SUPERPAN 200

DATA SHEET

High-sensitivity black-and-white negative film, which is ideal for taking pictures of versatile and high-contrast subjects. It is especially powerful in low light conditions. A reliable all-rounder!

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ROLLEI SUPERPAN 200

With a nominal sensitivity of ISO 200/24°, SUPERPAN 200 is a high-sensitivity, superpanchromatic black-and-white film that can be pushed up to ISO 400/27°. With an extended red range up to 750 nanometers, it can also be used as an infrared film (in combination with an infrared filter). The emulsion has an integrated antihalation layer. Very good sharpness performance. an optimal sensitivity utilization with wide exposure latitude and fine grain distinguish it.

	− +	
Nominal Sensitivity:	●●●○○	high sensitive
Sharpness	●●●●○	high sharpness
Exposure Latitude	●●●●○	very high exposure latitude
Resolving Power	●●●●○	very high resolving power
Suitable for BW Reversal	●●●●●	extremely suitable

AVAILABLE AS

35 mm
(DX coded)

120
Roll Film

Bulk Ware:
35 mm × 30,5 m
35 mm × 17 m

FACTS:

- Panchromatic sensitized
- ISO 200/24° ± 1 f-stop
- Resolving power = 180 lp/mm
- Extra fine grain - grain size RMS (× 1000) = 14
- Layer thickness of 10 mμ
- Wide exposure latitude (between 125 and 250 ISO)
- Extended infrared range up to 750nm
- Due to the lower blue sensitivity of the emulsion, direct flash images are less sensitive (This specification is based on using a direct flash with a color temperature of about 6500 K)
- Very good tone reproduction
- Very good maximum blackness
- Good pull-push properties
- Application as b/w slide film possible due to the crystal clear PET base material
- Film base PET 100 micron
- Special coating to improve transport properties in cameras
- Optimal flatness
- Use in daylight as well as in artificial light

STORAGE AND HANDLING:

- Always protect from direct sunlight
- Minimum shelf life as indicated on package:
  Store at Ø 8°C
- develop for a short time after exposure
- avoid high storage temperatures above 40°C

FILTER-FACTORS:

By using yellow or red filters, you can increase the tonal values in the respective wavelengths. In general, filters of all kinds, i.e. color, pole, neutral density filters, can be used as usual.
Please follow the manufacturer‘s recommendations.

- Yellow filter for contrast enhancing cloud rendering
- Orange filter for clearer long-distance vision
- Red filter for a more dramatic image mood

The loss of sensitivity is taken into account during a TTL measurement of the camera. If external light meters are used, the filter factors listed below are used to adjust the effective film speed in order to obtain a correct measurement.
Filter fctors:

Filter	Filter factor	Aperture value
Yellow (8)	1.5	0.5
Yellow-dark (15)	3	1.5
Yellow-green (11)	2	1
Orange (22)	4	2
Red (25)	5	2.25
Red dark (29)	8	3

LABORATORY LIGHTING:

The film can be processed in absolute darkness and should not be exposed to sunlight or darkroom lighting! We recommend to use a change bag.

LAYER STRUCTURE OF THE FILM:

- Protective coating
- Emulsion layer
- Antihalation layer (AHU)
- Carrier Acetate
- Back Layer (Anti-Curling)

DEVELOPMENT:

As is well known, the development result is not only dependent on time, temperature and developer type, but also on the development method (tank, dish, processor). In order to achieve reproducible results, the following instructions must be observed:

- When processing in developing cans, the can must be moved (tipped) continuously during the first minute and then every 30 seconds. Development times of less than three minutes should be avoided!
- When processing in development drums (rotary development), the speed of rotation should be greater than 30 rpm (with changing direction of rotation). Development times of less than three minutes should be avoided.

CAN DEVELOPMENT

When developing and fixing the film in a tank with a reel, the following applies: Agitate in the first 60 seconds continuously, then for 5 sec every 30 seconds. Hint: After each tilting rhythm, there should be a short push on the table top. This releases air bubbles adhering to the film. Compared to developing trays in open containers, the advantage is that work can be carried out in ambient light. In addition, the agitation of the tank can be mechanized.

ROTATION DEVELOPMENT

In general, the processing conditions of rotary development (e.g. Jobo) are very similar to those of manual can development. The advantages of rotary development are:

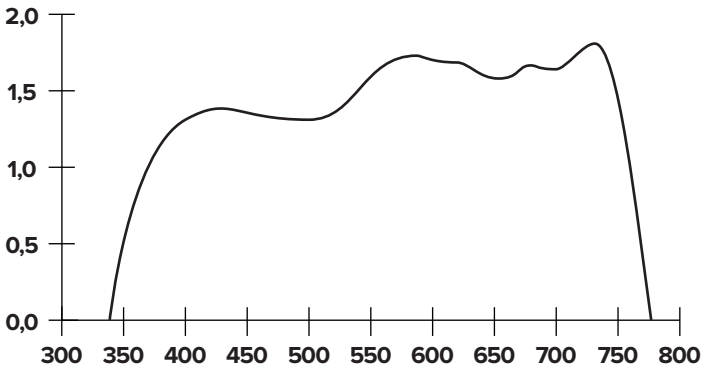
- Reduced chemical consumption
- Shorter development times
- More constant working conditions (temperature)
- Higher reproducibility of the result

Due to the permanent agitation, a rough rule of thumb for rotary development applies: 10 to 15% shorter development times than in manual hand development (can).
Processing times are given by the respective manufacturer of the machine.

MACHINE DEVELOPMENT

Rollei films can be processed in all common developing machines (e.g. rotary, hanger, drag belt or roller transport machines).

SPECTRAL SENSITIVITY:



SCHWARZSCHILD EFFECT:

At	Effective exposure
1/1000 – 1/2 sec	--
1 sec	1 – 2 sec
2 sec	3 – 4 sec
4 sec	8 sec
8 sec	24 sec
15 sec	60 sec
30 sec	180 sec

DEVELOPMENT TIME TABLE:

Agitate in the first 60 seconds continuously, then for 5 sec every 30 seconds. **Process temperature: 20°C**

The development times given below are to be understood as approximate values and refer to an average contrast of γ = 0.65. Due to individual processing conditions, deviations in the times are possible.

DEVELOPER	ISO	DILUTION	TIME (min) | 20°C
Rollei Supergrain	200/24°	1 + 9	6
		1 + 12	8
		1 + 15	11
Rollei RLS	50/18°	1 + 4	10 (24°C)
	200/24°		12 (24°C)
R09/Rodinal	200/24°	1 + 25	8
		1 + 50	17
R09 Spezial/Studio	200/24°	1 + 15	6:30
		1 + 31	13
ILFORD ID-11	200/24°	1 + 1	14
		Stock	10
ILFORD DD-X	200/24°	1 + 4	8:45
ILFORD ILFOSOL 3	200/24°	1 + 9	7:30
Kodak D-76	200/24°	1 + 1	14
		Stock	10
Kodak X-TOL	200/24°	1 + 1	14
Kodak HC-110	200/24°	B (1 + 31)	8
Kodak T-Max	200/24°	1 + 4	8
Moersch Finol	160/23°	1 + 1 + 100	11:50
	250/25°	1 + 1 + 250	12:30
Bergger P.M.K.	12/12°	1 + 2 + 100	17
Tetenal Ultrafin T-Plus	200/24°	1 + 4	5:30

PRE-WATERING

- Pre-watering is recommended for short development times, still developments, and films with a pronounced anti-halo layer (antihalation layer). To do this, soak the film for approx. 1 min in a water bath at process temperature before development.

DEVELOP

- Development times can be taken from the adjacent table
- Recommended developer: Rollei SUPERGRAIN
- Temperature: Processing temperature

STOP

- Duration of the stop bath: about 60 seconds
- Recommended stop bath: Rollei RCS Citrin Stop
- Dilution: 1 + 19
- Temperature: Processing temperature

FIX

- Duration of fixation: between 3 to 8 minutes
- Recommended fixing bath: Rollei RXA Fix Acid
- Dilution: 1 + 7
- Temperature: Processing temperature

WASH

- To remove all chemical residues:
  · Rinse approximately 8 – 10 times with clear water.
  · Time interval: 6 to 10 minutes
- Temperature: Processing temperature

FINAL RINSE

- To shorten drying time and support uniform drying; acts as a fungicide and antistatic;
- Demineralized water with wetting agent
- Recommended wetting agent: Rollei Wetting Agent c
- Dilution: 1 + 100
- Temperature: Processing temperature

DRYING

- Hang in a dry and dust-free room, with sufficient distance from the floor.
- Carefully remove the water drops that are on the lower corners of the carrier with a tissue/absorbent paper.
- We recommend never to strip the film if a wetting agent is used

PUSH & PULL

Pushing is the deliberate underexposure of the film, subsequently accompanied by overdevelopment. The film loses shadow detail, but can effectively be exposed 1 – 2 stops lower. Highlights and midtones thus stand out with less contrast. Rough push time formula:

- + 1 f-stop: Base time × 1.33
- + 2 f-stops: Base time × 1.33^2

Pulling is the opposite and means the deliberate overexposure of the film, subsequently accompanied by underdevelopment. The shadow drawing is raised - extreme highlights and an „overexposure“ can disturb the photo. Rough pull-time formula:

- - 1 f-stop: Base time : 1.33
- - 2 f-stops: Base time : 1.33^2

ALL ROLLEI FILMS AT A GLANCE

	RPX 25	RPX 100	RPX 400	RETRO 80S	RETRO 400S	SUPERPAN 200	ORTHO 25 *plus*	INFRARED
ISO	25	100	400	80	400	200	25	400
Carrier	Polyester	Triacetate	Triacetate	Polyester transparent	Polyester transparent	clear Triacetate	Acetate	Polyester transparent
Sensitivity	panchromatic	panchromatic	panchromatic	super-panchromatic	panchromatic panchromatic	panchromatisch	orthochro-matic	panchromatic extended IR sensitivity
35 mm	✓	✓	✓	✓	✓	✓	✓	✓
120 Roll Film	✓	✓	✓	✓	✓	✓	✓	✓
Sheet Film	4 × 5 inch | 25 sh.	–	–	–	–	–	4 × 5 inch | 25 sh. 5 × 7 inch | 25 sh. 8 × 10 inch | 25 sh.	4 × 5 inch | 25 sh.
35 mm × 30,5 m	✓	✓	✓	✓	✓	✓	✓	✓
35 mm × 17 m	✓	✓	✓	✓	✓	✓	–	–

	RPX 25	RPX 100	RPX 400	RETRO 80S	RETRO 400S	SUPERPAN 200	ORTHO 25 *plus*	INFRARED
Nominal Sensitivity	●○○○○	●●○○○	●●●●○	●◐○○○	●●●●○	●●●○○	●○○○○	●●●●○
Sharpness	●●●●●	●●●●○	●●●●○	●●●●◐	●●●●○	●●●●○	●●●●●	●●●●○
Belichtungsspielraum	●●○○○	●●●○○	●●●●○	●●●○○	●●●○○	●●●●○	●●○○○	●●●○○
Exposure Latitude	●●●●●	●●●○○	●●●○○	●●●●○	●●●●○	●●●●○	●●●●○	●●●●○
Suitable for BW Reversal	●●●○○	●○○○○	●○○○○	●●●●◐	●●●○○	●●●●●	●●●●●	●●●●○

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NOTES:

CHEMISTRY | DILUTION | TIME | INTERVAL: