

ANALYSIS OF THE CURRENT LASER CUTTING MACHINE TECHNOLOGY

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According to the current domestic [laser cutting machine](#) technology application analysis, CO2 laser cutting machine is widely used in 12mm thick low carbon steel plate; 6mm thick stainless steel plate and 20mm thick non-metallic materials (such as acrylic, pv plate, etc.). For the cutting of three-dimensional space curves, it has also begun to be applied in the automobile and aviation industries. Therefore, the products suitable for CO2 laser cutting can be roughly classified into three categories:

The first category: Metal sheet metal parts that are not suitable for manufacturing molds from a technical and economic point of view, especially those with complex contour shapes, small batches, and general thickness; 12mm low carbon steel; 6mm thick stainless steel, in order to save the cost and cycle of manufacturing molds. Typical products that have been used include: automatic elevator structural parts, elevator panels, machine tool and grain machinery covers, various electrical cabinets, switch cabinets, textile machinery parts, construction machinery structural parts, large motor silicon steel sheets, etc. This type requires a laser cutting machine with relatively higher power.

The second category: patterns, signs, fonts, etc. of stainless steel (general thickness 3mm) or non-metallic materials (general thickness 20mm) used in decoration, advertising, leather, and service industries. Such as the patterns of art photo albums, handicrafts, signs of companies, units, hotels, shopping malls, acrylic Chinese and English fonts in stations, docks, and public places.

The third category: special parts that require uniform cutting. The most widely used typical part is the die-cutting plate used in the packaging and printing industry. It requires cutting a slot with a slot width of 0.7~0.8mm on a 20mm thick wooden formwork, and then inserting a blade in the slot. When used, put it on a die-cutting machine, and cut out various packaging boxes with printed graphics. A new field of domestic application in recent years is the oil screen slot pipe. In order to prevent sediment from entering the oil well pump, a 0.3mm wide uniform slit is cut on the alloy steel pipe with a wall thickness of 6~9mm. The diameter of the small hole at the cutting hole cannot be 0.3mm into production.