VC Select

Technical Data Sheet

Offering commercial and creative printers a premium quality, high speed, variable contrast resin coated paper, VC Select gives the busy professional printer the quality alternative - superb image rendition with high speed emulsion one stop faster than most. By cutting exposure times by 50%, VC Select can significantly reduce valuable production time. Deep, rich, neutral blacks, excellent tonal separation and crisp whites characterise VC Select. VC Select is coated on a thicker base, with an extended contrast range including Grade 00; burning in overexposed skies has never been easier.

VC Select offers image excellence, high emulsion speed, crisp sparkling prints, backed by the quality and consistency of an ISO 9002 accredited manufacturer.

Product Description

VC Select is a black and white enlarging paper with a polyethylene coated base, coated with a variable contrast emulsion. Using standard colour filtration or proprietary filter sets such as Ilford Multigrade or Kodak Polymax, contrast grades from 00 to 5 are achievable in half grade steps. The paper is equally suitable for dish and machine processing.

Surfaces

- **Glossy:** This paper has built-in glaze to provide the maximum black density and overall print brilliance. Maximum gloss is achieved through hot air drying.

- **Fine Lustre:** An attractively textured surface which combines the depth of image and blacks normally only found with glossy papers, with the subtlety and handling advantages of a semi-matt.

Storage

All Kentmere black and white photographic papers should be stored in their original packaging, including the black plastic envelope. The plastic envelope protects the paper from harmful darkroom fumes and humidity. Ideally the paper should be stored in a cool dry environment preferably at temperatures below 20°C. For prolonged storage a freezer can be used. In either case, allow sufficient time for warming up and do not allow condensation to form on the paper.

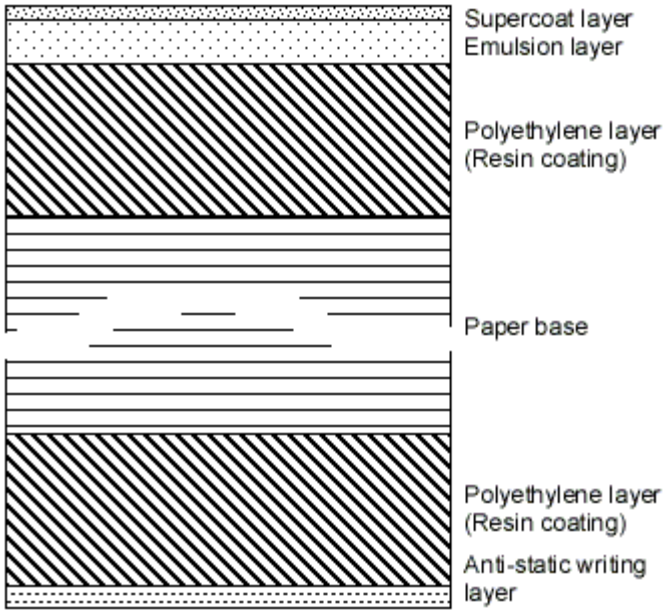
Paper Structure

Paper Base

The paper is 190 g/m² coated on both sides with 40 g/m² of polyethylene giving a base weight of approximately 270 g/m² and a thickness of approximately 245 µm.

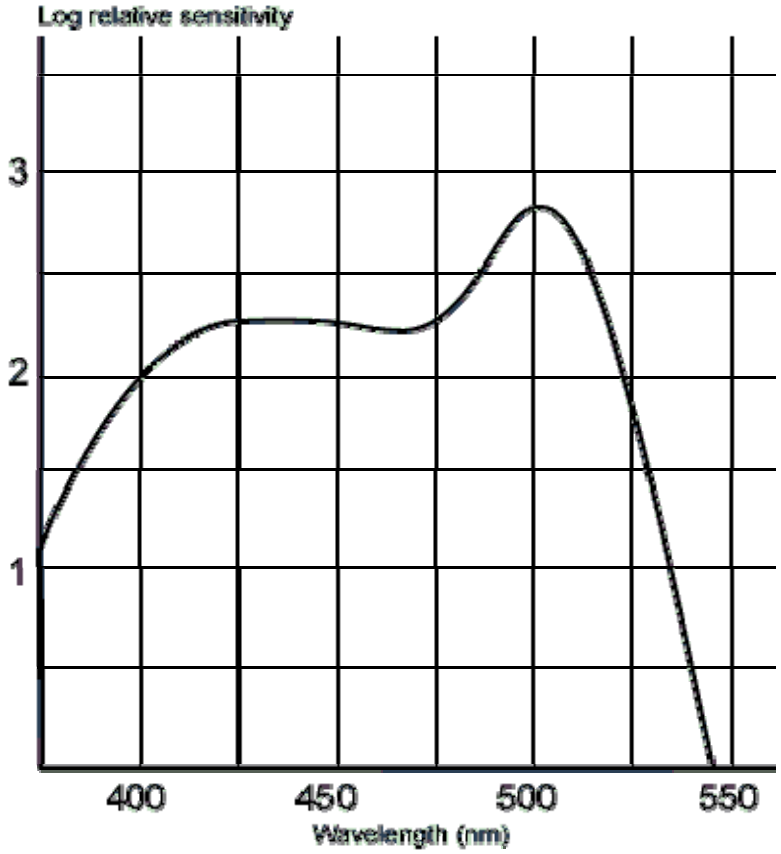
Coated emulsion layer

The light-sensitive silver halide emulsion layer has a silver content of approximately 1.5 g/m². This is covered with a gelatine supercoat which protects the emulsion from stress fogging and physical damage and also contains a developing agent.



(Not to scale, for information only)

Spectral Sensitivity



Sensitivity ISO Paper Speed

When exposed to unfiltered white light VC Select has a speed of ISO P 640 and has a contrast of approximately grade 2.

When exposed using Ilford Multigrade filters grades 00 - 3½ have the same speed (ISO P 320) and grades 4 - 5 require approximately twice the exposure (ISO P 160).

When exposed using the colour enlarger filter settings for matched exposures (see contrast control) grades 0 - 4 have the same speed (ISO P 320), grades 00 and 5 require approximately 1/3 of a stop more exposure (ISO P 250).

Exposure

VC Select is designed for use with tungsten or tungsten halogen light sources. Cold light source enlargers can be used, but they may limit the contrast range achievable.

Contrast Control

Contrast as a range approximately equivalent to grades 00 to 5 is achievable from VC Select by means of colour filters used in the enlarger. Proprietary filter sets such as Ilford Multigrade or Kodak Polymax are suitable, as are modular and automatic enlarger heads featuring proprietary filters; otherwise the magenta and yellow filters of colour enlarging heads can be used. Below are tables of enlarger colour filter settings recommended for use with VC Select. Filter settings recommended by other manufacturers will also give a similar range of contrasts; there may be slight differences in grade spacings.

The contrast of the paper is continuously variable so that the grades are fixed only by the filter settings used, and thus fractional grade changes can be achieved.

Filters of colour enlargers from different manufacturers fall into three categories as follows:-

Durst: Dunco, Durst, Kaiser, Leitz.

Kodak: Beseler, De Vere, Chromega, Fujimoto, Jobo, LPL, Omega, Paterson, Vivitar.

Agfa: Agfa, Meopta.

Table A shows simply the filter settings for grade selection. Speeds of grades are not the same.

Grade	Durst	Kodak	Agfa
00	80Y	150Y	140Y
0	40Y	80Y	90Y
1	15Y	45Y	60Y
2	20M	10M	15Y
3	40M	45M	45M
4	60M	75M	75M
5	130M	130M	120M

Table B shows the combined filter setting which should be used if speed matching of grades 0 - 4 is required. Grades 00 and 5 approximatley 1/3 of a stop more exposure.

Grade	Durst	Kodak	Agfa
0	**40Y**	**80Y**	**90Y**
1	**25Y + 20M**	**60Y + 15M**	**75Y + 15M**
2	**10Y + 45M**	**35Y + 50M**	**50Y + 40M**
3	**5Y + 50M**	**15Y + 70M**	**25Y + 65M**
4	**60M**	**5Y + 85M**	**5Y + 85M**

Contrast Range

VC Select ISO Range

Filter	00	0	1	2	3	4	5
ISO Range	150	130	110	95	80	70	60

These figures represent an average of the achievable results. A small amount of production tolerance is included. Actual results achieved may differ depending on processing, paper age and storage conditions.

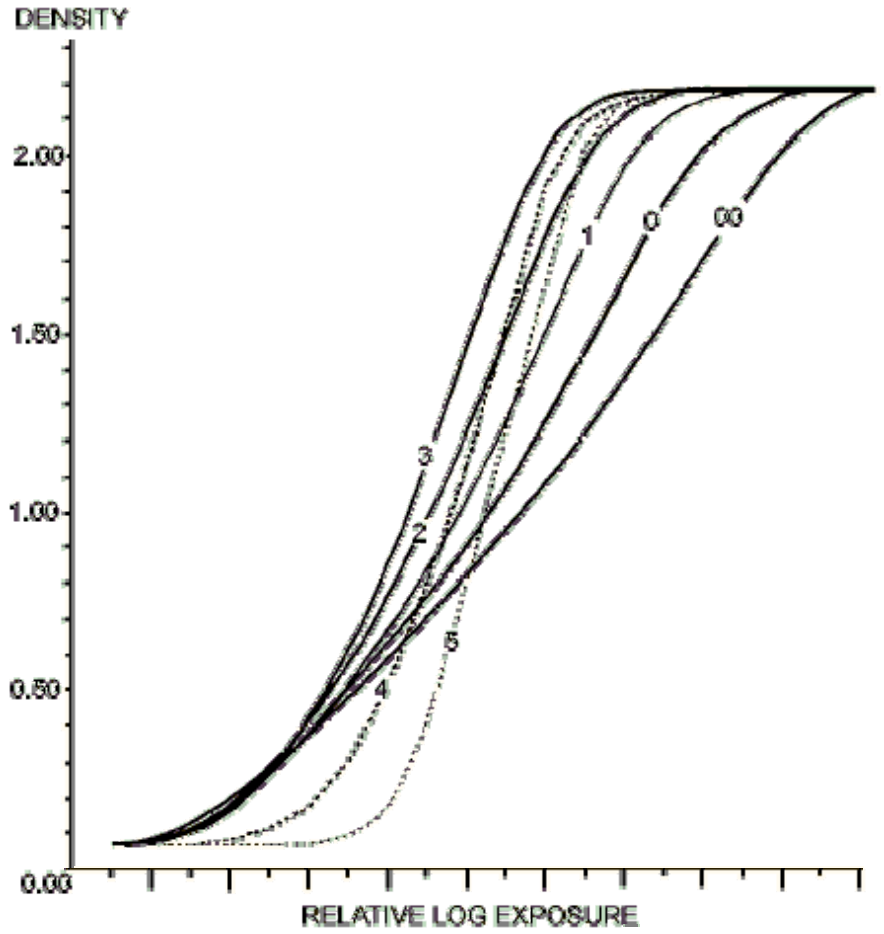
Maximum density

VC Select will achieve the following maximum densities:-

Glossy	2.20
Fine Lustre	2.20

Density/Characteristic curves

(Glossy surface)



Results achieved using Kentmere VC Select Plus Variable Contrast Developer at 1 + 12 at 20°C as recommended under processing instructions. Other recommended developers and fixers (see Processing) should give comparable results.

Recommended Safelights

VC Select has an orthochromatic emulsion; this requires a dark orange/brown or red safelight to be used. All variable contrast papers are more sensitive to safelights than conventional graded printing papers. Good darkroom practices should be adopted, keeping safelight exposure to a minimum and returning unused paper to the original packaging.

Box/lantern type safelights using glass filters should only be used with a 15 W bulb or less and should be positioned at least 1 metre from the paper. Filters which are suitable for use with VC Select are :-

Kodak OC or 1A, and Ilford 902.

Fluorescent safelights are also suitable, these give a brighter, overall more even lighting. Fluorescent safelights can produce a more evenly lit and pleasant working environment, but still be as safe as the conventional lantern type safelights. Fluorescent safelights should be positioned at least 1.5 metres from the paper.

Other safelights can be used, but tests should always be carried out first.

PROCESSING

To maximize d-max, grade spacing and tonal rendition standard developers such as Kodak Dektol, Clayton P20, Nacco Printol, Agfa Neutol Plus, Arista Premium Paper Developer, Ilford Multigrade Developer, etc. can be used.

Although VC Select does contain a developing agent within the supercoated layer, it is insufficient for use with activation processing. VC Select will produce a poor quality result if used with activation chemistry.

The following table shows recommended dish processing conditions for use with Kentmere VC Select Plus Variable Contrast Developer and Fixer. If using another manufacturer's chemistry, refer to their instructions for recommended processing conditions, to achieve similar results.

Developing time should be 1-2 minutes based on the developer manufacturers' recommendation. A stop bath should be used for approximately 30 seconds. Fixing time will depend on formulation and dilution. Manufacturers' recommendations should be followed.

Drying

VC Select can be dried using any standard resin coated paper drying methods, these include:

- Warm air drying up to temperatures of 80°C (176˚F).
- Atmospheric drying, having removed excess surface water using a suitable print squeegee.
- Warm air drying, as in purpose made print drying cabinets.
- Infra-red dryers such as the Ilford Ilfolab 1250 Dryer or similar.

Note:- VC Select, as with all resin coated papers, should NOT be used with a rotary glazing/drying drum or flat bed glazing/drying press.

Toning

VC Select tones very consistantly with Sepia, Selenium and Gold toners. Excellent results can also be obtained with Copper, Blue and many other specialist products.

Mounting

VC Select can be mounted using any of the standard methods for resin coated papers.

Cold adhesive films/cold mounting

- Hot adhesive films/dry mounting
- Spray adhesives such as:

3M Spray Mount Adhesive
3M Photo Mount Adhesive

Technical inquiries

Please address any technical inquiries to:
Kentmere USA
5124 Sunset Boulevard
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http://www.KentmereUSA.com
800-292-6137 ext. 140

Replacements

KentmereUSA will replace or credit the value of any Kentmere papers if found by us to be defective in manufacture, our liability being confined to the value of the paper only. In all such cases, proof that the paper was defective would be required.