

CeraLabel SL Bar Code Labels

CeraLabel SL Bar Code Labels are printed using ceramic ink on a thin ceramic layer that is fired and fused to a heat resistant stainless steel substrate. Possible applications for these products include tracking pallets and containers for automobile parts that require both weather and shock resistance; tracking beer casks and parts for electric trains that require resistance to heat, chemicals and dirt; tracking transfer cassettes and carriers for semiconductors; and tracking glass substrate for LCD that undergo heat treatment. The SLGZ Ceramic Bar Code Label features an additional transparent glass layer fused on the ceramic to improve chemical resistance. The SLS600 is designed specifically for applications where salt water submersion and salt water spray will be present.



Material: Stainless steel substrate with ceramic layer that can withstand moderate to harsh chemical exposure and temperatures up to 1800°F for short durations.

Serialization: See below for details

Colors: Black with partial color available for logos.

Sizes: See below for details

Adhesive: Optional holes are available for mechanical fasteners. Standard hole diameters include 3/32", 3/16", and 1/8". Contact Metalcraft for additional dimensions. A 1/4" quiet zone must be allowed at the beginning and end of the bar code inside the mechanical fastener area.

Heat Test

Properties	SL600	SLS 600	SL800	SL1000
Maximum Heat Resistance	580°C (1040°F)	580°C (1040°F)	800°C (1470°F)	1000°C (1830°F)

Chemical Resistance Test

Properties	SL600	SLS600	SLGZ600	SL800	SL1000
Hydrochloride (10%, 20°C)	No effect after 50 hrs	No effect after 2 hrs	No effect after 50 hours	No effect after 12 hours	No effect after 35 hours
Hydrochloride (5%, 70°C)	No effect after 3 hrs	No effect after 2 hrs	No effect after 6 hours	No effect after 1 hour	No effect after 2 hours
Nitric Acid (60%, 20°C)	No effect after 20 days	No effect after 2 hrs	No effect after 293 days	No effect after 7 days	No effect after 100 days
Nitric Acid (60%, 70°C)	No effect after 1 hour	No effect after 2 hrs	No effect after 24 hours	No effect after 2 hours	No effect after 9 hours
Sulfuric Acid (5%, 70°C)	No effect after 5 hrs	Not tested	No effect after 6 hours	No effect after 5 hours	No effect after 6 hours
Sulfuric Acid (98%, 70°C)	No effect after 5 hrs	Not tested	No effect after 40 days	No effect after 7 days	No effect after 2 days
Phosphoric Acid (85%, 70°C)	No effect after 1 hour	Not tested	No effect after 7 days	No effect after 1 day	No effect after 15 hours
Sodium Hydroxide (5%, 70°C)	No effect after 16 hrs	No effect after 2hrs	No effect after 14 days	No effect after 25 hours	No effect after 12 hours
Solvent	No effect	No effect	No effect	No effect	No effect

Weather Resistance Test: No effect on ceramic layer after 30 cycles salt spray test under conditions indicated.

Conditions	Temperature	Humidity	Time
5% salt water spray	35° ± 1°C	Over 95%	2 hours
Dry hot air	60° ± 2°C	---	4 hours
Wetting	50° ± 2°C	Over 95%	2 hours

No effect after 4000 hours of weather meter test (equivalent to 15 years of outdoor use).

Shock Resistance Test: Label withstands a shock caused by a 200g steel ball dropped from a height of 50cm with no damage.

Serialization and Sizes

Serialization: All alphanumeric bar codes are printed with a human-readable equivalent. Guaranteed, no skips in your sequence. Code 39 is standard. CPis range from high to low densities. Other options include Code 128, I2 of 5, and 2D symbologies.

Sizes: Send e-mail to metalcraft@idplate.com, fax request to 641-423-8898 or call 800-437-5283 and ask for customer service.

Note: The size and serialization information for all of the nameplates and labels listed in this brochure are the same.



3360 9th St. SW
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E-mail: metalcraft@idplate.com

Ceramic Barcode Labels and Nameplates



For extreme environments only the strongest will do. That's when you call in Metalcraft Ceramic Labels and Nameplates.

This series of products is ideal for customers who require permanent identification products to stand up in environments where exposure to high temperatures as well as extreme caustics and acids may be an issue. These nameplates and labels provide excellent chemical resistance as well as the ability to withstand extreme temperatures up to 2550°F.

These highly specialized products are ideal for work-in-process applications for manufacturers or other fixed asset tracking applications that are unsuitable for other label types due to demanding environmental conditions. Possible uses range from pharmaceutical laboratories and glass manufacturing to food processing and long-term outdoor storage.

Product Line Features

- Entire line of products resist extreme caustics and acids
- CeraLabel ceramic bar code labels withstand temperatures up to 2550°F
- LSL product provides on-site printable option

Ships in 30-40 work days upon receipt of order and proof approval.

To order call
800-437-5283
and ask for customer service.

METAL CRAFT

ID MADE BETTER

3360 9th St. SW
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CeraLabel Bar Code Labels

CeraLabel Bar Code Labels are printed using a ceramic ink on a ceramic substrate. Possible applications for this product include tracking semiconductors that must withstand heat and chemical treatment processes; tracking lenses, wafer carriers and LCD panels; management of master laser discs and CDs; and tracking steel, ceramic and chinaware.



Material: Ceramic
 Serialization: See back cover
 Sizes: See back cover
 Adhesive: Optional holes are available for mechanical fasteners.

Standard hole diameters include 3/32", 3/16", and 1/8". Contact Metalcraft for additional dimensions. A 1/4" quiet zone must be allowed at the beginning and end of the bar code inside the mechanical fastener area.

Heat Test

Properties	Type 100	Type 200	Type 300
Maximum Heat Resistance	800°C (1470°F)	1100°C (2010°F)	1300°C (2400°F)

Chemical Resistance Test

Properties	Type 100	Type 200	Type 300
Hydrochloride (20%, 20°C)	No effect after 7 days	No effect after 180 days	No effect after 180 days
Sulfuric Acid (20%, 20°C)	No effect after 2 days	No effect after 180 days	No effect after 180 days
Nitric Acid (20%, 20°C)	No effect after 2 days	No effect after 180 days	No effect after 180 days
Sodium Hydroxide (20%, 20°C)	No effect after 7 days	No effect after 48 days	No effect after 180 days
Solvent	No effect	No effect	No effect

Weather Resistance Test: No effect on ceramic layer after 30 cycles salt spray test under conditions indicated.

Conditions	Temperature	Humidity	Time
5% salt water spray	35° ± 1°C	Over 95%	2 hours
Dry hot air	60° ± 2°C	---	4 hours
Wetting	50° ± 2°C	Over 95%	2 hours

No effect after 4000 hours of weather meter test (equivalent to 15 years of outdoor use).

Etched Stainless Steel Bar Code Nameplate



Etched Stainless Steel Bar Code Nameplates have an etched bar code pattern on a stainless steel substrate that provides excellent chemical resistance and is suitable for washing processes that use high temperature and high density alkaline solvents. Possible applications include tracking tempered glass that undergoes alkaline treatment processes, tracking food containers cleaned by alkali, and tracking sludge-covered engines.

Material: Heat-resistant stainless steel
 Serialization: See back cover
 Colors: Black only
 Sizes: See back cover
 Adhesive: Optional holes are available for mechanical fasteners.

Standard hole diameters include 3/32", 3/16", and 1/8". Contact Metalcraft for additional dimensions. A 1/4" quiet zone must be allowed at the beginning and end of the bar code inside the mechanical fastener area.

Heat Test

Properties	Etched Nameplates
Maximum Heat Resistance	300°C (580°F)

Chemical Resistance Test

Properties	Effect on Readability
Sulfuric Acid (5%, 20°C)	No effect after 200 days
Hydrochloride (5%, 20°C)	No effect after 1 hour
Nitric Acid (60%, 20°C)	No effect after 100 hours
Sodium Hydroxide (5%, 20°C)	No effect after 200 days
Sodium Hydroxide (20%, 20°C)	No effect after 100 days
Solvent	No effect

Shock Resistance Test: Label withstands a shock caused by a 200g steel ball dropped from a height of 50cm with no damage.

CeraLabel LSL Bar Code Labels

CeraLabel LSL Bar Code Labels offer the option of printing information onsite using a compatible YAG or CO2 laser or they can be preprinted at Metalcraft. These labels provide excellent durability against high temperatures and chemicals. Possible applications include work in process tracking for automobile parts and identification tags for airplane components and steel companies.



Material: Stainless steel substrate and ceramic label
 Compatible Lasers: YAG laser is compatible with both LSL800 and LSL1000, CO2 laser is compatible with LSL1000 (SUNX LP-V10 is verified YAG laser 15 Watt).
 Serialization: See back cover

Sizes: See back cover
 Adhesive: Pressure sensitive adhesive backing is available which is resistant to temperatures of up to 480°F. Optional holes are available for mechanical fasteners.
 Food Grade: LSL-316 is food grade compliant because of the stainless steel alloy.

Heat Test

Properties	Time	LSL316	LSL800	LSL1000
Maximum Heat Resistance	3 hours	1070°F	1470°F	1830°F

Chemical Resistance Test

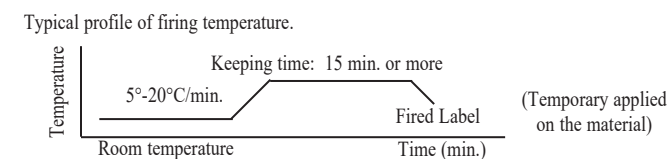
Properties	Time	LSL316	LSL800	LSL1000
Hydrochloride (5%, 25°C)	24 hours	Corrosion Formed	Fade	Good
Nitric Acid (5%, 25°)	180 days	Good	Fade	Good
Sulfuric Acid (5%, 25°C)	24 hours	Not Tested	Good	Good
Sulfuric Acid (95%, 70°C)	7 days	Not Tested	Good	Fade
Sodium Hydroxide (5%, 70°C)	24 hours	Good	Good	Fade

CeraLabel Green Ceramic Bar Code Labels



CeraLabel Green Bar Code Labels are unfired ceramic labels. The label is fused onto the product during the heat treatment process of the production line. They can be printed onsite by regular paper printers with special ink ribbons or preprinted and fired onsite. Possible applications for this product include work in process tracking for cathode-ray tubes; tracking quality control of automotive glass as well as glass molds for plastic eye-glass lenses; identifying aluminum aluminum ingots that must withstand heat treatment processes; tracking sanitary ceramicwares and ceramic electronic parts that must withstand firing processes; and production control of steel billet.

After applying CeraLabel Green Ceramic Bar Code Labels they are fired at 550°-650°C to increase heat resistance up to each designated temperature and enhanced chemical resistance. When fused onto glass, metal, or ceramic, they transform into long-lasting ceramic labels that resist heat and chemicals. The numeric value indicator (i.e., GL450) indicates the approximate maximum temperature (°C) and firing temperature.



Material: Unfired ceramic powder with binder and adhesive
 Serialization: See back cover
 Sizes: Minimum size is .20" x .20" and maximum size is 3.93" x 11.8". Any shape is available; e.g., square, circle, triangle, ellipse.
 Adhesive: Pressure-sensitive (adhesive is for positioning only)

Heat Test

Type	Firing Temperature	Fusible Material
GL-450L	350° to 500°C	Glass, stainless steel, steel, aluminum, ceramic, porcelain
GL-450P	400° to 650°C	Glass, stainless steel, steel, aluminum, ceramic, porcelain
GL-450	450° to 600°C	Glass, stainless steel, steel, aluminum, ceramic, porcelain