



Setting the **Standard** for **Shielding**.™

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MS On-Board / Online Catalog 2020

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# Standard Drawn EMI/RFI Shields

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## Seamless Protective Cages!

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**Save Time & Costs**  
with largest selection available  
in the Electronics Industry!



[ Rev / June 7, 2020 2:19 PM ]



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[www.masach.com](http://www.masach.com)

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# Setting the Standard for Shielding.™



Masach™ brings twenty five years of know-how and expertise into every standard shield produced. Our ever-growing selection of standard EMI/RFI shields is the largest in the industry, saving our customers precious time and money while catering to the electronic industry's growing high frequency and RF applications. With emphasis on technology and design, Masach™ drawn EMI/RFI shields boast top performance across the metrics, featuring a seamless protective cage, robust construction, optimal planarity and two-piece shield design.



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# Whatever your EMI/RFI challenge..



## Introduction



Masach™ specializes in board level EMI/RFI shielding design and production for small, medium and large scale runs. Founded in 1994, Masach™ is a globally recognized and leading supplier of some of the world's largest electronic companies, driven by highest quality customer service with uncompromised product performance.

Every step of the production cycle, from raw materials and design to packaging and shipping, is meticulously executed under one roof leveraging dedicated hydraulic presses, cutting-edge tool room assemblies, forming operations and more.

Masach™ utilizes the latest laser technology to deliver most advanced 3D cutting of formed or bent shields made of thin gage materials, CNC punching and more. We remain committed to meet the needs of every industry – from telecommunications and network equipment to military and medical – with the right board level EMI/RFI shielding solution for every challenge.

## Hermetically Sealed EMI/RFI Shields



### High Performance EMI/RFI Shields

Exclusive, Seamless EMI/RFI shields  
for a higher level of protection

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### A higher level of protection



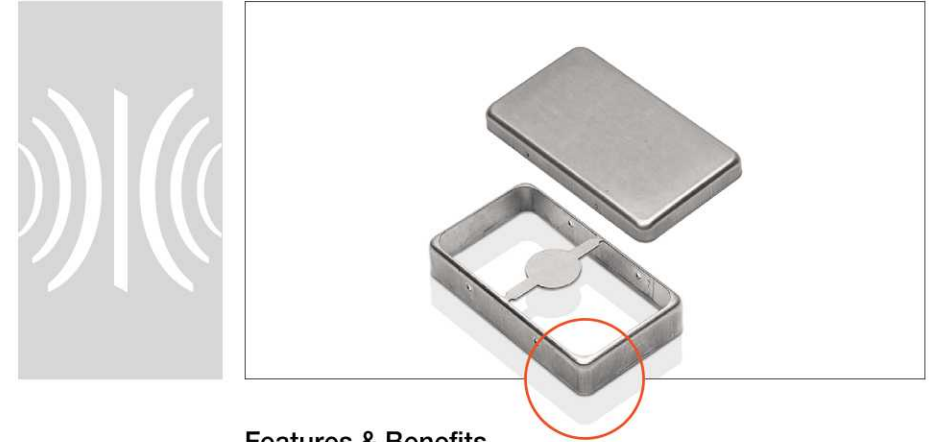
EMI/RFI engineers prefer hermetically sealed shields at high frequencies due their superior performance over time. Designed for highest shielding performance leveraging a unique hermetic design and fabrication process, Masach™ seamless protective cages are in a class of their own.

Most conventional shields are produced by bending the frames and covers, leaving slits for dust and interference. Masach™ unique fabrication process utilizes drawn frames and snap on covers to produce a seamless, more hermetic shield that is as durable as it is effective.

Featuring a convenient two-piece design, our shields enable to inspect and repair shielded components without having to remove the entire shield. Masach™ shields are known for their planarity, offering optimal yield of reflow soldering for even better overall performance.

Our ever-growing selection of EMI/RFI hermetically sealed shields are suitable to small, medium and large-scale runs.

## Seamless Protective Cage!




### Features & Benefits



- **Seamless Protective Cage** for higher shielding effectiveness
- **Optimal Planarity** for higher yield on reflow soldering
- **Solid Construction** to resist dents and warps
- **Two-piece Shield Design** enables to repair components without removing the shield, saving time and reducing repair damage



## Largest Selection in the Industry



**Largest Library of 2-piece EMI/RFI Shields**

Extensive range of Drawn EMI/RFI shields from Masach, boosts flexibility

[LEARN MORE](#)

Enjoy our extensive range of drawn shields for utmost flexibility in design



Masach™ offers the largest selection of standard drawn EMI/RFI shields in the electronics industry. Our ever-growing range of sizes delivers more flexibility in surface mount configurations where interference may occur or is identified during the board design phase. The highly reliable two-piece design (frame and cover) accommodates virtually any surface mount application.

## Fast and Economical Approach



**Fast and Economical EMI/RFI Shields**

Off-the shelf, Fully SMD Compatible suitable for all stages of production

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Shorter engineering design time, lower product cost and quicker time to market



[BUY NOW](#)

Masach™ standard shields saves on custom design costs, doing away with the need to produce expensive prototypes for evaluation, as well as significantly reduces delivery times. Our standard drawn EMI/RFI shields consist of tin-plated steel alloys, commonly used for board-level shielding due to their exceptional mechanical formability, environmental compliance, and relative low cost.

Engineers taking part in the board design phase can take advantage of the information concerning all mechanical aspects of Masach™ shields, conveniently available for download (PDF datasheets and CAD files), from the website product page.

**We offer the largest selection of standard EMI/RFI shields in the industry!**

**Pick-out your next EMI/RFI Shield >>**

**+101 Sizes** and counting..






Stay updated. View our Online Catalog:  
[www.masach.com](http://www.masach.com)

 Download your **free CAD file**  
**OrderOnline**










**NOTE:** (1) All Items in this category are according to our **Tinplate Standard Steel** – CRS Electrolytic Tinplate  
(2) General Tolerance (+/-) 0.2mm

If you cannot find a standard shield according to your requirements, please contact us at:  
[info@masach.com](mailto:info@masach.com) and we will make the adjustments or find a suitable solution for your specific needs.

MS Set PN.	MS Item PN.	Description	Ext. Dimensions (mm)		
			L	W	H
	MS087-10F	EMI/RFI Frame	8.7	6.3	3
	MS087-10C	EMI/RFI Cover	9.3	6.9	2.7
	2-Piece Shield	Seamless Protective Cage	Tin-Steel		
Optional Configurations:					
<input checked="" type="checkbox"/> 2-Piece <input checked="" type="checkbox"/> 1-Piece		<input checked="" type="checkbox"/> Hermetic <input type="checkbox"/> Perforated	<input checked="" type="checkbox"/> Tin-Steel <input checked="" type="checkbox"/> Nickel Silver		
	MS093-10F	EMI/RFI Frame	9.3	9.3	5
	MS093-10C	EMI/RFI Cover	9.7	9.7	3
	2-Piece Shield	Seamless Protective Cage	Tin-Steel		
Optional Configurations:					
<input checked="" type="checkbox"/> 2-Piece <input checked="" type="checkbox"/> 1-Piece		<input checked="" type="checkbox"/> Hermetic <input type="checkbox"/> Perforated	<input checked="" type="checkbox"/> Tin-Steel <input checked="" type="checkbox"/> Nickel Silver		
	MS102-10F	EMI/RFI Frame	10.2	6	3
	MS102-10C	EMI/RFI Cover	10.8	6.6	3
	2-Piece Shield	Seamless Protective Cage	Tin-Steel		
Optional Configurations:					
<input checked="" type="checkbox"/> 2-Piece <input checked="" type="checkbox"/> 1-Piece		<input checked="" type="checkbox"/> Hermetic <input type="checkbox"/> Perforated	<input checked="" type="checkbox"/> Tin-Steel <input checked="" type="checkbox"/> Nickel Silver		
	MS108-10F	EMI/RFI Frame	10.8	7.4	2
	MS108-10C	EMI/RFI Cover	11.2	7.8	2
	2-Piece Shield	Seamless Protective Cage	Tin-Steel		
Optional Configurations:					
<input checked="" type="checkbox"/> 2-Piece <input checked="" type="checkbox"/> 1-Piece		<input checked="" type="checkbox"/> Hermetic <input type="checkbox"/> Perforated	<input checked="" type="checkbox"/> Tin-Steel <input checked="" type="checkbox"/> Nickel Silver		
	MS110-10F	EMI/RFI Frame	11	11	2.8
	MS110-10C	EMI/RFI Cover	11.6	11.6	2.8
	2-Piece Shield	Seamless Protective Cage	Tin-Steel		
Optional Configurations:					
<input checked="" type="checkbox"/> 2-Piece <input checked="" type="checkbox"/> 1-Piece		<input checked="" type="checkbox"/> Hermetic <input type="checkbox"/> Perforated	<input checked="" type="checkbox"/> Tin-Steel <input checked="" type="checkbox"/> Nickel Silver		













MS Set PN.	MS Item PN.	Description	Ext. Dimensions (mm)		
			L	W	H
	MS110-20F	EMI/RFI Frame	11	11	6
	MS110-20C	EMI/RFI Cover	11.6	11.6	2.8
	2-Piece Shield	Seamless Protective Cage	Tin-Steel		
	Optional Configurations: <input checked="" type="checkbox"/> 2-Piece <input checked="" type="checkbox"/> 1-Piece <input checked="" type="checkbox"/> Hermetic <input type="checkbox"/> Perforated <input checked="" type="checkbox"/> Tin-Steel <input checked="" type="checkbox"/> Nickel Silver				
	MS128-10F	EMI/RFI Frame	12.8	12.3	7.5
	MS128-10C	EMI/RFI Cover	13.2	12.7	3.5
	2-Piece Shield	Seamless Protective Cage	Tin-Steel		
	Optional Configurations: <input checked="" type="checkbox"/> 2-Piece <input checked="" type="checkbox"/> 1-Piece <input checked="" type="checkbox"/> Hermetic <input type="checkbox"/> Perforated <input checked="" type="checkbox"/> Tin-Steel <input checked="" type="checkbox"/> Nickel Silver				
	MS130-10F	EMI/RFI Frame	13	13	5
	MS130-10C	EMI/RFI Cover	13.6	13.6	3
	2-Piece Shield	Seamless Protective Cage	Tin-Steel		
	Optional Configurations: <input checked="" type="checkbox"/> 2-Piece <input checked="" type="checkbox"/> 1-Piece <input checked="" type="checkbox"/> Hermetic <input type="checkbox"/> Perforated <input checked="" type="checkbox"/> Tin-Steel <input checked="" type="checkbox"/> Nickel Silver				
	MS135-20F	EMI/RFI Frame	13.5	13.5	5.1
	MS135-20C	EMI/RFI Cover	14.1	14.1	3
	2-Piece Shield	Seamless Protective Cage	Tin-Steel		
	Optional Configurations: <input checked="" type="checkbox"/> 2-Piece <input checked="" type="checkbox"/> 1-Piece <input checked="" type="checkbox"/> Hermetic <input type="checkbox"/> Perforated <input checked="" type="checkbox"/> Tin-Steel <input checked="" type="checkbox"/> Nickel Silver				
	MS148-10F	EMI/RFI Frame	14.8	8.9	2
	MS148-10C	EMI/RFI Cover	15.2	9.3	2
	2-Piece Shield	Seamless Protective Cage	Tin-Steel		
	Optional Configurations: <input checked="" type="checkbox"/> 2-Piece <input checked="" type="checkbox"/> 1-Piece <input checked="" type="checkbox"/> Hermetic <input type="checkbox"/> Perforated <input checked="" type="checkbox"/> Tin-Steel <input checked="" type="checkbox"/> Nickel Silver				

MS Set PN.	MS Item PN.	Description	Ext. Dimensions (mm)		
			L	W	H
	MS156-10F	EMI/RFI Frame	15.6	10.6	3
	MS156-10C	EMI/RFI Cover	16	11	2.6
	2-Piece Shield	Seamless Protective Cage	Tin-Steel		
	Optional Configurations: <input checked="" type="checkbox"/> 2-Piece <input checked="" type="checkbox"/> 1-Piece <input checked="" type="checkbox"/> Hermetic <input type="checkbox"/> Perforated <input checked="" type="checkbox"/> Tin-Steel <input checked="" type="checkbox"/> Nickel Silver				
	MS168-10F	EMI/RFI Frame	16.8	13.5	5
	MS168-10C	EMI/RFI Cover	17.2	13.9	3
	2-Piece Shield	Seamless Protective Cage	Tin-Steel		
	Optional Configurations: <input checked="" type="checkbox"/> 2-Piece <input checked="" type="checkbox"/> 1-Piece <input checked="" type="checkbox"/> Hermetic <input type="checkbox"/> Perforated <input checked="" type="checkbox"/> Tin-Steel <input checked="" type="checkbox"/> Nickel Silver				
	MS183-10F	EMI/RFI Frame	18.3	10.5	3
	MS183-10C	EMI/RFI Cover	18.9	11.1	3
	2-Piece Shield	Seamless Protective Cage	Tin-Steel		
	Optional Configurations: <input checked="" type="checkbox"/> 2-Piece <input checked="" type="checkbox"/> 1-Piece <input checked="" type="checkbox"/> Hermetic <input type="checkbox"/> Perforated <input checked="" type="checkbox"/> Tin-Steel <input checked="" type="checkbox"/> Nickel Silver				
	MS190-10F	EMI/RFI Frame	19	13.9	2
	MS190-10C	EMI/RFI Cover	19.4	14.3	1.7
	2-Piece Shield	Seamless Protective Cage	Tin-Steel		
	Optional Configurations: <input checked="" type="checkbox"/> 2-Piece <input checked="" type="checkbox"/> 1-Piece <input checked="" type="checkbox"/> Hermetic <input type="checkbox"/> Perforated <input checked="" type="checkbox"/> Tin-Steel <input checked="" type="checkbox"/> Nickel Silver				
	MS191-10F	EMI/RFI Frame	19.1	18.2	5
	MS191-10C	EMI/RFI Cover	19.7	18.8	3.5
	2-Piece Shield	Seamless Protective Cage	Tin-Steel		
	Optional Configurations: <input checked="" type="checkbox"/> 2-Piece <input checked="" type="checkbox"/> 1-Piece <input checked="" type="checkbox"/> Hermetic <input type="checkbox"/> Perforated <input checked="" type="checkbox"/> Tin-Steel <input checked="" type="checkbox"/> Nickel Silver				






MS Set PN.	MS Item PN.	Description	Ext. Dimensions (mm)		
			L	W	H
	MS193-10F	EMI/RFI Frame	19.3	10.5	3
	MS193-10C	EMI/RFI Cover	19.9	11.1	2.7
	2-Piece Shield	Seamless Protective Cage	Tin-Steel		
	Optional Configurations: <input checked="" type="checkbox"/> 2-Piece <input checked="" type="checkbox"/> 1-Piece <input checked="" type="checkbox"/> Hermetic <input type="checkbox"/> Perforated <input checked="" type="checkbox"/> Tin-Steel <input checked="" type="checkbox"/> Nickel Silver				
	MS193-20F	EMI/RFI Frame	19.3	18.3	3.5
	MS193-20C	EMI/RFI Cover	19.9	18.9	3
	2-Piece Shield	Seamless Protective Cage	Tin-Steel		
	Optional Configurations: <input checked="" type="checkbox"/> 2-Piece <input checked="" type="checkbox"/> 1-Piece <input checked="" type="checkbox"/> Hermetic <input type="checkbox"/> Perforated <input checked="" type="checkbox"/> Tin-Steel <input checked="" type="checkbox"/> Nickel Silver				
	MS206-10F	EMI/RFI Frame	20.6	17.8	3
	MS206-10C	EMI/RFI Cover	21.2	18.4	2.7
	2-Piece Shield	Seamless Protective Cage	Tin-Steel		
	Optional Configurations: <input checked="" type="checkbox"/> 2-Piece <input checked="" type="checkbox"/> 1-Piece <input checked="" type="checkbox"/> Hermetic <input type="checkbox"/> Perforated <input checked="" type="checkbox"/> Tin-Steel <input checked="" type="checkbox"/> Nickel Silver				
	MS209-10F	EMI/RFI Frame	20.9	15.3	1.65
	MS209-10C	EMI/RFI Cover	21.3	15.7	1.7
	2-Piece Shield	Seamless Protective Cage	Tin-Steel		
	Optional Configurations: <input checked="" type="checkbox"/> 2-Piece <input checked="" type="checkbox"/> 1-Piece <input checked="" type="checkbox"/> Hermetic <input type="checkbox"/> Perforated <input checked="" type="checkbox"/> Tin-Steel <input checked="" type="checkbox"/> Nickel Silver				
	MS209-20F	EMI/RFI Frame	20.9	15.3	2
	MS209-20C	EMI/RFI Cover	21.3	15.7	1.7
	2-Piece Shield	Seamless Protective Cage	Tin-Steel		
	Optional Configurations: <input checked="" type="checkbox"/> 2-Piece <input checked="" type="checkbox"/> 1-Piece <input checked="" type="checkbox"/> Hermetic <input type="checkbox"/> Perforated <input checked="" type="checkbox"/> Tin-Steel <input checked="" type="checkbox"/> Nickel Silver				






MS Set PN.	MS Item PN.	Description	Ext. Dimensions (mm)		
			L	W	H
	MS210-10F	EMI/RFI Frame	21	12	5
	MS210-10C	EMI/RFI Cover	21.6	12.6	4
	2-Piece Shield	Seamless Protective Cage	Tin-Steel		
	Optional Configurations: <input checked="" type="checkbox"/> 1-Piece <input checked="" type="checkbox"/> 2-Piece <input checked="" type="checkbox"/> Hermetic <input type="checkbox"/> Perforated <input checked="" type="checkbox"/> Tin-Steel <input checked="" type="checkbox"/> Nickel Silver				
	MS213-10F	EMI/RFI Frame	21.3	19.9	2.9
	MS213-10C	EMI/RFI Cover	21.7	20.3	2.5
	2-Piece Shield	Seamless Protective Cage	Tin-Steel		
	Optional Configurations: <input checked="" type="checkbox"/> 2-Piece <input checked="" type="checkbox"/> 1-Piece <input checked="" type="checkbox"/> Hermetic <input checked="" type="checkbox"/> Perforated <input checked="" type="checkbox"/> Tin-Steel <input checked="" type="checkbox"/> Nickel Silver				
	MS220-10F	EMI/RFI Frame	22	19.3	3.3
	MS220-10C	EMI/RFI Cover	22.6	19.9	3
	2-Piece Shield	Seamless Protective Cage	Tin-Steel		
	Optional Configurations: <input checked="" type="checkbox"/> 2-Piece <input checked="" type="checkbox"/> 1-Piece <input checked="" type="checkbox"/> Hermetic <input checked="" type="checkbox"/> Perforated <input checked="" type="checkbox"/> Tin-Steel <input checked="" type="checkbox"/> Nickel Silver				
	MS220-20F	EMI/RFI Frame	22	17.7	3
	MS220-20C	EMI/RFI Cover	22.4	18.1	3
	2-Piece Shield	Seamless Protective Cage	Tin-Steel		
	Optional Configurations: <input checked="" type="checkbox"/> 2-Piece <input checked="" type="checkbox"/> 1-Piece <input checked="" type="checkbox"/> Hermetic <input type="checkbox"/> Perforated <input checked="" type="checkbox"/> Tin-Steel <input checked="" type="checkbox"/> Nickel Silver				
	MS220-30F	EMI/RFI Frame	22	11.3	2.8
	MS220-30C	EMI/RFI Cover	22.6	11.9	2.8
	2-Piece Shield	Seamless Protective Cage	Tin-Steel		
	Optional Configurations: <input checked="" type="checkbox"/> 2-Piece <input checked="" type="checkbox"/> 1-Piece <input checked="" type="checkbox"/> Hermetic <input checked="" type="checkbox"/> Perforated <input checked="" type="checkbox"/> Tin-Steel <input checked="" type="checkbox"/> Nickel Silver				






MS Set PN.	MS Item PN.	Description	Ext. Dimensions (mm)		
			L	W	H
	MS220-40	EMI/RFI Frame	22	11.3	7
	MS220-40C	EMI/RFI Cover	22.6	11.9	2.8
	2-Piece Shield	Seamless Protective Cage	Tin-Steel		
	Optional Configurations: <input checked="" type="checkbox"/> 2-Piece <input checked="" type="checkbox"/> 1-Piece <input checked="" type="checkbox"/> Hermetic <input checked="" type="checkbox"/> Perforated <input checked="" type="checkbox"/> Tin-Steel <input checked="" type="checkbox"/> Nickel Silver				
	MS223-10	EMI/RFI Frame	22.3	17.3	5
	MS223-10C	EMI/RFI Cover	22.7	17.7	4
	2-Piece Shield	Seamless Protective Cage	Tin-Steel		
	Optional Configurations: <input checked="" type="checkbox"/> 2-Piece <input checked="" type="checkbox"/> 1-Piece <input checked="" type="checkbox"/> Hermetic <input type="checkbox"/> Perforated <input checked="" type="checkbox"/> Tin-Steel <input checked="" type="checkbox"/> Nickel Silver				
	MS226-10	EMI/RFI Frame	22.6	17.1	2
	MS226-10C	EMI/RFI Cover	23	17.5	2
	2-Piece Shield	Seamless Protective Cage	Tin-Steel		
	Optional Configurations: <input checked="" type="checkbox"/> 2-Piece <input checked="" type="checkbox"/> 1-Piece <input checked="" type="checkbox"/> Hermetic <input type="checkbox"/> Perforated <input checked="" type="checkbox"/> Tin-Steel <input checked="" type="checkbox"/> Nickel Silver				
	MS230-10	EMI/RFI Frame	23	11.7	5
	MS230-10C	EMI/RFI Cover	23.6	12.3	3
	2-Piece Shield	Seamless Protective Cage	Tin-Steel		
	Optional Configurations: <input checked="" type="checkbox"/> 2-Piece <input checked="" type="checkbox"/> 1-Piece <input checked="" type="checkbox"/> Hermetic <input type="checkbox"/> Perforated <input checked="" type="checkbox"/> Tin-Steel <input checked="" type="checkbox"/> Nickel Silver				
	MS233-10	EMI/RFI Frame	23.3	17.5	5
	MS233-10C	EMI/RFI Cover	23.7	17.9	2.8
	2-Piece Shield	Seamless Protective Cage	Tin-Steel		
	Optional Configurations: <input checked="" type="checkbox"/> 2-Piece <input checked="" type="checkbox"/> 1-Piece <input checked="" type="checkbox"/> Hermetic <input type="checkbox"/> Perforated <input checked="" type="checkbox"/> Tin-Steel <input checked="" type="checkbox"/> Nickel Silver				






MS Set PN.	MS Item PN.	Description	Ext. Dimensions (mm)		
			L	W	H
	MS233-20	EMI/RFI Frame	23.3	14.5	3
	MS233-20C	EMI/RFI Cover	23.7	14.9	3
	2-Piece Shield	Seamless Protective Cage	Tin-Steel		
	Optional Configurations: <input checked="" type="checkbox"/> 2-Piece <input checked="" type="checkbox"/> 1-Piece <input checked="" type="checkbox"/> Hermetic <input type="checkbox"/> Perforated <input checked="" type="checkbox"/> Tin-Steel <input checked="" type="checkbox"/> Nickel Silver				
	MS250-10	EMI/RFI Frame	25	21	4
	MS250-10C	EMI/RFI Cover	25.6	21.6	3
	2-Piece Shield	Seamless Protective Cage	Tin-Steel		
	Optional Configurations: <input checked="" type="checkbox"/> 2-Piece <input checked="" type="checkbox"/> 1-Piece <input checked="" type="checkbox"/> Hermetic <input type="checkbox"/> Perforated <input checked="" type="checkbox"/> Tin-Steel <input checked="" type="checkbox"/> Nickel Silver				
	MS256-10	EMI/RFI Frame	25.6	15.5	2.3
	MS256-10C	EMI/RFI Cover	26	15.9	2.3
	2-Piece Shield	Seamless Protective Cage	Tin-Steel		
	Optional Configurations: <input checked="" type="checkbox"/> 2-Piece <input checked="" type="checkbox"/> 1-Piece <input checked="" type="checkbox"/> Hermetic <input type="checkbox"/> Perforated <input checked="" type="checkbox"/> Tin-Steel <input checked="" type="checkbox"/> Nickel Silver				
	MS257-10	EMI/RFI Frame	25.7	25.7	6.5
	MS257-10C	EMI/RFI Cover	26.3	26.3	4
	2-Piece Shield	Seamless Protective Cage	Tin-Steel		
	Optional Configurations: <input checked="" type="checkbox"/> 2-Piece <input checked="" type="checkbox"/> 1-Piece <input checked="" type="checkbox"/> Hermetic <input type="checkbox"/> Perforated <input checked="" type="checkbox"/> Tin-Steel <input checked="" type="checkbox"/> Nickel Silver				
	MS259-10	EMI/RFI Frame	25.9	25.9	3
	MS259-10C	EMI/RFI Cover	26.3	26.3	3
	2-Piece Shield	Seamless Protective Cage	Tin-Steel		
	Optional Configurations: <input checked="" type="checkbox"/> 2-Piece <input checked="" type="checkbox"/> 1-Piece <input checked="" type="checkbox"/> Hermetic <input type="checkbox"/> Perforated <input checked="" type="checkbox"/> Tin-Steel <input checked="" type="checkbox"/> Nickel Silver				



MS Set PN.	MS Item PN.	Description	Ext. Dimensions (mm)		
			L	W	H
	MS260-10F	EMI/RFI Frame	26	23	7.8
	MS260-10C	EMI/RFI Cover	26.6	23.6	4
	2-Piece Shield	Seamless Protective Cage	Tin-Steel		
	Optional Configurations: <input checked="" type="checkbox"/> 2-Piece <input checked="" type="checkbox"/> 1-Piece <input checked="" type="checkbox"/> Hermetic <input checked="" type="checkbox"/> Perforated <input checked="" type="checkbox"/> Tin-Steel <input checked="" type="checkbox"/> Nickel Silver				
	MS263-10F	EMI/RFI Frame	26.3	16.8	4.5
	MS263-10C	EMI/RFI Cover	26.9	17.4	4
	2-Piece Shield	Seamless Protective Cage	Tin-Steel		
	Optional Configurations: <input checked="" type="checkbox"/> 2-Piece <input checked="" type="checkbox"/> 1-Piece <input checked="" type="checkbox"/> Hermetic <input checked="" type="checkbox"/> Perforated <input checked="" type="checkbox"/> Tin-Steel <input checked="" type="checkbox"/> Nickel Silver				
	MS263-20F	EMI/RFI Frame	26.3	19.8	8.1
	MS263-20C	EMI/RFI Cover	26.9	20.4	3.7
	2-Piece Shield	Seamless Protective Cage	Tin-Steel		
	Optional Configurations: <input checked="" type="checkbox"/> 2-Piece <input checked="" type="checkbox"/> 1-Piece <input checked="" type="checkbox"/> Hermetic <input type="checkbox"/> Perforated <input checked="" type="checkbox"/> Tin-Steel <input checked="" type="checkbox"/> Nickel Silver				
	MS268-10F	EMI/RFI Frame	26.8	15.6	2.5
	MS268-10C	EMI/RFI Cover	27.4	16.2	2.5
	2-Piece Shield	Seamless Protective Cage	Tin-Steel		
	Optional Configurations: <input checked="" type="checkbox"/> 2-Piece <input checked="" type="checkbox"/> 1-Piece <input checked="" type="checkbox"/> Hermetic <input type="checkbox"/> Perforated <input checked="" type="checkbox"/> Tin-Steel <input checked="" type="checkbox"/> Nickel Silver				
	MS268-20F	EMI/RFI Frame	26.8	15.6	4
	MS268-20C	EMI/RFI Cover	27.4	16.2	2.5
	2-Piece Shield	Seamless Protective Cage	Tin-Steel		
	Optional Configurations: <input checked="" type="checkbox"/> 2-Piece <input checked="" type="checkbox"/> 1-Piece <input checked="" type="checkbox"/> Hermetic <input type="checkbox"/> Perforated <input checked="" type="checkbox"/> Tin-Steel <input checked="" type="checkbox"/> Nickel Silver				

MS Set PN.	MS Item PN.	Description	Ext. Dimensions (mm)		
			L	W	H
	MS270-10F	EMI/RFI Frame	27	20	6
	MS270-10C	EMI/RFI Cover	27.6	20.6	3.5
	2-Piece Shield	Seamless Protective Cage	Tin-Steel		
	Optional Configurations: <input checked="" type="checkbox"/> 2-Piece <input checked="" type="checkbox"/> 1-Piece <input checked="" type="checkbox"/> Hermetic <input type="checkbox"/> Perforated <input checked="" type="checkbox"/> Tin-Steel <input checked="" type="checkbox"/> Nickel Silver				
	MS288-10F	EMI/RFI Frame	28.8	19.4	5
	MS288-10C	EMI/RFI Cover	29.4	20	4
	2-Piece Shield	Seamless Protective Cage	Tin-Steel		
	Optional Configurations: <input checked="" type="checkbox"/> 2-Piece <input checked="" type="checkbox"/> 1-Piece <input checked="" type="checkbox"/> Hermetic <input type="checkbox"/> Perforated <input checked="" type="checkbox"/> Tin-Steel <input checked="" type="checkbox"/> Nickel Silver				
	MS290-10F	EMI/RFI Frame	29	26	3
	MS290-10C	EMI/RFI Cover	29.6	26.6	2.9
	2-Piece Shield	Seamless Protective Cage	Tin-Steel		
	Optional Configurations: <input checked="" type="checkbox"/> 2-Piece <input checked="" type="checkbox"/> 1-Piece <input checked="" type="checkbox"/> Hermetic <input type="checkbox"/> Perforated <input checked="" type="checkbox"/> Tin-Steel <input checked="" type="checkbox"/> Nickel Silver				
	MS293-10F	EMI/RFI Frame	29.3	25.3	6.4
	MS293-10C	EMI/RFI Cover	29.9	25.9	4
	2-Piece Shield	Seamless Protective Cage	Tin-Steel		
	Optional Configurations: <input checked="" type="checkbox"/> 2-Piece <input checked="" type="checkbox"/> 1-Piece <input checked="" type="checkbox"/> Hermetic <input type="checkbox"/> Perforated <input checked="" type="checkbox"/> Tin-Steel <input checked="" type="checkbox"/> Nickel Silver				
	MS293-20F	EMI/RFI Frame	29.3	16.3	9.7
	MS293-20C	EMI/RFI Cover	29.9	25.9	4
	2-Piece Shield	Seamless Protective Cage	Tin-Steel		
	Optional Configurations: <input checked="" type="checkbox"/> 2-Piece <input checked="" type="checkbox"/> 1-Piece <input checked="" type="checkbox"/> Hermetic <input type="checkbox"/> Perforated <input checked="" type="checkbox"/> Tin-Steel <input checked="" type="checkbox"/> Nickel Silver				






MS Set PN.	MS Item PN.	Description	Ext. Dimensions (mm)		
			L	W	H
	MS300-10F	EMI/RFI Frame	30	24.4	3.5
	MS300-10C	EMI/RFI Cover	30.6	25	3
	2-Piece Shield	Seamless Protective Cage	Tin-Steel		
	Optional Configurations: <input checked="" type="checkbox"/> 2-Piece <input checked="" type="checkbox"/> 1-Piece <input checked="" type="checkbox"/> Hermetic <input type="checkbox"/> Perforated <input checked="" type="checkbox"/> Tin-Steel <input checked="" type="checkbox"/> Nickel Silver				
	MS302-10F	EMI/RFI Frame	30.2	18.9	3
	MS302-10C	EMI/RFI Cover	30.8	19.5	2.7
	2-Piece Shield	Seamless Protective Cage	Tin-Steel		
	Optional Configurations: <input checked="" type="checkbox"/> 2-Piece <input checked="" type="checkbox"/> 1-Piece <input checked="" type="checkbox"/> Hermetic <input type="checkbox"/> Perforated <input checked="" type="checkbox"/> Tin-Steel <input checked="" type="checkbox"/> Nickel Silver				
	MS308-10F	EMI/RFI Frame	30.8	17.8	4.4
	MS308-10C	EMI/RFI Cover	31.4	18.4	4.4
	2-Piece Shield	Seamless Protective Cage	Tin-Steel		
	Optional Configurations: <input checked="" type="checkbox"/> 2-Piece <input checked="" type="checkbox"/> 1-Piece <input checked="" type="checkbox"/> Hermetic <input type="checkbox"/> Perforated <input checked="" type="checkbox"/> Tin-Steel <input checked="" type="checkbox"/> Nickel Silver				
	MS310-10F	EMI/RFI Frame	31	17.1	3
	MS310-10C	EMI/RFI Cover	31.6	17.7	2.7
	2-Piece Shield	Seamless Protective Cage	Tin-Steel		
	Optional Configurations: <input checked="" type="checkbox"/> 2-Piece <input checked="" type="checkbox"/> 1-Piece <input checked="" type="checkbox"/> Hermetic <input type="checkbox"/> Perforated <input checked="" type="checkbox"/> Tin-Steel <input checked="" type="checkbox"/> Nickel Silver				
	MS312-10F	EMI/RFI Frame	31.2	30	5
	MS312-10C	EMI/RFI Cover	31.8	30.6	4
	2-Piece Shield	Seamless Protective Cage	Tin-Steel		
	Optional Configurations: <input checked="" type="checkbox"/> 2-Piece <input checked="" type="checkbox"/> 1-Piece <input checked="" type="checkbox"/> Hermetic <input type="checkbox"/> Perforated <input checked="" type="checkbox"/> Tin-Steel <input checked="" type="checkbox"/> Nickel Silver				






MS Set PN.	MS Item PN.	Description	Ext. Dimensions (mm)		
			L	W	H
	MS320-10F	EMI/RFI Frame	32	11.3	2
	MS320-10C	EMI/RFI Cover	32.4	11.7	2
	2-Piece Shield	Seamless Protective Cage	Tin-Steel		
	Optional Configurations: <input checked="" type="checkbox"/> 2-Piece <input checked="" type="checkbox"/> 1-Piece <input checked="" type="checkbox"/> Hermetic <input type="checkbox"/> Perforated <input checked="" type="checkbox"/> Tin-Steel <input checked="" type="checkbox"/> Nickel Silver				
	MS321-10F	EMI/RFI Frame	32.1	16.6	2.5
	MS321-10C	EMI/RFI Cover	32.5	17	2.2
	2-Piece Shield	Seamless Protective Cage	Tin-Steel		
	Optional Configurations: <input checked="" type="checkbox"/> 2-Piece <input checked="" type="checkbox"/> 1-Piece <input checked="" type="checkbox"/> Hermetic <input type="checkbox"/> Perforated <input checked="" type="checkbox"/> Tin-Steel <input checked="" type="checkbox"/> Nickel Silver				
	MS323-10F	EMI/RFI Frame	32.3	23.8	3.7
	MS323-10C	EMI/RFI Cover	32.9	24.4	4
	2-Piece Shield	Seamless Protective Cage	Tin-Steel		
	Optional Configurations: <input checked="" type="checkbox"/> 2-Piece <input checked="" type="checkbox"/> 1-Piece <input checked="" type="checkbox"/> Hermetic <input checked="" type="checkbox"/> Perforated <input checked="" type="checkbox"/> Tin-Steel <input checked="" type="checkbox"/> Nickel Silver				
	MS323-20F	EMI/RFI Frame	32.3	23.8	4.7
	MS323-20C	EMI/RFI Cover	32.9	24.4	4
	2-Piece Shield	Seamless Protective Cage	Tin-Steel		
	Optional Configurations: <input checked="" type="checkbox"/> 2-Piece <input checked="" type="checkbox"/> 1-Piece <input checked="" type="checkbox"/> Hermetic <input checked="" type="checkbox"/> Perforated <input checked="" type="checkbox"/> Tin-Steel <input checked="" type="checkbox"/> Nickel Silver				
	MS323-30F	EMI/RFI Frame	32.3	23.8	9
	MS323-30C	EMI/RFI Cover	32.9	24.4	4
	2-Piece Shield	Seamless Protective Cage	Tin-Steel		
	Optional Configurations: <input checked="" type="checkbox"/> 2-Piece <input checked="" type="checkbox"/> 1-Piece <input checked="" type="checkbox"/> Hermetic <input checked="" type="checkbox"/> Perforated <input checked="" type="checkbox"/> Tin-Steel <input checked="" type="checkbox"/> Nickel Silver				






MS Set PN.	MS Item PN.	Description	Ext. Dimensions (mm)		
			L	W	H
	MS329-10F	EMI/RFI Frame	32.9	20.7	2.5
	MS329-10C	EMI/RFI Cover	33.3	21.1	2.2
	2-Piece Shield	Seamless Protective Cage	Tin-Steel		
	Optional Configurations: <input checked="" type="checkbox"/> 2-Piece <input checked="" type="checkbox"/> 1-Piece <input checked="" type="checkbox"/> Hermetic <input type="checkbox"/> Perforated <input checked="" type="checkbox"/> Tin-Steel <input checked="" type="checkbox"/> Nickel Silver				
	MS333-10F	EMI/RFI Frame	33.3	13.3	4.4
	MS333-10C	EMI/RFI Cover	33.9	13.9	3.5
	2-Piece Shield	Seamless Protective Cage	Tin-Steel		
	Optional Configurations: <input checked="" type="checkbox"/> 2-Piece <input checked="" type="checkbox"/> 1-Piece <input checked="" type="checkbox"/> Hermetic <input type="checkbox"/> Perforated <input checked="" type="checkbox"/> Tin-Steel <input checked="" type="checkbox"/> Nickel Silver				
	MS338-10F	EMI/RFI Frame	33.8	30.3	3.3
	MS338-10C	EMI/RFI Cover	34.2	30.7	3.2
	2-Piece Shield	Seamless Protective Cage	Tin-Steel		
	Optional Configurations: <input checked="" type="checkbox"/> 2-Piece <input checked="" type="checkbox"/> 1-Piece <input checked="" type="checkbox"/> Hermetic <input type="checkbox"/> Perforated <input checked="" type="checkbox"/> Tin-Steel <input checked="" type="checkbox"/> Nickel Silver				
	MS345-10F	EMI/RFI Frame	34.5	23.3	3.5
	MS345-10C	EMI/RFI Cover	35.1	23.9	3.3
	2-Piece Shield	Seamless Protective Cage	Tin-Steel		
	Optional Configurations: <input checked="" type="checkbox"/> 2-Piece <input checked="" type="checkbox"/> 1-Piece <input checked="" type="checkbox"/> Hermetic <input checked="" type="checkbox"/> Perforated <input checked="" type="checkbox"/> Tin-Steel <input checked="" type="checkbox"/> Nickel Silver				
	MS345-20F	EMI/RFI Frame	34.5	21.5	3.2
	MS345-20C	EMI/RFI Cover	35.1	22.1	2.8
	2-Piece Shield	Seamless Protective Cage	Tin-Steel		
	Optional Configurations: <input checked="" type="checkbox"/> 2-Piece <input checked="" type="checkbox"/> 1-Piece <input checked="" type="checkbox"/> Hermetic <input type="checkbox"/> Perforated <input checked="" type="checkbox"/> Tin-Steel <input checked="" type="checkbox"/> Nickel Silver				






MS Set PN.	MS Item PN.	Description	Ext. Dimensions (mm)		
			L	W	H
	MS353-10F	EMI/RFI Frame	35.3	20	6.4
	MS353-10C	EMI/RFI Cover	35.7	20.4	3.5
	2-Piece Shield	Seamless Protective Cage	Tin-Steel		
	Optional Configurations: <input checked="" type="checkbox"/> 2-Piece <input checked="" type="checkbox"/> 1-Piece <input checked="" type="checkbox"/> Hermetic <input type="checkbox"/> Perforated <input checked="" type="checkbox"/> Tin-Steel <input checked="" type="checkbox"/> Nickel Silver				
	MS353-20F	EMI/RFI Frame	35.3	22.3	6.4
	MS353-20C	EMI/RFI Cover	35.7	22.7	3.5
	2-Piece Shield	Seamless Protective Cage	Tin-Steel		
	Optional Configurations: <input checked="" type="checkbox"/> 2-Piece <input checked="" type="checkbox"/> 1-Piece <input checked="" type="checkbox"/> Hermetic <input type="checkbox"/> Perforated <input checked="" type="checkbox"/> Tin-Steel <input checked="" type="checkbox"/> Nickel Silver				
	MS355-10F	EMI/RFI Frame	35.5	19	5.5
	MS355-10C	EMI/RFI Cover	36.1	19.6	3.8
	2-Piece Shield	Seamless Protective Cage	Tin-Steel		
	Optional Configurations: <input checked="" type="checkbox"/> 2-Piece <input checked="" type="checkbox"/> 1-Piece <input checked="" type="checkbox"/> Hermetic <input type="checkbox"/> Perforated <input checked="" type="checkbox"/> Tin-Steel <input checked="" type="checkbox"/> Nickel Silver				
	MS366-10F	EMI/RFI Frame	36.6	34.1	3.3
	MS366-10C	EMI/RFI Cover	37	34.5	2.8
	2-Piece Shield	Seamless Protective Cage	Tin-Steel		
	Optional Configurations: <input checked="" type="checkbox"/> 2-Piece <input checked="" type="checkbox"/> 1-Piece <input checked="" type="checkbox"/> Hermetic <input type="checkbox"/> Perforated <input checked="" type="checkbox"/> Tin-Steel <input checked="" type="checkbox"/> Nickel Silver				
	MS375-10F	EMI/RFI Frame	37.5	29.3	6.5
	MS375-10C	EMI/RFI Cover	38.1	29.9	3.8
	2-Piece Shield	Seamless Protective Cage	Tin-Steel		
	Optional Configurations: <input checked="" type="checkbox"/> 2-Piece <input checked="" type="checkbox"/> 1-Piece <input checked="" type="checkbox"/> Hermetic <input type="checkbox"/> Perforated <input checked="" type="checkbox"/> Tin-Steel <input checked="" type="checkbox"/> Nickel Silver				










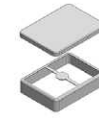


MS Set PN.	MS Item PN.	Description	Ext. Dimensions (mm)		
			L	W	H
	MS378-10F	EMI/RFI Frame	37.8	21.6	3
	MS378-10C	EMI/RFI Cover	38.4	22.2	2.7
	2-Piece Shield	Seamless Protective Cage	Tin-Steel		
	Optional Configurations: <input checked="" type="checkbox"/> 2-Piece <input checked="" type="checkbox"/> 1-Piece <input checked="" type="checkbox"/> Hermetic <input type="checkbox"/> Perforated <input checked="" type="checkbox"/> Tin-Steel <input checked="" type="checkbox"/> Nickel Silver				
	MS378-20F	EMI/RFI Frame	37.8	15.1	3.7
	MS378-20C	EMI/RFI Cover	38.4	15.7	3.1
	2-Piece Shield	Seamless Protective Cage	Tin-Steel		
	Optional Configurations: <input checked="" type="checkbox"/> 2-Piece <input checked="" type="checkbox"/> 1-Piece <input checked="" type="checkbox"/> Hermetic <input type="checkbox"/> Perforated <input checked="" type="checkbox"/> Tin-Steel <input checked="" type="checkbox"/> Nickel Silver				
	MS382-10F	EMI/RFI Frame	38.2	33.3	5
	MS382-10C	EMI/RFI Cover	38.8	33.9	3
	2-Piece Shield	Seamless Protective Cage	Tin-Steel		
	Optional Configurations: <input checked="" type="checkbox"/> 2-Piece <input checked="" type="checkbox"/> 1-Piece <input checked="" type="checkbox"/> Hermetic <input type="checkbox"/> Perforated <input checked="" type="checkbox"/> Tin-Steel <input checked="" type="checkbox"/> Nickel Silver				
	MS384-10F	EMI/RFI Frame	38.4	37.6	11
	MS384-10C	EMI/RFI Cover	39	38.2	4
	2-Piece Shield	Seamless Protective Cage	Tin-Steel		
	Optional Configurations: <input checked="" type="checkbox"/> 2-Piece <input checked="" type="checkbox"/> 1-Piece <input checked="" type="checkbox"/> Hermetic <input type="checkbox"/> Perforated <input checked="" type="checkbox"/> Tin-Steel <input checked="" type="checkbox"/> Nickel Silver				
	MS400-10F	EMI/RFI Frame	40	18.3	4
	MS400-10C	EMI/RFI Cover	40.6	18.9	3
	2-Piece Shield	Seamless Protective Cage	Tin-Steel		
	Optional Configurations: <input checked="" type="checkbox"/> 2-Piece <input checked="" type="checkbox"/> 1-Piece <input checked="" type="checkbox"/> Hermetic <input type="checkbox"/> Perforated <input checked="" type="checkbox"/> Tin-Steel <input checked="" type="checkbox"/> Nickel Silver				

MS Set PN.	MS Item PN.	Description	Ext. Dimensions (mm)		
			L	W	H
	MS402-10F	EMI/RFI Frame	40.2	34.6	5.3
	MS402-10C	EMI/RFI Cover	40.8	35.2	3.5
	2-Piece Shield	Seamless Protective Cage	Tin-Steel		
	Optional Configurations: <input checked="" type="checkbox"/> 2-Piece <input checked="" type="checkbox"/> 1-Piece <input checked="" type="checkbox"/> Hermetic <input type="checkbox"/> Perforated <input checked="" type="checkbox"/> Tin-Steel <input checked="" type="checkbox"/> Nickel Silver				
	MS405-10F	EMI/RFI Frame	40.5	18.9	2.8
	MS405-10C	EMI/RFI Cover	41.1	19.5	2.8
	2-Piece Shield	Seamless Protective Cage	Tin-Steel		
	Optional Configurations: <input checked="" type="checkbox"/> 2-Piece <input checked="" type="checkbox"/> 1-Piece <input checked="" type="checkbox"/> Hermetic <input type="checkbox"/> Perforated <input checked="" type="checkbox"/> Tin-Steel <input checked="" type="checkbox"/> Nickel Silver				
	MS409-10F	EMI/RFI Frame	40.9	21.5	2.5
	MS409-10C	EMI/RFI Cover	41.3	21.9	2.4
	2-Piece Shield	Seamless Protective Cage	Tin-Steel		
	Optional Configurations: <input checked="" type="checkbox"/> 2-Piece <input checked="" type="checkbox"/> 1-Piece <input checked="" type="checkbox"/> Hermetic <input type="checkbox"/> Perforated <input checked="" type="checkbox"/> Tin-Steel <input checked="" type="checkbox"/> Nickel Silver				
	MS410-10F	EMI/RFI Frame	41	26.4	3.7
	MS410-10C	EMI/RFI Cover	41.6	27	3.1
	2-Piece Shield	Seamless Protective Cage	Tin-Steel		
	Optional Configurations: <input checked="" type="checkbox"/> 2-Piece <input checked="" type="checkbox"/> 1-Piece <input checked="" type="checkbox"/> Hermetic <input type="checkbox"/> Perforated <input checked="" type="checkbox"/> Tin-Steel <input checked="" type="checkbox"/> Nickel Silver				
	MS412-10F	EMI/RFI Frame	41.2	13.6	5.1
	MS412-10C	EMI/RFI Cover	41.8	14.2	3.2
	2-Piece Shield	Seamless Protective Cage	Tin-Steel		
	Optional Configurations: <input checked="" type="checkbox"/> 2-Piece <input checked="" type="checkbox"/> 1-Piece <input checked="" type="checkbox"/> Hermetic <input type="checkbox"/> Perforated <input checked="" type="checkbox"/> Tin-Steel <input checked="" type="checkbox"/> Nickel Silver				

MS Set PN.	MS Item PN.	Description	Ext. Dimensions (mm)		
			L	W	H
	MS415-10F	EMI/RFI Frame	41.5	16.8	6.8
	MS415-10C	EMI/RFI Cover	42.1	17.4	4
	2-Piece Shield	Seamless Protective Cage	Tin-Steel		
	Optional Configurations: <input checked="" type="checkbox"/> 2-Piece <input checked="" type="checkbox"/> 1-Piece <input checked="" type="checkbox"/> Hermetic <input type="checkbox"/> Perforated <input checked="" type="checkbox"/> Tin-Steel <input checked="" type="checkbox"/> Nickel Silver				
	MS415-20F	EMI/RFI Frame	41.5	26.5	9.5
	MS415-20C	EMI/RFI Cover	42.1	27.1	5
	2-Piece Shield	Seamless Protective Cage	Tin-Steel		
	Optional Configurations: <input checked="" type="checkbox"/> 2-Piece <input checked="" type="checkbox"/> 1-Piece <input checked="" type="checkbox"/> Hermetic <input type="checkbox"/> Perforated <input checked="" type="checkbox"/> Tin-Steel <input checked="" type="checkbox"/> Nickel Silver				
	MS423-10F	EMI/RFI Frame	42.3	15.3	4.4
	MS423-10C	EMI/RFI Cover	42.9	15.9	3.5
	2-Piece Shield	Seamless Protective Cage	Tin-Steel		
	Optional Configurations: <input checked="" type="checkbox"/> 2-Piece <input checked="" type="checkbox"/> 1-Piece <input checked="" type="checkbox"/> Hermetic <input type="checkbox"/> Perforated <input checked="" type="checkbox"/> Tin-Steel <input checked="" type="checkbox"/> Nickel Silver				
	MS434-10F	EMI/RFI Frame	43.4	28.4	3.3
	MS434-10C	EMI/RFI Cover	44	29	3.1
	2-Piece Shield	Seamless Protective Cage	Tin-Steel		
	Optional Configurations: <input checked="" type="checkbox"/> 2-Piece <input checked="" type="checkbox"/> 1-Piece <input checked="" type="checkbox"/> Hermetic <input type="checkbox"/> Perforated <input checked="" type="checkbox"/> Tin-Steel <input checked="" type="checkbox"/> Nickel Silver				
	MS448-10F	EMI/RFI Frame	44.8	18.2	3
	MS448-10C	EMI/RFI Cover	45.2	18.6	2.8
	2-Piece Shield	Seamless Protective Cage	Tin-Steel		
	Optional Configurations: <input checked="" type="checkbox"/> 2-Piece <input checked="" type="checkbox"/> 1-Piece <input checked="" type="checkbox"/> Hermetic <input type="checkbox"/> Perforated <input checked="" type="checkbox"/> Tin-Steel <input checked="" type="checkbox"/> Nickel Silver				

MS Set PN.	MS Item PN.	Description	Ext. Dimensions (mm)		
			L	W	H
	MS448-20F	EMI/RFI Frame	44.8	18.2	5.7
	MS448-20C	EMI/RFI Cover	45.2	18.6	2.8
	2-Piece Shield	Seamless Protective Cage	Tin-Steel		
	Optional Configurations: <input checked="" type="checkbox"/> 2-Piece <input checked="" type="checkbox"/> 1-Piece <input checked="" type="checkbox"/> Hermetic <input type="checkbox"/> Perforated <input checked="" type="checkbox"/> Tin-Steel <input checked="" type="checkbox"/> Nickel Silver				
	MS453-10F	EMI/RFI Frame	45.3	16.2	6
	MS453-10C	EMI/RFI Cover	45.9	16.8	2.9
	2-Piece Shield	Seamless Protective Cage	Tin-Steel		
	Optional Configurations: <input checked="" type="checkbox"/> 2-Piece <input checked="" type="checkbox"/> 1-Piece <input checked="" type="checkbox"/> Hermetic <input type="checkbox"/> Perforated <input checked="" type="checkbox"/> Tin-Steel <input checked="" type="checkbox"/> Nickel Silver				
	MS466-10F	EMI/RFI Frame	46.6	17.3	5
	MS466-10C	EMI/RFI Cover	47.2	17.9	4
	2-Piece Shield	Seamless Protective Cage	Tin-Steel		
	Optional Configurations: <input checked="" type="checkbox"/> 2-Piece <input checked="" type="checkbox"/> 1-Piece <input checked="" type="checkbox"/> Hermetic <input type="checkbox"/> Perforated <input checked="" type="checkbox"/> Tin-Steel <input checked="" type="checkbox"/> Nickel Silver				
	MS473-10F	EMI/RFI Frame	47.3	23.3	5.3
	MS473-10C	EMI/RFI Cover	47.9	23.9	3.5
	2-Piece Shield	Seamless Protective Cage	Tin-Steel		
	Optional Configurations: <input checked="" type="checkbox"/> 2-Piece <input checked="" type="checkbox"/> 1-Piece <input checked="" type="checkbox"/> Hermetic <input checked="" type="checkbox"/> Perforated <input checked="" type="checkbox"/> Tin-Steel <input checked="" type="checkbox"/> Nickel Silver				
	MS477-10F	EMI/RFI Frame	47.7	18.2	4
	MS477-10C	EMI/RFI Cover	48.3	18.8	3
	2-Piece Shield	Seamless Protective Cage	Tin-Steel		
	Optional Configurations: <input checked="" type="checkbox"/> 2-Piece <input checked="" type="checkbox"/> 1-Piece <input checked="" type="checkbox"/> Hermetic <input type="checkbox"/> Perforated <input checked="" type="checkbox"/> Tin-Steel <input checked="" type="checkbox"/> Nickel Silver				

MS Set PN.	MS Item PN.	Description	Ext. Dimensions (mm)		
			L	W	H
	MS483-10F	EMI/RFI Frame	48.3	44.3	4.4
	MS483-10C	EMI/RFI Cover	48.9	44.9	4
	2-Piece Shield	Seamless Protective Cage	Tin-Steel		
	Optional Configurations: <input checked="" type="checkbox"/> 2-Piece <input checked="" type="checkbox"/> 1-Piece <input checked="" type="checkbox"/> Hermetic <input type="checkbox"/> Perforated <input checked="" type="checkbox"/> Tin-Steel <input checked="" type="checkbox"/> Nickel Silver				
	MS511-10F	EMI/RFI Frame	51.1	25.7	6.5
	MS511-10C	EMI/RFI Cover	51.7	26.3	4
	2-Piece Shield	Seamless Protective Cage	Tin-Steel		
	Optional Configurations: <input checked="" type="checkbox"/> 2-Piece <input checked="" type="checkbox"/> 1-Piece <input checked="" type="checkbox"/> Hermetic <input type="checkbox"/> Perforated <input checked="" type="checkbox"/> Tin-Steel <input checked="" type="checkbox"/> Nickel Silver				
	MS511-20F	EMI/RFI Frame	51.1	38.4	6.5
	MS511-20C	EMI/RFI Cover	51.7	39	4
	2-Piece Shield	Seamless Protective Cage	Tin-Steel		
	Optional Configurations: <input checked="" type="checkbox"/> 2-Piece <input checked="" type="checkbox"/> 1-Piece <input checked="" type="checkbox"/> Hermetic <input type="checkbox"/> Perforated <input checked="" type="checkbox"/> Tin-Steel <input checked="" type="checkbox"/> Nickel Silver				
	MS513-10F	EMI/RFI Frame	51.3	26.5	9.5
	MS513-10C	EMI/RFI Cover	51.9	27.1	3.5
	2-Piece Shield	Seamless Protective Cage	Tin-Steel		
	Optional Configurations: <input checked="" type="checkbox"/> 2-Piece <input checked="" type="checkbox"/> 1-Piece <input checked="" type="checkbox"/> Hermetic <input type="checkbox"/> Perforated <input checked="" type="checkbox"/> Tin-Steel <input checked="" type="checkbox"/> Nickel Silver				
	MS520-10F	EMI/RFI Frame	52	26.7	6
	MS520-10C	EMI/RFI Cover	52.6	27.3	3.5
	2-Piece Shield	Seamless Protective Cage	Tin-Steel		
	Optional Configurations: <input checked="" type="checkbox"/> 2-Piece <input checked="" type="checkbox"/> 1-Piece <input checked="" type="checkbox"/> Hermetic <input type="checkbox"/> Perforated <input checked="" type="checkbox"/> Tin-Steel <input checked="" type="checkbox"/> Nickel Silver				

MS Set PN.	MS Item PN.	Description	Ext. Dimensions (mm)		
			L	W	H
	MS544-10F	EMI/RFI Frame	54.4	23.9	7.5
	MS544-10C	EMI/RFI Cover	55	24.5	4
	2-Piece Shield	Seamless Protective Cage	Tin-Steel		
	Optional Configurations: <input checked="" type="checkbox"/> 2-Piece <input checked="" type="checkbox"/> 1-Piece <input checked="" type="checkbox"/> Hermetic <input type="checkbox"/> Perforated <input checked="" type="checkbox"/> Tin-Steel <input checked="" type="checkbox"/> Nickel Silver				
	MS544-20F	EMI/RFI Frame	54.4	23.9	13.5
	MS544-20C	EMI/RFI Cover	55	24.5	3.5
	2-Piece Shield	Seamless Protective Cage	Tin-Steel		
	Optional Configurations: <input checked="" type="checkbox"/> 2-Piece <input checked="" type="checkbox"/> 1-Piece <input checked="" type="checkbox"/> Hermetic <input checked="" type="checkbox"/> Perforated <input checked="" type="checkbox"/> Tin-Steel <input checked="" type="checkbox"/> Nickel Silver				
	MS548-10F	EMI/RFI Frame	54.8	40.8	11
	MS548-10C	EMI/RFI Cover	55.6	41.6	4
	2-Piece Shield	Seamless Protective Cage	Tin-Steel		
	Optional Configurations: <input checked="" type="checkbox"/> 2-Piece <input checked="" type="checkbox"/> 1-Piece <input checked="" type="checkbox"/> Hermetic <input checked="" type="checkbox"/> Perforated <input checked="" type="checkbox"/> Tin-Steel <input checked="" type="checkbox"/> Nickel Silver				
	MS570-10F	EMI/RFI Frame	57	31	6
	MS570-10C	EMI/RFI Cover	57.6	31.6	3.5
	2-Piece Shield	Seamless Protective Cage	Tin-Steel		
	Optional Configurations: <input checked="" type="checkbox"/> 2-Piece <input checked="" type="checkbox"/> 1-Piece <input checked="" type="checkbox"/> Hermetic <input type="checkbox"/> Perforated <input checked="" type="checkbox"/> Tin-Steel <input checked="" type="checkbox"/> Nickel Silver				
	MS585-10F	EMI/RFI Frame	58.5	49.7	4.7
	MS585-10C	EMI/RFI Cover	59.1	50.3	3
	2-Piece Shield	Seamless Protective Cage	Tin-Steel		
	Optional Configurations: <input checked="" type="checkbox"/> 2-Piece <input checked="" type="checkbox"/> 1-Piece <input checked="" type="checkbox"/> Hermetic <input type="checkbox"/> Perforated <input checked="" type="checkbox"/> Tin-Steel <input checked="" type="checkbox"/> Nickel Silver				



MS Set PN.	MS Item PN.	Description	Ext. Dimensions (mm)		
			L	W	H
	MS593-10F	EMI/RFI Frame	59.3	20.6	2.8
	MS593-10C	EMI/RFI Cover	59.9	21.2	2.5
	2-Piece Shield	Seamless Protective Cage	Tin-Steel		
	Optional Configurations:				
	<input checked="" type="checkbox"/> 2-Piece <input checked="" type="checkbox"/> 1-Piece	<input checked="" type="checkbox"/> Hermetic <input type="checkbox"/> Perforated	<input checked="" type="checkbox"/> Tin-Steel <input checked="" type="checkbox"/> Nickel Silver		
	MS593-20F	EMI/RFI Frame	59.3	20.6	5.7
	MS593-20C	EMI/RFI Cover	59.9	21.2	3
	2-Piece Shield	Seamless Protective Cage	Tin-Steel		
	Optional Configurations:				
	<input checked="" type="checkbox"/> 2-Piece <input checked="" type="checkbox"/> 1-Piece	<input checked="" type="checkbox"/> Hermetic <input type="checkbox"/> Perforated	<input checked="" type="checkbox"/> Tin-Steel <input checked="" type="checkbox"/> Nickel Silver		
	MS595-10F	EMI/RFI Frame	59.5	50.4	3.2
	MS595-10C	EMI/RFI Cover	60.1	51	2.5
	2-Piece Shield	Seamless Protective Cage	Tin-Steel		
	Optional Configurations:				
	<input checked="" type="checkbox"/> 2-Piece <input checked="" type="checkbox"/> 1-Piece	<input checked="" type="checkbox"/> Hermetic <input type="checkbox"/> Perforated	<input checked="" type="checkbox"/> Tin-Steel <input checked="" type="checkbox"/> Nickel Silver		
	MS631-10F	EMI/RFI Frame	63.1	35.5	2.8
	MS631-10C	EMI/RFI Cover	63.5	35.9	2.5
	2-Piece Shield	Seamless Protective Cage	Tin-Steel		
	Optional Configurations:				
	<input checked="" type="checkbox"/> 2-Piece <input checked="" type="checkbox"/> 1-Piece	<input checked="" type="checkbox"/> Hermetic <input type="checkbox"/> Perforated	<input checked="" type="checkbox"/> Tin-Steel <input checked="" type="checkbox"/> Nickel Silver		
	MS638-10F	EMI/RFI Frame	63.8	36.3	11
	MS638-10C	EMI/RFI Cover	64.4	36.9	4
	2-Piece Shield	Seamless Protective Cage	Tin-Steel		
	Optional Configurations:				
	<input checked="" type="checkbox"/> 2-Piece <input checked="" type="checkbox"/> 1-Piece	<input checked="" type="checkbox"/> Hermetic <input type="checkbox"/> Perforated	<input checked="" type="checkbox"/> Tin-Steel <input checked="" type="checkbox"/> Nickel Silver		

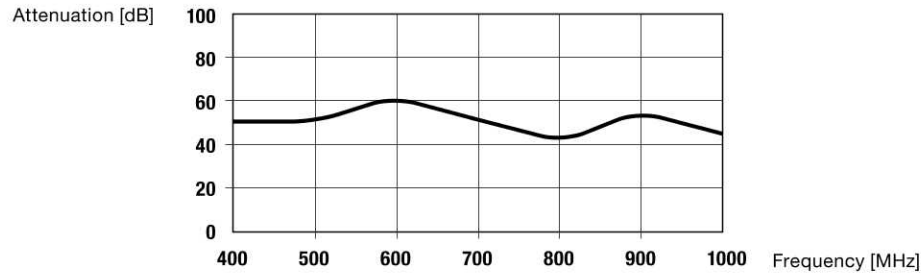
MS Set PN.	MS Item PN.	Description	Ext. Dimensions (mm)		
			L	W	H
	MS737-10F	EMI/RFI Frame	73.7	28.1	2.9
	MS737-10C	EMI/RFI Cover	74.3	28.7	3
	2-Piece Shield	Seamless Protective Cage	Tin-Steel		
	Optional Configurations:				
	<input checked="" type="checkbox"/> 2-Piece <input checked="" type="checkbox"/> 1-Piece	<input checked="" type="checkbox"/> Hermetic <input type="checkbox"/> Perforated	<input checked="" type="checkbox"/> Tin-Steel <input checked="" type="checkbox"/> Nickel Silver		
	MS-ENG-KIT21	Engineering Kit	---	---	---
	---	---	---	---	---
	2-Piece Shield	Seamless Protective Cage	Tin-Steel		
	Optional Configurations:				
	<input checked="" type="checkbox"/> 2-Piece <input type="checkbox"/> 1-Piece	<input checked="" type="checkbox"/> Hermetic <input type="checkbox"/> Perforated	<input checked="" type="checkbox"/> Tin-Steel <input type="checkbox"/> Nickel Silver		

**+101 Sizes and counting..**

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## Typical PCB Shielding Effectiveness



[Typical performance of 51.1mm x 38.4mm EMI/RFI shield as reference]

## Tinplate Steel Stock Storage & Handling

**Materials Specification:** Cold Reduced Electrolytic Tinplate Steel

**Tinplate Standard:** TS275E8.4/8.4 EN 10202:2001

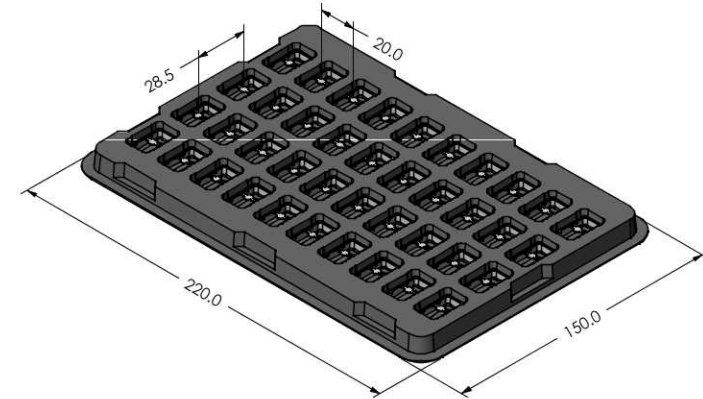
The materials used to fabricate these shields are based on mild steel with less than 0.12% Carbon and no more than 1% alloying elements and naturally occurring impurities. Major shielding elements are thus ferrous and tin. The thin resultant layer of tin enables shields to be easily soldered to PC boards as well as to resist corrosion during the assembly process. Tin plate shields offer the most cost effective shielding protection provided the following care is taken during storage and handling:

1. Do not pass these components through a salt bath test, they are not designed for such severe treatment. Alternate materials (albeit more expensive) are available.
2. Frames should be left in the package trays until assembly to preserve shield planarity.
3. Store in a cool dry place and avoid water or other liquids from coming into contact with shields.
4. Mild scratching and scuffs are natural for processed shields from pre-plated material. Protective films can be ordered especially for unblemished finish of covers.
5. Extremely thin film of oil may cover some shields. This does affect soldering and need not be removed.

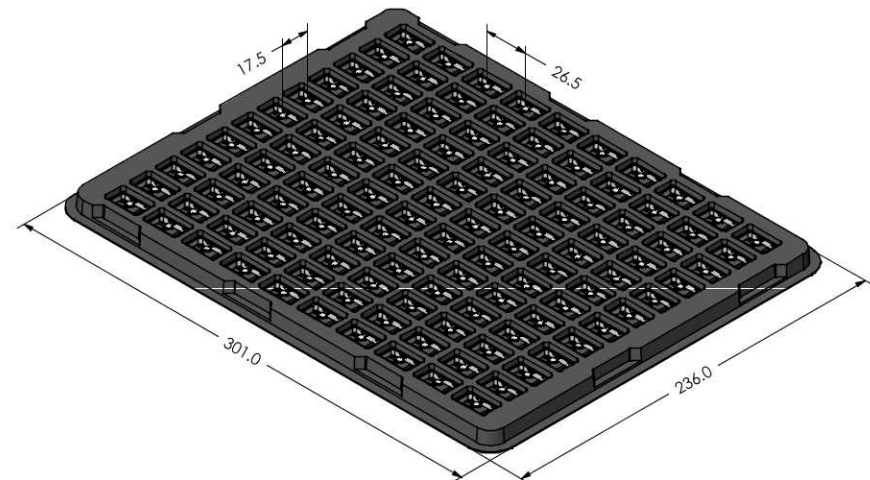
Tinplate shields constitute over 85% of the materials used in the Masach production program and have been proven effective in their respective applications.

## Masach™ Regular SMD Packing Trays

MS210-10 / Small Packing Tray / SMD



MS210-10 / Large Packing Tray / SMD



## Worldwide Activity



### Global Recognition



We continue to develop innovative products utilizing new manufacturing techniques, serving our ever-growing network of worldwide distributors and customers.

### ISO 9001:2015 Quality Assurance



We provide our customers with highest quality products and timely delivery, managed by a state of the art ERP system in accordance with ISO 9001:2015 quality standards.

## Green Policy



### RoHS & Reach Compatible



We use only fabricated materials that are RoHS and Reach compatible, with standards continually updated. COC of base material used is available upon request.

### Scrap and Discarded Material

All material scrap resultant from the fabrication process is gathered and stored in separate bins for subsequent recycling. We pride ourselves in achieving 100% recycling of all metallic waste. Plastic sheet scrap resultant from the vacuum form process is 100% recycled via the raw material provider. We encourage our customers to return the vacuum form package trays and packing cartons for future recycling.

### Environment

Our modern fabrication plant and facilities are surrounded by trees, shrubs and flower beds. Water condensed from the plant's air conditioners serve to water our gardens, requiring no additional irrigation.



Set PN.	External (mm)		
	L ▼	W	H

Set PN.	External (mm)		
	L ▼	W	H

Set PN.	External (mm)		
	L ▼	W	H

MS087-10	8.7	6.3	3
MS093-10	9.3	9.3	5
MS102-10	10.2	6	3
MS108-10	10.8	7.4	2
MS110-10	11	11	2.8
MS110-20	11	11	6
MS128-10	12.8	12.3	7.5
MS130-10	13	13	5
MS135-20	13.5	13.5	5.1
MS148-10	14.8	8.9	2
MS156-10	15.6	10.6	3
MS168-10	16.8	13.5	5
MS183-10	18.3	10.5	3
MS190-10	19	13.9	2
MS191-10	19.1	18.2	5
MS193-10	19.3	10.5	3
MS193-20	19.3	18.3	3.5
MS206-10	20.6	17.8	3
MS209-10	20.9	15.3	1.65
MS209-20	20.9	15.3	2
MS210-10	21	12	5
MS213-10	21.3	19.9	2.9
MS220-10	22	19.3	3.3
MS220-20	22	17.7	3
MS220-30	22	11.3	2.8
MS220-40	22	11.3	7
MS223-10	22.3	17.3	5
MS226-10	22.6	17.1	2
MS230-10	23	11.7	5
MS233-10	23.3	17.5	5
MS233-20	23.3	14.5	3
MS250-10	25	21	4
MS256-10	25.6	15.5	2.3
MS257-10	25.7	25.7	6.5

MS259-10	25.9	25.9	3
MS260-10	26	23	7.8
MS263-10	26.3	16.8	4.5
MS263-20	26.3	19.8	8.1
MS268-10	26.8	15.6	2.5
MS268-20	26.8	15.6	4
MS270-10	27	20	6
MS288-10	28.8	19.4	5
MS290-10	29	26	3
MS293-10	29.3	25.3	6.4
MS293-20	29.3	16.3	9.7
MS300-10	30	24.4	3.5
MS302-10	30.2	18.9	3
MS308-10	30.8	17.8	4.4
MS310-10	31	17.1	3
MS312-10	31.2	30	5
MS320-10	32	11.3	2
MS321-10	32.1	16.6	2.5
MS323-10	32.3	23.8	3.7
MS323-20	32.3	23.8	4.7
MS323-30	32.3	23.8	9
MS329-10	32.9	20.7	2.5
MS333-10	33.3	13.3	4.4
MS338-10	33.8	30.3	3.3
MS345-10	34.5	23.3	3.5
MS345-20	34.5	21.5	3.2
MS353-10	35.3	20	6.4
MS353-20	35.3	22.3	6.4
MS355-10	35.5	19	5.5
MS366-10	36.6	34.1	3.3
MS375-10	37.5	29.3	6.5
MS378-10	37.8	21.6	3
MS378-20	37.8	15.1	3.7
MS382-10	38.2	33.3	5

MS384-10	38.4	37.6	11
MS400-10	40	18.3	4
MS402-10	40.2	34.6	5.3
MS405-10	40.5	18.9	2.8
MS409-10	40.9	21.5	2.5
MS410-10	41	26.4	3.7
MS412-10	41.2	13.6	5.1
MS415-10	41.5	16.8	6.8
MS415-20	41.5	26.5	9.5
MS423-10	42.3	15.3	4.4
MS434-10	43.4	28.4	3.3
MS448-10	44.8	18.2	3
MS448-20	44.8	18.2	5.7
MS453-10	45.3	16.2	6
MS466-10	46.6	17.3	5
MS473-10	47.3	23.3	5.3
MS477-10	47.7	18.2	4
MS483-10	48.3	44.3	4.4
MS511-10	51.1	25.7	6.5
MS511-20	51.1	38.4	6.5
MS513-10	51.3	26.5	9.5
MS544-10	54.4	23.9	7.5
MS544-20	54.4	23.9	13.5
MS520-10	52	26.7	6
MS548-10	54.8	40.8	11
MS570-10	57	31	6
MS585-10	58.5	49.7	4.7
MS593-10	59.3	20.6	2.8
MS593-20	59.3	20.6	5.7
MS595-10	59.5	50.4	3.2
MS631-10	63.1	35.5	2.8
MS638-10	63.8	36.3	11
MS737-10	73.7	28.1	2.9

## Pick-out your next EMI/RFI Shield >>

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