



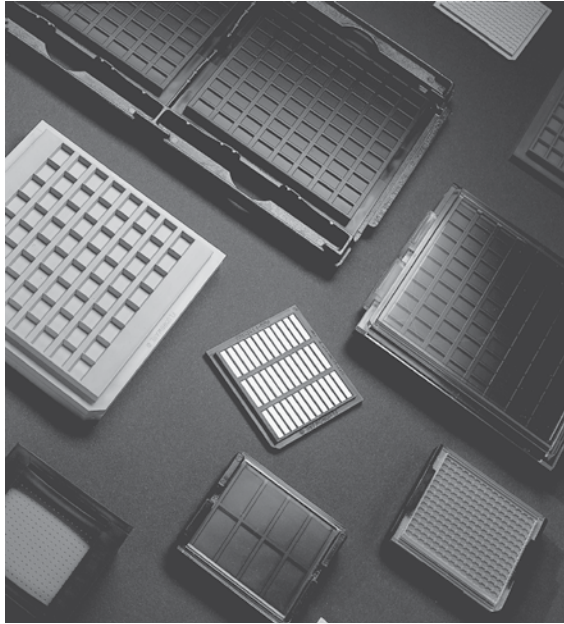
BARE DIE, CHIP SCALE AND WAFER SCALE PACKAGE HANDLING

For online ordering, visit Entegris' website at www.devicecare.com



Overview

Entegris offers a wide selection of products to meet your specific bare die, chip scale and wafer scale package shipping and handling needs. Products are designed and manufactured to provide reliable operation and superior device protection while minimizing your shipping and storage costs.



Fast, reliable solutions are just a click away at Entegris' website, www.devicecare.com. Select and order anytime of the day or night from our comprehensive offering of low-cost packaging systems to protect and transport microelectronic 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.devicecare.com.

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Section 1:

H20 Series (2") Products

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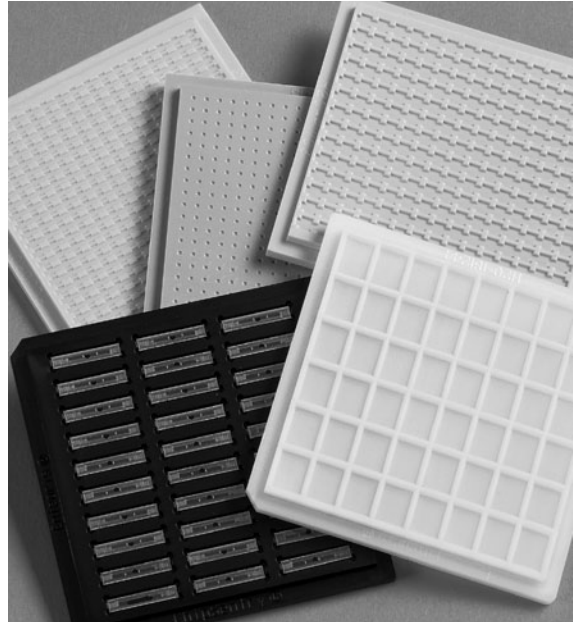
H20 Series (2") Products

Entegris offers a wide selection of H20 series 2" square trays, covers and accessories to meet your changing needs. H20 series trays are available in various pocket sizes and depths, with or without wash holes and tweezers slots.

Trays

Entegris' H20 series products offer proven reliability for handling bare die, including:

- Known Good Die (KGD)
- Wafer Scale Packaging (WSP)
- Chip Scale Packaging (CSP)
- Flip chip
- Bump die
- Opto electronics
- Passive and active chip components
- Mechanical components



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When you need the right product, right now, visit Entegris' website at www.devicecare.com.

Tray Sizes and Tolerances

Tray sizes and tolerances may vary by material. Provided below are dimensions and tolerances.

| 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® STAT-PRO 500 | 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") |

Tray Ordering Information

H20 trays are sorted by pocket size. Simply look for the pocket size you want, find the options you require and select the material. Provide tray Part Number and material code from the “Standard Materials” column. Please order in increments of 100 as trays are packaged in lots of 100 trays after the minimum order quantity is met.

Cataloged Tray – Standard Material

Entegris offers many popular trays in various standard materials as listed in the “Standard Materials” column. The following ordering policies apply:

- Minimum order quantity 400 pieces, thereafter in quantities of 100 pieces
- Shipment from stock or within four weeks after receipt of order (see www.devicecare.com for availability)

Cataloged Tray – Nonstandard Material

Additional material options may be available for cataloged trays. Material options not listed in the “Standard Materials” column for each tray are specials requiring the following ordering policies:

- Minimum order quantity 1,600 pieces, thereafter in quantities of 100 pieces

- Minimum order quantity reduced to 400 pieces with a set-up charge
- Shipment within four weeks after receipt of order

Noncataloged Tray

Entegris offers many tray designs other than those listed in the catalog. Visit Entegris’ website at www.devicecare.com or contact an Entegris Technical Service Representative for information on available noncataloged trays. The following ordering policies apply:

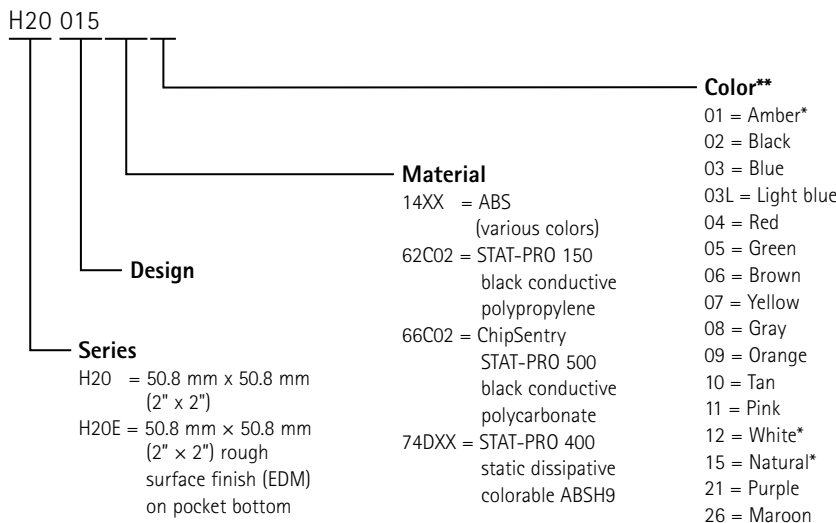
- Minimum order quantity 1,600 pieces, thereafter in quantities of 100 pieces
- Minimum order quantity reduced to 400 pieces with a set-up charge
- Shipment within four weeks after receipt of order

Custom Tray Design

Entegris offers custom trays designed to meet your exact requirements. Visit Entegris’ website at www.devicecare.com or use the “Fax It Form for Custom Trays” in the back of the catalog. You can also contact an Entegris Customer Service representative at +1 952-556-4181.

Special ordering policies apply.

Part Number System



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

**Refer to inside back cover for complete color chart.

Covers

Ordering Information

Popular tray covers in various standard materials are shown below. The following ordering policies apply:

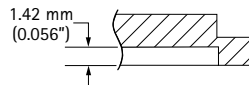
- Minimum order quantity 400 pieces; additional quantities in increments of 100 pieces.
- Delivery from stock or four weeks after receipt of order.

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



H20-02 COVER

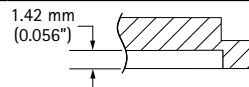
- Standard cover



| Part Number | Material |
|--------------|------------------------------|
| H20-02-1201 | Amber styrene |
| H20-02-1216 | Clear styrene |
| H20-02-1415 | Natural ABS |
| H20-02-5413 | Transparent, A/S Bayon™ PMMA |
| H20-02-62C02 | STAT-PRO 150 |
| H20-02-66C02 | ChipSentry, STAT-PRO 500 |
| H20-02-74D10 | Tan STAT-PRO 400 |

H20-02-ESD COVER

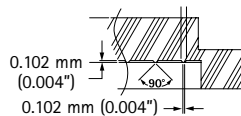
- Standard cover with ESD sensitive symbol (logo)



| Part Number | Material |
|------------------|--------------------------|
| H20-02-ESD-66C02 | ChipSentry, STAT-PRO 500 |

H20-02-RM COVER

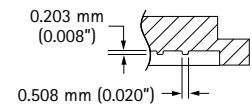
- Cover with rib matrix typically found on tray bottom



| Part Number | Material |
|-----------------|--------------------------|
| H20-02-RM-62C02 | STAT-PRO 150 |
| H20-02-RM-66C02 | ChipSentry, STAT-PRO 500 |

H20-02A COVER

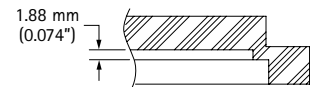
- Cover with bumps on the bottom surface
- For most 400 capacity trays



| Part Number | Material |
|---------------|--------------------------|
| H20-02A-1216 | Clear styrene |
| H20-02A-62C02 | STAT-PRO 150 |
| H20-02A-66C02 | ChipSentry, STAT-PRO 500 |

H20-02B COVER

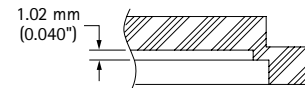
- Standard cover



| Part Number | Material |
|---------------|--------------------------|
| H20-02B-1216 | Clear styrene |
| H20-02B-62C02 | STAT-PRO 150 |
| H20-02B-66C02 | ChipSentry, STAT-PRO 500 |

H20-02-40 COVER

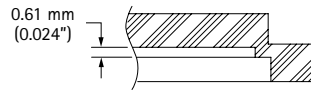
- High clearance cover



| Part Number | Material |
|-----------------|--------------------------|
| H20-02-40-66C02 | ChipSentry, STAT-PRO 500 |

H20-02-24 COVER

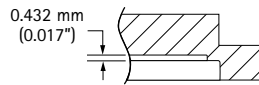
- High clearance cover



| Part Number | Material |
|----------------|-------------|
| H20-02-24-1415 | Natural ABS |

H20-02J COVER

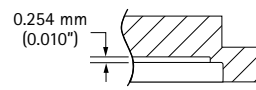
- High clearance cover



| Part Number | Material |
|---------------|--------------------------|
| H20-02J-1201 | Amber styrene |
| H20-02J-1216 | Clear styrene |
| H20-02J-62C02 | STAT-PRO 150 |
| H20-02J-66C02 | ChipSentry, STAT-PRO 500 |

H20-02D COVER

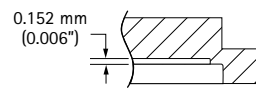
- High clearance cover



| Part Number | Material |
|---------------|--------------------------|
| H20-02D-1415 | Natural ABS |
| H20-02D-62C02 | STAT-PRO 150 |
| H20-02D-66C02 | ChipSentry, STAT-PRO 500 |

H20-02E COVER

- High clearance cover

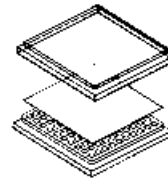


| Part Number | Material |
|---------------|--------------------------|
| H20-02E-62C02 | STAT-PRO 150 |
| H20-02E-66C02 | ChipSentry, STAT-PRO 500 |

Accessories

Antistatic Tray Inserts

- Nest between H20 trays and/or covers
- Sold in packages of 1,000 pieces
- Precut to tray size
- Minimum order quantity: 1 package



| Part Number | Inserts | Material | Static Decay Time (seconds) | Surface Resistivity (ohm/square) | Color | Thickness |
|---------------|----------------------------------|--------------|-----------------------------|----------------------------------|-------|----------------------------------|
| H20-001D | ChipGuard 2000 | TYVEK® | 1.5 – 2.0 | 1011 to 1012 | White | 0.13 – 0.18 mm (0.005" – 0.007") |
| H20-001-0713* | ChipGuard 4000 | Polyethylene | 1.5 – 2.0 | 1011 to 1012 | Pink | 0.08 – 0.13 mm (0.003" – 0.005") |
| H20-001B | Nonantistatic rice paper inserts | Paper | NA | NA | White | 0.05 – 0.10 mm (0.002" – 0.004") |

* Packaged with tan separator sheets between inserts. Please discard separator sheets.

One Piece Clip

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



| Part Number | Material |
|---------------|---|
| H20-04B-0615 | Natural polypropylene |
| H20-04B-67C02 | STAT-PRO 125 (Polypropylene with carbon powder) |
| H20-04B-61C02 | STAT-PRO 100 (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 by the pair
- Capacity: H20-04: one tray and one cover
 H20-041: five trays and one cover
 H20-043: ten trays and one cover
- Minimum order quantity: 50

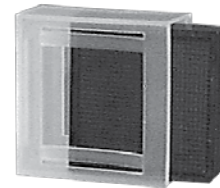
| Part Number | Material |
|---------------|--|
| H20-04-0615 | Natural polypropylene |
| H20-04-61C02 | STAT-PRO 100 (Polypropylene with carbon powder) |
| H20-041-0615 | Natural polypropylene |
| H20-041-61C02 | STAT-PRO 100 (Polypropylene with carbon powder) |
| H20-043-0615 | Natural polypropylene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



H20-SB06 Spring Box

- Holds five trays and one cover or six trays
- Overall size: 56 mm × 53 mm × 20 mm
 (2.2" × 2.1" × 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 ten trays and one cover or eleven trays
- Overall size: 56 mm × 53 mm × 36 mm
 (2.2" × 2.1" × 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

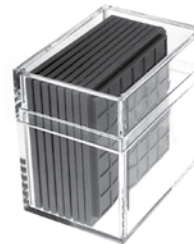
- Holds twelve trays and one cover or thirteen trays
- Overall size: 56 mm × 53 mm × 41 mm
(2.2" × 2.1" × 1.6")
- Minimum order quantity: 50

| Part Number | Material |
|----------------|---|
| H20-SB13-0615 | Natural polypropylene |
| H20-SB11-67C02 | STAT-PRO 125 (Polypropylene with carbon powder) |

**Storage Box**

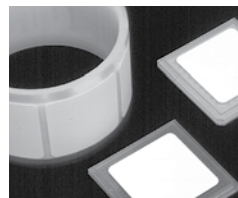
- Holds 12 trays and one cover, or 13 trays
- Overall size: 56 mm × 38 mm × 53 mm
(2.2" × 1.5" × 2.1")
- Minimum order quantity: 50

| Part Number | Material |
|-------------|---------------|
| E28-1216 | Clear styrene |

**Removable Label**

- Blank label for customized marking
- 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 H20 chip tray covers
- Overall size: 38 mm (1.5" sq.)
- Minimum order quantity: 1 roll
- Preprinted label with custom information available

| Part Number | Material |
|-------------|----------------------|
| H20-002LB | Polyolefin copolymer |

**Chip Tray/Die Transfer Fixture**

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 chip trays: All H20 chip trays
- Overall size: 56 mm × 10 mm (2.2" sq. × 0.4")
- Minimum order quantity: 50

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



Cleaning/Clip

- For H20 chip trays in wash applications
- Clip holds two H20 trays
- Compatible handle: A027
- Minimum order quantities:
Clips: 50
Handles: 1

| Part Number | Description | Material |
|--------------|-----------------------|--------------------|
| H20-042-0603 | Clip | Blue polypropylene |
| H20-042-0315 | Clip | ETFE |
| A027-0215 | 200 mm (8") handle | PFA |



Section 2:

CT3 Series (3") Products

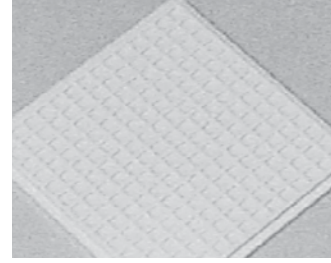
| | |
|----------------------------|-----------|
| Trays | 12 |
| Sizes and Tolerances | 12 |

CT3 Series (3") Trays

Entegris offers a selection of CT3 series 3" square trays. CT3 series trays are available in various pocket sizes and depths.

Ordering Information

- Minimum order quantity: 2,000 pieces
- These products are manufactured in Japan, extended lead times apply
- Contact Entegris Customer Service for more information



CT3 Series Trays

| Part Number | Material | Pocket Size | Pocket Depth | Capacity |
|------------------|--------------------------|--|---------------------|----------|
| CT3-10X18J-66C02 | ChipSentry, STAT-PRO 500 | 1.05 mm × 1.85 mm (0.041" × 0.073") | 1.05 mm (0.041") | 85 |
| CT3-12X15J-66C02 | ChipSentry, STAT-PRO 500 | 1.20 mm × 1.50 mm (0.047" × 0.059") | 0.90 mm (0.035") | 85 |
| CT3-42X42J-74D04 | Red STAT-PRO 400 | 4.20 mm × 4.20 mm (0.165" × 0.165") | 1.50 mm (0.059") | 56 |
| CT3-55X97J-74D15 | Natural STAT-PRO 400 | 5.59 mm × 9.77 mm (0.220" × 0.385") | 0.60 mm (0.024") | 56 |
| CT3-65X25J-66C02 | ChipSentry, STAT-PRO 500 | 6.51 mm × 2.51 mm (0.256" × 0.099") | 0.80 mm (0.031") | 85 |

Section 3:

H44 Series (4") Products

| | |
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H44 Series (4") Products

Entegris offers a wide selection of H44 series 4" square trays, covers and accessories to meet your changing needs. H44 series trays are available in various pocket sizes and depths, with or without wash holes and with or without tweezer slots.

Trays

Entegris' H44 series products offer proven reliability for handling bare die, including:

- Known Good Die (KGD)
- Wafer Scale Packaging (WSP)
- Chip Scale Packaging (CSP)
- Flip chip
- Bump die
- Opto electronics
- Passive and active chip components
- Mechanical components



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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.devicecare.com.

Tray Sizes and Tolerances

Tray sizes and tolerances may vary by material. Provided below are dimensions and tolerances.

| 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, STAT-PRO 500 | 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") |

Tray Ordering Information

H44 trays are sorted by pocket size. Simply look for the pocket size you want, find the options you require and select the material. Provide tray Part Number and material code from the “Standard Materials” column. Please order in increments of 100 as trays are packaged in lots of 100 trays after the minimum order quantity is met.

Cataloged Tray – Standard Material

Entegris offers many popular trays in various standard materials as listed in the “Standard Materials” column. The following ordering policies apply:

- Minimum order quantity 200 pieces, thereafter in quantities of 50 pieces
- Shipment from stock or within four weeks after receipt of order (See www.devicecare.com for availability)

Cataloged Tray – Nonstandard Material

Additional material options may be available for cataloged trays. Material options not listed in the “Standard Materials” column for each tray are specials requiring the following ordering policies:

- Minimum order quantity 1,000 pieces, thereafter in quantities of 50 pieces

- Minimum order quantity reduced to 200 pieces with a set-up charge
- Shipment within four weeks after receipt of order

Noncataloged Tray

Entegris offers many tray designs other than those listed in the catalog. Visit Entegris’ website at www.devicecare.com or contact an Entegris Technical Service Representative for information on available noncataloged trays. The following ordering policies apply:

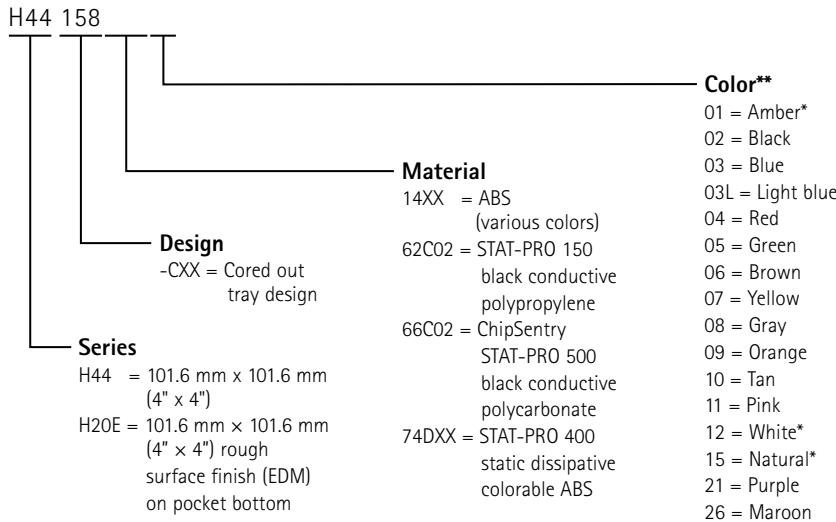
- Minimum order quantity 1,600 pieces, thereafter in quantities of 100 pieces
- Minimum order quantity reduced to 400 pieces with a set-up charge
- Shipment within four weeks after receipt of order

Custom Tray Design

Entegris offers custom trays designed to meet your exact requirements. Visit Entegris’ website at www.devicecare.com or use the “Fax It Form for Custom Trays” in the back of the catalog. You can also contact an Entegris Customer Service representative at +1 952-556-4181.

Special ordering policies apply.

Part Number System



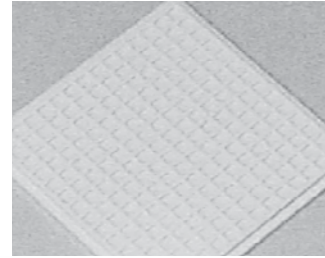
* STAT-PRO 400 material not available in amber, white or natural color.

**Refer to inside back cover for complete color chart.

Specialized CSP Products

H44-TV46 Series Trays

- “Live bug” device orientation
- Pocket size: 6.35 mm × 8.13 mm (0.250" × 0.320")
- Pocket depth: 2.03 mm (0.080")
- Capacity: 80



Specialized CSP Products

| Part Number | Material | Pocket Size | Flippable | Compatible Covers |
|-------------------|--------------------------|---|--|--|
| H44-TV46-01-66C02 | ChipSentry, STAT-PRO 500 | Standard bump contact | No | H44-TV46-03-66C02 H44-TV46-04-66C02 |
| H44-TV46-02-66C02 | ChipSentry, STAT-PRO 500 | Perimeter support shelf prevents bump contact | No | H44-TV46-03-66C02 H44-TV46-04-66C02 |
| H44-TV46-05-66C02 | ChipSentry, STAT-PRO 500 | Perimeter support shelf prevents bump contact | Stacked trays can be flipped to a “dead bug” position for bump application or inspection | Tray on tray stacking only |

H44-TV46 Series Covers

- Compatible trays: H44-TV46-01-66C02 and H44-TV46-02-66C02

| Part Number | Material | Special Features |
|-------------------|--------------------------|---|
| H44-TV46-03-66C02 | ChipSentry, STAT-PRO 500 | Incorporates hold down features to minimize vertical (z direction) device movement |
| H44-TV46-04-66C02 | ChipSentry, STAT-PRO 500 | Tray and cover can be flipped to a “dead bug” position for bump application or inspection |

H44-328506 Tray

- “Live bug” device orientation
- Pocket size: 8.33 mm × 12.85 mm (0.328" × 0.506")
- Pocket depth: 1.88 mm (0.074")
- Capacity: 48

| Part Number | Material | Pocket Size | Flippable | Compatible Covers |
|------------------|--------------------------|-----------------------|-----------|---------------------|
| H44-328506-66C02 | ChipSentry, STAT-PRO 500 | Standard bump contact | No | Standard H44 covers |

Covers

Ordering Information

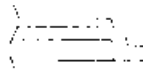
Popular tray covers in various standard materials are shown in this catalog. The following ordering policies apply::

- Minimum order quantity 200 pieces; thereafter in quantities of 50 pieces.
- Delivery from stock or four weeks after receipt of order.

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

H44-02 COVER

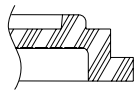
- Standard cover



| Part Number | Material |
|--------------|-----------------------------|
| H44-02-1201 | Amber styrene |
| H44-02-1216 | Clear styrene |
| H44-02-1415 | Natural ABS |
| H44-02-5413 | Transparent, A/S Bayon PMMA |
| H44-02-62C02 | STAT-PRO 150 |
| H44-02-66C02 | ChipSentry, STAT-PRO 500 |
| H44-02-74D10 | Tan STAT-PRO 400 |

H44-02-RM COVER

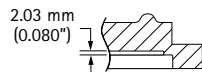
- Cover with rib matrix typically found on tray bottom



| Part Number | Material |
|-----------------|--------------------------|
| H44-02-RM-66C02 | ChipSentry, STAT-PRO 500 |

H44-02B COVER

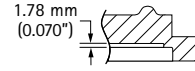
- High clearance cover



| Part Number | Material |
|---------------|--------------------------|
| H44-02B-1216 | Clear styrene |
| H44-02B-62C02 | STAT-PRO 150 |
| H44-02B-66C02 | ChipSentry, STAT-PRO 500 |

H44-02C COVER

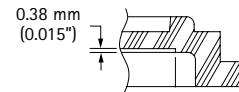
- High clearance cover



| Part Number | Material |
|---------------|--------------------------|
| H44-02C-1415 | Natural ABS |
| H44-02C-62C02 | STAT-PRO 150 |
| H44-02C-66C02 | ChipSentry, STAT-PRO 500 |

H44-02-15 COVER

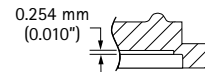
- High clearance cover



| Part Number | Material |
|-----------------|------------------|
| H44-02-15-74D10 | Tan STAT-PRO 400 |

H44-02A COVER

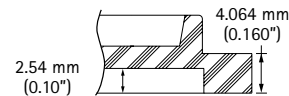
- High clearance cover



| Part Number | Material |
|---------------|-----------------------------|
| H44-02A-1415 | Natural ABS |
| H44-02A-62C02 | STAT-PRO 150 |
| H44-02A-66C02 | ChipSentry, STAT-PRO 500 |
| H44-02A-5413 | Bayon PMMA Transparent, A/S |

H44-02LR COVER

- Tray outline cover



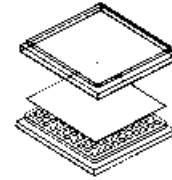
| Part Number | Material |
|----------------|--------------------------|
| H44-02LR-66C02 | ChipSentry, STAT-PRO 500 |

Use with H44-041LR clip and H44-041 clip

Accessories

Antistatic Tray Inserts

- Nest between H44 trays and/or covers
- Sold in packages of 500 pieces
- Precut to tray size
- Minimum order quantity: 1 package



| Part Number | Inserts | Material | Static Decay Time (seconds) | Surface Resistivity (ohm/square) | Color | Thickness |
|---------------|----------------------------------|--------------|-----------------------------|-------------------------------------|-------|----------------------------------|
| H44-001D | ChipGuard 2000 | TYVEK | 1.5 – 2.0 | 10 ¹¹ – 10 ¹² | White | 0.13 – 0.18 mm (0.005" – 0.007") |
| H44-001-0713* | ChipGuard 4000 | Polyethylene | 1.5 – 2.0 | 10 ¹¹ – 10 ¹² | Pink | 0.08 – 0.13 mm (0.003" – 0.005") |
| H44-001B | Nonantistatic rice paper inserts | Paper | NA | NA | White | 0.05 – 0.10 mm (0.002" – 0.004") |

* Packaged with tan separator sheets between inserts. Please discard separator sheets.

Pair of Clips – Tray and Cover

- Interlocking tabs press on the center of the tray for secure contact between the tray and cover
- Sold by the pair
- Capacity: one tray and one cover only
- Minimum order quantity: 50



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

Pair of Clips – Two Trays

- Interlocking tabs press on the center of the tray for secure contact between trays or tray and H44-02LR cover
- Sold by the pair
- Capacity: two trays only
- Minimum order quantity: 50

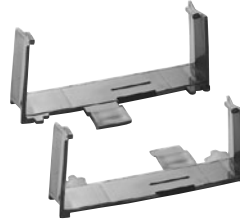


| Part Number | Material |
|---------------|---|
| H44-041-0615 | Natural polypropylene |
| H44-041-61C02 | STAT-PRO 100 (Polypropylene with carbon powder) |

Pair of Clips – Six Trays, One Cover

- Interlocking tabs press on the center of the tray for secure contact between the trays
- Sold by the pair
- Capacity: six trays and one cover only
- Minimum order quantity: 50

| Part Number | Material |
|---------------|---|
| H44-04B-0615 | Natural polypropylene |
| H44-04B-61C02 | STAT-PRO 125 (Polypropylene with carbon powder) |



Wash Tray Clip

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

| Part Number | Material |
|--------------|--------------------|
| H44-042-0315 | ETFE |
| H44-042-0603 | Blue polypropylene |



Carrier

- Holds five H44-042 clips
- Compatible handle: A058-050-0515
- Compatible box: E94-50-101-1403
- A189-50-18-0715 not recommended for use with shallow pocket chip trays
- Minimum order quantity: 1

| Part Number | Material |
|-----------------|---------------------------|
| A189-50-18-0715 | High density polyethylene |
| A189-50-18-0515 | PVDF |



Storage/Transport Clip

- 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

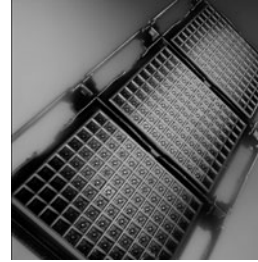
| Part Number | Material |
|-----------------|---|
| H44-041LR-61C02 | STAT-PRO 100 (Polypropylene with carbon powder) |



Jig Tray

- Patented JEDEC thick profile jig tray
- Holds three H44 or P44 trays
- Maximum temperature: 180°C
- Order in multiples of five trays
- Minimum order quantity: 5

| Part Number | Material |
|---------------|-------------------------|
| P44-JIG-101-4 | Carbon fiber-filled PES |



Section 4:

Technical Information

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Online Assistance

Visit www.devicecare.com to find our online selection tool and more:

Tray Wizard. Search from our database of over 5,000 different and exciting 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 custom tray application. A product drawing and quotation are generated online and can be purchased online or e-mailed to your purchasing group for ordering.

Custom Tray Form. Electronic form for requesting your custom tray needs. Request is submitted to factory for quote.

For More Information

Please call your Regional Customer Service Center today to learn what Entegris can do for you. Visit www.entegris.com and select the "Customer Service" link for the center nearest you.

DeviceCare Services

Entegris is with you every step of the way, providing customized service offerings designed to minimize your risk, maximize your productivity and reduce your cost. Individualized programs address your requirements for certified reuse and recycling, logistics management, product cleaning and other related issues. Services are provided via Entegris regional service centers or on-site in your facility.

To initiate a service program, contact your Regional Customer Service Center.

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, want assistance with product recycling or have application specific questions, you can count on Entegris to be your resource.

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

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

MATERIAL INFORMATION

| Material | Code | Description | Color | Static Protective | Surface Resistivity (ohms/sq.) | Static Decay Time (sec.) | Dimensional Stability | Chemical Resistance | Temp. Limit | For Applications Requiring |
|--------------------------|--------|---|---------|-------------------|--------------------------------|--------------------------|-----------------------|---------------------|-------------|--|
| ChipSentry, STAT-PRO 500 | -66C02 | Polycarbonate with carbon powder | Black | Yes | $10^3 - 10^6$ | <0.01 | Excellent | Poor | 70°C | Static protection and dimensional stability |
| STAT-PRO 400 | -74DXX | Alloy of ABS and an intrinsically dissipative polymer | Various | Yes | $10^9 - 10^{11}$ | <0.5 | Good | Poor | 70°C | Static protection dimensional stability and a colorable background |
| ABS | -14XX | Acrylonitrile butadiene styrene with a color additive | Various | No | — | — | Good | Poor | 70°C | Dimensional stability, not static protection |
| STAT-PRO 150 | -62C02 | Polypropylene with carbon powder and glass bead | Black | Yes | $10^2 - 10^5$ | <0.01 | Fair | Good | 70°C | Static protection not high dimensional stability |

MATERIALS FOR ACCESSORY PRODUCTS

| Material | Code | Description | Color | Static Protective | Surface Resistivity (ohms/sq.) | Static Decay Time (sec.) | Dimensional Stability | Chemical Resistance | Temp. Limit |
|-------------------|--------|----------------------------------|------------------|-------------------|--------------------------------|--------------------------|-----------------------|---------------------|-------------|
| STAT-PRO 100 | -61C02 | Polypropylene with carbon powder | Black | Yes | $10^3 - 10^6$ | <0.01 | — | — | 70°C |
| STAT-PRO 125 | -67C02 | Polypropylene with carbon powder | Black | — | $10^9 - 10^{14}$ | <2 | — | — | 70°C |
| Bayon | -5413 | Antistatic polymethyl-methalate | Transparent | — | 10^{13} | <2 | — | — | 70°C |
| Polypropylene | -0615 | Natural polypropylene | Transparent | No | — | — | — | — | 70°C |
| UV poly-propylene | -0609 | UV blocking polypropylene | Semi-transparent | No | — | — | — | — | 70°C |
| Polystyrene | -1216 | Polystyrene | Clear | No | — | — | — | — | 70°C |
| ETFE | -0315 | Ethylene tetrafluoro-ethylene | Natural | No | — | — | Fair | Very good | 100°C |

CHEMICAL/MATERIAL REFERENCE CHART (SEE NOTE BELOW)

| 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 | ETFE 20°C |
| ACIDS | | | | | | |
| Aqua Regia | – | NO | NO | – | NO | OK |
| chromic (50%) | NO | OK | NO | – | NO | OK |
| fuming nitric | – | NO | NO | NO | – | NO |
| glacial acetic | – | OK | NO | NO | NO | NO |
| hydrochloric (conc) | OK | NO | NO | NO | NO | OK |
| hydrofluoric (40%) | – | OK | NO | NO | NO | OK |
| nitric (50%) | NO | OK | NO | NO | – | OK |
| phosphoric | OK | OK | OK | NO | NO | OK |
| sulfuric (conc) | OK | NO | NO | NO | NO | OK |
| trichloroacetic | – | OK | OK | – | – | OK |
| BASES | | | | | | |
| ammonium hydroxide | NO | OK | OK | OK | NO | OK |
| hydrogen peroxide | OK | OK | NO | OK | NO | OK |
| potassium hydroxide | NO | OK | OK | OK | NO | OK |
| sodium hydroxide | NO | OK | OK | – | OK | OK |
| SOLVENTS | | | | | | |
| acetone | NO | OK | – | NO | NO | – |
| aniline | NO | OK | NO | NO | NO | NO |
| benzaldehyde | NO | NO | NO | – | NO | OK |
| benzyl alcohol | NO | OK | OK | NO | NO | OK |
| carbon tetrachloride | NO | NO | NO | NO | NO | NO |
| cyclohexanone | – | NO | NO | NO | NO | OK |
| dimethylphthalate | – | – | – | – | NO | – |
| ethyl alcohol | NO | OK | OK | NO | NO | – |
| ethylenediamine | – | – | – | – | NO | – |
| Freon® TE | OK | OK | – | NO | – | OK |
| Freon TF, 113 | OK | OK | – | OK | – | OK |
| Freon TMC | NO | OK | – | NO | – | OK |
| Freon TMS | OK | OK | – | NO | – | OK |
| isooctane | – | NO | NO | – | OK | – |
| isopropanol | OK | OK | OK | OK | – | – |
| methyl alcohol | NO | OK | OK | NO | NO | – |
| methyl ethyl ketone | NO | OK | OK | NO | NO | NO |
| methylene chloride | – | NO | NO | – | NO | OK |
| NMP | NO | OK | – | NO | – | OK |
| perchloroethylene | – | NO | NO | NO | NO | OK |
| tetrahydrofuran | – | NO | 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.

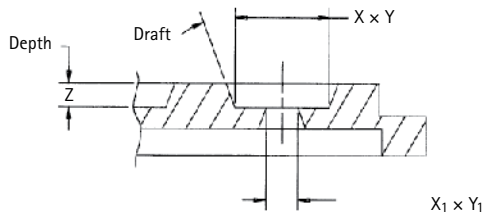
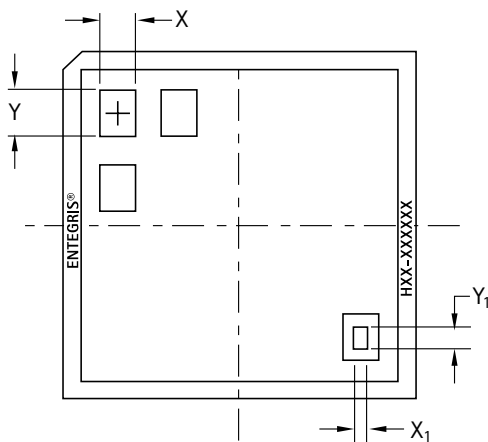
Fax It Form for Custom Trays

TO: TECHNICAL SERVICE REPRESENTATIVES

This form can be photocopied and used to request information on a custom designed tray to meet your exact requirements. Engineering charges and minimum order quantities apply. Please visit www.entebris.com and select the Customer Service link for the center nearest you.

From

Name _____
 Company _____
 Street _____
 City _____ State _____
 Country _____ ZIP Code _____
 Phone _____
 Fax _____



Notes










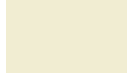




| | | | |
|--|--|--|--|
| Tray Series ___ H20 (2" x 2") ___ H44 (4" x 4") | Component Size X _____ Y _____ Thickness _____ EDM Finish <input type="checkbox"/> Yes <input type="checkbox"/> No drawing | Pocket Size X _____ Y _____ Depth _____ ___ Tray/cover stacking only ___ Tray/tray stacking only | Material ___ ABS, Color _____ ___ STAT-PRO 150 black conductive polypropylene ___ ChipSentry, STAT-PRO 500 black conductive polycarbonate ___ STAT-PRO 400 colorable static dissipative color _____ ___ Natural ETFE |
| Application ___ Bare die ___ CSP, bumped die (please send device drawing) | Bump/ball contact OK? <input type="checkbox"/> Yes <input type="checkbox"/> No | Pocket Array (subject to moldability) ___ x ___ Pockets or ___ Best Fit | Wash Holes <input type="checkbox"/> Yes <input type="checkbox"/> No X ₁ _____ Y ₁ _____ |
| Tray flippability required? <input type="checkbox"/> Yes <input type="checkbox"/> No | Tray Quantity _____ Minimum Order: H20 series - 2,000 H44 series - 1,000 | | |

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Material Color Chart

Color Options

| Color Code | Tray Color | | Color Code | Tray Color | |
|------------|-------------|---|------------|------------|---|
| 01 | Amber |  | 08 | Gray |  |
| 02 | Black |  | 09 | Orange |  |
| 03 | Blue |  | 10 | Tan |  |
| 03L | Light Blue |  | 11 | Pink |  |
| 04 | Red |  | 12 | White |  |
| 05 | Light Green |  | 15 | Natural |  |
| 05D | Dark Green |  | 21 | Purple |  |
| 06 | Brown |  | 26 | Maroon |  |
| 07 | Yellow |  | | | |

Note: Color options are subject to availability at the time of order inquiry.

For More Information

Please call your Regional Customer Service Center today to learn what Entegris can do for you. Visit www.entegris.com and select the Customer Service link for the center nearest you.

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Product Warranties

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