

Q & A

on

"HAMAMATSU" UV LAMI-COATER



KOBE PRINTING EQUIPMENT LTD.  
神戸印刷器材株式会社

6-1-1 OHASHI-CHO, NAGATA-KU,  
KOBE 653-0037, JAPAN

TEL : 81-78-611-1400

FAX : 81-78-611-1403

E-mail : [kpe@kobe-printing.co.jp](mailto:kpe@kobe-printing.co.jp)

**Q1. Where can we buy circulating film, UV Varnish and consumables ?**

A1. Basically, please use products recommend by us. Of course you can buy products made in China, Taiwan. etc. but please take note some of these varnish or films might not be suitable for lami-coater.

**Q2. What is the film material? Is special featured film required ?**

A2. For the film, BOPP (biaxially-oriented polypropylene) is suitable as ultraviolet permeability of BOPP film is good. Please note that PET (polyethylene terephthalate) film cannot be used since ultraviolet permeability is not good. Both side corona treated film cannot be used. One side corona treated or non-treated film can be used. This is because paper cannot be peeled from corona treated surface.

**Q3. What is the film size and thicknes ?**

A3. We normally recommend film size of 1,100mm(W) x 2,000m(L). For gloss film, considering stable characteristic and long durability, the most suitable thickness of the film is 40-50micron. As for matt film, 20-30 micron thickness is widely used. But if the film is too thin, it would be easily stretched, as a result, durability of the film would be short. Conversely, if the film is too thick, UV light cannot permeate through the film and cause bad UV curing problem.

**Q4. Can we select the suitable film size to match with the product's width?**

A4. As for width of film, almost all customers are using 1,100mm width or 1,000mm width as standard since the film cost per product becomes quite cheap. Film width narrower than 1,000mm is not used often, because the 1,000mm wide film can be used for the products in the range of 420mm-980mm in width without changing film, which makes their jobs efficient. But, when a lot of very narrow width job is expected, narrow width film can be used by changing the position of sensor for web edge controller, which, of course, can be done easily.

**Q5. What is the length of circulating film ?**

A5. Length of circulating film is 16m. For paper size of 1091 (W) x 788 (L) mm, considering distance between paper and paper, 15 sheets/rotation can be processed. The minimum size of paper: 420mm(W) x 400mm(L) can be processed at 26 sheets/rotation.

**Q6. How long does it take to change the circulating film?**

A6. Within 5 minutes. The replacing film is always hanged on the machine reel ready to be replaced. After cutting the film, just use normal adhesive tape for packaging to join both ends of film for making the film circular.

**Q7. Don't the film joint marks appear on printed surface? Don't they spoil the products ?**

A7. The joint of adhesive tape is detected by sensor and it will be automatically placed between paper and paper by computing control. Thus, no waste paper comes out.

**Q8. How many sheets of products can be processed by a circulating film(16m long) ?**

A8. It depends on kind of film and UV varnish, but according to user's record, the number of processable sheets of gloss/matt/hologram by one circulating film (16m) is as below:-

Note: Paper size: 1091 x 788mm, Art paper(130g/m<sup>2</sup>)

Film size : 1,100mm(W) x 50micron(T) x 2,000m(L)/roll

\* A 16m circulating gloss film can process 7,000~9,000 sheets. Therefore, 1roll of total Length 2,000m can process 875,000~1,125,000 sheets.

(Some companies process 10,000 sheets by one circulating film(16m). But it depends on the quality level for finish requested by sponsor.)

\* Matt film : 1,000 ~ 2,000 sheets can be processed/16m circulating film.

\* Hologram : 500 ~ 1,500 sheets can be processed/16m circulating film.

**Q9. How much is the approximate cost of film for 1 m<sup>2</sup> of product ?**

A9. Gloss BOPP Film : 1,100mm(W) x 50micron(T) x 2,000m(L) supplied by Kobe Printing Equipment Ltd.  
Paper size : 1091 x 788mm = 0.859708m<sup>2</sup>  
Cost of BOPP Film : approx. JPY80,000.- per roll

The cost of film for 1 m<sup>2</sup> of products is approx. JPY0.1063 ~ 0.0827. We believe your customer can almost neglect the cost of BOPP Film accordingly. Note: This figure is applicable for gloss film.

**Q10. After processing by lami-coater, can we process UV spot coating, UV silkscreen printing, embossing and hot stamping ?**

A10. Our lami-coater can process UV spot coating with accurate registering. Basically, after UV Lami-Coating, you can apply UV silkscreen printing, hot stamping or embossing without any problem but it depends on adhesion power of ink and performance of glue for stamping foil, so, we recommend you to conduct preliminary test. Standard wetting tension of UV Lami-Coat is 38 – 40dyne. In general, printers also can change the quality of UV varnish according to necessity of post process such as hot-stamping, silk-screen printing, embossing and so on.

**Q11. Will there be paper marks remain on OPP film ?**

A11. Paper marks remain on OPP film, especially when paper is very thick or OPP film is as thin as 20 – 30 micron. Therefore, when paper size is changed, the circulation film also need to be changed. In case of same size products, UV varnished sheets are placed in the same position within the circulation film due to computing control and therefore paper marks stay in the same position on OPP film and do not cause any problem of paper marks in lami-coating process.

**Q12. Will UV glue stain the front or back side of the paper ?**

A12. As for glue marks, we must say the cured UV resin remains on the OPP film little by little and when the remaining cured UV resin reaches a certain level, paper cannot be peeled off easily and OPP film must be changed. The time when such case happened depends on the quality of UV varnish and OPP film.

**Q13. How is the comparison between OPP lamination and UV Lami-Coat ?**

A13. As for comparison by gloss meter between OPP lamination and UV Lami-Coat, UV Lami-Coat is a transfer of OPP film surface. So, glossiness of UV Lami-Coat is the same as OPP lamination or less than that. In case of OPP lamination, gloss meter catches reflection of OPP film surface and its gloss value is always the same as that of OPP film itself regardless of the actual OPP lamination result which is decided by many factors such as spray powder, volume of laminating glue, laminating temperature/pressure/time, air bubbles between paper and film, printing ink, kind of paper and so on. It is possible sometimes for OPP lamination to spoil the quality of printing surface. However in case of lami-coater, you can see printing surface direct without affection of OPP film lamination and can realize glossy coating effect without barrier. Lami-coat does not spoil the quality of printing surface.

**Q14. How is the register accuracy of spot-coating ?**

A14. At maximum paper size of 1,100mm(w) x 800mm(L), spot-coating register accuracy is ±0.5mm.

**Q15. We know similar lami-coating machine with Roll-to-Roll type, What is the difference with your machine?**

A15. We wish to inform you the case of Roll-to-Roll type lami-coating machine, due to lack of sheet position control, both of paper marks and glue marks remaining on the film appear at random on the finished products in the second rotation of the OPP film roll and after. Eventually, expensive OPP film or hologram film can be used only one time or twice. But our UV lami-coater does not use such Roll-to-Roll film, but use the film cut into 16m length for circulation. When circulation film was worn out, you just cut 16m again and change to fresh one. In this connection, our UV lami-coater can always achieve much better finish with lower cost than Roll-to-Roll type.

**Q16. What kind of UV lamp is used ?**

A16. 2 sets of 14 kw metal halide lamp (120w/cm) are used.

**Q17. How much power would be needed for running the whole machine ?**

A17. It is 80 kw in total.

**Q18. In case we want to use the machine as UV coating machine, can we use it without laminating process?**

A18. Our machine should be used with laminating process, that is to say, it can be used only through the process of curing by UV lamp under the non-oxygen situation putting between film and paper. The UV curing power of our machine is not strong enough for normal UV varnish curing. It is designed for curing with non-oxygen laminating process.

**Q19. How long does it take to install the machine and training for operators ?**

A19. We will send a crew of two or three person to your factory for max. 2 weeks including travelling days at our cost, however, we must request you or your customer to bear expenses for local transportation, hotel and meals for them.

**Q20. We understand that the UV effect is good for replacing calendaring, however, we do not have business on calendaring currently ...**

A20. In Japan, almost magazine covers were calendred with varnish or laminated with film in the past. But, more than 90% of magazine covers are lami-coated due to its high gloss with cheap cost and environmental protection nature. For your information, film laminated paper cannot be recycled, but UV lami-coated paper can be recycled. If you do not have business on calendaring currently, which means you can expect to have new customers who works on calendaring.

**Q21. We have UV coating machine already and are not interested in Hamamatsu Lami-coater so much ...**

A21. 1. Our UV lami-coater can crush spray powder before UV coating, thus, the finish is much smoother and more beautiful than the other UV coating machine.  
2. Our UV lami-coater can achieve spot coating with accurate registering.  
3. Matt, Hologram and emboss finishes can be produced by changing circulation film. You can easily expand the range of processing business.

**Q22. We have laminating machine, moreover, the durability of film lamination should be much better than UV coating.**

A22. We admit film lamination is better in durability than UV coating. However, anti-scratching nature of UV lami-coating is much much better than film lamination, especially, matt OPP film can be scratched very easily, while matt finish of our UV lami-coating is excellently tough, cannot be scratched.