TECHNICAL DATASHEET

1. Description

Stainless Steel Cable Markers (also known as Identification Plates or Tags) provide a highly durable and permanent solution for identifying cables, pipes, hoses, valves, equipment, and assets, particularly in harsh or aggressive environments where plastic or adhesive labels would fail. Manufactured from high-quality Stainless Steel (Grade 304 or 316), these markers offer exceptional resistance to corrosion, chemicals, abrasion, UV exposure, temperature extremes, and fire. They are typically supplied blank for on-site marking or pre-marked using methods like embossing or laser engraving for maximum durability and legibility. Markers feature slots or holes for secure attachment using stainless steel cable ties.

2. Key Features

- **Permanent Identification:** Ensures long-term legibility in demanding conditions.
- **Extreme Durability:** Withstands mechanical stress, impact, and harsh handling.
- **Corrosion:** Excellent resistance, especially Grade 316 for marine/chemical exposure.
- **Chemicals:** Inert to a wide range of industrial chemicals, oils, and solvents.
- **Temperature:** Suitable for very high and low-temperature applications.
- **UV Radiation:** Unaffected by sunlight exposure.
- **Fire:** Non-combustible material.
- **Abrasion:** Resists surface scratching and wear.
- **Material Options:** Available in Stainless Steel Grade 304 (general industrial) and Grade 316 (enhanced corrosion resistance).
- **Flexible Marking:** Available pre-marked (Embossed, Laser Engraved) or blank for custom on-site marking.
- **Clear Readability:** High-contrast and durable marking ensures information remains clear over time.
- **Easy Installation:** Securely attached using standard stainless steel cable ties.
- **Various Sizes:** Offered in multiple dimensions with different slot/hole configurations.
- **Ideal for Harsh Environments:** Perfect for offshore, marine, industrial, chemical, and outdoor applications.

3. Technical Data

- **Material:** Stainless Steel Grade 304 (UNS S30400) or Grade 316 (UNS S31600).
- **Material Finish:** 2B Mill Finish.
- **Standard Thickness:** 0.25~0.5 mm.
- **Dimensions (L x W):** Variety of standard sizes available, e.g., 89x19mm, 89x9.5mm. Custom sizes may be available. .
- **Hole/Slot Configuration:** Typically 2 holes/slots designed for cable tie widths up to 10 mm .
- **Operating Temperature Range:** Approximately -80°C to +538°C (-112°F to +1000°F).
- **Chemical Resistance:** Excellent. Refer to Stainless Steel chemical compatibility data. Grade 316 recommended for highly corrosive environments.
- **UV Resistance:** Excellent.
- **Abrasion Resistance:** Excellent.
- **Marking Method Options:** Embossed (Raised Characters); Laser Engraved (High Contrast); Dot Peen / Indent Marked; Supplied Blank.
- **Marking Durability:** High. Embossed and engraved methods offer the longest life.
- **Compliance:** CE, RoHS.

4. Applications

Designed for permanent identification needs across various industries and environments:

- Cable and Wire Bundle Identification
- Pipeline and Hose Marking
- Valve Tagging
- Industrial Equipment and Machinery Identification
- Asset Tracking and Management
- Offshore Oil & Gas Platforms
- Marine Vessels and Shipyards
- Chemical Processing Plants
- Power Generation Facilities (Nuclear, Thermal, Renewable)
- Mining Operations
- Transportation (Rail, Heavy Vehicles)
- Telecommunications Infrastructure
- Construction Sites
- Food & Beverage (Grade 316)
- Any application requiring durable, long-lasting identification in harsh conditions.

5. Material Specifications

- **Stainless Steel Grade 304 (SS304 / 1.4301):** General-purpose austenitic stainless steel providing good corrosion resistance in many environments. Suitable for most industrial and outdoor applications.
- **Stainless Steel Grade 316 (SS316 / 1.4401 or SS316L / 1.4404):** Molybdenum-alloyed austenitic stainless steel offering superior resistance to pitting and crevice corrosion, especially in chloride-rich environments (coastal, marine) and against many industrial chemicals and acids. Often specified for offshore, marine, and chemical processing.

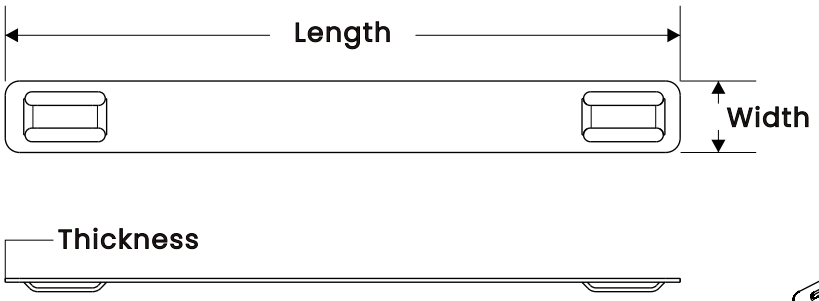
6. Marking Methods

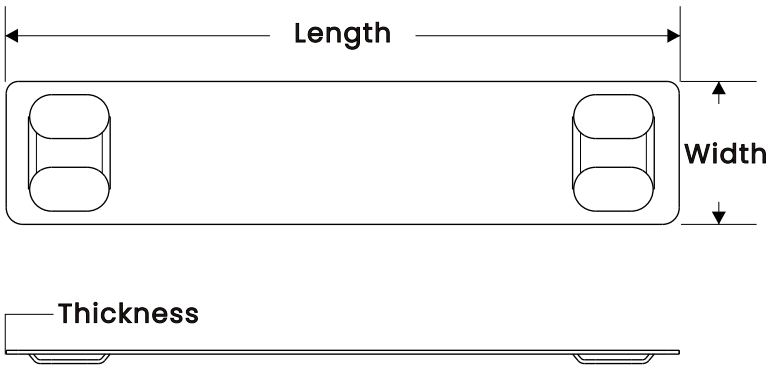
- **Embossed:** Characters are stamped to create a raised profile. Extremely durable and remains legible even if covered by paint or dirt. Can be supplied pre-embossed to specification or blank for use with manual/automatic embossing tools.
- **Laser Engraved:** A high-power laser removes or alters the surface material to create precise, high-contrast text, logos, barcodes, or QR codes. Very durable and allows for detailed graphics. Typically factory-applied based on customer data.
- **Dot Peen (Indent Marked):** Characters are formed by a series of closely spaced indents made by a stylus. Creates durable marking. Can sometimes be done on-site with portable systems.
- **Blank Markers:** Supplied without any marking, allowing users full flexibility to mark on-site using their own compatible embossing, engraving, or indenting equipment.

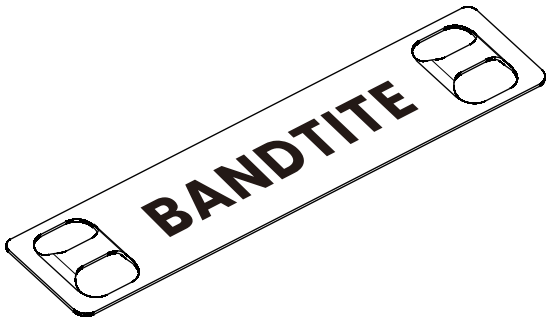
7. Installation Guidance

Select Marker: Choose the appropriate size, material grade (304/316), and marking (pre-marked or blank) for the application.
Select Ties: Use appropriate Stainless Steel Cable Ties (Ball-Lock type recommended for reliability). Ensure the tie width fits the marker slots/holes.
Prepare Marker: If using blank markers, complete the required marking using a suitable method (embossing, engraving). Ensure legibility.
Position: Place the marker flat against the cable bundle, pipe, or equipment in the desired location.
Attach: Thread one or two stainless steel cable ties (as required by marker design) through the slots/holes in the marker and around the item to be identified.
Secure: Fasten the cable ties securely. Using a dedicated SS cable tie installation tool is highly recommended to achieve correct tension and provide a safe, flush cut of the excess tail.
Safety: Warning: Cut stainless steel tie tails can be extremely sharp. Always use a proper tool that cuts flush to the head. Wear appropriate PPE, including safety glasses and heavy-duty gloves, during installation.

8. Specifications







Width		Length		Thickness (mm)	Optional Material
inch	mm	inch	mm		
3/8	9.5	3.5	89.0	0. 25 / 0. 4 / 0.5	SS304 / 316
3/4	19.0	2.0	51.0	0. 25 / 0. 4 / 0.5	SS304 / 316
3/4	19.0	3.5	89.0	0. 25 / 0. 4 / 0.5	SS304 / 316
1-1/2	38.0	2.5	64.0	0. 25 / 0. 4 / 0.5	SS304 / 316
3/8	9.5	4.0	100.0	0. 25 / 0. 4 / 0.5	SS304 / 316
3/8	9.5	5.0	125.0	0. 25 / 0. 4 / 0.5	SS304 / 316

For customizing any other special sizes, please contact sales.

9. Associated Products

- **Stainless Steel Cable Ties:** Ball-Lock type in Grade 304 or 316 are recommended.
- **Cable Tie Installation Tools:** Manual or pneumatic tools for tensioning and flush-cutting SS ties.
- **Manual Embossing Tools/Machines:** For marking blank tags on-site.
- **Portable Engraving / Dot Peen Systems:** For on-site marking of blank tags.
- **Marking Data Software/Services:** For designing layouts and submitting data for factory-marked tags.

Disclaimer: The information provided in this datasheet is intended as a general guide and is based on typical properties. It is subject to change without notice. Users are responsible for determining the suitability of this product for their specific application through appropriate testing and ensuring marking meets any relevant regulatory or project requirements. The manufacturer assumes no liability for results obtained or damages incurred from the use of this product. Always follow safe installation practices.