

FREE REPORT

Lith Printing Materials

New guide and updated product listing

March 2013

©Tim Rudman

Contents

Lith Materials Guide: Discussion New Mar 2013 © Tim Rudman	5
The Lith Printing Materials List. March 2013 - The final update?	5
About this revamped guide	5
Is it the gem or is it glass?	5
New Rules	6
Comings and goings (+ breaking news!)	7
A new market	9
The Future of lith Printing?	9
Finally	11
Disclaimer	11
The Papers	12
Adox Fotoimpex (Berlin) - Agfa Resurrection	12
Adox MCC 110/112 (early batches only)	12
Adox Nuance Warmtone	12
Adox Fine Print Variotone Warmtone ("semi-lith")	12
Adox 'Polywarmtone' Revival?	12
Argentone ('Hungary') New 2013	13
Argentone Polywarm FB	13
Polybrom	13
Bergger (in the Forte era)	13
(Bergger 'post Forte')	13
Foma (Czech Republic) Updated 2013	13
Fomatone MG	14
Fomatone MG Classic 131 (glossy) & 132 (matt)	14
Fomatone 532 11 ('Nature 11')	14
Fomatone MG 'Chamois' 532 and 542	14
Fomatone MG Classic 542-11 Chamois	14
Fomatone MG 331 AND 332	14

Fomabrom Variant III; 111 (glossy) & 112 (matt)	14
Fomabrom Variant IV; 123	15
Forte (Hungary) Added 2013	16
Polygrade and Bromofort	16
Fotokemika (Croatia)	16
Varycon (KG) VC FB	16
Emaks	16
Fotospeed (UK)	17
Fotospeed Lith	17
New Fotospeed Lith paper? Update Mar 2013	17
Fotospeed Bromoil paper	17
Freestyle (USA)	17
Arista.EDU Ultra RC VC & VC FB	17
Arista Silver Artist Series Fine Art B&W Paper	17
Fuji (Japan)	18
Fujibro KM2 RC Updated Nov 2011	18
Ilford Photo (UK)	18
Ilford Multigrade Warmtone ('semi-lith')	18
Ilford Multigrade ART 300 ('semi-lith')	18
Kentmere (UK) Updated 2013	19
Kentmere Kentona	19
Kentmere Art Classic	19
Tapestry and Luminos	19
Kentmere Fineprint VC Finegrain Warmtone.	19
Kodak (USA) Added 2013	20
Kodalith	20
Kodagraph Transtar TP5	20
Maco (Germany)	20
Expo RR, RN and RF	20
Oriental Seagull (Japan)	20
New: Oriental Warmtone VC FB11 (New Warmer Emulsion Formulation 2011)	20

Rollei (Germany).....	21
Slavich (Russia)	21
Unibrom 160 BP.....	22
Bromoportrait 80 BP ("Semi Lith")	22
Sterling Premium Lith F (India)	22
The Developers	23
Fotospeed LD 20: (UK).....	23
Freestyle Arista Liquid Lith: (USA)	23
Arista premium Liquid Lith A + B	23
Maco LP-Superlith: (Germany)	23
Moersch: (Germany)	23
‘Easy Lith’	23
‘SE 5 Master set’	24
Additional additives.....	24
‘Polychrome’ kit.....	24
Nacco Naccolith: (US)	24
Photographer’s Formulary Kodolith: (US).....	24
Rollei: (Germany).....	24
*UPDATE September 2012: <u>New formulations</u>	24
‘Rollei Lith Developer’	24
(Speedibrews Lithoprint): (from Silverprint, UK).....	25
Spuersinn Callith (Germany) New Mar 2013	25

Lith Materials Guide: Discussion

© Tim Rudman

READ THIS SECTION FIRST

The Lith Printing Materials List. March 2013 - The final update?

ABOUT THIS REVAMPED GUIDE

The last book-published up-to-date list of papers and developers suitable for Lith Printing was in my last lith book 'The World of Lith Printing', published in 2006. Shortly after that Forte ceased production for the second and final time. This in turn impacted on a number of other lithable paper labels listed in 'The World of Lith Printing' list that were using Forte emulsions and so more lith casualties occurred.

More changes followed and when the market appeared to stabilize (alas temporarily) it seemed a good time to draw up a new free list to help keep the books up to date. That list in turn has been subjected here to numerous further updates, which I tracked in dated sequence in red under each product. Over time this made the list increasingly complex and so the time has come to edit and simplify the list and in view of the severely diminished number of truly lith-capable papers *perhaps* also the time to make it the last one:

As many discontinued papers are still in wide usage I have kept them in or added them to the list. This is now becoming even more important - see 'A New Market' below.

- I have **greyed out** like this those lith papers that are no longer made, but are still in use and in some cases are now becoming sought after.
- In view of the resurging interest in older 'pre-owned' papers ***I have added back into the list brief descriptions of a few of the most important but long discontinued lith papers, for reference purposes.***
- I have kept in the list the 'semi-lithable' papers (see below) both in **and out of** current production. In the list that follows, these papers' names are followed by ("**Semi-lith**"). Note: These papers may **also** be good for '**2nd pass**' lith printing (see below).
- I have removed many of the red sequential news updates that are now of historical curiosity only.

So, before you read or reference the list, consider the following...

IS IT THE GEM OR IS IT GLASS?

Does it or doesn't it lith print? ... Or does it 'sort of' lith print?

Not all B&W silver-based papers will lith print. Papers with incorporated developing agents (most commonly seen in RC papers) will **not** lith print. This can be easily tested by

generously exposing a small piece of the paper to light and, with the lights on, add a little Lith B developer (**NOT** Lith A) to the paper. If some developed silver appears as a dark mark on the paper it is unsuitable for lith printing. **Such papers may however still be very good for '2nd pass' lith printing** (see below).

The list of those that *really* do lith print has been shrinking alarmingly in recent years. This situation has now become complicated by the fact that, as true lith paper availability declines, the number of available papers that *sort of* lith print increases proportionally, i.e. in lith developer they produce prints in warm brown lith colours that superficially can look like lith prints. Indeed by one definition of course they are lith prints as they are made in lith developer. But they do not exhibit very convincing infectious development, which is so essential for the separate lith print shadow and highlight control that gives lith prints that extra dimension, and so by another definition (and I would argue, this is the correct one) they don't *really* lith print, because true infectious development is what drives the process of lith printing and gives it that enormous interpretive flexibility, from high contrast graphic to soft creamy delicacy, or magically a combination of the two.

Sadly, newcomers to lith printing may not initially realize the difference. Is it the gem or is it glass?

NEW RULES

As described in my book 'The Master Photographer's Lith Printing Course' lith development is 'infectious' and very different from conventional development. It has two phases. In the first the lighter tones are developed with a very fine silver grain size and are low contrast, apparently grainless, smooth, creamy and very warm in colour. In the second stage the blacks start development slowly and then accelerate exponentially. They are high contrast, large grained, gritty in texture and cold toned. For much of this phase the light tones remain little or unchanged (depending how far the second stage is allowed to progress before your chosen 'snatch point'). Hence the **lith printing rule** 'highlights are controlled by exposure, shadows are controlled by development' (see 'Rudman's Golden Rules').

What I call here "**Semi Lith**" papers tend to develop in a more linear fashion, with the light and mid tones continuing to darken as the blacks form. Blacks may be weak (see MG ART 300) or in those with incorporated development agents typically form the blacks too early (see Bromoportrait). In either case a print can visually resemble a lith print but the lith printing rule 'highlights are controlled by exposure, shadows are controlled by development' no longer applies and control is diminished. **With a good lith paper you should be able to determine the highlight tone by the exposure you give and it should change little or not at all as you wait for the blacks to progress as far as you want them to.**

There may well be techniques to partially overcome some of the limitations of some of these papers, including:

- So called 'asymmetric development' - varying amounts of A (more colour, slower) and B (less colour, faster) in the mix.
- Additives (usually potassium bromide [restrainer] or sodium sulphite [with care!]) and post-development baths (e.g. Moersch Ω).
- Pushing dilution and/or temperature hard.

- Using contrast control filters with VC papers. With true infectious development this is rarely necessary, as contrast can be adjusted over the equivalent of 7 grades, from Gr.00 to just black and white tones with no intermediate greys - ultimate contrast. 'Semi Lith' papers may not do this. The use of CC filters will however add several stops to the exposure.
- Occasionally, removing developer products by rinsing well after exposure and before lith developer *may* help. Can introduce unwanted effects though.

And of course

- '2nd pass' lith development, which is described briefly later in this preamble and may be the answer to many a prayer.

COMINGS AND GOINGS (+ BREAKING NEWS!)

Gone:

The last year or so has been the worst ever for availability of truly lithable papers still in production. History is repeating itself. In the same way that the closure of Forte in Hungary had a wider 'fall out' effect, involving the significant number of other papers in different countries that were using Forte emulsions in their product lines, the closure of **Fotokemika** in Croatia in 2012 brought not only the loss of two popular lithable papers, **Varycon** and **Emaks**, but also other brands who were using their materials. Examples include **Adox's Nuance Warmtone** paper and the innovative collaboration by Freestyle to produce its '**Silver Artist**' series - lithable Fotokemika emulsions on a range of cotton rag papers. Launched only last year, it sold rapidly but sadly cannot now be repeated.

Changed:

Foma's recent change of gelatine in Fomatone products in 2012 had little impact on the emulsion's performance in regular B&W developers, but it had a definite effect in lith development, moving it from arguably the best lith paper in production, to the '*sort of lith*' category. **This is newly described in the list below under 'Foma'**. And once again of course the fall-out affected other labels using Foma emulsions, notably **Rollei Vintage** and **Newer Oriental-Warmtone-VCFB11**.

The gelatine change started from Fomatone (MG Classic 131 + 132) emulsion number 060848.

Early user reports of the new product stated that it no longer lith printed well, whilst others reported satisfactory results in lith. Some of these contradictions might be down to technique, but some I suspect were from users who got a colourful 'lith looking' print, but had not yet the experience to distinguish 'the glass from the diamond'. My tests suggest that it is glass, but quite good glass and it can give very attractive results, although its reduced infectious development response does result in the loss of quite a lot of its creative lith printing control. Some of the measures listed above can help to extend colour options and improve control.

Fomabrom products are likely to be affected from the next coating.

New:

Slavich Bromoportrait is a recent new arrival to the market. It is a warm tone sibling to the very cold toned Russian Slavich Unibrom, (which is also now newly available in the UK and

Ireland).

The many examples I have seen on the Internet look promising enough, but there can be a world of difference between seeing and doing, as stated above. Viewing a finished print that has warm tones, solid blacks and maybe interesting textures gives the viewer no clue as to how flexible and how variable it can be in a good printer's hands, or whether it is just a 'one trick pony'.

As with the new Foma emulsion a number of users are experimenting with asymmetric development in an attempt to improve control. My tests so far show me that although, with careful handling, it can yield very warm browns and rich blacks in lith developer, lith printing is **not** really one of its best attributes. The paper appears to contain phenidone and so development timing does not control just blacks, nor does exposure control primarily the highlights. Light areas also have a very unwelcome tendency to break out in a rash of ugly black or grey blotches, particularly when asymmetric development is used. High dilutions, added restrainer (potassium bromide) and asymmetrical A and B ratios can all help up to a point and Moersch Lith Ω post-development bath can produce dramatic colour enhancement.

Argentone B&W Art paper 'Polywarm' is a new name to many, but not a new paper. It lith prints well and has been reported to have been made by Foma 2 to 4 years ago (before the gelatine change). It is well within the claimed expiry date and worth buying before stocks go. It was available in Toronto 2 years ago but I only know of availability currently in Japan. It may be elsewhere too so If you see some, it is worth buying while stocks last.

In the pipeline:

The Polywarmtone project <http://www.polywarmtone.com/index.html> is still alive and progressing, albeit very slowly. Their variable contrast emulsion tests are now on their blog and compare very favourably with the original Forte PWT paper. It remains to be seen if or how well it will lith print, but it is certainly something to look forward to.

New. New dedicated lith paper! (Caution - Untested. Under development only.) This is potentially exciting news. For the first time in many years a completely new dedicated lith paper is currently in the early stages of development (no pun intended!). A warm tone dedicated true lith paper is sorely needed, but there is still a long way to go before this might become a reality. Preliminary tests look promising though and the formulation certainly looks very interesting for lith. But of course it's never over 'til it's over. Breaking news as I write is that the project is going well and prototype emulsions will be ready in the next 2 weeks. I look forward to being able to report on my tests on it when the time comes. You can register interest and for news updates here. <http://www.labo-argentique.com/laboratoire/LPU.html>

New 'rebadged' labels.

The word is that there will be one or possibly even two new lith paper labels this year, but they will probably be rebadges of existing papers. Rumour evaluation - one probable, the other still very uncertain.

A NEW MARKET

As the number of truly lith responsive papers diminishes so drastically, a new market for 'pre-owned' lithable papers is beginning to appear alongside the traditional B&W paper market, and here can be found many lith treasures no longer made. EBay and similar sites can prove to be useful hunting grounds. BUT this is a 'buyer beware' market! Some of these papers have been properly cold-stored by keen amateurs or pro's who have died or simply stopped printing. Some have been poorly stored and may or may not be fogged. Some may even have been opened for counting in daylight by relatives who simply didn't know any different. (It's true. I have seen it!)

Ask questions before deciding whether to buy and at what price.

THE FUTURE OF LITH PRINTING?

When I started unraveling the so-called mysteries of the lith printing process all those years ago, it was used by just a tiny number of people. It was very little known and generally poorly understood. Today it is immensely popular all around the world, yet perversely truly lith-capable papers have almost disappeared from production.

So what is its future as a photographic art form? Creative artists are by definition imaginative and inventive people and I don't see the process dying out, but it will inevitably change. I foresee the following options. Others may well find more.

A revival of old papers.

This is already starting to happen, see 'A New Market' above. A second hand chest freezer may cost little more than a box of paper and can be a worthwhile investment.

Appearance of new lith-capable papers (or developers?)

This may be happening already (see 'in the pipeline'), but new paper production is expensive and the market is niche and cannot support very much investment in this area. But the appearance of a truly lith-capable paper in the not too distant future is now looking like a distinct possibility, and that really is quite exciting news for lith printers everywhere.

The idea that a developer could make more, or even all papers lith-capable is interesting and is being pursued in Germany by Spuersinn. A Holy Grail quest for sure. I have tested their 'Callith' developer, but although it produced brown prints it did not induce true infectious development in the semi lith papers I tested and they are reviewing its formulation. It is difficult to see how this could work - but they once said that about man flying!

Widening of the definition of Lith printing.

In the absence of many true lith-capable papers, both established lith printers and newcomers who don't yet know the difference will inevitably use 'Semi Lith' papers more, and they will be called Lith prints. Accurate in one sense but not in another, but I suspect this will become the accepted norm and there is no doubt that these papers can yield beautiful results in the right hands - see 'New Rules'.

2nd Pass Lith.

I think this is where many lith printers may find their salvation! I coined this term many years ago to distinguish it both from lith prints with a 'single pass' through developer and also from other bleach-and-redevelopment processes that have nothing to do with lith. The term is now in general use.

The process is basically simple, but can yield a very wide range of results and will work with many non-lithable and semi-lithable papers, each of which will have its own characteristics. There is a chapter on it ('Bleach and Redevelopment Games') in my first lith printing book and more techniques were included in 'The World of Lith Printing' a few years later. The starting point is a slightly over-exposed Black & White print or a lith print. Over exposure required depends on how early the print is snatched from the second (lith) developer. 1/4 of a stop is often enough for a Black & White print, slightly more for a lith print starting point. A standard sepia toner kit yellow bleach (potassium ferricyanide) is ideal. ALL traces of fixer must be removed before bleaching, which in the case of 'pot ferri' bleach may be stopped before the blacks disappear, in order to ensure a cool black in the end product, or it may be taken to completion, in which case the blacks may return as black, brown or orange, depending on the paper. Wash out the bleach well, but not in a textured surface archival washer, as it will produce that pattern in the finished print. Redevelop in lith as usual - but now you can do it with the lights on. Snatch when to your taste. Fix (it will lighten), wash and dry. Simple - but every stage will have an effect and can strongly affect the result, so there are many different looking 2nd pass lith prints out there - even using the same paper.

The most important variables are:

- Paper: They are very individual in response.
- 1st pass developer: Choice is wide and strongly influences results. Lith may be used too. Just the paper/developer permutations are huge.
- Choice of bleach: 'Pot ferri' is good. Copper sulphate bleach is another favourite of mine and different in every respect - see below. Other rehalogenising bleaches work with varying success.
- Bleach snatch point.
- Lith developer: Constitution, dilution etc. makes a difference as always.
- Developer snatch point: A major factor.

Copper bleach.

This is a less well known but very useful bleach. My preferred copper sulphate bleach formula is in my books. A prepared product is available from Moersch in Germany and a kit from my workshops is available on request from The Photographer's Formulary in Montana U.S.

It is different to 'ferri' in every respect. It is blue. It acts differently, showing no action initially, then suddenly in the mid tones (dilute for better control). It will induce colourful solarization in warm tone papers, notably Fomatone and Polywarmtone. Snatch point can be critical for maximum effect (see the alumni gallery under 'workshops' at www.timrudman.com for examples). Much more subtle results are available with many other papers.

FINALLY

Please remember that this document is copyright.

It is not to be copied or distributed. Please respect this and refer anyone to my website for their own copy, then they will also receive any corrections and updates in the future.

Disclaimer

This list grew out of a wish to make available a source of reference for lith materials - both papers and developers - as a guide to those interested in the Lith Printing process, as to the best of my knowledge no such guide exists elsewhere.

I make no claim for it to be definitive, although it is fairly comprehensive. It is based on personal connections in the photographic world and on my personal experience in my own work and at my workshops. Where information comes from other sources that I have not personally substantiated, I endeavor to say so. It is a free and unpaid resource as a service to the lith community, but time is too short to test to death every product in a changing market. The information is provided in the spirit of sharing.

The Papers

The various criteria for choosing between the papers that work for lith printing remain as described in more detail in 'The World of Lith Printing'. Below is simply a list of those that do work and those that 'sort of' work (see my Preamble above), together with some of their properties.

Adox Fotoimpex (Berlin) - Agfa Resurrection

Fotoimpex (Berlin) acquired the formulation rights for Agfa's **Multi Contrast Classic (FB)** and **Multi Contrast Premium (RC)** papers along with the emulsion and coating equipment. Do not confuse with Adox Fotowerke Inc. Calgary, Canada – an unrelated company who market film. Adox (Berlin) also marketed papers from Fotokemika in Croatia.

ADOX MCC 110/112 (EARLY BATCHES ONLY)

This is an excellent quality FB paper for B&W and *early* batches also responded to the lith process. Lith development gave cafe-au-lait colours, bright white base, smooth tones and was rather less 'lithy'/gritty than some lith-friendly papers. Later batches contain too much phenidone for the lith process to work properly. I haven't tested with 2nd pass lith, but would expect it might be good.

ADOX NUANCE WARMTONE

Fixed grade FB papers on 300g support. Grades 2 & 3. **Care:** Red safelight essential. Both grades lith print, my firm preference being for **Gr.3** (see Fotokemika Emaks). Coarse 'canvassy' looking deep shadows. Good in LD20. If using Arista or Clayton lith developers use higher dilutions for best results.

**Update summer 2012: Sadly, Fotokemika, who made Nuance emulsion, has stopped production of all papers, due to the uneconomic cost of parts replacement on its old coating machine plant. Stock will not be replaced.*

ADOX FINE PRINT VARIOTONE WARMTONE ("SEMI-LITH")

A more recently developed warm tone paper made in co-operation with Harman Technology/Ilford and Wolfgang Moersch. A variant of Ilford's MGWT but with a bright white base. We know that base pigment can and does often affect 'lithability' and given its lineage I would expect this to be not a truly lithable paper for 'straight' lith processing, but to probably be very promising in 2nd pass lith, i.e. on redevelopment after bleaching. I have yet to sample this brand but Wolfgang informs me that it works nicely with the copper sulphate bleach in my books and high dilution lith developer for the redevelopment.

ADOX 'POLYWARMTONE' REVIVAL?

**Update April 09: Return of Polywarmtone?*

Adox are also considering the possibility of resurrecting Forte's hugely popular PWT emulsion. This great paper was a major favourite for both regular and Lith printing and it would be very welcome news if it comes about. The original emulsion replicator has been purchased and refurbished. Expressions of interest are being

sought and a level of confirmed sales is needed to justify the investment required by Adox. Read more about it and have your say here: <http://www.polywarmton.com>

It won't happen without support.

(Intermediate updates removed)

****Update March 2013:** Only two of the four original sensitizers are still available, however the variable contrast emulsion has now been coated on test batches and its scale strips look very encouraging. Formal coating could begin this year.*

<http://www.polywarmton.com>

Argentone ('Hungary')

These papers were not very widely known or distributed. They were marketed by Jakus from Hungary with the rather Forte-esque sounding names of Polywarm and Polybrom, but were probably made by Foma in the Czech Republic before Foma's gelatine change. Reports suggest that they appeared in Spain shortly after Forte's closure and later in Toronto.

At the time of writing it is still currently available in Japan and bears a 2015 expiry date, although of course silver gelatine paper life is very dependent on how it is stored during that time.

ARGENTONE POLYWARM FB

This emulsion appears to probably be the original Fomatone and it lith prints with the same unique characteristics. At the time of writing it is still available in Japan but no longer made.

POLYBROM

I have no experience of this paper.

Bergger (in the Forte era)

Before Forte's closure Bergger used Forte emulsions extensively in its range of superb papers and Bergger products from that era generally lith printed beautifully. These are no longer made, but they will possibly appear on the 'pre-owned' market from time to time.

(Bergger 'post Forte')

Following the demise of Forte, the new generation of Bergger paper is not so well suited to lith printing until or unless they add products to their range of emulsions. I include the name here in brackets simply to alert you to this change – and to say that they might yield interesting results with **2nd pass lith techniques**, and of course the range might change in the future.

Foma (Czech Republic)

Important note:

In 2012 Foma had to find a new source for their gelatine. Although this had little effect on their paper's response to conventional B&W developers, it **has** changed the way they respond in Lith. Lith printing is particularly sensitive to such things.

The gelatine change started from Fomatone (MG Classic 131 + 132) emulsion number 060848. Fomabrom emulsions will also change shortly.

****As the pre and post gelatine change versions have the same names and may all still be on sale, these have **not** been 'greyed out,' but be aware of the difference.**

The following description applies to the ORIGINAL GELATINE RANGE and is rendered in a different colour to avoid confusion with the newer versions with the same names.

See further below for notes on newer versions.

A superb range of papers, both for regular B&W printing and for Lith printing. All papers in range will Lith print to some degree. The best are:

FOMATONE MG

This outstanding emulsion had certain characteristics in lith developer that were often associated with earlier cadmium-containing emulsions. The use of cadmium in photographic emulsion has been banned now for many years, so however Foma achieved these properties they were very welcome.

This emulsion had its own very distinctive appearance in lith with the warmest smoothest tonality by far. If that is what you want, a superb range of rich colours is available: Beige, yellows, yellow-orange, peach & salmon pink, orange-browns and colour splits with green blacks on early snatch. The colours are largely controlled by dilution and snatch point. Good response to added potassium bromide and especially selenium toning, with tri-colour splits. It was available in the following forms:

FOMATONE MG CLASSIC 131 (GLOSSY) & 132 (MATT)

Variable contrast FB paper on a 235g cream tinted base.

FOMATONE 532 11 ('NATURE 11')

This is the replacement for 'Nature', which became unavailable when the paper base (same as Art Classic) production was discontinued. Foma have sourced a new base paper and with the same emulsion as 131 above 'Nature 11' is now on an extra heavy base and a lustre sheen finish. Colours on this base may appear slightly more muted.

FOMATONE MG 'CHAMOIS' 532 AND 542

These had the same emulsion as the Classic paper but the base tint is different; the 532 Chamois being rich yellow-cream, the 542 a lighter ivory-cream. Production on this base has ceased but some supplies still exist.

FOMATONE MG CLASSIC 542-11 CHAMOIS

Replaces 542 Chamois. Distinctly creamy yellow base tint on a slightly lustre smooth matt surface. (Note: The yellow tends to partially mask the delicate blue colour from gold toning).

FOMATONE MG 331 AND 332

The same emulsion but in RC form: Glossy and s/matt finishes. Lith prints exactly like 131.

NOTE: This Fomatone emulsion is slow, so be prepared for long exposure times.

FOMABROM VARIANT III; 111 (GLOSSY) & 112 (MATT)

A variable contrast FB paper on a 180g base. Lithable, capable of very cold tones or with yellow-red hues. Contrasty & graphic. Can be tricky to control. Snatch point is critical as intense 'lith grain' in the form of widespread emerging black dots develops rapidly. High dilutions and long development give best results (in my opinion).

Results improve and colours change on drying so suspend your judgment until then.

Nov 2009 batch variations:

FOMABROM VARIANT IV; 123

This is a variable contrast FB semi-matt/stipple paper on a warm white base. I received mixed reports regarding this paper's lith performance. My early tests showed it to be slow in the developer, rather gritty, grainy and contrasty, rather like Variant 111 (surprise!), but high dilutions here will try your patience. However, it is quite different with bleach/redevelopment, where lovely soft duotone effects are easily obtainable. This paper has proved popular with some on my workshops.

IMPORTANT NOTE: A standard red safelight is essential. OC safelights or a combination of red and OC safelights may result in fogging. Do a safelight test for your own darkroom.

THE FOLLOWING DESCRIPTION APPLIES TO THE NEW GELATINE RANGE: ("SEMI-LITH")

My tests on the **new 131 emulsion (batches 060848 onwards)** show that although it does not now show any really convincing infectious development, it is still possible to get prints that look like 'normal' lith prints, although in practice they lack the full creative interpretative printing possibilities of a 'true' lith print. It is also possible to shift the image colour from cool sepia brown to a warm salmon pink.

But a new set of game rules must be employed because what you cannot do is control the blacks independently of the highlights by snatch point alone. Nor highlights independently of blacks. The response to development is much more linear than the exponential curve that is infectious development.

Hence, a typical 2-stop over-exposure in say LD20, 50ml A + 50ml B + 50ml 'Old Brown' in 1 litre water may give soft blacks and pale light tones in cold sepia colour, but delaying the snatch point leaves the blacks relatively unmoved instead of accelerating, whilst the light and mid tones continue to develop and become darker, exactly the opposite of a true lith print response and possibly making the 2-stop increase excessive, depending on the snatch point.

Increasing dilution to 3L provided a little more warmth but blacks did not much improve until exposure was increased to +3 and +4 stops.

Rich salmon pink tones with deep cold blacks were achieved using gross over-exposure at +4 stops with asymmetric development - in this case doubling the amount of Lith A - and adding Potassium bromide as a restrainer.

A similar pattern was seen using Moersch SE5 although the response of blacks to snatch point at +2 stops appeared to be slightly better.

Toning in (Kodak) selenium ('KRST') 1+9 provided modest colour changes with a more exaggerated lightening of light tones than usual on all prints in this test. The beautiful tri-colour splits given by the older gelatine version were not obtainable, although prolonging the toning did give a striking red-brown split. Increasing KRST strength to 1+2 (with good

ventilation!) gave striking red tones throughout. Toning with direct gold toner yielded the anticipated blue.

In the pursuit of a softer, more subtle lith print, I felt that the loss of the ability to control the highlight grain size so independently lost some delicacy, both in printing and toning. Lith prints with a more striking look were easier to achieve, although the high graphic image was also more elusive. But Slavich Unibrom is still available for that!

Forte (Hungary)

POLYWARMTONE AND FORTEZO

These papers were superb B&W printing papers and were also excellent for lith printing. These papers could give reddish brown to dark brown tones in lith, or even pink. 'PWT' required a dark red safelight.

POLYGRADE AND BROMOFORT

These cold tone papers also responded well to lith development, giving charcoal blacks and cooler mushroom coloured mid and light tones.

NOTE: POSSIBLE 'POLYWARMTONE' COMEBACK

Polywarmtone might make a comeback with **Adox**. Same emulsion formula (apart from some sensitisers, which are no longer available), same machine, same expertise. **See Adox** above to see how to help make this happen. It won't happen without support and commitment from potential users. **(Update on this September 2012)**

Fotokemika (Croatia)

****Update summer 2012:** Sadly, Fotokemika has stopped production of all film and paper, due to the uneconomic cost of parts replacement on its old coating machine plant. Supplies of Varycon and Emaks will not be replaced when stocks run out.*

VARYCON (KG) VC FB

Discontinued summer 2012. This has its followers in the lith printing community. It produces comparatively large soft clumpy grain in the emerging blacks, with sandy coloured mid and light tones. More colour can be achieved with 2-bath lith techniques &/or by toning.

EMAKS

Discontinued summer 2012. These are graded papers (Gr 2 & 3) on a 300g support with a neutral chlorobromide emulsion suitable for lith printing. They lith satisfactorily in LD20 but with coarse 'canvassy' looking deep shadows. Benefit from high dilutions in the newer Arista Lith and Clayton Lith developers (1+1+28 or more). In my opinion **Gr.3 performs best.**

K=Fibre, G=Glossy, KK=Fibre,pearl, KM=Fibre,matt

IMPORTANT NOTE: A standard red safelight is essential. OC safelights or a combination of red and OC safelights may result in fogging. Do a safelight test.

Fotospeed (UK)

FOTOSPEED LITH

This paper is **no longer made**. Early batches were in fact Sterling Lith paper re-badged. Later batches were made for Fotospeed by Kentmere Ltd. and were described here as follows:

The only dedicated Lith paper at that time. As this is non super-coated, it accepts pencil (e.g. for signing) and carries a 'handle with care' warning. I have never experienced surface damage with my prints and only occasionally seen it at group workshops. Its slippery surface also necessitates careful handling, especially with larger heavier sheets. Coffee colours. Can be soft & delicate with 'early snatch' higher key prints, or gritty and highly 'textured' in the blacks with later snatch & low key subjects. Pinker (on dry down) with smoother blacks and lower Dmax at much higher dilutions. A good standard and its positive lith response also makes it excellent for learning.

NEW FOTOSPEED LITH PAPER?

Update March 2013: I have deleted the sequential news updates on the previous planned replacement lith paper, as it was finally abandoned. The possibility of another replacement is however still a possibility.

FOTOSPEED BROMOIL PAPER

Discontinued. No super-coating. It lith prints easily, giving warm sandy browns.

Freestyle (USA)

Arista is the House name for selected Freestyle branded papers. From the Arista range:

ARISTA.EDU ULTRA RC VC & VC FB

Although the data sheets state that these 2 papers contain incorporated developer, they are both capable of producing lith prints with cold tones. As with all very cold tone papers they are grainy and contrasty in lith. They are easier to control with high dilutions and Freestyle's Arista Premium liquid lith seems particularly well suited to cold tone papers. They are made in the Czech republic.

ARISTA SILVER ARTIST SERIES FINE ART B&W PAPER

It is not often that a new lithable product comes onto the market, so this new product from Freestyle in 2012 attracted much favourable attention from B&W workers and lith printers alike. Freestyle created a fusion product with the French-made BFK Rives 100% cotton 280gsm fine art paper and the Croatian Fotokemika's variable contrast 'Varycon' emulsion (see above under Fotokemika for details). They were made available in a limited range of popular sizes in both white matt, cream, grey matt and rather oddly perhaps, black finishes.

NOTE:

At the time of writing a limited stock of these papers is still listed on Freestyle's website.

Fuji (Japan)

FUJIBRO KM2 RC

UPDATED NOV 2011

One of my U.S. workshop students came over from Japan and brought this paper with her. She very kindly donated a small supply to me for further testing.

Fujibro is a middle-weight graded paper in grades 2 & 3 available only in Japan. It is a fast paper for exposure but *extremely* slow to develop in Lith, so develop 'hot' at 30 - 35C. In Arista Premium liquid lith it gave attractive smooth grainless mushroom tones with cold blacks on a very white base. Dries very flat and may give a little fine pepper fogging as the developer becomes used.

Iford Photo (UK)

ILFORD MULTIGRADE WARMTONE ('SEMI-LITH')

Although not my ideal for Lith printing, it will respond to dilute lith developer and I know printers who really like its somewhat different look, especially with higher contrast negatives. It has less interesting (or perhaps more subtle, depending on your viewpoint) results than other highly lithable papers, but yields an ivory colour with more grudging infectious development.

It can be better in hot lith developer or with added bromide. Asymmetric developer using 2A+1B can also increase colour. Recent batches appear to have a whiter base and are trickier to lith.

It does however deserve special mention for **2nd pass lith** - redevelopment in lith, after bleaching a conventionally processed print. When developed in Multigrade developer, bleached with a standard ferricyanide/potassium bromide bleach (as in a sepia toning kit) and redeveloped in lith it can, if pulled at the right moment, give a delicate blend of soft warm browns and cool greys. One of my favourites for this process.

ILFORD MULTIGRADE ART 300 ('SEMI-LITH')

Iford launched its much-awaited new paper in March 2011 – its first new paper in 13 years. It is a beautiful paper and the more I use it the more I love it, especially for large prints where the texture and weight are particularly well suited. The emulsion is in fact a warm tone emulsion based on and very similar to MGWT. It is coated on a new heavy weight 300gsm fibre paper made for it by Hahnemuehle and has a fine grain texture and a semi matt surface with a very slight sheen to enhance the Dmax, which is excellent for a matt or semi-matt art paper. The texture makes it most suitable to 'art' style images.

In terms of *straight* lith development, it does produce a print in typical lith colours, but it *doesn't* exhibit the usual fully convincing infectious development. This means the blacks are not so easily controlled separately by development and tend to be rather weak when snatched early – a sort of antique look, which can suit nostalgic images and also more subtle images where a rich black is not required. However, for low-key subjects, where the blacks can be allowed much more time as the dominant tone, they will come up nicely and the results can be very attractive indeed. Further control is achieved by using contrast filtration, but this will add a couple of stops to the exposure time.

Multigrade ART 300 can be very beautiful for 'second pass' lith – bleach and lith redevelopment of a black and white print. This way the blacks can easily be preserved by stopping the bleach before they disappear. Redevelopment in lith (in room light) then produces lovely warm beige lith prints with rich cold blacks and with careful timing cold grey highlights can be obtained if desired. As always, the choice of first developer will affect the results.

Response to direct toners can be somewhat restrained, both with conventional development and, unusually, with lith. Weak selenium can be used to enhance Dmax with little or no colour shift **but** if used really strong, selenium at 1:5 or more gives rich chocolate browns, particularly with the Harman selenium toner. Bleach-based toners work extremely well, as expected.

Kentmere (UK)

The Kentmere company in Cumbria, UK was bought in 2007 by Harman Technology (Ilford Photo).

Following the acquisition Kentmere's coating plant was closed down. Current Kentmere darkroom papers are made on the more sophisticated Ilford coating plant at Mobberley. These products are inevitably very different because of the different technology employed and to date do not show true lith print characteristics.

KENTMERE KENTONA

Fixed Grade. Glossy. Lith prints easily and well. Blacks may have comparatively unobtrusive fine-grained texture, smooth mid and high tones. **NOTE:** Original version had cadmium in the emulsion and this paper exhibited very warm colours in lith, shifting toward salmon pink (after drydown - beige when wet) at higher dilutions and when lith developer well used. Short window of maximum colour before chemical fogging, so replenishment required (see 'The Master Photographer's Lith Printing Course'). Unique (then) and beautiful tri- and duo-colour splits in selenium. **NOTE: Cadmium was subsequently banned in photo emulsions and later versions of this emulsion** lith printed well to a pleasing beige, (more typical at that time) with a more conventional response to selenium.

KENTMERE ART CLASSIC

This beautiful paper is the same Kentona emulsion above, but coated onto a textured heavy art paper. Lith and toning properties as Kentona.

TAPESTRY AND LUMINOS

These were re-badged versions of Art Classic coated on the reverse more heavily textured side of the Art Classic paper and were marketed by Fotospeed (UK) and Cachet (US). Lith and toning properties as Kentona.

KENTMERE FINEPRINT VC FINEGRAIN WARMTONE

Variable contrast, using Kentmere's unique bromo-iodide technology. Lith prints to pleasing yellow-brown hues with cold blacks that exhibit gritty grain and texture.

Note: Another Kentmere paper, **Fineprint VC**, shares the same emulsion as Fineprint VC Warmtone, but on a bright white glossy paper. However, it does **not** lith print. The

surprising thing, given the emulsion recipe, is not that it doesn't lith print, but rather that the warm tone version does. This is thought to be because of some effect from the warmtone pigment used, which is mixed into the emulsion rather than onto the paper. The cold version Fineprint VC does however respond well to bleach and lith redevelopment.

All the above Kentmere papers were discontinued 2009.

Kodak (USA)

KODALITH

An important paper, as it was probably the first paper to be adopted for the purposes of what we now call lith printing. Discontinued in the early 1980s, it is unlikely you will find any now. Single weight and rather delicate in handling it excelled as a lith printing paper.

KODAGRAPH TRANSTAR TP5

An expensive specialist use RC graphic art paper. Lith printed easily to bright pinks (brown when wet) and toned well, giving a choice of subtle or strong colours. On drying, it felt more like paper than the usual plastic feel of RC papers. A thin paper, it could also be easily printed through the back for diffused images. Red safelight required.

Maco (Germany)

EXPO RR, RN AND RF

Good lith printing papers giving soft browns free of pepper fogging. Red or yellow green safelight.

Oriental Seagull (Japan)

The legendary Oriental Seagull papers from Japan were once known for their exceptional B&W quality and, in many cases, for their suitability for lith printing. The early Oriental G and VC warm tone paper became the natural lith printing substitute for Kodalith paper when that was discontinued in the early '80s.

Oriental papers then went through many reincarnations and over the years many of their later papers were made elsewhere by other coating plants. Some users speculated whether the "Made in Japan" legend referred sometimes to the box, the label or the paper! These products were NOT always lith-capable.

However, this changed (2011) and I wrote...

NEW: ORIENTAL WARMTONE VC FB11 (NEW WARMER EMULSION FORMULATION 2011)

Take care to buy the new warmer tone version of this paper and you will be rewarded with a beautiful paper that lith prints wonderfully. A variable contrast warm tone double-weight paper with a smooth gloss surface and a subtle cream base. It liths with conviction with well

separated cold blacks on warm mid-upper tones when using relatively stronger developer and responds strikingly to higher dilutions by yielding much warmer images. It tones well in direct toners and can give 2 or 3 colour splits in selenium (depending on processing).

The resemblance this paper has to the **Fomatone** emulsion is unmistakable! Although I haven't tested the two to death side by side, we used several hundred sheets of each on my Montana workshops last year and as the saying goes 'if it looks like a duck, walks like a duck and quacks like a duck – it's probably a duck'! If there are any differences between the two they are not obvious with random use.

Update: It turned out of course that this was the Fomatone emulsion made by Foma as suspected. This was affected by Foma's gelatine change (see 'Foma') and is no longer made. A good buy now if you see it, but check batch. See [emulsion changes](#) under 'Foma MG' above. I don't know if this paper will continue with the new Foma gelatine or not.

Rollei (Germany)

Maco, who own the Rollei brand, launched 8 Foma emulsion papers under the 'Rollei Vintage' label. Foma emulsions are detailed elsewhere in this list and the warm tone version was especially suitable for lith printing & toning. This range is a permutation of fibre based, resin coated, premium weight, standard weight, warm tone and neutral tone, glossy and matt papers. They are also labelled to match the Foma coding as follows:

- Vintage 311: fb; vc; warmtone emulsion; premium weight; cream; glossy
- Vintage 312: fb; vc; warmtone emulsion; premium weight; cream; matt
- Vintage 331: rc; vc; warmtone emulsion; standard weight; cream; glossy
- Vintage 332: rc; vc; warmtone emulsion; standard weight; cream; matt
- Vintage 111: fb; vc; neutraltone emulsion; premium weight; white; glossy
- Vintage 112: fb; vc; neutraltone emulsion; premium weight; white; matt
- Vintage 311: rc; vc; neutraltone emulsion; premium weight; white; glossy
- Vintage 312: rc; vc; neutraltone emulsion; premium weight; white; matt

Maco have a direct selling service online.

**Update March 2013: These papers will of course be affected by the Foma [emulsion changes](#). Check batch numbers. (See 'Foma' in this list for fuller details).*

The word is that Maco will market another lith paper later this year.

Slavich (Russia)

Produced by Kompania Slavich in the Yaroslavskaya region of Russia and distributed to 'the West' through Geola Digital in Vilnius, Lithuania, who maintain English-speaking staff.

Slavich papers are now available from [Silverprint](#) in London and [The Photo Shop](#) in Ireland.

UNIBROM 160 BP

Possibly the only remaining truly lith-capable paper in production. A cold-tone, fibre-based silver bromide emulsion, available in many sizes as single-weight (150 microns) mid-weight and double-weight (250 microns) base thickness and available in glossy, semi-gloss & matt surfaces, Grades 2, 3 and 4.

By far the most graphic and the coldest of all lithable papers with a look all of its own. This paper with average strength lith processing gives high contrast images almost reminiscent of charcoal drawings. It can be the trickiest paper to control as it is prone to accelerating infectious development around the edges and often to random spots and patches. This is much less in Maco Superlith* (now Rollei Vintage Creative developer*), Arista Liquid Lith* and Clayton Lith developers, which are therefore the developers of choice (*see update footnote) with Slavich Unibrom, especially in higher dilutions.

Agitation technique can be critical for even results with this paper.

Smoother tones may be obtained with redevelopment after bleaching ('2nd pass lith') especially with copper sulphate bleach (see my books and 'the Future of Lith?' above), which can be particularly useful.

****Update October 09: NOTE: Arista liquid lith and Rollei Vintage Creative lith have both changed. See below under Developers.***

BROMOPORTRAIT 80 BP ("SEMI LITH")

This is a new warm tone paper in Europe and is made in a similar range of weights and surfaces and a wide range of sizes.

This paper can produce luscious rich brown prints in lith developer, but can also be a source of unsightly side effects. It appears to have some incorporated developer in it, so whilst this paper produces prints in rich lith print colours - and I have seen many - it is not a good paper for real lith printing. As mentioned in the preamble, there is a world of difference in seeing a print in the hand and trying to control one in the darkroom for a pre-visualized result, and this paper does not, of course, offer the necessary controls, even using those techniques listed in 'New Rules' above. A fuller description of Bromoportrait is given under 'Comings and Goings' in the Preamble section.

Both papers require deep red safelights

Sterling Premium Lith F (India)

Now long since discontinued, this lovely lith paper was made in Bombay by The New India Industries Ltd in the early to mid 1990s. It had an eggshell semi-matt finish and gave enthusiastic infectious development to yield images in a soft brown shifting to a pinky brown with higher dilutions. Later batches of this paper were prone to pepper fogging, which was easily controlled by adding sodium sulphite as described in 'The Master Photographer's Lith Printing Course'. It required a red safelight. The coating plant burned down and no longer exists. The site has since been redeveloped.

The Developers

Fotospeed LD 20: (UK)

2 x 500ml and 5L A & B kits. Very effective for Lith printing, the smaller packs are popular with low volume users. In use this developer is 'identical' to Champion Novolith (now withdrawn) in every way and now made in house at Fotospeed UK. Instructions are for use specifically with Lith printing. Since pepper fogging has largely disappeared from current papers, except in the mildest of forms, these Fotospeed packs no longer contain supplementary anti pepper fog additives.

Freestyle Arista Liquid Lith: (USA)

Various sizes. In my limited experience this developer is better suited to lith printing than the pre-2007 version. It works particularly well in higher dilutions (from 1+1+28).

ARISTA PREMIUM LIQUID LITH A + B

****Update April '09:** Arista Lith (liquid) has been discontinued and replaced with **Arista Premium Liquid Lith A & B**. This is made by another manufacturer and tests at Freestyle are reported to be very good at (1+24) + (1+24). It apparently works faster than the previous version.*

Arista powder lith developer is a different product and formulation and remains unchanged.

****Update November '11:** We had the opportunity to use this new liquid version extensively over a month of workshops in the US this year (2011) with considerable success. My impression is that it is warmer toned and also well suited to the more difficult cold tone papers. It is also a fraction of the price of other products.*

Maco LP-Superlith: (Germany)

This product has been transferred to the Rollei label and recently changed (see 'Rollei' below).

Moersch: (Germany)

An extensive range of Lith printing kits based on formaldehyde-free lith developers. All have detailed Lith printing instructions:

'EASY LITH'

This is made with inexperienced lith printers in mind; a higher bromide (a restrainer) level facilitates easy assessment and convincing infectious development for a strong lith effect.

'SE 5 MASTER SET'

Intended for the more experienced user. 2 additional additives C and D are included, based on potassium bromide and sodium sulphite (see 'additives').

ADDITIONAL ADDITIVES

Lith D: Extra strong potassium bromide.

Lith E: For increasing grain at the expense of colour.

Lith Ω (Omega): This is a short second bath treatment for warm tone FB papers and is used after the lith developer. It works best with warm tone papers and has little effect with cold tone papers. It works by oxidizing the residual HQ developer that has soaked into the paper and it intensifies the colour saturation and density. Contains ammonium carbonate, like one of the additives in Polychrome.

'POLYCHROME' KIT

This might be described as a 'hybrid' lith kit for creating colourful image tones with greater or lesser Lith effect. The kit consists of the lith developer and a very colourful soft-working glycine developer 'siena', as well as several additives, which are used to control the final image colour. Described in 'The World Of Lith Printing' under Two-bath lith processes.

Nacco Naccolith: (US)

This comes in a variety of sizes. It is not available in the UK and in my limited experience (**see note*) of it this developer easily produces warm brown Lith prints, but may be more suited to those who like brown prints with less extreme 'lithy' properties.

****Update:** I have since seen a number of excellent lith prints on various papers from this developer. They have a slightly different look but clearly good results are achievable.*

Photographer's Formulary Kodalith: (US)

Different to the discontinued Kodalith products. Similar to Ansco 70. It is probably better suited to film development (its intended purpose) than to Lith printing.

Rollei: (Germany)

Originally, Maco LP-Superlith developer was renamed **Rollei Vintage Creative developer**. This product changed in 2009 and again in 2012.

****UPDATE SEPTEMBER 2012: NEW FORMULATIONS***

'ROLLEI LITH DEVELOPER'

Now formulated for Maco by Compard instead of Clayton (which proved unpopular with many lith printers), I am told this should have an action similar to Moersch's Easyolith, but I

have not tried it yet and would welcome feedback.

'ROLLEI SUPERLITH A+B DEVELOPER'

A stronger concentrate, this one is now made for Maco's Rollei label by Moersch, and is said to be similar to his popular SE5, so should satisfy all lith printers!

(Speedibrews Lithoprint): (from Silverprint, UK)

I have included this in parentheses, as it is not a true Lith developer. Originally formulated to circumvent the problem of pepper fogging with the old Sterling lith paper, it is a 2-part powder kit to make single solution concentrate for dilution and it requires a different technique: As there is no infectious development rush, the highlights need to be watched approaching the snatch point. It can produce very colourful toner-responsive prints with some papers. Being essentially a super-warm working developer, blacks can be a little 'soft' at high dilutions for maximum colour, but the 2-bath technique described in 'The World of Lith Printing' book will get around this easily and effectively if required.

Spuersinn Callith (Germany)

As mentioned in the opening discussion under 'The Future of lith Printing?' Spuersinn are attempting to find the Holy Grail of a developer that will Lith print with almost any paper. The samples I tested were still far from achieving this seemingly impossible task, but I believe that further work is being carried out. So watch this space.

© Tim Rudman