

Selection of Conductive Foams

Conductive Foams

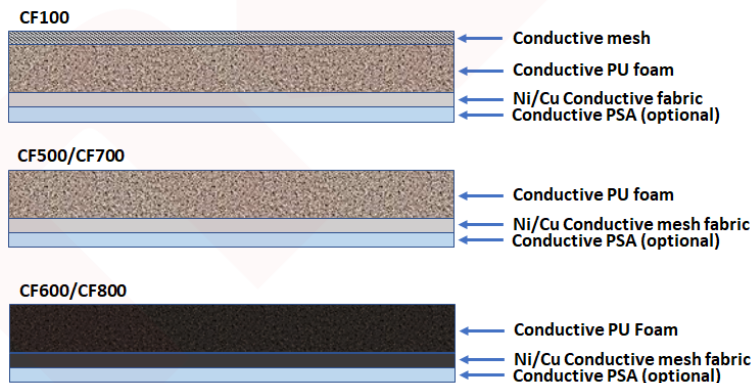
Laird's Ecofoam™ conductive foams offer an innovative approach to traditional shielding and grounding by providing X, Y, and Z-axis conductivity, enhancing the shielding effectiveness required to meet the increasing microprocessor speeds of today's computer, telecommunications, and other electronic equipment.

Via the unique patented proprietary technology, Ecofoam™ conductive foams can be treated with flame retardant, and can be supplied in either natural or black color.

Ecofoam™ conductive foams are designed for low-cycling applications such as input/output (I/O) shielding and other non-shear standard connectors. They can be further customized to your application by die-cutting, hole-punching, notching, and so on and is especially useful for odd-shaped applications which are difficult to shield with typical profile gaskets.



Composition of Ecofoam™ Families



Product Name Designation

	Thickness						
	0.5mm	0.7mm	1.0mm	1.5mm	2.0mm	3.0mm	4.0mm
CF100			CF110	CF115	CF120		
CF500	CF505	CF507	CF510	CF515	CF520	CF530	CF540
CF600			CF610	CF615	CF620	CF630	
CF700	CF705		CF710	CF715	CF720	CF730	CF740
CF800			CF810	CF815	CF820	CF830	

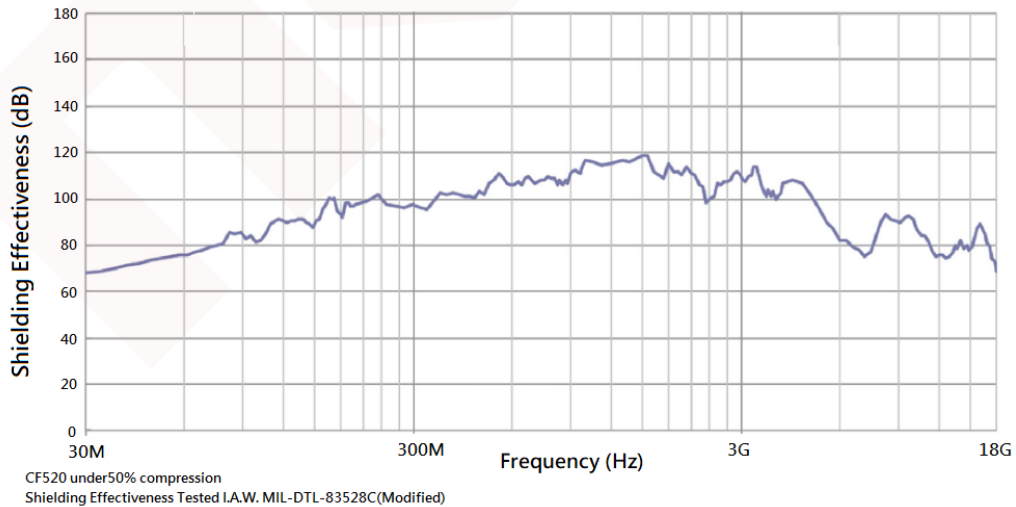
Standard Products

		Available Thicknesses(mm)										
		0.3	0.5	0.7	1	1.5	2	3	4	5	6	
CF400	Conductive foam only. Free to laminate with various fabrics, PSAs, or other foams.	▲	●	●	●	●	●	●	●	▲	▲	
CF500	Conductive foam with conductive fabric laminated. Balance performance..	▲	●	●	●	●	●	●	●	▲	▲	
CF600	Conductive foam with conductive fabric laminated. Black color.				●	●	●	●	▲			
CF700	Standard conductive foam with UL94V0 FR rating. Laird patented specialty.		●		●	●	●	●	●			
CF800	Conductive foam with UL94V0 FR rating. Laird patented specialty. Black color.				●	●	●	●	▲			
CF100	Laird patented specialty conductive foam with UL94V8 rating. Two-sides fabric laminated to offer strong physical properties. Good for narrow width application. Limitation : roll type is not available.							●	●	●	▲	▲

●: Standard ▲: Customized available

Characteristics

Shielding Effectiveness



Thickness Variance

- ±30% (0.7mm and below)
- ±20% (1.0mm and above)

Notice of Selection

1. CF500 is the first choice of conductive foams if no flame retardant request.
2. CF700 is the first choice for flame retardant request.
3. CF100 is good in narrow width application but with higher price.
4. It would be good to keep the compression ratio of conductive foam within 20% to 50% of original height.

Operation Temperature

Laird's Ecofoam™ conductive foams will keep in good rebound force and very little resistance changed for years under -40°C to 70°C after application. Long term under high temperature environment is not recommended.

Shelf Life and Storage Condition

12 months from date of shipment in sealed bag under 0-40°C. Suggest keep in low humidity environment (below 50%).

Ordering Information

LT-Shenzhen (CF600/CF700/CF800/CF100) and LT-Kunshan (CF400/CF500) are the key manufacturing sites of Conductive Foams.

Dimension Available

Laird offer several thicknesses of Ecofoam™ conductive foams for selection. Customized thickness request between 0.5mm to 4.0mm are available (with MOQ 200sqm or equivalent). They can be further customized to an application by die-cutting, lamination, or assembling with other flex or metal materials.

Part Number Example

Digits:	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15
	C	F	7	2	0	A	A	0	1	0	5	0	2	0	0
	PRODUCT NAME EX: CF720 = CF700 Series 2.0mm thickness					SITE ENG CODE: this is defined by site eng team(refer to "SITE ENG CODE" sheet) AA, AB, AC...A9 etc		PRODUCT WIDTH (WIDEST) EX: 0105=10.5mm			PRODUCT LENGTH (LONGEST) EX: 0200=20.0mm EX: 020M=2.0m (if the part length is over 999.9mm, please define digit #15 as m[meter])				

Selection of FOF Gasket

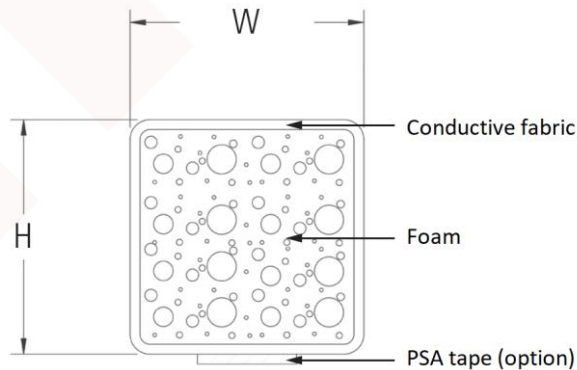
FOF Gasket Overall

Laird Fabric-over-Foam (FOF) EMI gaskets provide wide range of excellent EMI shielding performance and offering excellent assembly tolerance absorbing for customers where EMI issues occur. They are composed of electrically conductive fabric wrapped around a soft foam core, and supplied with a non-conductive or conductive pressure sensitive adhesive (PSA) as well as an Extended Release Liner (ERL) on the adhesive. They can be created with cross-section profiles such as rectangle, D, C, P, T, knife, bell shapes, and others, and can be further customized to an application by die-cutting, hole punching, notching, etc.

Laird FoF EMI gaskets are halogen free, RoHS compliant, and free from the list of REACH SVHC.



Composition of FOF



FOF Family

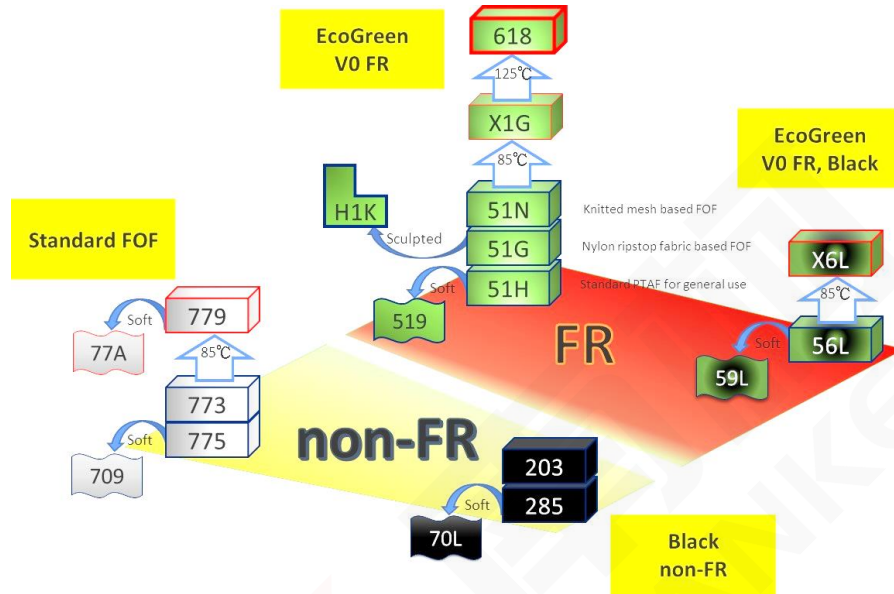
Laird supplies wide range of FOF EMI gaskets.

Product Name	Height Available (mm)	Min. Width (mm)	Color	Flame Retardant	Compression Set (%) @70°C*	Softness (S-----H)	Operation Temp.(I)	Max. Temp.(°C) Short Term**	Features and Advantage
773	0.6 to 10	2	Natural	non-FR	<20	---▲---	-40 to 70	85	Standard gaskets with balance performance.
775	0.6 to 10	2	Natural	non-FR	<20	---▲---	-40 to 70	85	Standard gaskets with balance performance
779	1 to 13	2	Natural	non-FR	<10	-----▲-	-40 to 85	105	Quick rebound, low compression set, and higher compression force.
709	0.6 to 5	2	Natural	non-FR	<25	-▲-----	-40 to 70	80	Very soft gaskets with low rebound force.
77A	0.5 to 5.5	2	Natural	non-FR	<15	-▲-----	-40 to 85	95	Soft, low compression set, and higher temperature application
203	0.6 to 10	2	Black	non-FR	<20	---▲---	-40 to 70	85	Black gaskets with balance performance
285	0.6 to 10	2	Black	non-FR	<20	---▲---	-40 to 70	85	Black gaskets with balance performance
70L	0.6 to 5	2	Black	non-FR	<25	-▲-----	-40 to 70	80	Soft gaskets in black color
51H	0.8 to 30	1.5	Natural	UL94V0	<20	---▲---	-40 to 70	90	Standard FR rating gaskets with balance performance
51G	0.8 to 30	1.5	Natural	UL94V0	<20	---▲---	-40 to 70	90	Standard FR rating gaskets with ripstop nylon fabric.
51N	0.8 to 30	1.5	Natural	UL94V0	<20	---▲---	-40 to 70	90	Good in I/O application
X1G	1 to 13	2	Natural	UL94V0	<12	---▲---	-40 to 85	105	Black gaskets with higher temperature rating
618	1.8 to 13	2	Natural	UL94V0	<8	-----▲-	-40 to 125	150	Gaskets up to 125°C application
519	0.8 to 30	2	Natural	UL94V0	<20	--▲-----	-40 to 70	85	Soft FR rating gaskets
56L	0.8 to 30	2	Black	UL94V0	<20	---▲---	-40 to 70	90	Standard black gaskets with FR rating
59L	0.8 to 30	2	Black	UL94V0	<20	--▲-----	-40 to 70	90	Soft black gaskets with FR rating
X6L	1 to 13	2	Black	UL94V0	<12	---▲---	-40 to 85	100	Black gaskets with higher temperature
H1K	1 to 20	2	Natural	UL94V0	<25	-----▲-	-40 to 70	80	Sculpted to various shapes.
51M	1 to 20	2	White	UL94V0	<20	---▲---	-40 to 70	90	Flame retardant soft cushion with non-conductive fabric over foam,

* Compression set : tested under 50% compression ratio @70°C

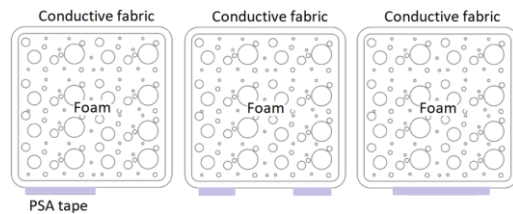
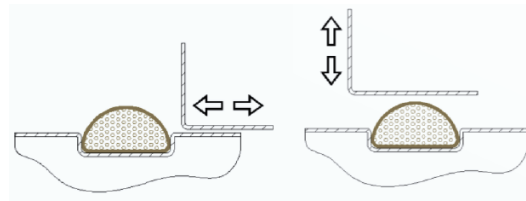
** Short term : tens minutes to an hour

Selection Graph



Design Guide of FOF EMI Gaskets

- Recommended the height-to-width ratio of a gasket should be less than 1.5. It would be good to be less than 1.0 (i.e. width \cong height).
- General width of gaskets is 2mm minimum.
- The fabric of FOF EMI gasket will be overlapped on the bottom. General width of the overlapping is 2mm.
- Ideal compression ratio of a FOF EMI gaskets is 25% to 40%. Always ensure application meets the desired gasket compression range. Over compression may result in loss of performance and gasket life.
- For high shear applications, recommend more protection to the gasket for compression during shipping, handling, and application.
- Recommend the width of a non-conductive PSA on the bottom is 50% of the gasket width. If choose conductive PSA, the width of the PSA could be up to 85% of the gasket.
- The position of PSA on the bottom of gaskets could be in the middle, to a side, or others.



Laird offers customized dimension (shape, height, width) request. Please contact Product Management Team for support.

Shelf Life and Storage Condition

1 year from date of shipment in sealed bag under 0-40°C. No humidity control is required.

Manufacturing Sites

Laird Shenzhen, Kunshan, Liberec, and Reynosa are the manufacturing sites of FOF EMI gaskets.