



InvariWisp (formerly RND)

Product Description

InvariWisp is a multi-directional finish, similar to what is often called a vibration finish. Designed for use in architectural, and other cosmetically demanding applications, it has a uniform texture with random, multi-directional grit lines. It is inspected to a visual standard to ensure the highest degree of consistency. InvariWisp can be applied to wall panels, elevator cabs, coping and trim. Since InvariWisp has no coatings to deteriorate, it will last indefinitely with little maintenance.

Grade Selection

The long-term performance of InvariWisp 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 192” are available.

Typical Surface Characteristics

Ra5 - 15

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
.075 - .1250	•	•	•	•	
.0291 - .075	•	•	•	•	

Fabrication

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

InvariWisp may be repaired using the finest abrasive medium possible, applied to an orbital sander that will address the work piece. Follow up with progressively finer media, until a satisfactory blend is achieved.

Fire Resistance

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

Flatness

InvariWisp is supplied to ASTM (American Society for the Testing of Materials) standard commercial allowances.

Installation

InvariWisp 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, InvariWisp 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.