

FASTAL CLAD METAL PLATE

TECHNICAL DATASHEET



FASTAL clad plate is AMETEK Specialty Metal Products (SMP) premium quality, three-layered product delivering the highest performance for industrial griddles. This tri-metal composite consists of an aluminum core metalurgically bonded between two sheets of stainless steel.

Engineered for high performance commercial and residential griddles, FASTAL offers excellent thermal conductivity and heat distribution properties. With faster heating times and a strong resilience to frequent temperature changes, it is the ideal material for electric or gas cooking surfaces.

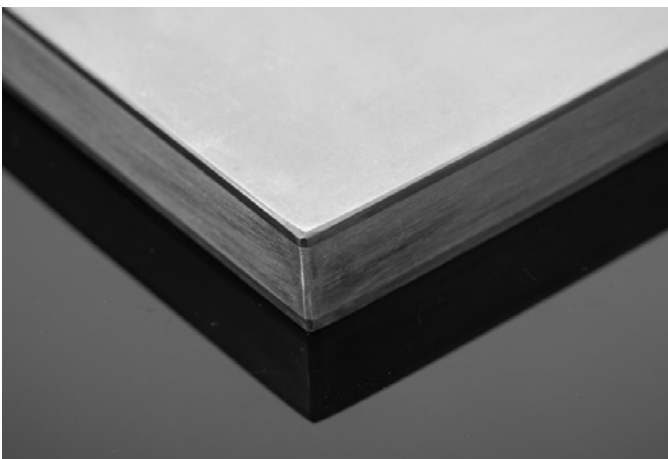
FASTAL consists of three layers for optimal performance: stainless steel, aluminum, and stainless steel. The extremely durable stainless steel cooking surface is easy to clean, reduces sticking and eliminates flavor transfer. Aluminum with a heat transfer rate five times that of carbon steel, facilitating an even temperature distribution over the entire plate surface regardless of the heat source.

Additionally, the stainless steel/aluminum product is one-third the weight of carbon steel, which allow easy installation and movement of the griddle.

AMETEK SMP employs a high performance roll bonding process to achieve a superior metallurgical bond vs. vacuum bonding. The roll-bonded clad plate can be cut to custom sizes easily to match precise griddle manufacturers' specifications, while maintaining bond integrity and performance.

KEY FEATURES

- Excellent bond strength
- Outstanding corrosion resistance
- Even surface heat distribution
- Reduced sticking and flavour transfer
- 30% lighter than carbon steel
- Can be saw cut or water jet cut
- Low maintenance



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AMETEK SMP has been producing a Stainless Steel/Aluminum/Stainless Steel clad product for over 20 years. This material provides better ductility, strength and a harder, more wear resistant surface than pure aluminum. Also, it achieves far superior electrical and heat conductivity than pure stainless steel.

TYPICAL PROPERTIES

	Thickness Inches	Tensile Strength PSI	Yield Strength PSI	% Elongation	Modulus of Elasticity in Tension PSI x 10 ⁶	Electrical Conductivity % LACS	Heat Conductivity BTU/HR/FT ² /FT/°F	Elastic Modulus in Bending PSI x 10 ⁶	Poissons Ratio Bend	Poissons Ratio Tension
Stainless/Aluminum/Stainless	.070	53,200	35,700	33	18.4	29.7	66.5	30 x 10 ⁶ 20 x 10 ⁶	0.21 0.25	0.27
	.080	48,600	32,100	33	17.4	32.4	72.2			
	.090	44,900	32,100	32	16.5	34.6	76.7			
	.110	39,700	24,900	32	15.4	37.7	83.1			
	.125	36,800	22,600	32	14.7	39.3	86.6			
Mechanical properties of solid metals for reference	SS304	90,000	45,000	52	29	3	9.4			
	Al3004	26,000	10,000	25	10	50	112			

The FASTAL cladding materials gives the best of the property sets for heat transfer applications. Below is general information on different metals:

	Electric conductivity (10 ⁶ Siemens/m)	Electric resistivity (10 ⁸ Ohm.m)	Thermal conductivity (W/m.k)	Thermal expansion factor 10 ⁻⁶ /°C from 0 - 100°C	Density (g/cm ³)	Melting or deterioration temperature (°C)
Nickel	14.3	7.0	91	13.3	8.8	1455
Steel	10.1	9.9	80	12.1	7.9	1528
Carbon steel	5.9	16.9	54	12	7.7	1400
Stainless steel 316L EN1.4404	1.32	76.0	15	16.5	7.9	1535
Stainless steel 304 EN1.4301	1.37	73.0	16.3	16.5	7.9	1450
Stainless steel 310 EN1.4841	1.28	78	14.2	17	7.75	2650
Aluminum	36.9	2.7	237	23.5	2.7	660

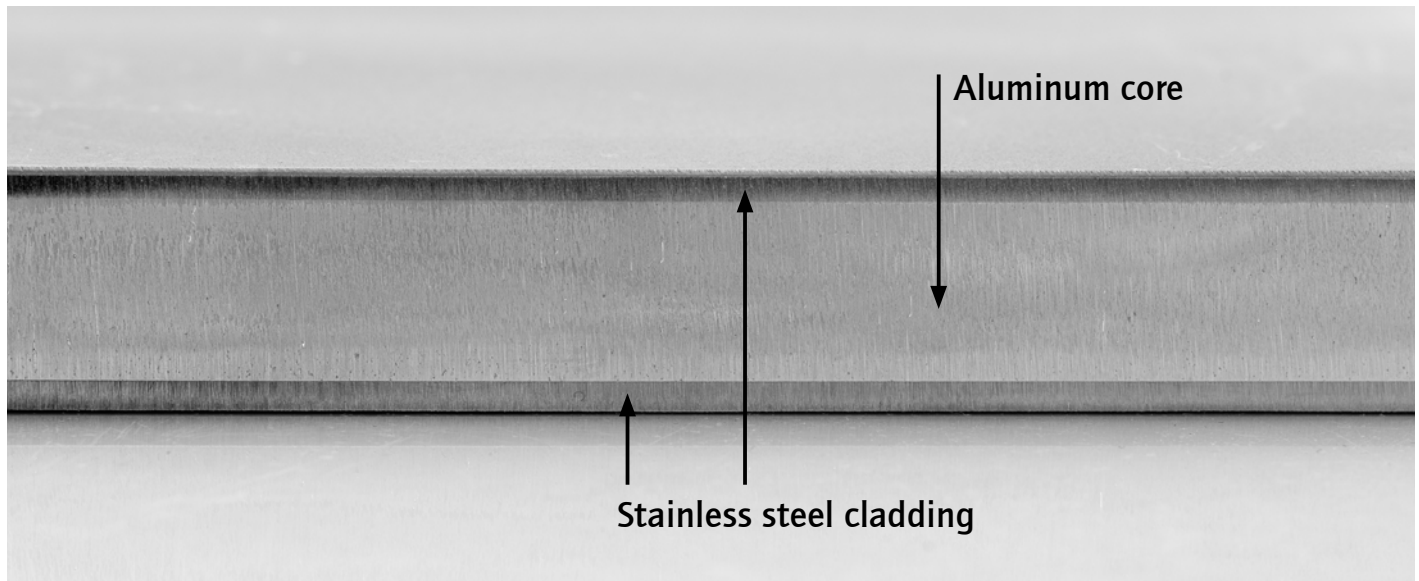
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Although AMETEK SMP developed the FASTAL product for high end griddle applications, the product is suitable in a variety of applications where corrosive materials are being contained, food surface areas where hygiene and cleanliness are important and light weighting is desired.

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STANDARD PRODUCTS

Stainless Steel Clad material	
304	430
316	436

TYPICAL SIZES

Thickness	1/4 to 3/4 inch
Widths	10" to 36"
Lengths	10" to 72"

Custom sizes, small lot sizes and short lead times standard.
Other clad materials available on request.



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