

Hydrophilic Aluminum Foil For Air Conditioner Heat Exchanger

Air conditioning aluminum foil, also known as aluminum foil fins, is a special material for manufacturing heat exchanger fins for air conditioners. It has the advantages of low density, good thermal conductivity, easy processing, odorless, environmental protection and low price. <u>Hydrophilic aluminum foil</u> can be surface-coated, usually blue and gold-plated. The main aluminum foils for air conditioning are: 8006 hydrophilic aluminum foil, 8011 hydrophilic aluminum foil, 3102 hydrophilic aluminum foil, 1100 hydrophilic aluminum foil, etc.

8006/8011 Hydrophilic aluminum foil

8011 Hydrophilic aluminum foil and 8006 hydrophilic aluminum foil are mainly used in the production of heat exchanger fins, such as condensers and evaporators of air conditioner, refrigerator, automotive air-conditioning, etc. Aluminum foil fin heat exchangers mostly use 8011 aluminum allo. The commonly used tempers are 8011-O hydrophilic aluminum foil and 8011-H22 hydrophilic aluminum foil. The iron content of 8006 hydrophilic aluminum foil is higher than 8011 hydrophilic aluminum foil, and the performance is slightly better. 8006 aluminum foil has a higher tensile strength than 8011 aluminum foil, which can reach 125-135; also, the cup convexity and elongation of 8006 aluminum foil are higher than 8011 aluminum foil.







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3102 hydrophilic aluminum foil

3102 Air conditioning aluminum foil is used as heat-conducting fin material for air-conditioning heat exchangers. It has the advantages of low density, good thermal conductivity, easy processing, odorless, environmentally friendly and low price. 3102 Hydrophilic aluminum foil is widely used in household air conditioners, refrigeration cabinets and other refrigeration equipment, automobile air conditioners and automobile water tanks.



Product Specification

Alloy	Temper	Thickness(mm)	Width(mm)	Inner Diameter (mm)	Color	Sleeve Material
1100 3102 1030B 8011 8006	O/HO H22 H24 H26 H18	0.08-0.20	100-1250	⊄ 75, ⊄ 150, ⊄ 200, ⊄ 300, ⊄ 400, ⊄ 500	Blue, gold/golden, green,rose red, etc.	Aluminum, carbon, steel





Chemical Composition											
Alley	Si	Fe	Cu	Mn	Mg	Cr	Zn	Ti	OTHERS		
Alloy									SINGLE	TOTAL	AL
1100	Si+Fe	9:0.95	0.05-0.20	0.05	-	-	0.1	-	0.05	0.15	99%
1030B/3102	3/3102 0.2		0.1	0.3	0.05	0.05	0.1	0.08	0.2		Balance
8011	0.5-0.9	0.6-1.0	0.1	0.2	0.05	0.05	0.1	0.08	0.05	0.15	Balance
8006	0.4	1.2-2.0	0.3	0.3-1.0	0.1	-	0.1	-	0.05	0.15	Balance





Tensile Strength			
Alloy	Temper	Mechanical Performance under room temperatureTensile Strength (σ b, Mpa)	
	0	60-115	
1100	H22	90-135	
	H24	110-160	
	H26	125-180	
	H18	≥140	
	H19	≥150	
	0	60-110	
	H22	90-150	
8011	H24	120-170	
	H26	140-190	
	H18	≥150	
	H19	≥160	
1030B/3102	H26	125-145	
8006	0	90-140	





	Punching					
Alloy & Temper	Thickness (mm)	Punching Speed/min	Collar Diameter (min)	Collar Height (mm)		
	0.09-0.10	160-250	9.52	≥1.8		
	0.101-0.12	160-251	9.52	≥2.0		
	0.121-0.14	160-252	9.52	≥2.8		
	0.141-0.16	120-200	9.52	≥3.7		
	0.161-0.18	120-201	9.52	≥4.5		
1100/8011/8006 & O/H22	0.181-0.2	120-202	9.52	≥5		
1100/0011/0000 & 0/1122	0.181-0.2	100-160	15.88	≥5.5		
	0.201-0.22	100-160	15.88	≥5.7		
	0.221-0.25	100-160	15.88	≥6.0		
	0.251-0.28	100-160	15.88	≥6.8		
	0.281-0.30	100-160	15.88	≥8.0		
	0.3-0.35	100-160	15.88	≥10.0		
1030B/3102	0.095-0.0105	180-300	7/9.52	≥1.6		





	Hydrophilic Coating						
No.	Item	Description					
1	Bottom Coating	Epoxy Resin					
I	Surface Coating	Acrylic Resin					
2	Film Thickness	2.4-2.6µm(Single side average thickness)					
3	Hydrophilic	Primary Contact angle ≤10°					
3		Continuous Contact ≤20°					
4	Adharanaa	Erichsen test (Press Depth 5mm): No peeling					
4	Adherence	Gridding test (100/100): No plunger separation					





5	Corrosion resistance	Salt spray test (500hours)					
6	Alkali resistance	Dipped in 20% NaOH in 20 $^\circ \!\! \mathbb C$ for 3 minutes, absolutely no blister					
7	Impregnant resistance Sample's weight loss≤1%						
8	Heat resistance	Under 200 $^\circ\!\!\!\!\!^{\rm C}$ for 5 minutes, performance and color unchanged					
0	neatresistance	Under 300 $^\circ\!\!\!{\rm C}$ for 5 minutes, the coating film becomes a little yellow					
9	Oil Proof	Dipped in volatile oil for 24 hours, no blister on the coating film					
10	Odor of the coating film	No odor					
11	Abrasion to mould	Same with ordinary aluminum foil					





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Advantages

- 1. Excellent hydrophilicity and corrosion resistance;
- 2. Good formability and no wear to the mold;
- 3. Strong stamping oil resistance, solvent resistance, heat resistance;
- 4. No color change, no terrible smell;
- 5. The condensed water is evenly distributed and the heat exchange efficiency is high;
- 6. Since the water has no beads, the noise caused by vibration is correspondingly reduced.

Application

Air conditioner Refrigerator Indoor and outdoor heat exchanger Radiator Ventilation systems Heating and cooling systems Thermal rotors Coolers Evaporators



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The above mentioned aluminum product is produced according to national standard specifications. Please contact us for a free quote! -------THIS IS THE END------

