LBT™

Laser Bonding Technology

Making a Permanent Impression sm

Paul W. Harrison
5336 Vincent Avenue
Los Angeles, CA 90041

Tel: (213) 819 5069

LBT's laser bonding technology offers a unique solution for creating permanent, high contrast, high resolution marks on a wide variety of surfaces, including most metals, glass, ceramic and many plastics. These laser bonding materials (LBMs), when used in conjunction with most commercially available laser marking systems, provide significantly faster bonding speeds – 36" per second for stainless steel, 24" per second for glass and ceramic and 6" - 12" per second for softer metals such as brass and aluminum. The cost of the consumable LBMs varies, based on the mark size, but should average between 1 – 3 cents per mark.

LBT Benefits

Permanent & Compliant

- Chemically resistant to most solvents, acids and bases
- Abrasion resistant
- Will withstand temperatures above 1800ºF
- Withstands prolonged UV and moisture exposure
- Meets requirements of MIL STD 130N, NASA STD 6002, AIAG B-4 & B-17, SAE AS9132A

High Resolution & High Contrast

- Easily create graphics, barcodes, logos and fine text
- Black marks improve contrast for reliable machine readability
- Maintains substrate integrity
- Bonds to the product surface with minimal thermal energy
- Can be successfully applied to plated materials without penetrating the surface

Flexibility & Color

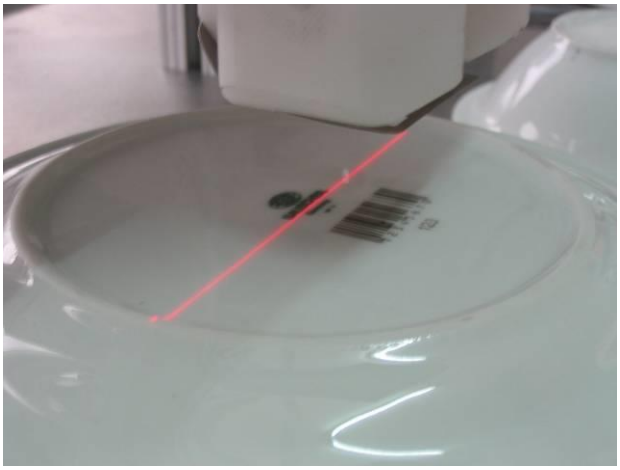
- Laser process facilitates variable data such as barcodes, serialization and personalization
- OEM custom colors may be able to be applied on glass and ceramics

Metal

Ceramic & Coated Metals

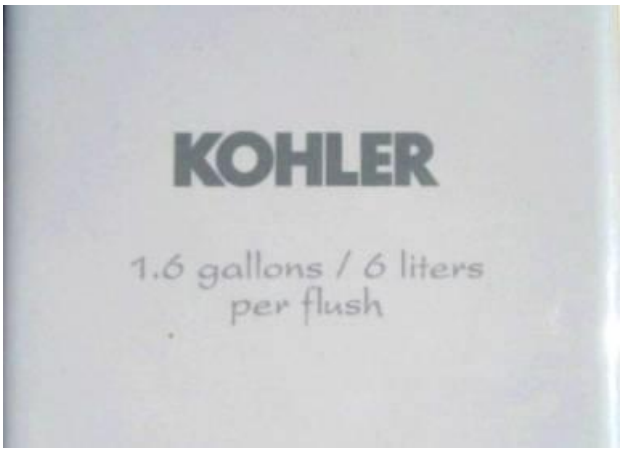
Ceramic

Achieving a high contrast, permanent mark on glazed and unglazed ceramic products such as dinnerware, sanitaryware, electrical insulators and automotive catalytic converters requires that the laser energy does not adversely affect the ceramic surface.

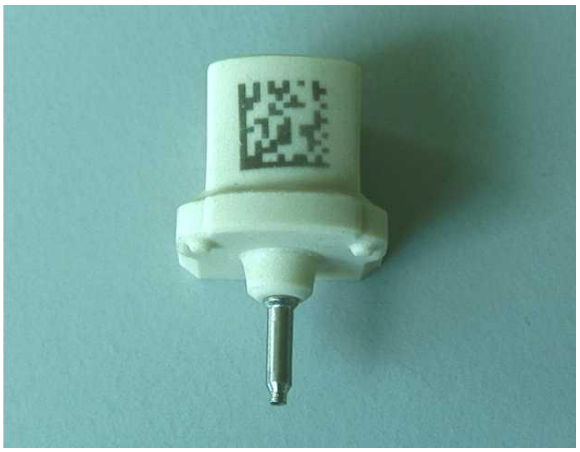


Dinnerware

Electrical Power Line Insulator

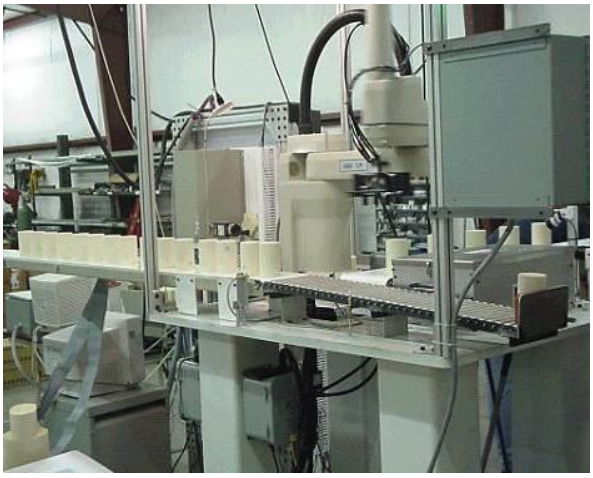


Sanitaryware



Ceramic Base - High Intensity Light Bulb

Ceramic Core Catalytic Converter



Marking Robot – Catalytic Converter

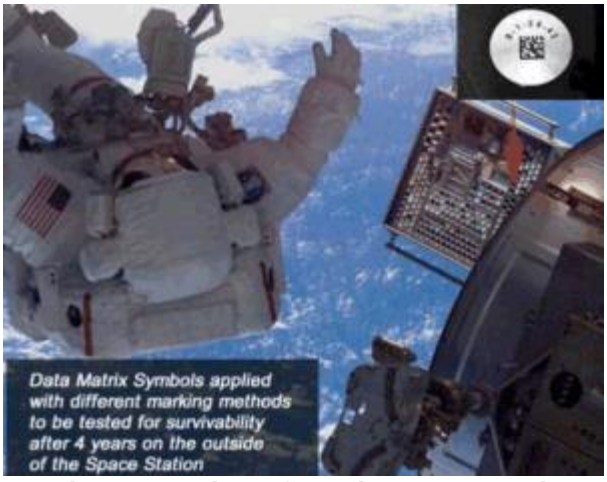
Metal

Steel and stainless steel can be marked at speeds up to 80” per second with good contrast; but optimal results are achieved at 36” – 40” per second. Softer metals like brass and aluminum require higher laser power and slower speeds.

Stainless Steel

Brass

Data Matrix on Aluminum Auto Part



Marks on a Variety of Metals - Space Station

Marks on Tibor Fishing Reel

Marks on Kitchen Appliances

Glass

VIN on Skoda Windshield

Bonding System on Skoda Production Line

Pharma Vial

Drug Ampoule

Anti-Counterfeit Mark on Bottle Neck

Glass Block

Beer Mug