

Substrate and Small Package Handling

Ideal for bare die, chip scale, wafer scale, and other device package handling



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Overview

As the computer industry has grown and component miniaturization has become commonplace in all industries, Entegris has developed a robust and versatile tray product offering with a catalog of over 16,000 existing designs. We can design from scratch and ship custom trays, meeting the stringent micro-electronic and other industries' quality requirements, in as little as two weeks. Our trays are used in many industries to safeguard, automate, store, and ship a wide variety of products.

Use of our custom packaging trays extends beyond the semiconductor industry. They can be used anywhere managing an inventory of small items is required such as medical parts, gems, springs, screws, watch parts, and much more. The device trays are designed and manufactured to interface with manual or automated tool handling, and provide reliable operation and superior device protection while minimizing shipping and storage costs.



Fast, reliable solutions are just a click away at Entegris' website, [www.entegris.com/Bare Die CSP Trays](http://www.entegris.com/Bare-Die-CSP-Trays). Using our [Tray Wizard](#), select and order anytime of the day or night from our comprehensive offering of low-cost packaging systems that protect and transport a wide variety of devices. It's never been easier — or faster.

And, if you need a custom bare die tray quickly, [i-Tray™ Designer](#) allows you to design a tray to your exact requirements, create a drawing, and order at the click of a button.

When you need the right product, right now, visit Entegris' website at [www.entegris.com/Bare Die/ CSP Trays](http://www.entegris.com/Bare-Die-CSP-Trays).

TRAY WIZARD QUICK GUIDE

Our [Tray Wizard](#) is an easy and convenient online tool for quickly searching our library of over 16,000 existing trays.

Simply follow the form, selecting attributes as you go.

1. Decide if you want to search by the Maximum Component Size, or your desired Nominal Pocket Size.

NOTE: Searching by the MAXIMUM component size is recommended because results may come back with pockets that have a minimum that is less than your component's maximum size.

2. Enter those numbers into the fields.

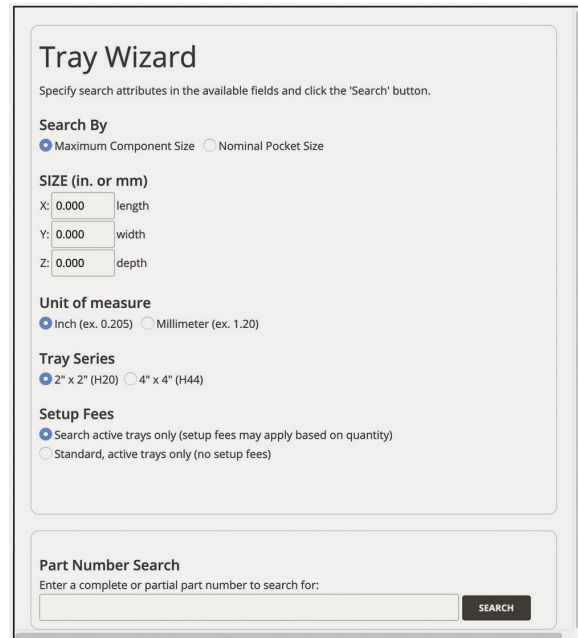
NOTE: The tool has the ability to switch the X and Y sizes when searching to give you the closest match.

3. Select Inch (English) or Millimeter (metric) units of measure.
4. Select if you want an H20 series 2" x 2" tray or an H44 series 4" x 4" tray.

5. Select your setup charges preference*.

NOTE: If searching by Standard, active trays only, the results are greatly reduced and you may miss out on thousands of solutions!

6. Select Search to get the list of parts that most closely match your requirements.



Part Number	Material	Color	X (Length)	Y (Width)	Z (Depth)	Array Capacity	Standard?
H20-N023027-66C02	ChipSentry®	Black Conductive Polycarbonate	0.037"	0.084"	0.027"	26x15 (390)	No
H20-N023091-66C02	ChipSentry®	Black Conductive Polycarbonate	0.042"	0.094"	0.022"	15x10 (150)	No
H20-N812610-66C02	ChipSentry®	Black Conductive Polycarbonate	0.090"	0.044"	0.031"	14x23 (322)	No
H20-048084-66C02	ChipSentry®	Black Conductive Polycarbonate	0.084"	0.048"	0.020"	11x15 (165)	No
H20-045091-66C02	ChipSentry®	Black Conductive Polycarbonate	0.045"	0.091"	0.053"	22x14 (308)	No
H20-048088-62C02	STAT-PRO® 150	Black Conductive Polypropylene	0.048"	0.088"	0.050"	17x12 (204)	No
H20-048088-66C02	ChipSentry®	Black Conductive Polycarbonate	0.048"	0.088"	0.050"	17x12 (204)	No
H20-043103-62C02	STAT-PRO® 150	Black Conductive Polypropylene	0.042"	0.102"	0.017"	24x13 (312)	No
H20-040110-66C02	ChipSentry®	Black Conductive Polycarbonate	0.040"	0.110"	0.018"	20x10 (200)	No
H20-N124406-66C02	ChipSentry®	Black Conductive Polycarbonate	0.085"	0.052"	0.035"	15x21 (315)	No

H20 (2") and H44 (4") Series Products

Entegris offers a wide selection of 2" and 4" square trays, covers, and accessories to meet your changing needs. H20 and H44 series trays are available in various pocket sizes and depths, with or without wash holes, and corner relief, and/or with or without tweezers slots. A variety of material options are also available to meet your specific application needs.



H20 AND H44 SERIES TRAYS

Entegris' H20 and H44 series products offer proven reliability for handling small components in numerous industries, including:

- Semiconductor
- Medical
- Automotive
- Data Storage
- Optics
- Industrial
- Electronics
- Mechanical
- Gemology

H20 SERIES TRAY SIZES AND TOLERANCES

Tray sizes and tolerances may vary by material.

Material	Description	Code	DIMENSIONS AND TOLERANCES		
			Overall size (sq.)	Overall height	Flatness
ABS	Acrylonitrile Butadiene styrene with a color additive	-14XX	50.8 ±0.102 mm (2.000 ±0.004")	3.96 +0.051 mm -0.076 mm (0.156 +0.002" -0.003")	0.102 mm (0.004")
STAT-PRO® 150	Polypropylene with carbon powder and glass bead	-62C02	50.673 ±0.254 mm (1.995 ±0.010")	3.937 +0.076 mm -0.127 mm (0.155 +0.003" -0.005")	0.305 mm (0.012")
STAT-PRO 400	Alloy of ABS and an intrinsically dissipative polymer	-74DXX	50.8 ±0.102 mm (2.000 ±0.004")	3.96 +0.051 mm -0.076 mm (0.156 +0.002" -0.003")	0.102 mm (0.004")
ChipSentry®	Polycarbonate with carbon powder	-66C02	50.8 ±0.102 mm (2.000 ±0.004")	3.96 +0.051 mm -0.076 mm (0.156 +0.002" -0.003")	0.102 mm (0.004")

H44 SERIES TRAY SIZES AND TOLERANCES

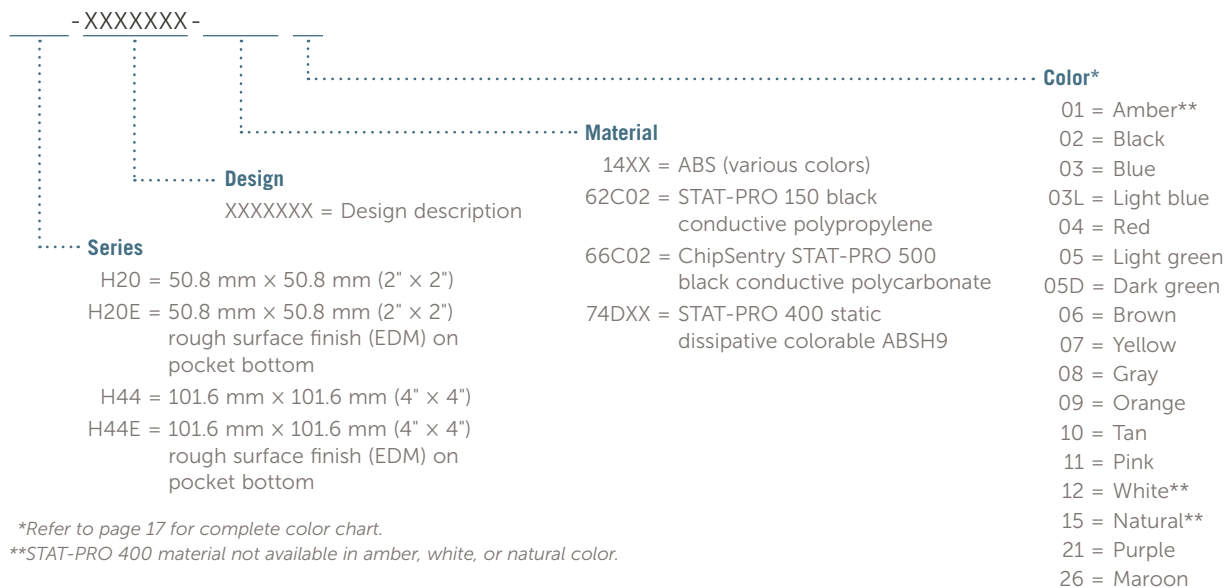
Tray sizes and tolerances may vary by material.

Material	Description	Code	DIMENSIONS AND TOLERANCES		
			Overall size (sq.)	Overall height	Flatness
ABS	Acrylonitrile Butadiene styrene with a color additive	-14XX	101.6 ±0.127 mm (4.000 ±0.005")	8.001 ±0.127 mm (0.315 ±0.005")	0.254 mm (0.010")
STAT-PRO 150	Polypropylene with carbon powder and glass bead	-62C02	101.35 ±0.254 mm (3.990 ±0.010")	8.001 ±0.127 mm (0.315 ±0.005")	0.508 mm (0.020")
STAT-PRO 400	Alloy of ABS and an intrinsically dissipative polymer	-74DXX	101.6 ±0.127 mm (4.000 ±0.005")	8.001 ±0.127 mm (0.315 ±0.005")	0.254 mm (0.010")
ChipSentry	Polycarbonate with carbon powder	-66C02	101.6 ±0.127 mm (4.000 ±0.005")	8.001 ±0.127 mm (0.315 ±0.005")	0.254 mm (0.010")

Part number system

Visit our online [Tray Wizard](#) for existing design options. For new, custom designs visit our online [i-Tray Designer](#).

Device Tray: part number



*Refer to page 17 for complete color chart.

**STAT-PRO 400 material not available in amber, white, or natural color.

Accessories

TRAY COVERS

Popular H20 series and H44 series tray covers in various standard materials are shown here. The following ordering policies apply:

- Minimum order quantity is 400 pieces for H20 series; additional quantities in increments of 100 pieces.
- Minimum order quantity is 200 pieces for H44 series; additional quantities in increments of 50 pieces.
- Contact Entegris customer service for current lead times, +1 800 394 4083.
- Numerous material options are available. Contact Entegris for details.



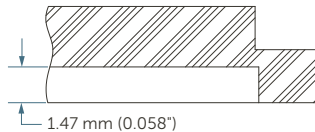
NOTES: STAT-PRO 150 material covers are recommended for use only with STAT-PRO 150 material trays.

STAT-PRO 150 material is not recommended for use with devices less than 0.012" (0.30 mm) thick.

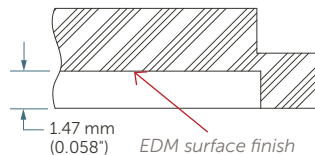
H20 SERIES TRAY COVERS

Standard Covers

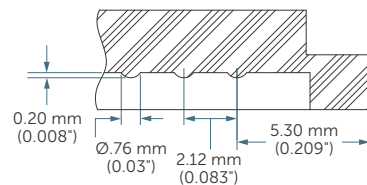
H20-02 and H20-02-ESD
(with "ESD sensitive" symbol)



H20-02-EDM



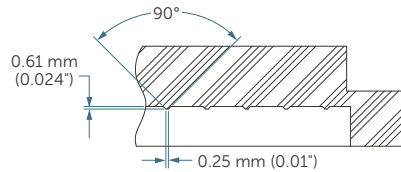
H20-02A
(with bumps on the bottom surface)



- For use with 400 capacity trays that have a pitch of 0.083" (2.12 mm) and an edge-to-pocket center of 0.209" (5.30 mm)

Rib Matrix Cover

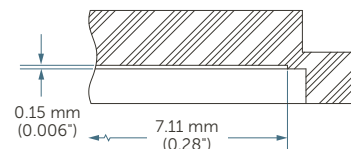
H20-02RM



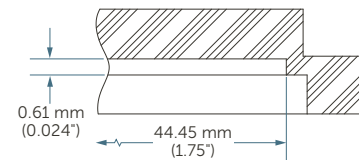
- Has rib matrix on tray bottom to reduce surface tension

High Clearance Covers

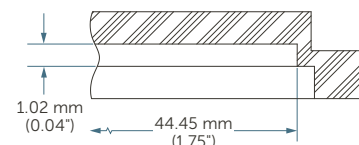
H20-02E



H20-02-24

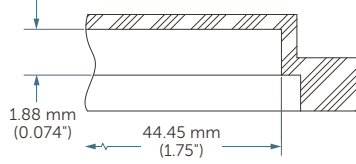


H20-02-40

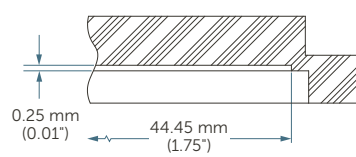


High Clearance Covers (continued)

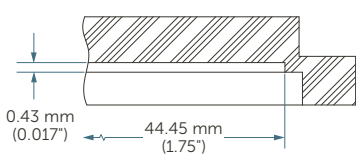
H20-02B



H20-02D



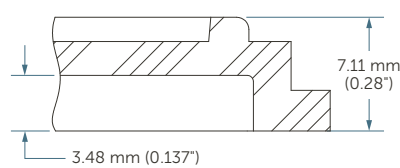
H20-02J



H44 SERIES TRAY COVERS

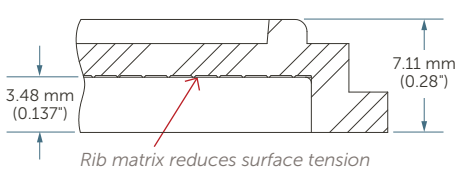
Standard Cover

H44-02



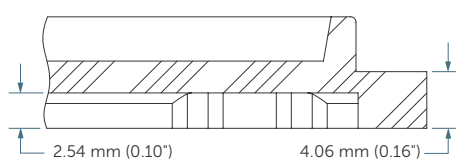
Rib Matrix Cover

H44-02-RM



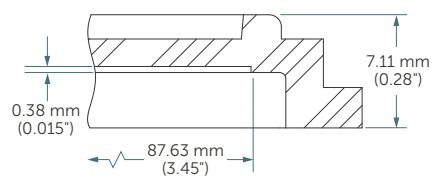
Tray Outline Cover

H44-02LR

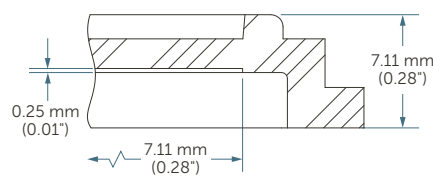


High Clearance Covers

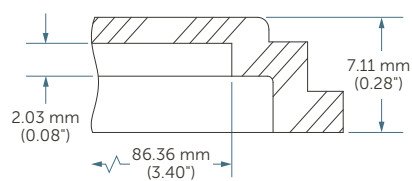
H44-02-15



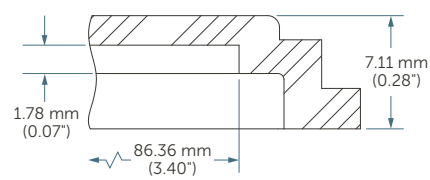
H44-02A



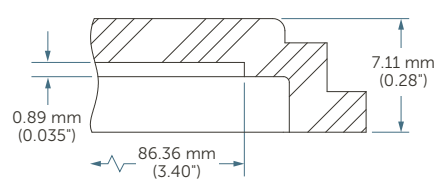
H44-02B



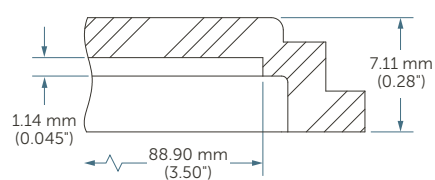
H44-02C



H44-02E



H44-02G



TRAY INSERTS

- Provides a softer surface that protects sensitive components during shipment
- Nest between H20 or H44 trays and/or covers, respectively
- Precut to tray size
- Minimum order quantity: 1 package

**H20 Series**

Sold in packages of 1,000 pieces.

Part number	Material	Static decay time	Surface resistivity	Color	Thickness
H20-001B	Non-antistatic rice paper	NA	NA	White	0.05 – 0.10 mm (0.002 – 0.004")
H20-001D	Tyvek	1.5 – 2.0 sec	$10^{11} - 10^{12}$	White	0.05 – 0.26 mm (0.002 – 0.010")
H20-001-0715	IDPE (inherently dissipative polyethylene)	1.5 – 2.0 sec	$10^6 - 10^{10}$	Translucent	0.20 ± 0.03 mm (0.008 ± 0.001 ")

H44 Series

Sold in packages of 500 pieces.

H44-001B	Non-antistatic rice paper	NA	NA	White	0.05 – 0.10 mm (0.002 – 0.004")
H44-001D	Tyvek	1.5 – 2.0 sec	$10^{11} - 10^{12}$	White	0.05 – 0.26 mm (0.002 – 0.010")
H44-001-0715	IDPE (inherently dissipative polyethylene)	1.5 – 2.0 sec	$10^6 - 10^{10}$	Translucent	0.20 ± 0.03 mm (0.008 ± 0.001 ")

The information on physical properties included in the table above is based on our experience to date, and we believe it to be reliable. Data is obtained from specimens measured under controlled conditions from representative samples of the material described. We cannot guarantee favorable results and no assurances can be implied that all articles have the same properties as listed.

CLIPS

H20 Series

ONE-PIECE CLIP

- For tray on tray, or cover on tray
- Overall size: 55 mm x 50 mm x 11 mm (2.2" x 2.0" x 0.4")
- Minimum order quantity: 50



Part number	Material
H20-04B-0615	Natural polypropylene
H20-04B-61C02	STAT-PRO 100 (polypropylene with carbon powder)
H20-04B-67C02	STAT-PRO 125 (polypropylene with carbon powder)

PAIR OF CLIPS

- Interlocking tabs press on the center of the tray for secure contact between the tray and cover
- Sold in pairs
- Capacity: H20-04: one tray and one cover
H20-041: five trays and one cover
H20-043: 10 trays and one cover
- Minimum order quantity: 50



Part number	Material
H20-04-0615	Natural polypropylene
H20-04-61C02	STAT-PRO 100 (polypropylene with carbon powder)
H20-041-0615	Natural polypropylene
H20-041-61C02	STAT-PRO 100 (polypropylene with carbon powder)
H20-043-0615	Natural polypropylene
H20-043-61C02	STAT-PRO 100 (polypropylene with carbon powder)

CLIPS (CONTINUED)

CLEANING CLIP

- For H2O chip trays in wash applications
- Clip holds two H2O trays
- Compatible PFA handle: A027-0215
- Minimum order quantity: 50



Part number	Material
H20-042-0603	Blue polypropylene

H44 Series

PAIR OF CLIPS

- For tray on tray, or tray on cover (H44-04)
- For two trays (H44-041)
- For six trays, one cover (H44-04B)
- Interlocking tabs press on the center of the tray for secure contact between the tray and cover
- Sold in pairs
- Minimum order quantity: 50



H44-04 and H44-041

Capacity: one tray, one cover

Part number	Material
H44-04-0615	Natural polypropylene
H44-04-61C02	STAT-PRO 100 (polypropylene with carbon powder)

Capacity: two trays

H44-041-0615	Natural polypropylene
H44-041-61C02	STAT-PRO 100 (polypropylene with carbon powder)

Capacity: six trays, one cover

H44-04B-0615	Natural polypropylene
H44-04B-61C02	STAT-PRO 125 (polypropylene with carbon powder)

CLIPS (CONTINUED)**WASH TRAY CLIPS**

- Holds two trays
- A189-50-18 carrier holds five H44-042 clips
- Minimum order quantity: 50



Part number	Material
H44-042-0603	Blue polypropylene

STORAGE/TRANSPORT CLIPS

- Holds two trays or H44-02LR cover and one tray
- Clip is not recommended for use with trays made of STAT-PRO 150 material
- Minimum order quantity: 50



Part number	Material
H44-041LR-61C02	STAT-PRO 100 (polypropylene with carbon powder)

BOXES

H20 Series

H20-SB06 SPRING BOX

- Holds five trays and one cover, or six trays
- Overall size: 56 mm x 53 mm x 20 mm (2.2" x 2.1" x 0.8")
- Minimum order quantity: 50



Part number	Material
H20-SB06-0615	Natural polypropylene
H20-SB06-67C02	STAT-PRO 125 (polypropylene with carbon powder)

H20-SB11 SPRING BOX

- Holds 10 trays and one cover, or 11 trays
- Overall size: 56 mm x 53 mm x 36 mm (2.2" x 2.1" x 1.4")
- Minimum order quantity: 50

Part number	Material
H20-SB11-0615	Natural polypropylene
H20-SB11-67C02	STAT-PRO 125 (polypropylene with carbon powder)

H20-SB13 SPRING BOX

- Holds 12 trays and one cover, or 13 trays
- Overall size: 56 mm x 53 mm x 41 mm (2.2" x 2.1" x 1.6")
- Minimum order quantity: 50

Part number	Material
H20-SB13-0615	Natural polypropylene
H20-SB13-67C02	STAT-PRO 125 (polypropylene with carbon powder)

BOXES (CONTINUED)**H20 SERIES STORAGE BOX**

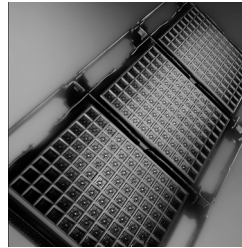
- Holds 12 trays and one cover, or 13 trays
- Overall size: 56 mm x 38 mm x 53 mm (2.2" x 1.5" x 2.1")
- Minimum order quantity: 50



Part number	Material
E28-1216	Clear styrene

JIG TRAYS**4" jig tray**

- Patented JEDEC thick profile jig tray
- Holds three H44 or P44 trays
- Maximum temperature: 180°C
- Order in multiples of five trays

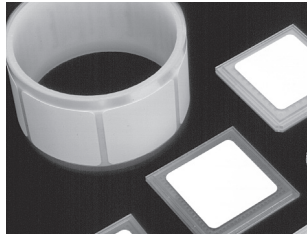


Part number	Material
P44-JIG-101-4	Carbon fiber-filled PES

REMOVABLE LABEL

H20 and H44 Series Tray Covers

- Pressure-sensitive adhesive is both removable and nondepositing (leaving no adhesive residue)
- Adheres well to most plastic surfaces
- Packaged and sold in rolls of 1,000
- For use with all chip tray covers
- Overall size: 38 mm (1.5" sq.)
- Minimum order quantity: 1 roll



Part number	Tray	Material	Description
H20-002LB	H20 series	Polyolefin copolymer	Blank for customized marking
01-016021	H44 series	Polyolefin copolymer	Preprinted information label

CHIP TRAY/DIE TRANSFER FIXTURE

H20 Series

Chip tray with die slides into bottom track of the fixture. Empty tray is placed inverted over full tray. Holding the fixture and trays, turn over, lift off fixture. The original tray with die will be empty and die will now be in new tray.



- Compatible with all H20 chip trays
- Overall size: 56 mm x 10 mm (2.2" sq. x 0.4")
- Minimum order quantity: 50

Part number	Material
H20T-1415	Natural ABS
H20T-66C02	ChipSentry, STAT-PRO 500

Technical Information

ONLINE ASSISTANCE

Visit [www.entebris.com/Bare Die/CSP Trays](http://www.entebris.com/Bare-Die/CSP-Trays) to find our online selection tool and more:

Tray Wizard. Search from our database of over 16,000 different H20 series (2" square) and H44 series (4" square) trays to fit your specific application.

Accessories. Select from a variety of complementary accessory items such as covers, clips, inserts, and storage boxes that make shipping your die easy and convenient.

Tray Material Technical Data. View technical data for materials used in our bare die/CSP trays.

i-Tray Designer. Interactive, online design tool for your more conservative square or rectangular custom tray application. Can be purchased online or e-mailed to your purchasing group for ordering.

If our design rules do not allow you the flexibility you need, or if you have special requirements such as more sophisticated, non square, or rectangular pocket custom tray needs, please [contact Entegris](#) and we will be happy to assist you.

FOR MORE INFORMATION

Please call your Regional Customer Service Center today to learn what Entegris can do for you. Visit entebris.com and select the [Contact Us](#) link to find the customer service center nearest you.

TECHNICAL SERVICE

Entegris offers a complete package of products, services, and support for the test, assembly, and packaging industry. Whether you need assistance in selecting products, require detailed material information, or have application specific questions, you can count on Entegris to be your resource.

Entegris has technical service personnel ready to assist with your questions and concerns about Entegris products and your specific applications. Our Product Technology and Metrology Lab and Material Technology and Metrology Lab, made up of experienced technicians, chemists, and engineers, have the equipment and analytical tools to answer your Entegris product questions. And, our technical service representatives are available to answer any questions you may have regarding our products in your process.

Technical information to answer common questions is provided on the following pages. For assistance with your specific product and applications, contact your Regional Customer Service Center by visiting entebris.com.

MATERIAL INFORMATION










Material	Code	Description	Color	Static protective	Surface resistivity	Static decay time	Dimensional stability	Chemical resistance	Temp. limit	For applications requiring
ABS	-14XX	Acrylonitrile butadiene styrene with a color additive	Various	No	—	—	Good	Poor	70°C	Dimensional stability, not static protection
ChipSentry, STAT-PRO 500	-66C02	Polycarbonate with carbon powder	Black	Yes	$10^3 - 10^6$	<0.01 sec	Excellent	Poor	70°C	Static protection, dimensional stability
STAT-PRO 150	-62C02	Polypropylene with carbon powder and glass bead	Black	Yes	$10^2 - 10^5$	<0.01 sec	Fair	Good	70°C	Static protection, not high dimensional stability
STAT-PRO 400	-74DXX	Alloy of ABS and an intrinsically dissipative polymer	Various	Yes	$10^9 - 10^{11}$	<0.5 sec	Good	Poor	70°C	Static protection, dimensional stability, and a colorable background




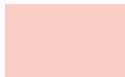

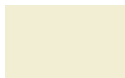


Material for accessory products

Material	Code	Color	Static protective	Surface resistivity	Static decay time	Temperature limit
Antistatic poly(methyl methacrylate) (PMMA)	-5413	Transparent	—	10^{13}	<2	70°C
Natural polypropylene	-0615	Transparent	No	—	—	70°C
Polystyrene	-1216	Clear	No	—	—	70°C
STAT-PRO 100 polypropylene with carbon powder	-61C02	Black	Yes	$10^3 - 10^6$	<0.01	70°C
STAT-PRO 125 polypropylene with carbon powder	-67C02	Black	—	$10^9 - 10^{14}$	<2	70°C

MATERIAL COLOR CHART

COLOR OPTIONS

Color code	Tray color	
01	Amber	
02	Black	
03	Blue	
03L	Light blue	
04	Red	
05	Light green	
05D	Dark green	
06	Brown	
07	Yellow	

Color code	Tray color	
08	Gray	
09	Orange	
10	Tan	
11	Pink	
12	White	
15	Natural	
21	Purple	
26	Maroon	

NOTE: Color options are subject to availability at the time of order inquiry. STAT-PRO 400 material is not available in amber, white, or natural color.

CHEMICAL/MATERIAL REFERENCE CHART*

CHEMICALS	MATERIALS				
	ChipSentry, STAT-PRO 500	Polypropylene, STAT-PRO 125 20°C	STAT-PRO 100, STAT-PRO 150 65°C	ABS, STAT-PRO 400 20°C	Polystyrene 20°C
Acids					
Aqua regia	—	No	No	—	No
Chromic (50%)	No	OK	No	—	No
Fuming nitric	—	No	No	No	—
Glacial acetic	—	OK	No	No	No
Hydrochloric (conc.)	OK	No	No	No	No
Hydrofluoric (40%)	—	OK	No	No	No
Nitric (50%)	No	OK	No	No	—
Phosphoric	OK	OK	OK	No	No
Sulfuric (conc.)	OK	No	No	No	No
Trichloroacetic	—	OK	OK	—	—
Bases					
Ammonium hydroxide	No	OK	OK	OK	No
Hydrogen peroxide	OK	OK	No	OK	No
Potassium hydroxide	No	OK	OK	OK	No
Sodium hydroxide	No	OK	OK	—	OK
Solvents					
Acetone	No	OK	—	No	No
Aniline	No	OK	No	No	No
Benzaldehyde	No	No	No	—	No
Benzyl alcohol	No	OK	OK	No	No
Carbon tetrachloride	No	No	No	No	No

CHEMICAL/MATERIAL REFERENCE CHART* (CONTINUED)

CHEMICALS	MATERIALS				
	ChipSentry, STAT-PRO 500	Polypropylene, STAT-PRO 125 20°C	STAT-PRO 100, STAT-PRO 150 65°C	ABS, STAT-PRO 400 20°C	Polystyrene 20°C
Solvents (continued)					
Cyclohexanone	—	No	No	No	No
Dimethylphthalate	—	—	—	—	No
Ethyl alcohol	No	OK	OK	No	No
Ethylenediamine	—	—	—	—	No
Freon® TE	OK	OK	—	No	—
Freon TF, 113	OK	OK	—	OK	—
Freon TMC	No	OK	—	No	—
Freon TMS	OK	OK	—	No	—
Isooctane	—	No	No	—	OK
Isopropanol	OK	OK	OK	OK	—
Methyl alcohol	No	OK	OK	No	No
Methyl ethyl ketone	No	OK	OK	No	No
Methylene chloride	—	No	No	—	No
NMP	No	OK	—	No	—
Perchloroethylene	—	No	No	No	No
Tetrahydrofuran	—	No	No	—	No
Toluene	No	OK	No	No	No
Trichloroethylene	No	OK	No	No	No

OK: Material and chemical are compatible

No: Chemical has at least some effect on material

—: No data available

*Note: All data is taken from information supplied by material manufacturers. Entegris, Inc. is not responsible for the accuracy of this data and disclaims any obligation or liability in connection with its use in buyer's applications. Contact Entegris if questions concerning applications arise.

Why Entegris?

As mega-trends such as artificial intelligence, smart cars, the Internet of things, and augmented reality evolve to meet the growing needs of speed, scale, and reliability, they put pressure on integrated device (IC) manufacturers to increase processor power efficiency and memory size. As device manufacturers strive to produce higher performing chips with more complexity and component integration at acceptable efficiencies and yields, they face significant challenges in terms of process control and economics.

With our broad portfolio of microcontamination control, advanced materials handling, specialty chemicals, and engineered materials, we are uniquely positioned to help customers face these challenges and meet these new worldwide consumer and business data demands at lower costs. Ongoing investments in technology, robust manufacturing, and supply-chain capabilities make us a proven, trusted partner. Our global infrastructure, technology portfolio, and operational excellence are unmatched by the competition. Investments in newer and purer materials enable us to provide the cleanest and most reliable polymer solutions to protect your overall process quality and efficiency.



Proven Quality and Performance

At Entegris, we have a relentless commitment to operational excellence. Our desire to be a relevant, trusted, technology partner drives us to identify complex problems critical to our customers, quickly develop a working solution, and move from pilot to high volume manufacture (HVM) seamlessly in record time. In our pursuit to be the best performing operational platform in our market, we have aligned our Quality systems to industry requirements and provide capabilities to meet/exceed customer expectations.

Motivated to supply consistent and predictable product performance to customers, reduce quality excursions, and minimize scrap, we have invested in advanced statistical process control (SPC) systems across all our manufacturing sites around the world. Integrated SPC provides immediate recognition of special variation causes enabling faster problem resolution, providing early quality alerts, and allowing easier decision-making to ensure process consistency and minimize product variation.

Customer requirements are demanding so we are always striving for practical, quantifiable, sustainable continuous improvement. By employing lean Six Sigma techniques and tools, we identify and remove the causes of process defects that enable us to improve quality. By minimizing variability in manufacturing and business processes, our DPPM (defective parts per million) performance has also dramatically improved.

Ensuring product performance standards are met, proven techniques such as ISO 9001 certified manufacturing sites, documentation control, and quality testing are utilized. Each manufacturing capability has been developed, tested, and improved to create pure, durable, consistent, and reliable products.

With nearly 2,000 issued U.S. and foreign patents, we have the expertise to develop process knowledge and products that enable innovation and efficiencies. Combining advanced engineering and design expertise with tools such as Finite Element Analysis (FEA), Computational Fluid Dynamics (CFD), and MoldFlow® analysis and modeling enables us to optimize product design and speed technological advancements. In addition to innovative design, we also use R&D and quality lab analysis and testing capabilities to develop dependable solutions.



We are dedicated to developing the purest products that assist in your goal for zero defects, and gain you the greatest operational efficiency.

Sales and Applications Support

Entegris continually invests in expanding analytical and technology center capability globally. Our global direct sales team, sales channel partners, local applications engineers, and world-class customer service give you the support and expertise to solve your most difficult problems. This intimacy allows us to better understand

your needs through direct feedback and roadmap sharing. By aligning our materials science, engineering, and R&D initiatives, we can develop indispensable contamination-control and high-performance solutions to solve your roadmap challenges.

eCommerce

Entegris has deployed an online purchasing and transaction management system that provides full eCommerce capabilities for our customers. For us, eCommerce is more than just a shopping cart, but rather a robust technology platform designed to deepen customer engagement and deliver value at every touchpoint. Driven by our customers' desire for

lower costs, improved accuracy, and overall increased satisfaction, we have implemented state-of-the-art tools and full integration with our back-end systems to allow automated access to information, accelerated and easier transactions, and a convenient means to collaborate and do business.

Logistics Expertise

To support your logistics requirements, we manage the infrastructure and service provider partnerships, offering broad capabilities to ensure your supply chain door to door. Providing import processing, insurance, and transportation, we bring expertise in air, ocean, LTL, intermodal, small package, and hazardous

shipments. You will receive in-house, regional logistic support in the U.S., Germany, Israel, South Korea, Japan, Taiwan, Malaysia, Singapore, and China. And our top-ranked freight partners provide import processing services and transportation to all the remaining locations around the globe.



Our global infrastructure with local R&D, manufacturing, and support focuses on specific customer needs throughout the world.

Corporate Social Responsibility

Entegris has a strong commitment to Corporate Social Responsibility and seeks to create value responsibly. We balance the demands of doing business with the need to protect the environment and its resources and to ensure the health and safety of our employees, customers, and the communities in which we work and live.

We are committed to applying these principles to product stewardship, environmental protection, employee health and safety, and plant security. In addition, we

are committed to aligning our operations with the Electronic Industry Code of Conduct (EICC). Our new product development process is mindful of Department for Education (DfE) principles to ensure new designs meet customer and governmental material content restrictions, such as PFOA elimination, conflict minerals, and banned substances. We also work on developing strong relationships with our suppliers to ensure their commitment to EICC principles and product material content.

Experience You Can Count On

Contamination control is critical to your manufacturing processes and has a direct impact on production yields, product reliability, and operational efficiency. We focus on understanding your processes, sources of contamination, and on developing material-enabled solutions to ensure the cleanliness and integrity of those processes. We invest in identifying where impurities may be introduced, and take corrective actions to prevent them, which is a critical first step in contamination reduction efforts.

Trust us to support your vital applications and goal for zero defects by providing the highest purity, highest quality, and most robust products. Our reliable, cost-effective liquid filters and purifiers provide a line of defense to prevent defect-causing contaminants in current and new technology nodes.



Our ability to innovate new technologies is based on our deep knowledge of materials science and analytics.

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FOR MORE INFORMATION

Please call your Regional Customer Service Center today to learn what Entegris can do for you. Visit entegris.com and select the [Contact Us](#) link to find the customer service center nearest you.

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Corporate Headquarters

129 Concord Road
Billerica, MA 01821
USA

Customer Service

Tel +1 952 556 4181
Fax +1 952 556 8022
Toll Free 800 394 4083

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