

STAINLESS STEEL DATA SHEET



"THE SOURCE" FOR SPECIALTY METAL FINISHES

#8 Non-Directional

PRODUCT DESCRIPTION:

#8 Non-Directional is a high gloss, mirror finish stainless steel that is, as the name implies, non-directional. It is designed for architectural applications; however, artists and others find many creative uses for this product. Because of its uniform consistency, #8 Non-Directional is excellent for panel-to-panel matching. It is highly reflective making it suitable for mirrors, wall panels, coping and trim.



Arik Levy- Paris, "Rock Growth 2011"

SELECTING THE GRADE

#8 Non-Directional is widely obtainable in Type 304, which 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. However, it may be manufactured in other grades to specific requirements. For highlights of Type 304's chemistry and common properties, see Table I.

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, #8 Non-Directional provides additional protection as stainless steel has a melting point of 2750° F.

FLATNESS

#8 Non-Directional is supplied to the standard commercial allowances of ASTM (American Society for the Testing of Materials).

FABRICATION

To avoid affecting the highly reflective mirror surface, joinery should be mechanical. If welding or

soldering must be employed, strive to limit it to hidden areas. Heat tint scales and soldering flux residue must be thoroughly removed. #8 Non-Directional is slightly directional. Therefore, it is advisable to orient panels in the same direction.

INSTALLATION

#8 Non-Directional comes with a protective PVC covering that is high grade UV resistant and is designed to withstand the elements for several weeks. Yet it is recommended that this PVC covering be removed immediately after installation to prevent adhesive residue from adhering to the stainless steel finish. #8 Non-Directional's appearance is very uniform, but any metal surface, including a painted one, is sensitive to misalignment of panels on differing planes. Please take extra care to install within reasonable tolerances to ensure full benefit of #8 Non-Directional's unvarying appearance. After installation, any rust stains from tools or construction debris must be removed.

MAINTENANCE

#8 Non-Directional 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. Also, 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 occasional debris may collect, such as gutters.

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Table I		304/304L	316/316L
CHEMICAL ANALYSIS			
Nickel		8%	10%
Chromium		18%	16%
Molybdenum			2%
TYPICAL MECHANICAL PROPERTIES			
Yield Strength (psi)		50,000	50,000
Tensile Strength (psi)		96,000	92,000
Elongation in 2 inches		50%	48%
Hardness (Rockwell B)		85	84
PHYSICAL PROPERTIES			
Density (lb./cu. in.)		0.292	0.292
Modulus of Elasticity in Tension (X 10 ⁶ lb./sq.in.)		28.0	28.0
Mean Coefficient of Thermal Expansion per °F (x 10 ⁻⁶)	32 - 212°F	9.6	8.9
	32 - 600°F	9.9	9.0
	32 - 1000°F	10.2	9.7
Melting Point Range °F		2550 - 2650	2500 - 2550

Table II	Size Range (inches)				
	WIDTH				
THICKNESS	.75 - 18	>18 <24	24 - 36	>36 - 49	>49 - 60
.1251 - .500	•	•	•	•	•
.075 - .1250	•	•	•	•	•
.0291 - .075	•	•	•	•	•
.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.

THE EXPRESS WARRANTY GIVEN ABOVE IS IN LIEU OF AND EXCLUDES ALL OTHER WARRANTIES, WHETHER EXPRESSED OR IMPLIED, INCLUDING ANY WARRANTY OF MERCHANTABILITY, WARRANTY OF FITNESS FOR PARTICULAR PURPOSE OR WARRANTY THAT THE WHOLE OF THE GOODS CONFORM TO ANY SAMPLE OR MODEL. WITHOUT IN ANY WAY LIMITING THE GENERALITY OF THE FOREGOING, IN NO EVENT SHALL MM BE LIABLE FOR ANY CONSEQUENTIAL OR INCIDENTAL DAMAGES, LIABILITIES OR EXPENSES (INCLUDING, WITHOUT LIMITATION, ANY LOSS OF PRODUCTION OR ANTICIPATED PROFITS), DIRECTLY OR INDIRECTLY INCURRED BY BUYER WITH RESPECT TO THE MATERIAL FURNISHED OR AGREED TO BE FURNISHED BY MM. THE EXCLUSIVE REMEDY AGAINST MM WITH REGARD TO ANY CLAIM ARISING OUT OF THE ORDER IS, AT MM'S OPTION, REPLACEMENT OF SUCH GOODS OR CANCELLATION OF THE ORDER AND REFUND OF THE PURCHASE PRICE. IN NO EVENT, REGARDLESS OF THE LEGAL THEORY ON WHICH A REMEDY IS SOUGHT, SHALL MM'S LIABILITY EXCEED THE PURCHASE PRICE OF THE MATERIAL IN QUESTION. NO ACTION, REGARDLESS OF FORM, ARISING OUT OF THIS SALE MAY BE BROUGHT BY EITHER PARTY MORE THAN TWO (2) YEARS AFTER THE CAUSE OF ACTION HAS OCCURRED.

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