



Technical guidance

INSTRUCTIONS FOR USE

Processing Chemicals – Preparation of the printing plate

	Manual process	Automatic process
Developer	P-75 Developer-PCP Universal developer for PCP plates P-76 Developer-R Manual developer for positive plates	P-75 Developer - PCP Universal developer for PCP plates
Developer Concentrat	P-76C Developer-RC Concentrate 1 + 9 Manual	P-75C Developer-PCP Concentrate 1 + 4
Korektura	P-73 Corrector Gel P-73/1 Corrector Pencil	
Maintenance of developer		With concentrates, diluted 1 + 3 (developer + water) P-77 Anti foaming agent
Gumming chemicals	P-12 Ofsetgum Gumming solution P-47 Ofsetgum-UNI Universal gumming solution	P-47 Ofsetgum-UNI

Thermal treatment

P-81 Termogum (for thermal treatment and gumming)

Processing chemicals		Average consumption mL/m ²
P- 73	Corrector	1
P- 75	Developer PCP	240
P- 75C	Developer-PCP	35
P- 76	Developer-R	800
P- 76C	Developer-RC - Concentrate	80
P- 77	Anti Foaming Agent	As required
P- 47	Ofsetgum-UNI	50
P- 81	Termogum	50
P- 12	Ofsetgum	50
P-211	Activator (plate cleaner)	As required



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Exposure

- As conventional plate

Exposure time depends on the type and strength of light source and its distance from the plate. The most suitable is a metal halogen bulb and a vacuum copying frame. The frame must provide good contact between the film and the plate.

The Plate Control Wedge copied along with the film helps to determine the exposure time. The optimum exposure is achieved when after developing the first printing step in the continuous-tone wedge is four or five. Or 15-micron circle became visible. This value corresponds to the density $D=0,60$ or $D=0,75$.

It is recommended using diffusion foil to prevent film edge marks and adhesive tape shadows. This foil does not have influence on halftone dots.

After the exposure and developing, the image on the plate is still light sensitive, therefore the room should be illuminated with yellow safety light or subdued daylight.

- As CTP plate

When the plate is used as CTP plate – for exposure are needed UV laser diodes which give energy in suitable wave-length (405 nm). These diodes are assembled in XPose Luscher UV plate setter unit and Basys Print UV platesetter unit. We recommend, that power of diodes should be between 45-60 mJ/m². Exposure time is changing together with power of diodes and it depends on number of diodes assembled in plate setter (low number of diodes – longer exposure time, higher number of diodes – shorter exposure time).

Manual Developing

KEMOLIT[®] PCP plate is developed with the P-76 Developer–R or P-75 developer-PCP. The developer can also be prepared by diluting one part of P-76C Developer -RC Concentrate with nine parts of water. The developer temperature should be between 20 and 25°C.

First the developer has to be smeared over the entire plate surface with a soaked pad to ensure proper and even developing. The developing is then poured over the plate and spread with the pad by using even strokes, starting from the edges and working in towards the centre. This has to be done twice, each time taking half a minute. The remaining developer has to be removed with a rubber wiper. Finally, both sides of the plate are washed under running water and dried with the wiper.

Automatic developing

KEMOLIT[®] PCP plates can be used for developing in automatic processors for positive working pre-sensitised plates. The developer temperature must be between 23 and 25°C. Automatic developing is done by applying P-75 Developer -PCP. The developer can be improved by adding P-75 Developer -PCP or P-75C Developer -PCP (concentrate) mixed with water in the ratio 1:3.

Automatic processor developer may be prepared by diluting P-75C Developer -PCP (concentrate) with four parts of water. Regeneration is done by adding concentrate diluted with three parts of water.

Due to the diluted light-sensitive layer the developer tends to foam. This can be prevented by adding small quantities of P-77/1 Antifoaming Agent, which depends on developer's quantity and how fast it is exhausted, altogether approxim. 0,1%.

The developing speed, added regenerator, temperature and developer changing are regulated by checking the test wedge copy.

Image Corrections

Unwanted printing elements are removed by applying of P-73 Corrector- Gel or with a pencil brush or P-73/1 Corrector- Pencil. After approximately one minute the plate should be washed under running water with a sponge. Once the corrections have been made the plate is gummed again!

Caution ! Keep the bottle or pencil with P-73 Corrector Gel closed!



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Gumming up

P-12 Offsetgum or P-47 Offsetgum- UNI is poured over the plate and spread as evenly as possible over the whole plate surface with a sponge to form a thin film.

Gumming can also be done in the automatic processors as the last step before drying by the applying P-47 Offsetgum- UNI or P-81 Termogum.

Normally, plates that need corrections are not gummed, but if they are, the gumming layer must be wiped off with a sponge soaked in water before the corrections are made.

Thermal treatment

When printing on poor quality paper or cardboard, or in extremely high printing conditions, there is a possibility to triple the life of KEMOLIT[®] PCP plates by means of thermal treatment. We need a thermostatically controlled oven with the set temperature of 180°C or 220°C, up to 240°C.

In the first case we burn to slightly improve its resistance and we can still make corrections on the plate. In the second case, the burning is done for extreme printing conditions, including the use of UV inks. The oven has to be able to heat evenly across the entire plate surface. For best results, the plate has to be laid down flat.

After the developing, all the necessary corrections on the plate have to be made since after the thermal treatment at 220 up to 240°C this is no longer possible. P-81 Termogum is poured on the plate and spread evenly over the entire plate in a very thin layer with a clean pad and dried. A dry plate is then placed in the burning oven for 10 minutes, then taken out and placed on a flat frame to cool down. The printing surface changes colour from blue to greyish brown. If colour changes to reddish brown, either the oven temperature is too high, or the plate was kept in the oven too long. Such plate will be difficult to hydrophilize in non-printing areas and may cause problems later during printing. The very same difficulties may appear with baked plates that have not been treated with P-81, or when the film was too thin.

After burning-in it is not necessary to repeat the treatment with the developer and gumming solution.

P-81 Termogum is recommended for gumming in automatic processors for positive working pre-sensitised plates.

Caution! Do not touch the plate with fingers before burning-up, because any dirt or grease on the plate at this stage will be burned-in and might smear later during the printing.

Plate in print

Gumming medium must be washed off the plate in the press with a wet sponge. In case of longer machine stops it is recommended to gum up the plate with P-12 Offsetgum or P-47 Offsetgum- UNI, while in overnight stops the plate has to be gummed up across the printing ink. For longer periods the plates must be protected following the preserving instructions for conservation and archiving.

When printing with KEMOLIT[®] PCP plate, it is recommended using additives from Cinkarna's range for preparation of the dampening solution.

Conservation

Printing ink from the wet plate must be removed with P-23, P-24 or P-211 Activator. The plate is then rinsed with water and gummed up with P-12 Offsetgum or P-47 Offsetgum-UNI. After the treatment it is wrapped in paper and the plate can be stored for over one year.

The instructions are based on our own experience and expertise.

Before using the products, test them to suit your own purpose.

CINKARNA CELJE, May 2009