CONTRARIAN MICRO TEXTURES
by Rigidized® Metals Corporation

Stainless Steel
Technical Data Overview

InvariLux®

Product Description

InvariLux® is a non-directional, reflective, uniformly textured stainless steel finish with superior soil resistance and with a bright bead blast appearance designed for use in architectural applications. It can be applied to wall panels, elevators, coping and trim. The consistency of this finish results in good panel-to-panel matching. Since InvariLux® has no coatings to deteriorate, it will last indefinitely with little maintenance.

Grade Selection

The long-term performance of InvariLux® is dependent on proper grade selection. In most environments, Type 304 will be sufficient to prevent corrosion. In normal seacoast applications, Type 316 should be specified. If parts are to be welded, the low carbon versions of these grades (304L/316L) should be used. Highlights of chemical analyses and properties appear in Table I. Severe environments such as seacoast atmospheres subjected to salt water spray and chemical plants will require different alloys, subject to application review.

Pounds Per Piece

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

Available Sizes

Please refer to Table II. Coils and cut lengths up to 288" are available.

Typical Surface Characteristics

Spectral Gloss @ 85° ..... 40 - 60
Ra 50
Peak count per square inch 125

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.)		.292	.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 – 48	>48 - 60
.0291 - .075	•	•	•	•	
.0178 - .029	•	•	•	•	
.015 - .0177	•	•	•	•	

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Fabrication

InvariLux® is readily welded or soldered. A grade of welding wire more noble than the work piece should be used. While formation of a heat tint scale can be avoided in lighter gauges through use of shield gasses, care must be taken to remove this scale through chemical means.

Flux residue must be thoroughly removed after soldering. Since InvariLux® is non-directional, it is not necessary to orient panels in relation to the rolling direction. However, to avoid the possibility that any subtle directional differences will be visible, we recommend panels be fabricated to maintain orientation of the original sheet alignment.

Fire Resistance

Since stainless steel is dimensionally stable up to 2000°F, InvariLux® provides an added measure of protection in the event of a fire.

Flatness

InvariLux® is supplied within five I units of flatness, which is well below standard commercial allowances.

Installation

InvariLux® is supplied with a high grade UV resistant protective plastic covering designed to withstand the elements for several weeks. However, it is advisable to remove this material promptly after installation to prevent adhesive residue from remaining on the stainless steel finish.

While this product's appearance is very uniform, it should be noted, however, that any metallic surface, even a painted one, is sensitive to misalignment of panels on differing planes. Care should be taken to ensure installation within reasonable tolerances in order to get the full benefit of this material's homogeneous appearance. After installation is completed, any rust stains from tools or construction debris must be removed.

Maintenance

Designed to be essentially maintenance free, InvariLux® will last for decades without requiring attention. It may, however, be appropriate to clean the surface to maintain its original appearance. Specific stainless steel agents are available on the market. Any detergent/ammonia solution can be effective for general cleaning. A sodium carbonate paste can be applied with a warm water rinse to address stains. Severe stains can be removed with tri-sodium phosphate and caustic soda solutions. More tenacious contaminants, like adhesive residue will respond to pure acetone. Chloride-containing products must be avoided. Areas where incidental debris can collect, such as gutters, must be cleaned on a regular basis. For more information, please refer to "Cleaning Stainless Steel Finishes" in the Resources section of our website at www.metalresources.net.

Warranty

For warranty information, please contact a representative.