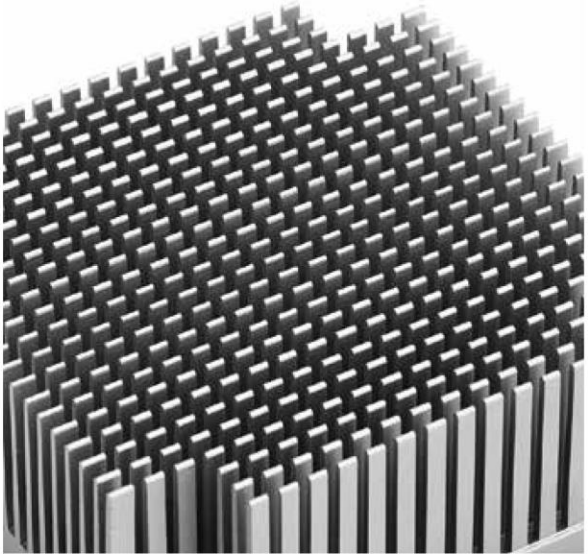
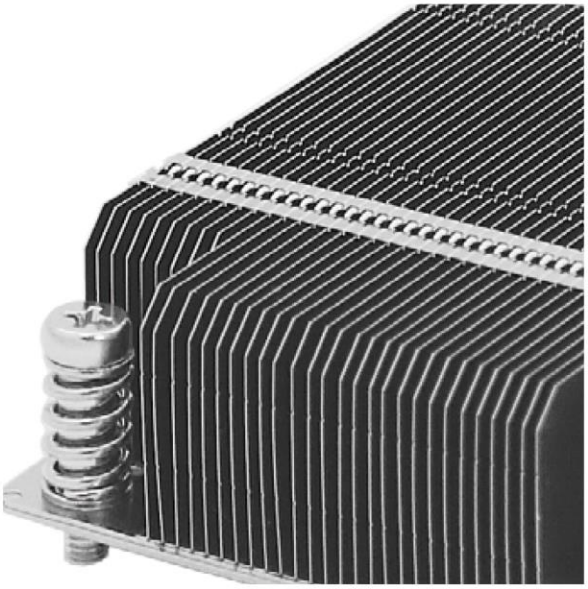
Living In Comfort PLUS

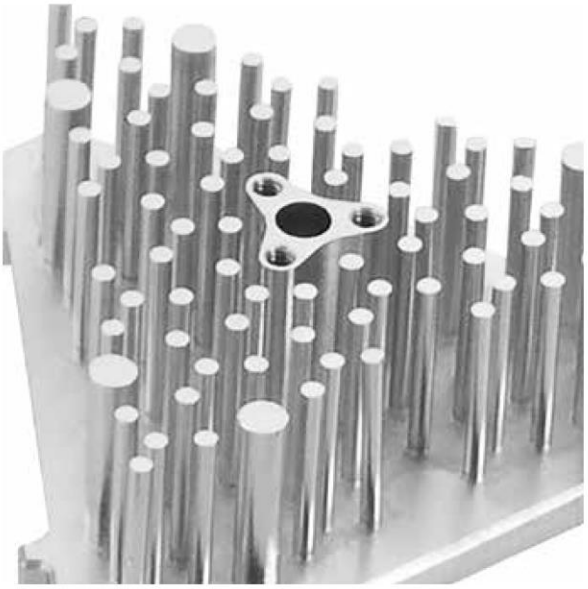
ZAWARD

Radical Cost from Asia

Comprehensive Thermal Solution Provider







www.zaward.com

About Zaward Corporation

ZAWARD Corporation, a company established in 1996, who provides OEM / ODM thermal solution products from concept to design, manufacturing and sufficient after service supports.

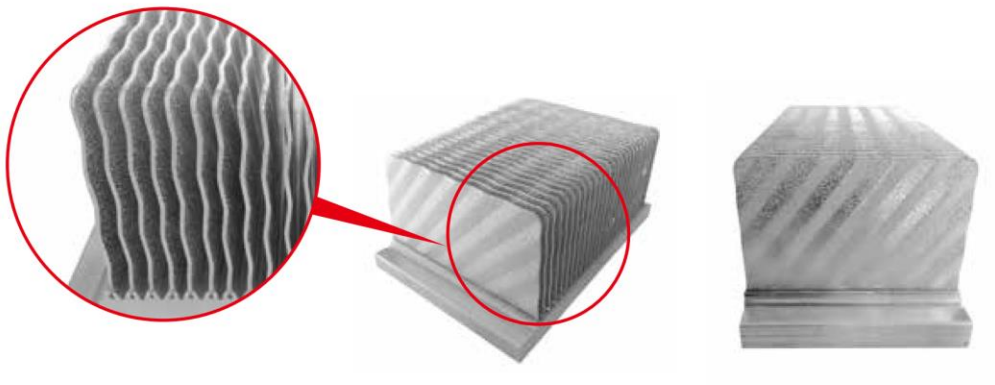
Our product series include: AC / DC Fan / Blower / VGA Fan / CPU Cooler / Vapor Chamber / Heat Pipe / LED Heat Sink / Heat Sink (by following processes: Extrusion / Skiving / Bonded Fin / Stamping / Stacked / Forging / CNC Machining / Die-Casting / Friction Stir Welding)

All our products comply with RoHS compliance.

Certified with ISO9001:2008 / ISO14001:2004, ZAWARD has organized and efficient product lines; decades of experiences has developed close bond with all supplier chains for sufficient and competitive costs, well trained experienced labors bring highly productive and quality products.

New Process Wavy Bonded Heat Sink

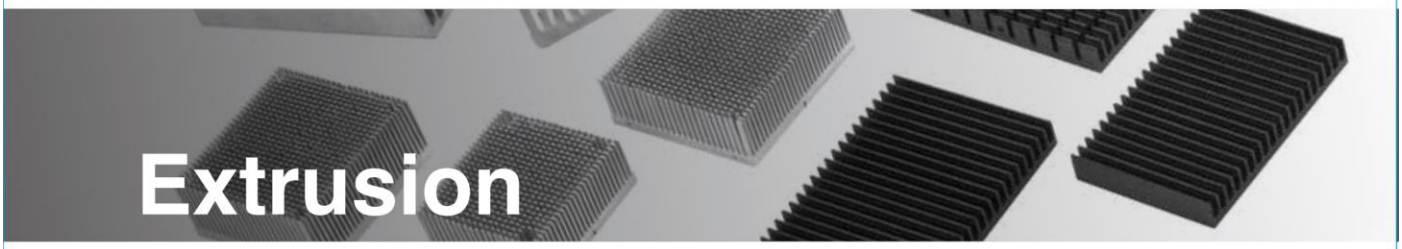
The wavy structure could enhance 14%~16% ventilative performance than ordinary extrusion heat sink.



Unit: mm

Fin Thickness		Length	Width	Height	Pitch	Material
0.3	Max	1000	700	60	-	Aluminum Alloy
	Min	10	10	5	3	
0.3 ~ 0.8	Max	1000	700	100	-	
	Min	10	10	5	3.5	
1 ~ 1.2	Max	1000	700	150	-	
	Min	10	10	5	3.5	

Heat Sink



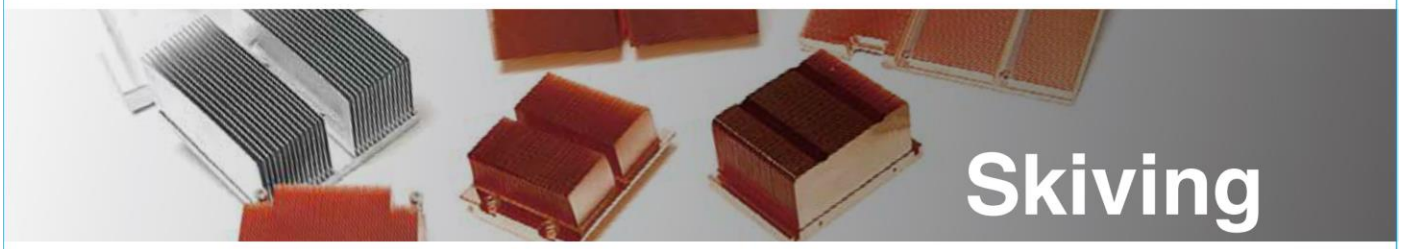
Extrusion

Extrusion is a process forcing material rod into a die mold under high temperature, creating aluminum section material. Aluminum extrusion is widely used in various ranges due to aluminum's unique physical characteristics; it provides products with strength, ductility and conductivity. Also being able to produce complex profile, efficient cost, short lead-time, wide range of specification, smooth surface finished.

This process has been commonly applied to industrial filed, medical equipment, embedded system, server, PC and industrial computer cooling, LED light and precision engineering.

Unit: mm

	Length	Width	Height	Fin Thickness	Pitch	Torque Rate
Maximum	9000	550	240	10	-	17
Minimum	5	5	3	0.6	1.8	



Skiving

Carved out of a single block of metal to produce heat sink with a series of fine fins in a specific designed shape and size. This seamless base and fin structure minimize thermal loss in-between and enhance thermal conductivity as well as low development cost. Recommended for small quantity with short lead time.

Application in liquid cooling, communication equipment, industrial equipment, PC, server and industrial computer.

Unit: mm

	Length	Width	Height	Fin Thickness	Pitch	Material
Maximum	3000	800	<130	1.5	10	Aluminum Alloy
Minimum	-	25	6	0.15	0.3	

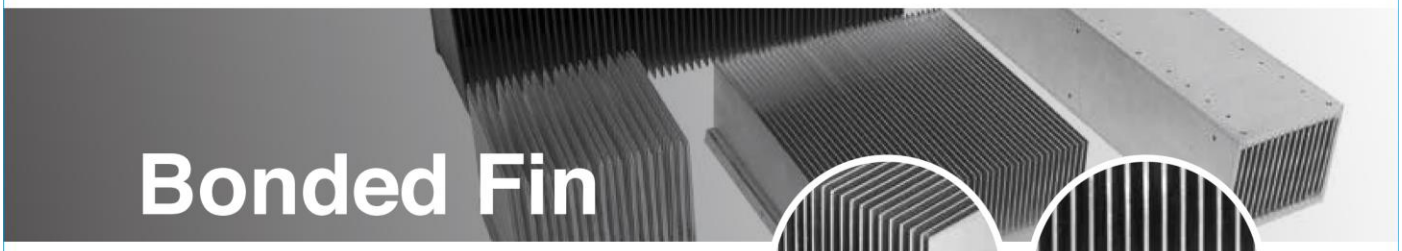
	Length	Width	Height	Fin Thickness	Pitch	Material
Maximum	3000	800	50	0.8	10	Copper Alloy
Minimum	-	25	6	0.12	0.2	

Die-Casting

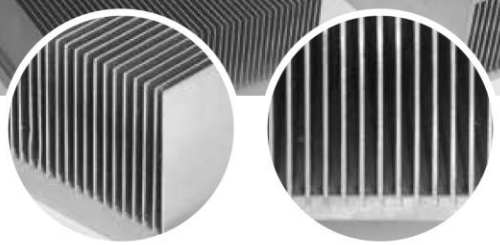
Die casting is a process that forces molten metal under high pressure into a mold cavity. It produces high structural integrity, smooth cast surface without additional machinery operation. Offering diverse range of products in competitive prices, efficiency and high productivity.

Application in energy, power, telecommunication and transportation equipment.

Heat Sink



Bonded Fin

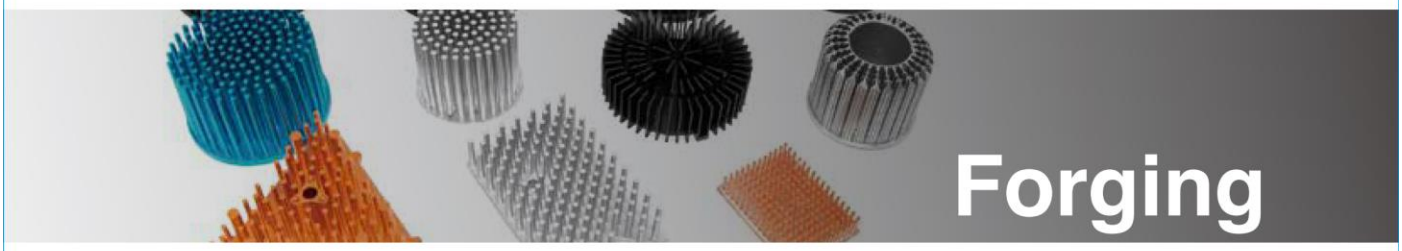


Adopted for high power thermal solutions, individual fins bonded to base with thermal conductive epoxy and maximizes flexibility in fin dimension of width and length.

Application in thermo-electrical product, solar, energy system, telecommunication, LED light.

Unit: mm

	Length	Width	Height	Fin Thickness	Pitch	Material
Maximum	1000	700	140	10	-	Aluminum Alloy
Minimum	10	10	10	0.9~1.0	2.4	



Forging

Cold forging is a process formed under high pressure and in room temperature. The heat sinks have superior finished surface finish, accurate dimension, efficient use of raw materials, high production rate and low cost.

Application in high power lighting, electronic components, power module, industrial machine and equipment.

Unit: mm

	Length	Width	Height	Fin Thickness	Pitch	Material
Maximum	300	300	100	10	-	Aluminum Alloy
Minimum	5	5	5	0.8	1.8	

	Length	Width	Height	Fin Thickness	Pitch	Material
Maximum	100	200	50	8	-	Copper Alloy
Minimum	5	5	5	0.8	1.8	

LED Light Heat Sink

Standard model or in diverse processes, such as extrusion, forging, die casting, CNC machining; may also be compatible with heat pipes to enhance thermal dissipation as well as customized shapes and sizes.

Application in high power consumption LED lightings.

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Fan

High quality, low noise and high efficiency DC/AC fan applies to audiovisual equipment, instrument, ventilation system, computer peripheral and industrial field.

Fan Category	Fan Type	Fan Function	Fan Specification	Bearing Type	Input Voltage	Motor Speed
DC Fan	Axial Fan	Automatic Restart	20 x 20 x 8 mm*	Two Ball Bearing	DC Fan	350~10000 RPM
AC Fan	Blower	Non Auto Restart	30 x 30 x 3 mm*	Duro Bearing	5V	
	OEM Fan	PWM	30 x 30 x 10 mm	Fluid Dynamic Bearing	12V	
		LED	40 x 40 x 10 mm	Sleeve Bearing	20V	
		Temperature Control	40 x 40 x 20 mm		24V	
			50 x 50 x 10 mm		48V	
			60 x 60 x 10 mm		AC Fan	
			60 x 60 x 15 mm		110~120V	
			60 x 60 x 25 mm		220~230V	
			70 x 70 x 15 mm			
			70 x 70 x 25 mm			
			75 x 75 x 25 mm*			
			76 x 76 x 30 mm*			
			80 x 80 x 15 mm			
			80 x 80 x 25 mm			
			92 x 92 x 25 mm			
			95 x 95 x 32 mm*			
			100 x 100 x 25 mm			
			120 x 120 x 15 mm			
			120 x 120 x 25 mm			
			120 x 120 x 38 mm			
			125 x 125 x 38 mm*			
			135 x 135 x 25 mm			
			140 x 140 x 25 mm			
			180 x 180 x 25 mm			
			220 x 220 x 30 mm			
			*Blower			