

# STAINLESS STEEL DATA SHEET



## Circle CD

### PRODUCT DESCRIPTION:

Circle CD is a patterned polished finish that is applied mechanically to the surface of stainless steel sheets. These finishes can be created with various visual effects. They are designed for architectural applications such as wall panels, elevator cabs, coping, and trim.

### SELECTING THE GRADE

For the best results over time, selection of the proper grade of Circle CD is important. Type 304, for most environments, is sufficient to prevent corrosion. Type 316 should be used near the seacoast. Low carbon versions of these grades (304L / 316L) should be used when parts are to be welded. See Table I for highlights of chemical analyses and properties. For extreme locations, e.g. near chemical plants or where steel may come into contact with salt water spray, different alloys will be required, subject to application review.

### POUNDS PER PIECE

Thickness (in.) x Width (in.) x Length (in.) x .292

### AVAILABLE SIZES

See Table II. Coil widths. Inquire for length.

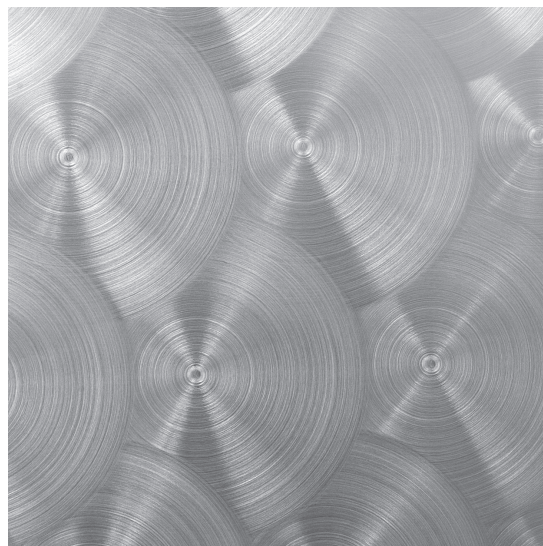
### FIRE RESISTANCE

Should a fire occur, Circle CD provides additional protection as stainless steel has a melting point of 2750° F.

### FABRICATION & INSTALLATION

Circle CD can be welded or soldered. Preferably, use a grade of welding wire more noble than the work piece. Through use of shield gasses, formation of a heat tint scale may be avoided in lighter gauges. When scale does form, care must be taken to remove it through mechanical or chemical means. Circle CD is quite sensitive

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to alignment. Some projects may require the calculation of a border margin to ensure that panels with return legs that are installed next to each other are properly aligned. After soldering, flux residue must be removed. When installation is completed, remove any rust stains from tools/construction debris.

### MAINTENANCE

Circle CD is designed to be essentially maintenance free. It will last for decades without requiring attention. Yet it may be appropriate at times to clean the surface in order to maintain its original appearance. Specific stainless steel agents are widely available. For general cleaning, any detergent or ammonia solution is effective. For stains, a sodium carbonate paste with a warm water rinse can be applied. For severe stains, you may use tri-sodium phosphate and caustic soda solutions. More difficult contaminants, like adhesive residue, will come off with pure acetone. Always avoid products containing chloride. Regularly clean out areas where debris may collect such as gutters.

### PATTERNS & COMBINATIONS

Other patterns and finishes are available. Color tinting, before or after pattern polishing, is also available. Please contact us for further information.

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Table I		304
<b>CHEMICAL ANALYSIS</b>		
Nickel		8%
Chromium		18%
Molybdenum		
<b>TYPICAL MECHANICAL PROPERTIES</b>		
Yield Strength (psi)		50,000
Tensile Strength (psi)		96,000
Elongation in 2 inches		50%
Hardness (Rockwell B)		85
<b>PHYSICAL PROPERTIES</b>		
Density (lb./cu. in.)		0.292
Modulus of Elasticity in Tension (X 10 <sup>6</sup> lb./sq.in.)		28.0
Mean Coefficient of Thermal Expansion per °F (x 10-6)	32 - 212°F	9.6
	32 - 600°F	9.9
	32 - 1000°F	10.2
Melting Point Range °F		2550 - 2650

Table II	Size Range (inches)				
	WIDTH				
THICKNESS	.75 - 18	>18 >24	24 - 36	>36 - 49	>49 - 60
.0291 - .135	•	•	•	•	
.0178 - .029	•	•	•	•	
.015 - .0177					

## LIMITED WARRANTY

Mirror Metals (MM) warrants its ASTM Grades 304, 304L, 316, 316L products against corrosion for a period of thirty (30) years from the date of purchase, subject to the limitations described in this warranty and provided the material is utilized solely for architectural applications and in normal atmospheric conditions. For purposes of this warranty, corrosion is defined as through wall penetration of the stainless steel. No warranty is made regarding mechanical damage, physical damage, or damage as a result of substandard workmanship after receipt of the product from MM (including but not limited to welding, shaping, or forming using methods that are not best practices for stainless steel of the grade in question) or using inappropriate cleaning solutions. This warranty does not cover any product that has been subject to misuses, neglect or accident. Use in chemical or manufacturing facilities, which produce or use chemicals known to have a deleterious effect on stainless steel, is excluded from this warranty. Please contact MM prior to purchase if there is any question regarding application.

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