® **F**: mode d'emploi **GB:** data sheet D: Gebrauchsanleitung

# Gigabitfilm ®

www.gigabitfilm.de (Technik/Technique)
www.zonesystem.de (BildSprache/Art)

# ISO 25/15° Film & Chemie

Gigabitfilms are ***for photographers,*** who carry out their own black&white film-development.
Gigabitfilms are ***for photographers and artists,*** who wants the best.
Gigabitfilms are ***for all,*** who want to forget quality problems.
No more stress with technique or any quality diminishing influences.
There are no more resolution losses, no distortion of the gray-scale and no grain noise.

***What you see as a photographer is what you get on the film***

Please check www.gigabitfilm.de presenting further education, experience reports, picture examples, instructions and updates

**Address:** Gigabitfilm GmbH, Heinrich Böll Straße 17, 52372 Kreuzau, Germany
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**Datasheet** (as per March 6th, 2002, Data only valid in conjunction with Gigabitfilm-chemistry and ISO 25 Gigabitfilm 4x5" film. For updates please see www.gigabitfilm.de

**Filmproduction:** ISO-certificated production by Agfa-Gevaert N. V., Mortsel, Belgium.
**Film base:** polyester (PET = Polyethylenterephtalat), ca. 0.186 mm thick
**Backing:** With efficient high antistatic protection against dust.
**Sensitization:** panchromatic, filter factors: **yellow** Y (K2) +1/2 f/stops, **orange** O (G) +1 f/stop, **red** (R25) +**4** f/stops, **green** for G (X1) +1 f/stop
**Skin tones:** very natural appearance
**Reciprocity:** At 1 sec.+1 f/stops, at 10 sec. +2 f/stop, at 100 sec. +3 f/stops.
**Latent stability:** After three months exposure ½ f-stop lost
**Keeping properties:** Film: minimum 2 years, Chemistry 1 year
**Resolution:** Contrast 1:1000 900 line couples/mm
Contrast 1:1.6 >350 line couples/mm
**Graininess:** extrem low, even at high densities
**Exposure:** Measure the shadow parts, ignore the highlights. The gradation and the highlights will be reproduced exactly.

**Processing:** Use clean processing tanks without any rests of wetting agents. Clean only with water, do not use any washing-up liquid/cleaner. Do not clean plastics with high temperatured water over 40°C/104°F After the first year we recommend: Those users who developed colour materials sometimes didn't get any processing faults. So we recommend for all exclusively b&w-users to clean the processing equipment with C41-Bleach-Fix every 6 months minimum.
**Prewetting:** Not recommended
**Chemistry TypIV:** One shot developer for tank, tray or rotation.

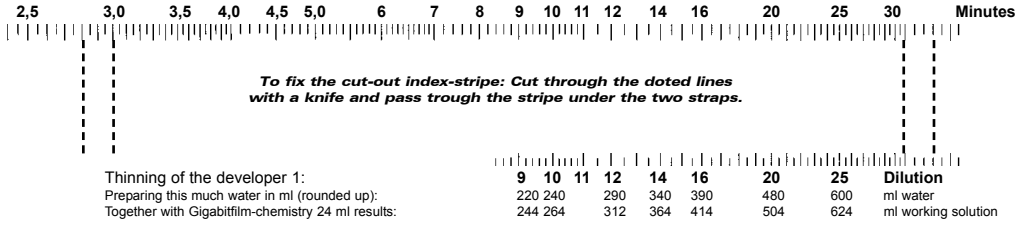
**Development:** For first orientation:
γ=0,5: Dilute Gigabitfilm chemistry e.g. 1+9 at 26°C/79°F: 5 min.
γ=0.65 : Dilute e.g. 1+19 at 26°C/79°F 17 min.

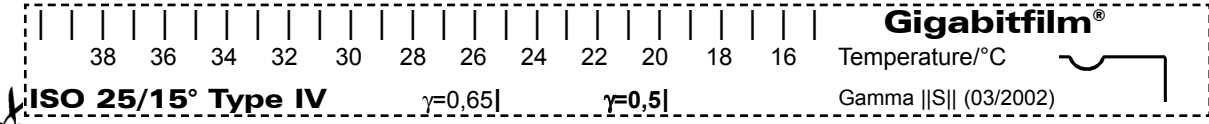
Other dilutions and gammas see computer.

**Attention:** The most important moment of the developing process are the first split seconds when the developers gets into touch with the film.
Please agitate quick in the beginning for tray and tank.
**Characteristic:** Highlights will not be affected by overdevelopment
**Movement:** Rotation: minimum 50 per/min.
**Temperature:** 24°C/75°F up to 38°C/100°C
**Dilution:** any value between 1:9 up to 1:25 , Minimum Concentrate: 4 ml/sheet, Rotation: 6 ml/sheet
**Durable:** Opened glass bottle filled up 50% ca. 2 days, with protection gas longer. Working solution ca. 6 hours. The concentrate is yellowish, also the working solution.
**Tip:** For extending the durability of the concentrate we recommend to use the 24 ml bottles first and then fill them up after cleaning with the concentrate of the 115 ml glass bottles.
**Tank:** Fill up the developing tank before dipping in the film holder! **Agitate continuously during the first minute.** Then agitate every 20 sec.You can put in two films back by back into one slit, because there's only an antistatic back coating.
**Tray:** Minimum solution is 4 ml concentrate + 36 ml water (1+9). Suitable trays are extra flat with high sides. to prevent the chemistry from swashing out. First lay the sheet film into the tray, then fill in the chemistry quickly and agitate very strongly for preventing from clouds and other artefacts. Continue the strong agitation in the first minutes. There are 2 trays delivered with each film set. (read Instructions for Gigabitfilm-Developing tray).
**Stack developing:** ***Not recommended.*** Only 1! sheet film per tray. Stack development varies the developing times and will affect film sensitiveness. ***We don't recommend this developing method.*** Surely you can place films side by side in large trays.
**Rotation:** Minimum 50 p/min., minimum. 6 ml concentrate/sheet.
**Density measuring:** **Gigabitfilm negatives will look 1½-2 gradations softer than normal negatives on the lighttable. Nevertheless you can print them onto Gradation Normal.** For exact density measurement please use densitometers with ||S||-Measuring characteristic (Microdensitometer).
**Backside:** The antistatic coating of the film backside shows (manufacture conditioned) some microscopic tiny irregularities, this is normal. If these little spots in the antistaticcoating will be visible just in huge enlargements in very underexposed shadow-parts of the negative, you can remove this coating from the backing with acetone.

# Gigabitfilm-Computer

**For the coordination of development times**
**Please place the temperature-/gamma stripe, to be cut out, betwee the two logarithmic scales and read according to the amount of desired dilution and solution temperature the accompanying development time.**



**Stopping:** **Important!** Only intermediate washing, see note on risks, is not recommended. With regular 3% acetic acid bath (99% concentrate=30ml/l stop bath, 60-70%=50ml/l, 25%=120ml/l), at least 30 sec. with 3 sec. agitation period.

**Fixing:** normal fixing baths, approx. 10-20 seconds, (yes: ten to twenty seconds!) Any remaining colouring is due to the antihalation backing, and will be removed in the alkaline developer. Using Gigabitfilms the usual rule applies: fixing time is three times the clearing time. (please see Risks).

**Washing:** For normal durability: 0,5 - 2 Min., archive proof: at least 5 min.

**Drying:** The film will be dry in 2 to 4 minutes at room temperatures and is plain. Drying temperatures over 40°C/100°C will cause light curvatures. The wet film is very insensible to dust.

**Scanning:** Easy. You can use these negatives as a reference for scanner tests.

**Intensification:** Soft negatives can be intensified with strong selenium toner as usual.

**RA4-Enlargement:** On colour-paper will show no colour-shift as often found on usual b/w negatives.

**Enlarging:** Prefer systems like Heiland Splitgrade, because they allow the most comfortable labwork. We recommend this system, because it reduces the waste in the positive lab.
Remove at least the lower covering glass of the enlarger if you use focal lengths shorter than 150 mm, cause otherwise all of the available enlarger lenses show considerable MTF losses. With more than 180 mm you can enlarge with lower covering glass. Recommendable is, at suitable, precise enlarging masks without glass. Anti-Newton glasses can cause higher grain.

**Taking lens:** Because of diffraction, you should try not to stop down your lens too much (see table below). Every two f/stops more you lose 50% resolution. Many camera lenses are still designed to give better contrast, this could reduces considerably resolution. Most of the usual large format lenses are optimized for an image ratio 1:20 until 1:10. But pictures in infinity are possible without problems.

**Flatness:** Avoid fluctuation in your sheet film cassettes. A practical tip: Use an adhesive (known in reprography) in the middle of your cassette, the size of a thumbnail is fine.

## Theoretical resolution values

for perfect optics at the wavelength of 590 nanometers

| **Complete angle of view** | | **0°** | **20°** | **40°** | **60°** | **90°** |
|---|---|---|---|---|---|---|
| | | Tangential (Radial) | | | | |
| f/stop | **5.6** | 246 (246) | 235 (243) | 204 (231) | 160 (213) | 87 (174) |
| | **8** | 174 (174) | 166 (171) | 145 (163) | 113 (151) | 61 (123) |
| | **11** | 123 (123) | 117 (121) | 102 (115) | 80 (106) | 43 (87) |
| | **16** | 87 (87) | 83 (86) | 72 (82) | 56 (75) | 31 (62) |
| | **22** | 61 (61) | 59 (61) | 51 (58) | 40 (53) | 22 (44) |
| | **32** | 43 (43) | 41 (43) | 36 (41) | 28 (38) | 15 (31) |
| | **44** | 30 (30) | 29 (30) | 25 (29) | 20 (26) | 11 (22) |
| | **64** | 22 (22) | 20 (22) | 18 (20) | 14 (19) | 7 (15) |

These resolution values apply to the contrast of 1:1000 and represent line couples per mm.

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**Processing risks:** Use clean processing tanks without any rests of wetting agents. Clean only with water, do not use any washing-up liquid/cleaner. Using pyrogallol developers before Gigabitfilm chemistry can be harmfull, temperatures over 30°C/86°F can cause artefacts in rotation direction.
Do not develop together with other film types.
If artefacts in homogeneous parts with high densities appear (sky) **after drying** then there's too much iodine in the used fixer. This iodine reacts with tiny vestiges of grease (from fingers, cassette rims). This can be avoided by adding starch to the fixer. Add one spoonful per liter. A cloudy look of the solution is normal and doesn't affect storage quality or effectiveness. Please change out the fixer in time.

**Shadows:** A normal negative contains more information than is visible on a light table. To check the print quality of the shadows we recommend: Place the negative before a dark background and illuminate it indirect from behind. Then the whole information becomes visible. For printing these shadows completely we recommend photographic papers and chemistry from Wolfgang Moersch (Address below)

**Zonesystem and Type IV chemistry:** The **Type IV** chemistry is assigned for a density control of the negative with the zonesystem. The **Type II** chemistry (delivered from beginning autumn 2000 until summer 2001) is only suitable for rotation at **38°C/100°F,** 1+9, 6½ minutes. This Type II chemistry always produces automatically a $\gamma$=0,5 - even by strong overdevelopment. That automatic processes can not overdevelop the negative. This Type II chemistry is deliverable separately. You also can order **Type IV** chemistry, if you need more than the enclosed chemistry of 3x 115 ml + 3x 24 ml.

**Risks on health and side effects:** Because the combination of the different substances in the Gigabitfilm chemistry can under not predictable circumstances be different as their respective uncritical single effects, Gigabitfilm GmbH recommends at the first prooftesting on the market, to keep the chemistry out of the reach of children, avoid unnecessary skin contact, to wash the eyes in case of contact thoroughly with water as well as the use of suitable protective gloves.

**Note:** With Gigabitfilm the aim to get an information carrier, a negative of maximum quality is pursued. This is purely a relevant aspect.
The Wolfgang Moersch Photochemie GbR (Am Heideberg 48, 50354 Hürth Germany, fax: 0049 2233 943138 phone: 0049 2233 943137, web: www.moersch-photochemie.de (mostly translated) has revised the formal and artistic aspects of positive processing and created completely new ways of expression. This is clearly visible on the extensive web sites. For those who don't wish to process their materials by themselves, the black and white printing laboratory of Wolfgang Moersch is the first choice.
By the way: If, because of formal reasons, you should need a coarse-grained enlargement a new photo is no more required for this. You can reach this again (independent of the scale ), with a special positive developer of Moersch on the paper with a variety of grain sizes from discreet up to strong. A variation is on definite bright picture tones even resolution sinking, the ideal "retouching" for difficult skin problems at portrait shots. Only the other way around will not work: You can never get a Gigabit-quality enlargement from a coarse-grained film negative.

**Limitation of liability:** If this film is found defective in manufacture, packaging or labeling it will be replaced. Except for such replacement, this product bears no warranty or liability whatsever, even though damage, defect or lost is caused by negligence or other fault.