

# ADVANTAGES OF LASER ENGRAVING MACHINE ENGRAVING AND PLATE MAKING

Posted on 2023-08-11 by redsail



Category: [Laser Engraver News](#)



## Laser engraving machine engraving plate making and manual engraving plate making comparison

Laser engraving machine engraving plate-making completely imitates and optimizes the design of manual plate-making. After the laser engraving plate-making was introduced to the market, within ten years, the engraving has a slope of 0.3MM through software upgrades, and the light attenuation at the engraving corner is automatically compensated. Increased auto-engraving speed. Basically, hand-engraved plate-making is eliminated. In addition, laser engraving plate making can completely eliminate errors during engraving, and unavoidable engraving errors during manual engraving. The original manuscript is good, but if a knife is wrong during manual engraving, the entire page will be scrapped. If it is not found in time, the entire batch of cartons will often be scrapped. Laser engraving uses software to input the original manuscript into automatic engraving, and there is no engraving error. It turns out that the more than 20,000 hand-carving and plate-making practitioners in the Pearl River Delta have basically disappeared, and all of them have changed careers.

### Laser engraving machine engraving plate making and resin plate comparison

The one-time investment of laser engraving machine engraving and plate making is low. A set of equipment for a 2-meter photosensitive flexible drying machine is not less than 400,000 yuan, while a laser engraving machine is about 40,000 yuan. The production cost of resin plates is high. The average price of resin plates in the Pearl River Delta region is 1.25 yuan/in<sup>2</sup>, and laser engraving plate making is 0.32 yuan/in<sup>2</sup>. Although mass production of resin plates can reduce the production cost to 0.90 yuan/in<sup>2</sup>, not all enterprises can do it. Even if it can be done, the cost is still much higher than that of laser plate making. Laser engraving plate-making has low energy consumption and no pollution. Resin plate processing is highly polluting. Although it is better to use a plate-making liquid recovery device than none, the plate-making liquid recovery rate cannot be 100%, and pollution is unavoidable. The size of laser engraving can be infinitely large, and the production site only needs more than ten square meters, while the working site of the resin plate printing machine cannot be less than 40 square meters, the smell is pungent during production, and the production site must be separated separately. In addition, the processing size Limited by model. The 2-meter photosensitive flexible printing machine can only produce resin plates within 2 meters. 5. The laser engraving plate adopts a slope of 0.3MM, and its durability is basically close to that of the resin plate. Only the printing of the resin plate below size 7 is better than that of the laser engraving plate.

### Practical application in corrugated box packaging industry

At present, in the economically developed areas of the Pearl River Delta and the Yangtze River Delta, photosensitive resin plates and laser engraving plates are popular. Resin plates are highly flexible and have clear printed marks in the carton industry, accounting for 30% of the market in transport packaging and printed marks, while laser engraving Plate-making fully accepts the original hand-carved plate-making occupies 70% of the market. 90% of corrugated boxes belong to

transportation packaging, and the printing mark requirements are generally around 40 lines, while carton printing machines can only reach below 80 lines at most, and color offset printing is generally used for more than 80 lines. The packaging of electrical appliances between the transportation package and the sales package can use laser engraving plates. Due to the habit of operators of some manufacturers, resin plates are mostly used now.

### Competition and Forecast

In the application of electrical food packaging between transportation packaging and sales packaging, the use of laser engraving for plate making is not only economical, but also environmentally friendly. In the practice of carton packaging printing, air cushion or sponge pad with good elasticity can be used for printing, which can obtain high resolution and improve the printing effect by 10-20 lines. At present, many carton packaging companies have tried this method to achieve better results. A more robust approach is to use resin plates for some smaller characters and patterns on this basis, and use laser engraving to make plates for characters and patterns above size seven. Example: Zhuhai Doumen Qianye Paper Products Co., Ltd. adopts this method in the manufacture of export packaging cartons for Gree air conditioners. Except for the characters and patterns below size 7, resin plates are used, and laser engraving plates are used for the rest. In this way, the cost of plate making can be reduced while ensuring the quality. If all photosensitive resin plates are used, a set of printing plates should not be less than two or three thousand yuan, and laser engraving is the main method of plate making, supplemented by photosensitive resin plates, and a set of printing plates is only more than five hundred yuan. Enterprises should do everything possible to reduce production costs. Yes, paying attention to the environment is more valuable.

### Diversified competition of plate making technology

Competition not only provides more choices for the carton packaging industry, but also greatly reduces costs and improves economic benefits for the carton packaging industry. Before the advent of laser engraving plate making, the average price of photosensitive resin was 5 yuan/in<sup>2</sup>. At that time, almost every industrial area in the Pearl River Delta had photosensitive resin plate production and processing points, and there was a tendency to spread. After laser engraving plate-making was introduced to the market, the price of photosensitive resin plates dropped sharply, falling to 1.25 yuan/in<sup>2</sup> today, and the production scale shrank accordingly. The benefits of plate making competition to the carton packaging industry are obvious. To sum up, in the future, corrugated box packaging companies will continue to compete in printing plate technology, laser engraving plate making and photosensitive resin plate competition will continue, and it will be more exciting.

According to the forecast of experts in the corrugated packaging carton industry. In the future, photosensitive resin will be fully withdrawn from the printing plates of transport packaging cartons. For product printing between transportation and sales packaging, photosensitive resin plates still have a slight advantage. About 60% use photosensitive resin plates and 40% use laser engraving for plate making. The resin version has dominated the situation in the world, and it has undoubtedly

become history. At present, the printing plates of the corrugated box packaging industry generally occupy 75% of the market share by laser engraving, and there is a tendency to continue to extend. Although photosensitive resin has high stability and high-definition printing effects, the cost problem is restricting its development. Bottleneck, even if the cost can be reduced, environmental protection is the most critical issue restricting its development. Therefore, economical and environmentally friendly laser engraving plate making is the future development direction of printing plates in the carton packaging industry. ~compared with hand-engraved plate-making

Laser engraving plate-making completely imitates and optimizes the design of manual plate-making. After the laser engraving plate-making was introduced to the market, within ten years, the engraving has a slope of 0.3MM through software upgrades, and the light attenuation at the engraving corner is automatically compensated. Increased auto-engraving speed. Basically, hand-engraved plate-making is eliminated. In addition, laser engraving plate making can completely eliminate errors during engraving, and unavoidable engraving errors during manual engraving. The original manuscript is good, but if a knife is wrong during manual engraving, the entire page will be scrapped. If it is not found in time, the entire batch of cartons will often be scrapped. Laser engraving uses software to input the original manuscript into automatic engraving, and there is no engraving error. It turns out that the more than 20,000 hand-carving and plate-making practitioners in the Pearl River Delta have basically disappeared, and all of them have changed careers.

#### Comparison of laser engraving plate making and resin plate making

The one-time investment of laser engraving and plate making is low. A set of equipment for a 2-meter photosensitive flexible drying machine is not less than 400,000 yuan, while a laser engraving machine is about 40,000 yuan. The production cost of resin plates is high. The average price of resin plates in the Pearl River Delta region is 1.25 yuan/in<sup>2</sup>, and laser engraving plate making is 0.32 yuan/in<sup>2</sup>. Although mass production of resin plates can reduce the production cost to 0.90 yuan/in<sup>2</sup>, not all enterprises can do it. Even if it can be done, the cost is still much higher than that of laser plate making. Laser engraving plate-making has low energy consumption and no pollution. Resin plate processing is highly polluting. Although it is better to use a plate-making liquid recovery device than none, the plate-making liquid recovery rate cannot be 100%, and pollution is unavoidable. The size of laser engraving can be infinitely large, and the production site only needs more than ten square meters, while the working site of the resin plate printing machine cannot be less than 40 square meters, the smell is pungent during production, and the production site must be separated separately. In addition, the processing size Limited by model. The 2-meter photosensitive flexible printing machine can only produce resin plates within 2 meters. 5. The laser engraving plate adopts a slope of 0.3MM, and its durability is basically close to that of the resin plate. Only the printing of the resin plate below size 7 is better than that of the laser engraving plate.

#### Practical application in corrugated box packaging industry

At present, in the economically developed areas of the Pearl River Delta and the Yangtze River Delta, photosensitive resin plates and laser engraving plates are popular. Resin plates are highly flexible and have clear printed marks in the carton industry, accounting for 30% of the market in transport packaging and printed marks, while laser engraving Plate-making fully accepts the original hand-carved plate-making occupies 70% of the market. 90% of corrugated boxes belong to transportation packaging, and the printing mark requirements are generally around 40 lines, while carton printing machines can only reach below 80 lines at most, and color offset printing is generally used for more than 80 lines. The packaging of electrical appliances between the transportation package and the sales package can use laser engraving plates. Due to the habit of operators of some manufacturers, resin plates are mostly used now.

### Competition and Forecast

In the application of electrical food packaging between transportation packaging and sales packaging, the use of laser engraving for plate making is not only economical, but also environmentally friendly. In the practice of carton packaging printing, air cushion or sponge pad with good elasticity can be used for printing, which can obtain high resolution and improve the printing effect by 10-20 lines. At present, many carton packaging companies have tried this method to achieve better results. A more robust approach is to use resin plates for some smaller characters and patterns on this basis, and use laser engraving to make plates for characters and patterns above size seven. Example: Zhuhai Doumen Qianye Paper Products Co., Ltd. adopts this method in the manufacture of export packaging cartons for Gree air conditioners. Except for the characters and patterns below size 7, resin plates are used, and laser engraving plates are used for the rest. In this way, the cost of plate making can be reduced while ensuring the quality. If all photosensitive resin plates are used, a set of printing plates should not be less than two or three thousand yuan, and laser engraving is the main method of plate making, supplemented by photosensitive resin plates, and a set of printing plates is only more than five hundred yuan. Enterprises should do everything possible to reduce production costs. Yes, paying attention to the environment is more valuable.

### Diversified competition of plate making technology

Competition not only provides more choices for the carton packaging industry, but also greatly reduces costs and improves economic benefits for the carton packaging industry. Before the advent of laser engraving plate making, the average price of photosensitive resin was 5 yuan/in<sup>2</sup>. At that time, almost every industrial area in the Pearl River Delta had photosensitive resin plate production and processing points, and there was a tendency to spread. After laser engraving plate-making was introduced to the market, the price of photosensitive resin plates dropped sharply, falling to 1.25 yuan/in<sup>2</sup> today, and the production scale shrank accordingly. The benefits of plate making competition to the carton packaging industry are obvious. To sum up, in the future, corrugated box packaging companies will continue to compete in printing plate technology, laser engraving plate making and photosensitive resin plate competition will continue, and it will be more exciting.

According to the forecast of experts in the corrugated packaging carton industry. In the future, photosensitive resin will be fully withdrawn from the printing plates of transport packaging cartons. For product printing between transportation and sales packaging, photosensitive resin plates still have a slight advantage. About 60% use photosensitive resin plates and 40% use laser engraving for plate making. The resin version has dominated the situation in the world, and it has undoubtedly become history. At present, the printing plates of the corrugated box packaging industry generally occupy 75% of the market share by laser engraving, and there is a tendency to continue to extend. Although photosensitive resin has high stability and high-definition printing effects, the cost problem is restricting its development. Bottleneck, even if the cost can be reduced, environmental protection is the most critical issue restricting its development. Therefore, economical and environmentally friendly laser engraving plate making is the future development direction of printing plates in the carton packaging industry.