

Technical Data Sheet

Physical Testing of LMM-6000 Laser Marks



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Laser marks were made on type 304 stainless steel tags using LMM-6000 and a CO2 laser. Marks were made at settings of 100% power, 12% speed, 500 DPI on a 35 watt laser.

Tags were totally immersed in the test solutions.

Exposure Time

Organic Solvents	1 Hour	12 Hours	24 Hours	1 Week
• Gasoline	No effect	No effect	No effect	No effect
• Limonene	No effect	No effect	No effect	No effect
• Methyl Ethyl Ketone	No effect	No effect	No effect	No effect
• N-Butanol	No effect	No effect	No effect	No effect
• Mineral Spirits	No effect	No effect	No effect	No effect
• Xylene	No effect	No effect	No effect	No effect
• Acetone	No effect	No effect	No effect	No effect
• Propylene Carbonate	No effect	No effect	No effect	No effect
• Ethanol	No effect	No effect	No effect	No effect
• DMSO	No effect	No effect	No effect	No effect
• Motor Oil	No effect	No effect	No effect	No effect

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Acid/Bases

• Hydrochloric Acid 35%	No effect	No effect	No effect	Test stopped - see notes
• Nitric Acid 68%	No effect	No effect	No effect	No effect
• Sulfuric Acid (conc.)	No effect	No effect	No effect	No effect
• Acetic Acid 99.5%	No effect	No effect	No effect	No effect
• Hydrogen Peroxide 30%	No effect	No effect	No effect	No effect
• Sodium Hydroxide 25%	No effect	No effect	No effect	No effect
• Ammonium Hydroxide 20%	No effect	No effect	No effect	No effect



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Other

- Boiling H2O Marks soaked in boiling water for 1 hr. - no effect
- LN2 (Cold) Marks dipped in liquid nitrogen - no effect
- Flame (Hot) Marks heated in a propane flame until cherry red
Metal discolored, no effect on mark.

- Hot/Cold Cycling Marks heated red hot and immediately plunged in
liquid nitrogen.
Metal discolored, no effect on mark.

Notes:

- Hydrochloric acid testing:
- Acid dissolves the steel tag and was not run over 12 hrs.
 - After 1 hr. acid dissolved 0.2767 gms of steel tag (4.7%), laser mark was unaffected.
 - After 12 hrs. dissolved 1.8057 gms of steel tag (30.6%), laser mark unaffected, now having a distinctly raised feel.

Contact Information

For questions about properties of this product, application techniques or laser settings, please contact:
800-245-4951 Customer Service & Technical Service

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