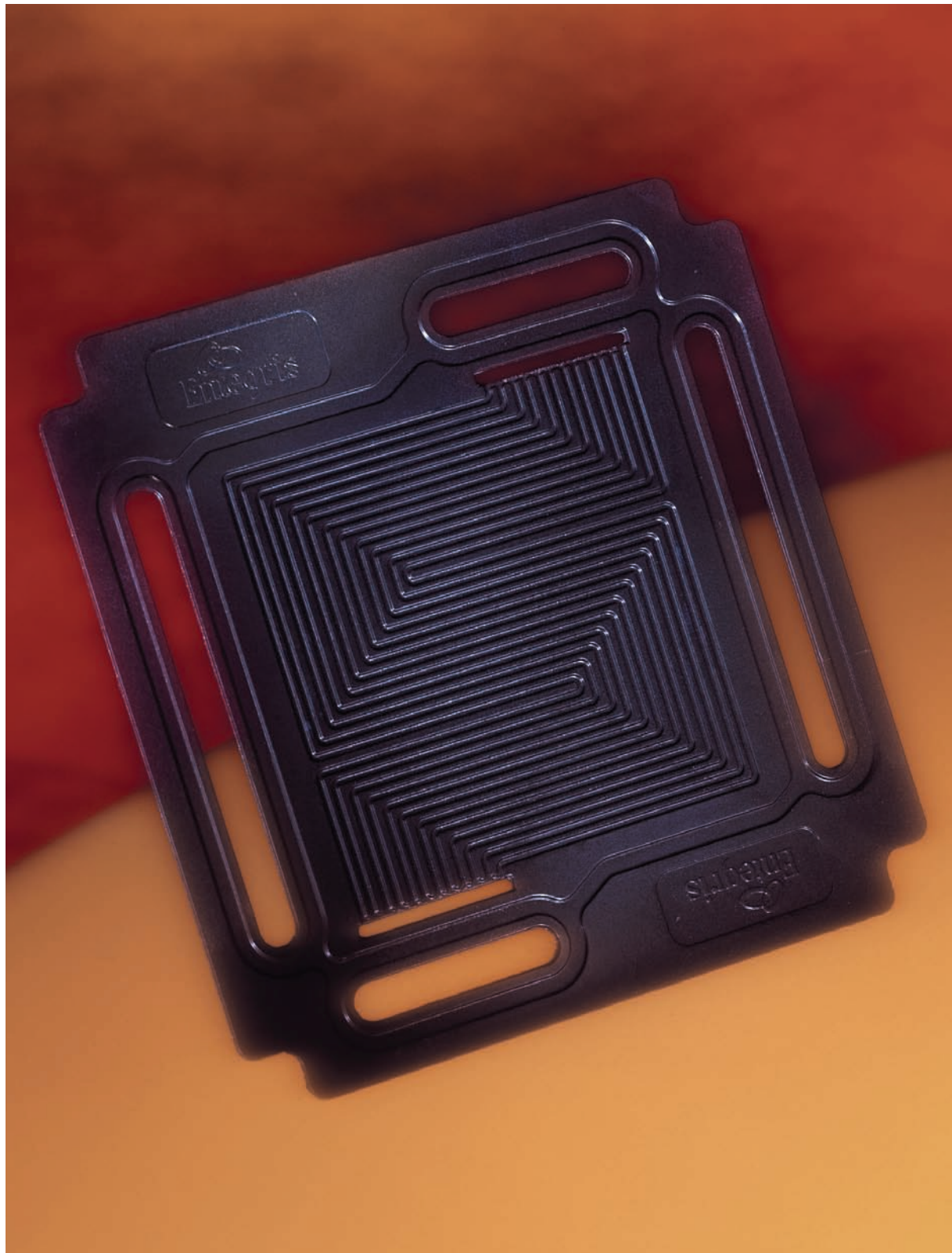




CELL STACK PLATES

Customized to increase overall fuel cell system efficiency while reducing system costs and weight, and maximizing productivity



from concept to commercializationSM

Maximize Productivity

Since 1966, Entegris has assured materials integrity management by designing quality products, systems and related services. Entegris' core competencies in polymer material science, product design and manufacturing enable our Fuel Cells Group to provide the industry's most advanced product and services to fuel cell developers.

Entegris applies its materials expertise to provide cell stack plates and balance of plant components that increase the overall efficiency of fuel cell systems. We offer solutions designed to reduce system costs and weight, enhance manufacturing predictability and maximize productivity – from concept to commercialization.SM



Entegris supports every product – from concept through development to commercialization – with technical expertise unmatched in the industry.

Customized Cell Stack Plates

Entegris' Composite Plate Manufacturing Center is dedicated to manufacturing bipolar, monopolar, insulator and end plates for all of your portable, stationary and transportation fuel cell stack needs. The plates are compression molded from a highly conductive carbon composite. For other special requirements, contact Entegris Fuel Cells with your requirements. Use of sophisticated equipment and resin inspection techniques detects contaminants before molding begins, optimizing fuel cell performance.

Minimize Contamination, Increase Efficiency

Companies can rely on Entegris to maintain the integrity of their valuable critical material inventories such as hydrogen, methanol, air and water as they react to produce more efficient, environmentally friendly power. Use of on-site Materials Test and Technology Characterization laboratories enables us to minimize contamination and fully characterize cell stack plates – increasing fuel cell efficiency.

Ordering Information

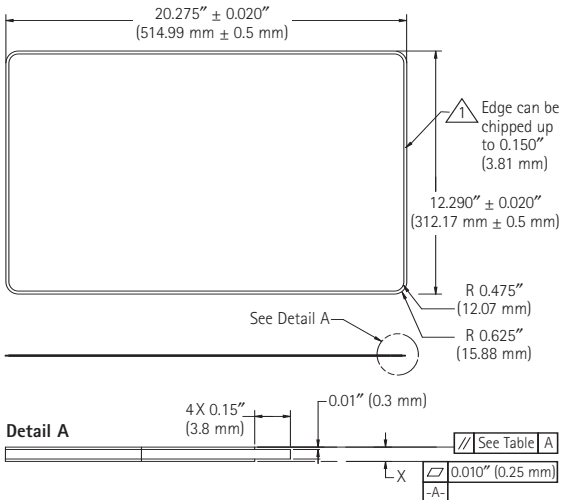
Bipolar Plate Blanks

Entegris' bipolar plates are compression molded from a highly conductive carbon composite. Each is 508 mm × 305 mm (20" × 12") in size with conductivity of 50 S/cm and can be provided from stock or customized to your specifications. Standard stocked plates are listed below.



Entegris compression molds highly conductive carbon composite blank bipolar plates.

DIMENSIONAL INFORMATION



Dimensional information is in the "as-molded" condition. Further manufacturing steps may be taken to modify plate dimensions. Contact the factory with your requirements.

ORDERING INFORMATION

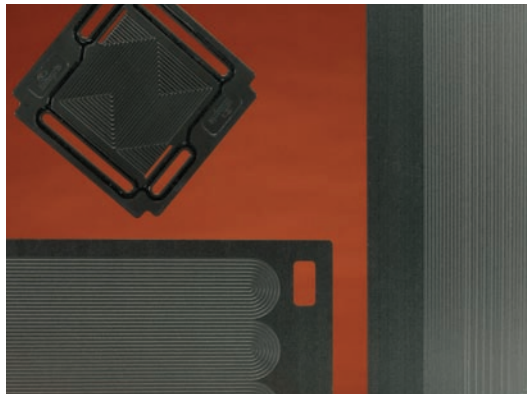
Part Number	Thickness (X)	Parallelism (//)
FCBLK-508305-00001	0.095" (2.41 mm)	0.002" (0.05 mm)
FCBLK-508305-00002	0.270" (6.86 mm)	0.004" (0.10 mm)
FCBLK-508305-00003	0.250" (6.35 mm)	0.004" (0.10 mm)
FCBLK-508305-00004	0.140" (3.55 mm)	0.002" (0.05 mm)

Custom Machined and Molded Plates

We work with customers to establish material, product design, tooling and manufacturing methods that best suit your needs while minimizing costs and optimizing product performance.

We can manufacture plates from custom materials and machine or mold flow fields to your specifications. Specifications to consider include:

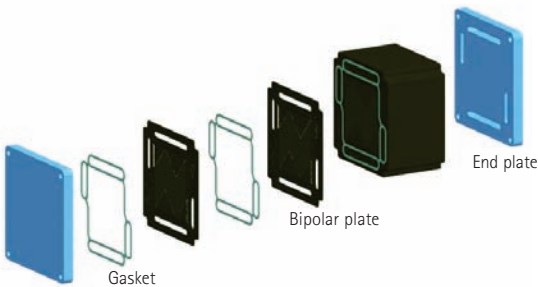
- Length × width × thickness
- Flow fields
- Custom drawings
- Gasket/sealing requirements



Using industry-leading molding and machining techniques, Entegris customizes cell stack plate flow fields to your specifications.

Cell Stack Subassembly and Sealing Systems

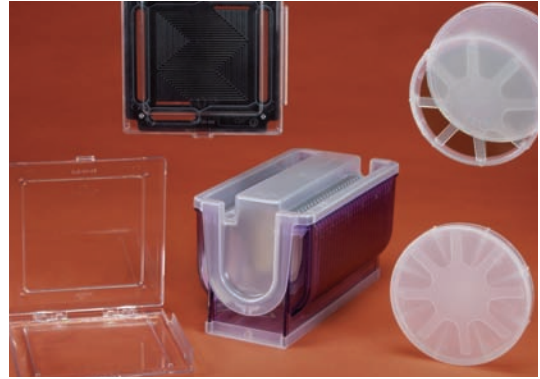
Entegris is applying years of experience in sealing technology and contamination control to fuel cell stack assembly. We have the ability to create subassemblies by putting MEAs together with Entegris bipolar plates. And, outsourcing your stack subassembly to Entegris will ensure a leak- and contamination-free cell stack at a lower cost.



Entegris' assembly results in reliable, leak-free, permanent plate assembly.

Packaging and Shipping Products

Entegris has 38 years of experience in packaging critical materials and shipping them safely around the globe. With this experience we are already protecting and transporting critical membrane electrode assemblies (MEA), gas diffusion layers (GDL) and sensitive experimental materials for commercial companies and fuel cell research.



Entegris products reliably protect and transport valuable critical materials.

ORDERING INFORMATION

Part Number	Description	Size	Material
B7950-0100	Mask package for bipolar plates	160 mm × 157 mm × 20 mm (6.3" × 6.2" × 0.8")	Natural polycarbonate
H22-50-0615	Shipping tray for sensitive PEM and SOFC cell stack components	125 mm diameter	Natural polypropylene
H22-501-0615	Cover		Natural polypropylene
H22-502-0615	Spring		Natural polypropylene
H22-40-0615	Shipping tray for sensitive PEM and SOFC cell stack components	100 mm diameter	Natural polypropylene
H22-401-0615	Cover		Natural polypropylene
H22-402-0615	Spring		Natural polypropylene
H22-402-0815	Spring		Low-density polypropylene
H22-40A2-0615	Spring, low force		Natural polypropylene
F1095-00135*	Shipper with cover for critical SOFC ceramic disks	95 mm diameter, 1.27 mm slot thickness	Natural polycarbonate, cassette Low chloride polypropylene, cover

* Entegris can customize shippers to meet your slot thickness and disk diameter (60 mm–132 mm) requirements.

For More Information

To learn more about our cell stack plates or how Entegris can help your fuel cell development *from concept to commercialization*,SM contact Entegris Fuel Cells at 952-556-4048. To review Entegris' complete offering for the Fuel Cell industry, visit Entegris' Web site at www.entegrisfuelcells.com.

Terms and Conditions of Sale

All purchases are subject to Entegris' "Terms and Conditions of Sale."

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The materials integrity management company

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