrast with traditional colour communication systems the radiation-curing **CRS^{max}** allows full control on the resistance properties of the ink layer and gives special flexibility for creating a tailor made ink that fits perfectly to the required purpose.

The benefits of radiation-curing **CRS^{max}** system:

- Individual control on all the fastness properties
- Fast and safe matching of spot colour inks
- Smart opportunity to reduce left-over inks
- Gives possibility to rework the left-over inks that were mixed from radiation-curing **CRS^{max}** base inks
- Reduction of ink stock from uncountable spot colours to a few base colours
- Ability to switch between different systems using the same recipe

Applications / binder variants

The radiation-curing **CRS^{max}** is available in different binder and photoinitiator variants in order to fit to the market requirements and the curing technologies. The printed product and the technical circumstances define which CRS family is to be used.

The available radiation-curing **CRS^{max}** families are:

| Product family code | Curing technology | | | |
|---------------------|-------------------|-------------------------|---------------|----------|
| | Mercury lamp | Iron doped mercury lamp | Electron beam | LED lamp |
| UE | --- | UEL | -- | UEL |
| UG | UG | --- | UGB | --- |
| UP | UP | --- | --- | --- |

Product family code + no further letters = mercury lamp inks

Product family code + **H** = High sensitive inks

Product family code + **B** = EB inks

Product family code + **L** = inks for LED lamp

- UE** **NewV set low energy** for sheet-fed offset, rotary and narrow web offset printing on absorbent substrate
- UG** **NewV pack** for sheet-fed offset, rotary and narrow web offset printing on absorbent substrate, for applications where the packaging design prevents the migration of substances from the ink, low odour, ITX free
- UP** **NewV poly** for sheet-fed offset, rotary and narrow web offset printing on non-absorbent substrate, ITX free

Basic colours

Choosing the right base inks from the assortment has the highest importance.

For ordering, the code of the required variant has to be inserted into the sales code wildcard of the following two lists. (eg. 41UEL7804)

Basic colours for absorbent substrates

The following list shows the available colours (UG, UEL, UGB) for absorbent substrates with their fastness properties:

| The radiation-curing CRS ^{max} basic colours for <u>absorbent substrates</u> (UG, UGB, UEL) | | | | | |
|--|------------|---------------------|--------|-----------------|--------|
| Colour | Sales code | Light fastness (WS) | Spirit | Solvent mixture | Alkali |
| Yellow | 41...7803 | 5 | + | + | + |
| Yellow | 41...7835 | 6 | + | + | + |
| Orange | 41...7804 | 5 | + | + | + |
| Orange | 41...7828 | 7 | + | + | + |
| Red | 42...7806 | 6 | + | / | + |
| Red | 42...7808 | 5 | + | + | - |
| Red | 42...7809 | 5 | + | / | + |
| Red | 42...7834 | 6 | + | + | + |
| Red | 42...7812 | 7 | + | + | + |
| Violet | 43...7826 | 7 | + | + | + |
| Blue | 43...7818 | 4 | - | - | + |
| Blue | 43...7820 | 8 | + | + | + |
| Green | 44...7822 | 8 | + | + | + |
| Black | 49...7800 | 8 | + | + | + |
| Opaque white | 47...7840 | 8 | + | + | + |
| Transparent white | 40...7850 | na. | + | + | + |

+ yes - no / conditionally recommended na. not applicable

For special applications, water-based primers can contain solvents. The radiation-curing CRS^{max} basic colours with resistance features of (/) or (-) for solvent mixture can show colour change when they are combined with these types of varnishes in one application. Please contact your varnish supplier about the necessary resistances of the ink prior to production.

Basic colours for non- absorbent substrates

The following list shows the available colours for non-absorbent substrates (UP):

| The radiation-curing CRS ^{max} basic colours for <u>non-absorbent substrates</u> (UP) | | | | | |
|--|------------|---------------------|--------|-----------------|--------|
| Colour | Sales code | Light fastness (WS) | Spirit | Solvent mixture | Alkali |
| Yellow | 41...7803 | 5 | + | + | + |
| Yellow | 41...7835 | 6 | + | + | + |
| Orange | 41...7804 | 5 | + | + | + |
| Orange | 41...7828 | 7 | + | + | + |
| Red | 42...7806 | 6 | + | / | + |
| Red | 42...7808 | 5 | + | + | - |
| Red | 42...7809 | 5 | + | / | + |
| Red | 42...7829 | 6 | + | + | + |
| Red | 42...7812 | 7 | + | + | + |
| Violet | 43...7826 | 7 | + | + | + |
| Blue | 43...7818 | 4 | - | - | + |
| Blue | 43...7820 | 8 | + | + | + |
| Green | 44...7822 | 8 | + | + | + |
| Black | 49...7800 | 8 | + | + | + |
| Opaque white | 47...7840 | 8 | + | + | + |
| Transparent white | 40...7850 | na. | + | + | + |

+ yes - no / conditionally recommended

For special applications, water-based primers can contain solvents. The enradiation-curing CRS^{max} basic colours with resistance features of (/) or (-) for solvent mixture can show colour change when they are combined with these types of varnishes in one application. Please contact your varnish supplier about the necessary resistances of the ink prior to production.

Food and confectionery packaging

The products listed above are not suitable for printing primary food packaging or secondary packaging where the primary layer is not a barrier against migration of substances from the printed layer to the packed product. More information on the subject of packaging for food, cosmetics, pharmaceutical products, tobacco can be found in the information sheet *50.G.002 NewV for food packaging*. Please also find information on the webpage of the European Printing Ink Association: www.eupia.org.

Shelf life

The minimum shelf life of these products is 12 months (UG, UGB and UEL System) and 18 months (UP System) from the production date if the container is not opened. But dependent on the storing and handling conditions, they can be usable much longer. For extending the warranty period, please contact our sales representatives.

Further information: Store between 5 - 25°C. Higher storage temperature may reduce shelf life. Protect from frost and sunlight. The cans need to be closed back immediately after usage.

Packaging

2,5 kg one-way can

20 kg one-way can

200 kg one-way drum