

Technical Data Sheet

Solutions for LMM-6018 Black Laser Marking Tape



Tel 336-2881613 sales@jorlink.com



Product Description

LMM-6018 is a laser marking tape designed for use on stainless steel and anodized aluminum. LMM-6018 can be applied to a substrate, laser marked to bond a portion of the tape to the substrate and then peeled away to leave the mark. LMM-6018 is designed for use in applications where spraying and removing our other laser marking materials is not possible or feasible. Rolls are available in 1", 2", 3" and 4" widths. They are 50 feet in length per roll, wound on a standard 3" core. Samples are available in 2" by 6" sheets.

Product Characteristics

Physical Properties

Appearance

Dark black adhesive tape with a white paper backing.

Strengths of Product

Raises the contrast of laser marks on stainless steel and anodized aluminum substrates. Allows Nd:YAG, CO₂ and fiber lasers to mark substrates such as stainless steel and anodized aluminum with a dark black mark. Easy to handle and use. Eliminates variation in application, requires no application equipment. Significantly reduces post marking clean up.

Recommended Application / Removal Techniques

Application Methods

Apply LMM-6018 to substrate and smooth out by hand, ensure that no air bubbles or gaps occur between tape and substrate. Moderate pressure should insure good adhesion. LMM-6018 may also be applied by automated machines.

Application Notes

Clean the surface of substrate so that it is free of any lubricants or oils. LMM-6018 must adhere well to the substrate to ensure a consistent mark.

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Removal Methods

Remove tape by peeling from surface. Some burned paper residue may need to be wiped away. A cloth can be used with water or ethanol. Some cut out portions of tape may also need removed, depending on the mark.

Laser Marking of Product

Laser Marking Method

CO₂, YAG or Fiber laser

Recommended Starting Point for Settings

CO₂: 100% power (35 watt laser)
5-10% speed
500 DPI / 500 PPI
YAG- 30-50 watts
5-10 inches/sec speed

Additional Application Notes

For optimum mark quality, good adhesion and contact between the tape and the substrate is necessary. The tape must stick well to the substrate. If gaps or air bubbles are trapped between the tape and the substrate, poor mark quality will result. Use moderate pressure to insure good contact. Use of a squeegee will help insure good contact. Rough or uneven substrates such as porous non-glazed ceramics or bricks will also produce marks of lower resolution due to the roughness of the material.

Environmental conditions can affect the adhesion strength of the tape, if you encounter difficulty in removing the tape simply apply warm air on the tape to lift free. A hair dryer or similar is recommended, 10-20 seconds of warm air should be sufficient.

Marking Notes

Some burning of the paper backing will occur during marking and is normal. We recommend that the marking be done in a well-ventilated area. When making large marks or a large quantity of marks, we recommend a ventilation system to exhaust the smoke created from the paper burning to the outside.

Marking may require some trial and error to optimize your laser with a particular substrate. Keep in mind that all lasers react differently depending on the substrate. Best results are obtained when marking at lower powers and slower speeds. High powers tend to damage glass substrates and should be avoided whenever possible. Experimentation should be done to find settings that produce an acceptable mark without glass damage.

Product Preparation

No preparation is necessary, use LMM-6018 tape as supplied.

Storage Recommendations

Product must be stored in cool and dry conditions. Storage temperatures should be between 40°F (5°C) and 95°F (35°C). If stored as recommended, a minimum shelf life of six months after the production date is guaranteed.