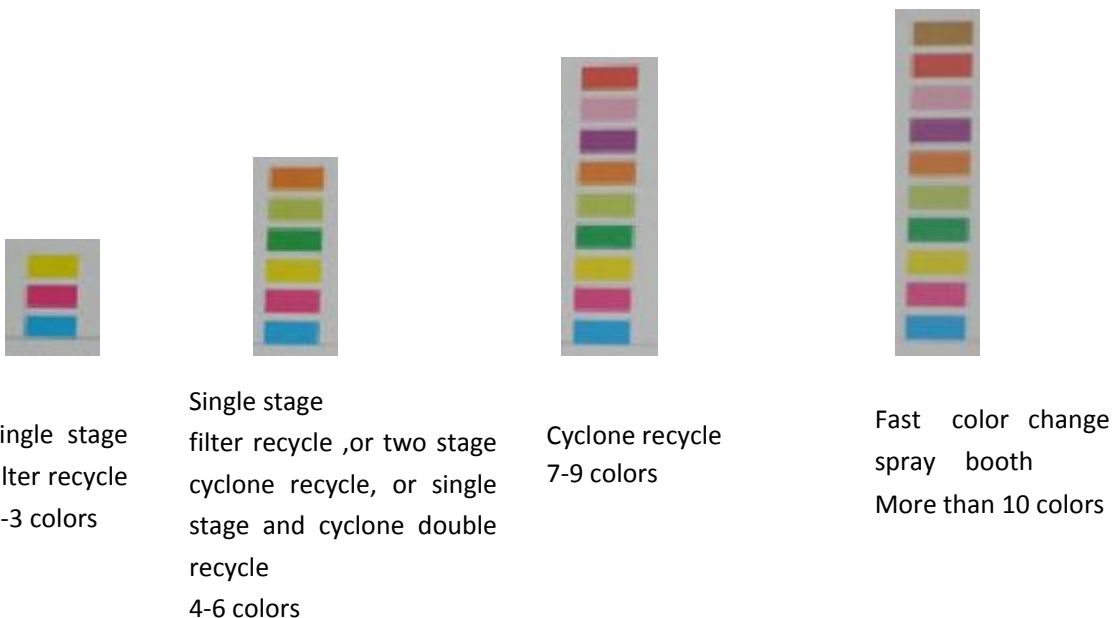


How to select powder coating spray booth and recovery system?

Spray booth and recovery system selection are affected by the color and type of powder, the shape of the workpiece, the installation site, spraying requirements and many other factors. The booth itself there are many types. By the recycle systems, there are single-stage filter recycling spray booths, multicyclone two-stage recycle booths and monocyclone two-stage recycle booths, ect. By spray materials, there are stainless steel plate, engineering plastics, and sandwiches, etc. By the workpiece to be sprayed, they can be divided into ordinary spray metal parts , aluminum vertical spray booth , super large pieces spray booth , steel tube and steel reinforced bar thermal spraying booth and others ; By spraying powders, they can be divided into ordinary organic powder spray systems and spray enamel powder room systems.



As general electrostatic spraying users, we advise that they should take the following points into consideration when to select the booths.

1. Using what powder?
2. How many colors of powder?
3. Can the color of the powder be divided into the main colors and secondary colors?
4. How much is the productivity? If you need to expand production capacity in the future?
5. Whether will the powder recycle?

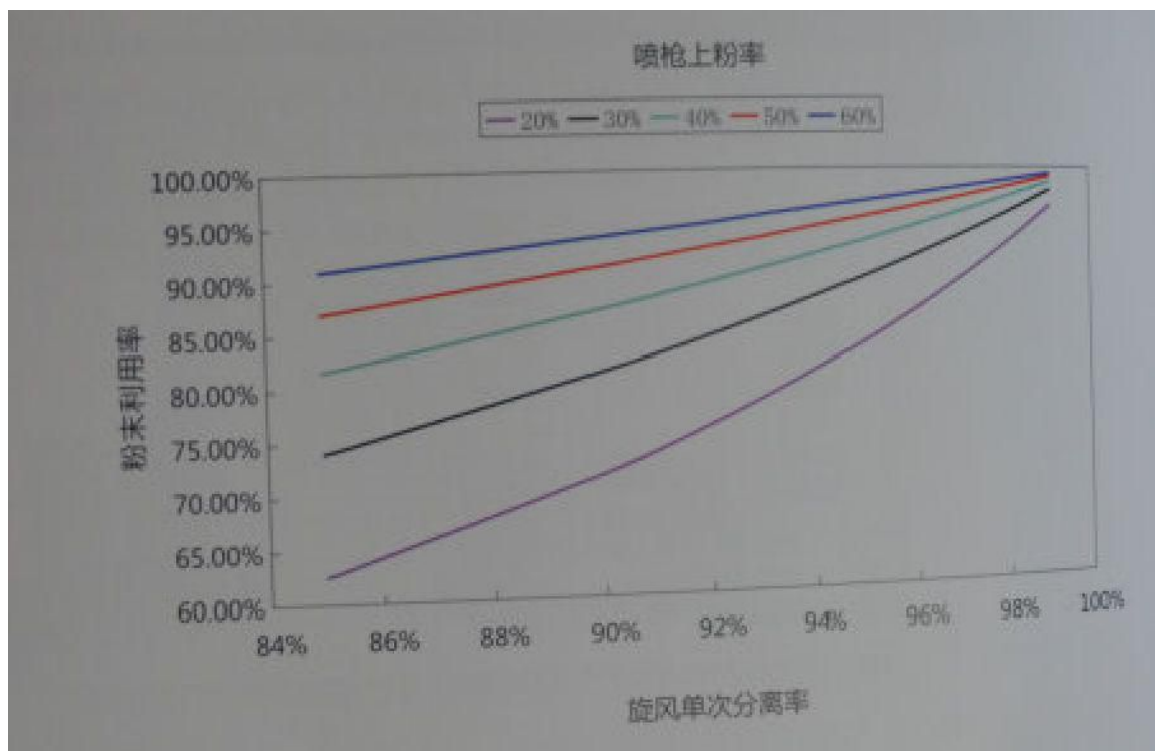
6. How much is the investment budget?
7. How often is color changed (hourly, daily or weekly)?

Spray booth and the electrostatic spray gun

Spray booth is where the electrostatic spray gun works.

Spray gun influences the powder coating transfer rate, surface quality, the permeability of the corner position of the workpiece to be sprayed, and so on. Spray booth decide the recovery effect, re-utilization of the powder , the powder recycling quality, color clean-up and change time , workpiece spraying environment, etc.

For cyclone recovery system, the powder recycling rate of utilization has a greater relationship with the spray gun transfer efficiency. See the following table for details:



Spray booth and the powder coatings

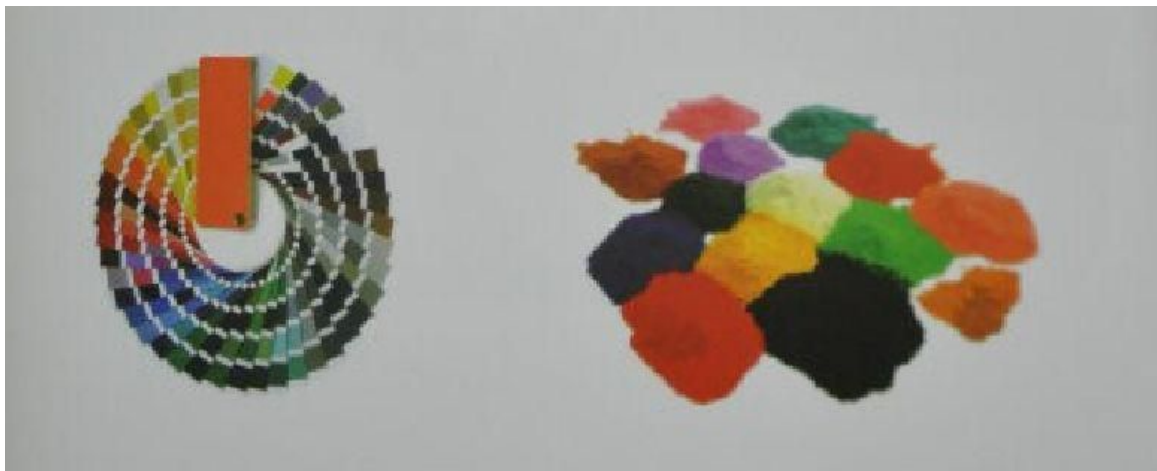
Powder coatings are the largest consumption in electrostatic powder coating line, which accounts for more than 70% of the cost of electrostatic powder coating line. The quality of the spray booth and recovery system depends on the powder consumption per unit area. Therefore, the choice of a suitable spray system relates to the core competitiveness of customers.

Except for some common powders, many powders such as micro powders, metal powders, enamel powders, glazing powders have some special requirements on spray booth. Only suitable system can ensure customer's spraying quality and maximum utilization of the powder coating, exemplified as follows:

For micro powder coating (generally considered an average particle size 20um or less defined as micro powder), which is the most economical way to recycle with high-capture efficiency single-stage filter, so you can maximize saving powders. Recycle with multicyclone or monocyclone need some special design, which can reduce waste powder amount in two stage recovery system.

For general metal powder, chromatic aberration usually appears when powder is recycled, therefore, we should try to shorten the recovery path, and try to make the right ratio of recovery powder and new powder.

For glazing powders, because of its high resin content, it is easily oxidized. It is not appropriate to going through a high-speed recovery channel. Meanwhile, to ensure the quality of spraying, the recovery of glazing powders should be filtered with powder sieving machine with more than 180 meshes.



Spray booth and the compressed air

We tend to think that the relationship between the spray gun and the compressed air is relatively close, but the relationship between the compressed air and spray recovery system is also very close. During actual production, many of the problems occurring in spray systems, such as craters, bubbles, and recycling powder agglomeration are likely influenced by compressed air quality. Besides, the lifetime of filters and fluidizing plate also have a great relationship with the compressed air. Stable and reliable compressed air is very important for powder coating system, which often increases not so much cost, such as the use of adsorption dryers, or increase high precision air filter.



Spray booth, isolation room and the surroundings

For most of the spray booth systems, we think it is better not to build isolation rooms. But customers tend to avoid powders' being blown around the area when color changed, so they isolate the spray booth.

But generally among customers the isolation is sealed around, which in addition to causing a higher temperature inside the isolation room, which will also lead to the booth to overflow powder because of nonuniform air supplement. We recommend that customers who build isolation room should consider leaving some uniform openings for filling into sufficient clean and fresh air .

