# TUBE GUARDS



STANDARD TUBE GUARDS

## STANDARD TUBE GUARDS

The Standard Tube Guard is a light stabilized polycarbonate and has 0% transmittance below 365 nanometers (Clear Tube Guards only).

Available Colors: Clear, Amber, Red, Green, Yellow and Blue.

Available Sizes: T5, T8, and T12.

- An efficient economical solution where fluorescent lamp breakage would be hazardous to personnel, product, equipment or animals.
- Slip over fluorescent lamps to retain shattered glass and control the release of mercury vapor and phosphorescent material.
- Constructed of unbreakable lexan polycarbonate.
- "Cut-to-order" custom lengths are also available.

## T5 HD SERIES TUBE GUARDS

Using T5 lamps is a cost-effective lighting systems solution for a variety of reasons. Unfortunately the average T5 lamp will dissipate about 73% of its total lamp power as heat. And when this lamp is used in combination with a tube guard, that heat must be properly dissipated from the lamp.

Our T5 HD (Heat Dissipation) Series Tube Guard takes into consideration two major factors; the temperature on the inside of the tube guard, and how close the T5 lamp is actually located to the tube guard.

- Our T5 HD Series Tube Guard's larger diameter and its "vented" End Caps allow a layer of air to absorb heat from the lamp and cool it before making contact with the inside wall of the tube guard. This results in a 25ºF (-4°C) temperature drop.*
- The larger diameter of the T5 HD Series Tube Guard allows it to accommodate Heat Sink Screens to control and distribute heat, in addition to lowering the temperatures over a larger area on the end of the tube guard. We strongly recommend using Heat Sink Screens with our T5 HD Series Tube Guards. Part Numbers 17185 and 17186 arrive with the Heat Sink Screens built into the Tube Guard.
- The combination of the T5 HD Series Tube Guard, "vented" End Caps, and Heat Sink lower the inside temperature of the tube guard approximately 30ºF (-1°C).**
- Together, these components provide a unique operational advantage over other competitors' T5 tube guards and still fit all T5 lamp applications.

| TEMPERATURE TESTING | |
|---|---|
| CONFIGURATION | TEMPERATURE* |
| Competitors T5 Tube Guard | 215ºF (102°C) |
| T5 HD Series Tube Guard and "Vented" End Caps | 190ºF (88°C)* |
| T5 HD Series Tube Guard, "Vented" End Caps and Heat Sink Screens | 185ºF (85°C)** |

***Note:** The temperature is measured on the inside surface of the Tube Guard. The ambient testing temperature was 72ºF (22°C) using a T5 F54 HO Lamp.*

## TYPICAL APPLICATIONS:

- Food Processing Facilities
- Commercial Kitchens
- Grocery Stores
- Laundries
- Industrial Facilities
- Storage Buildings
- Pedestrian and Road Tunnels
- Elevator Shafts
- Refrigerators and Freezers
- Locker Rooms
- And more...

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P 800.336.1976 | F 800.336.2801

Specifications subject to change without prior notice.

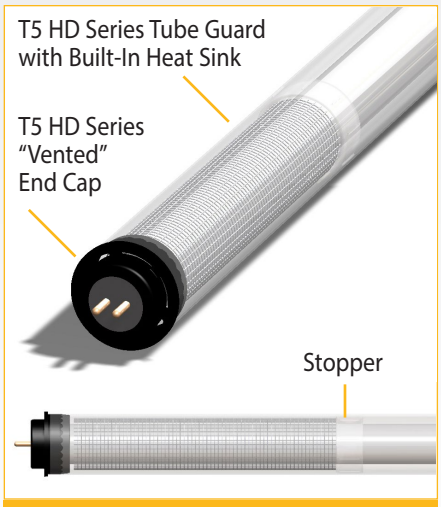
ENGINEERED PRODUCTS CO.

## T5 HD SERIES TUBE GUARDS (CONTINUED)

Heat Sink Screens help distribute excessive heat on both ends of the fluorescent lamp. But when installing a large number of tube guards and heat sink combinations, time is money.

High volume installers can now reduce their installation time by using our T5 HD Series Tube Guard with "pre-installed" Heat Sink Screens (Part Numbers 17185 and 17186). In addition to saving time and money, T5 HD Series Tube Guards with "pre-installed" Heat Sink Screens provide a convenient and economical solution to expedite the installation by eliminating the process of having the contractor pre-roll two (2) Heat Sinks (per tube guard).

Simply insert the lamp into the T5 HD Series Tube Guard, insert the "vented" end cap on each end of the tube guard and install the "tubed" lamp into the luminaire.




T5 HD SERIES TUBE GUARDS WITH BUILT-IN HEAT SINK

## YELLOW TUBE GUARDS — How do they work?

Insects and humans have different visual perceptions. Light sources that radiate ultraviolet energy and blue light are most attractive to insects. Light sources that insects have a difficult time seeing are "yellow" hues in the color spectrum. Our yellow tube guards will minimize the number of insects.



YELLOW TUBE GUARDS

### TYPICAL APPLICATIONS

- Commercial businesses that maintain night-time operations such as gas stations, fast food restaurants, etc.
- Commercial food preparation and serving areas
- Parking lots loading areas
- Building entrances
- Airport, Train and Bus Stations
- Decks and patios

## STANDARD TUBE GUARDS

| Catalog Number | UPC Number | Description | Order Unit | Unit Qty | Unit Pkg | Units/ Case | TL Case Qty | Min Order Qty | MM Req | Ship Wt (Lbs) |
|---|---|---|---|---|---|---|---|---|---|---|
| **4-Foot T5 HD Series Tube Guard** | | | | | | | | | | |
| 17183* | 17183 | **Clear Polycarbonate:** with "Vented" Black End Caps | EA | 1 | BX | 48 | 48 | 48 | Yes | 6 |
| 17184* | 17184 | **Clear Polycarbonate:** with "Vented" Black End Caps | EA | 1 | BX | 120 | 120 | 120 | Yes | 16 |
| 17194† | 17194 | **Amber Polycarbonate:** with "Vented" Black End Caps | EA | 1 | BX | 24 | 24 | 24 | Yes | 4 |
| 17195† | 17195 | **Red Polycarbonate:** with "Vented" Black End Caps | EA | 1 | BX | 24 | 24 | 24 | Yes | 4 |
| 17196† | 17196 | **Green Polycarbonate:** with "Vented" Black End Caps | EA | 1 | BX | 24 | 24 | 24 | Yes | 4 |
| 17197† | 17197 | **Blue Polycarbonate:** with "Vented" Black End Caps | EA | 1 | BX | 24 | 24 | 24 | Yes | 4 |
| 17199† | 17199 | **Yellow Polycarbonate:** with "Vented" Black End Caps | EA | 1 | BX | 24 | 24 | 24 | Yes | 4 |
| **4-Foot T5 HD Series Tube Guard with Built-In Heat Sink** | | | | | | | | | | |
| 17185** | 17185 | **Clear Polycarbonate:** with "Vented" Black End Caps and built-in Heat Sink | EA | 1 | BX | 48 | 48 | 48 | Yes | 7 |
| 17186** | 17186 | **Clear Polycarbonate:** with "Vented" Black End Caps and built-in Heat Sink | EA | 1 | BX | 120 | 120 | 120 | Yes | 17 |

**UNITS OF MEASURE KEY**
**Order Unit:** The Unit to be ordered; **Unit Qty:** Number of pieces in each Unit; **Unit Pkg:** Unit Packages contained in the case - Packaging types - BG (Bag), BRL (Barrel), BX (Box), BN (Bulk), PKG (Package), EA (Each), RL (Roll), LB (Pound), C (Hundred), M (Thousand); **Units/Case:** Unit packages contained in the Case; **TL Case Qty:** The total number of items in each Master Case; **Min Order Qty:** The smallest Unit that can be ordered; **MM Req:** Must order multiples of the Unit in the stated quantities; **Ship Wt (Lbs):** Total weight of the units per Carton

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EPCO Standard Tube Guards are Made in the USA.
Complies with the American Recovery and Reinvestment Act – Buy American Provision.

## STANDARD TUBE GUARDS (CONTINUED)

| Catalog Number | UPC Number | Description | Order Unit | Unit Qty | Unit Pkg | Units/ Case | TL Case Qty | Min Order Qty | MM Req | Ship Wt (Lbs) |
|---|---|---|---|---|---|---|---|---|---|---|
| **4-Foot T8 Tube Guard** | | | | | | | | | | |
| 17000 | 17000 | **Clear Polycarbonate:** with Black End Caps | EA | 1 | BX | 24 | 24 | 24 | Yes | 6 |
| 17005 | 17005 | **Amber Polycarbonate:** with Black End Caps | EA | 1 | BX | 24 | 24 | 24 | Yes | 6 |
| 17010 | 17010 | **Red Polycarbonate:** with Black End Caps | EA | 1 | BX | 24 | 24 | 24 | Yes | 6 |
| 17015 | 17015 | **Green Polycarbonate:** with Black End Caps | EA | 1 | BX | 24 | 24 | 24 | Yes | 6 |
| 17020 | 17020 | **Blue Polycarbonate:** with Black End Caps | EA | 1 | BX | 24 | 24 | 24 | Yes | 6 |
| 17025 | 17025 | **Yellow Polycarbonate:** with Black End Caps | EA | 1 | BX | 24 | 24 | 24 | Yes | 6 |
| **8-Foot T8 Tube Guard** | | | | | | | | | | |
| 17030 | 17030 | **Clear Polycarbonate:** with Black End Caps | EA | 1 | BX | 24 | 24 | 24 | Yes | 10 |
| 17031 | 17031 | **Amber Polycarbonate:** with Black End Caps | EA | 1 | BX | 24 | 24 | 24 | Yes | 10 |
| 17032 | 17032 | **Red Polycarbonate:** with Black End Caps | EA | 1 | BX | 24 | 24 | 24 | Yes | 10 |
| 17033 | 17033 | **Green Polycarbonate:** with Black End Caps | EA | 1 | BX | 24 | 24 | 24 | Yes | 10 |
| 17034 | 17034 | **Blue Polycarbonate:** with Black End Caps | EA | 1 | BX | 24 | 24 | 24 | Yes | 10 |
| 17035 | 17035 | **Yellow Polycarbonate:** with Black End Caps | EA | 1 | BX | 24 | 24 | 24 | Yes | 10 |
| **4-Foot T12 Tube Guard** | | | | | | | | | | |
| 17060 | 17060 | **Clear Polycarbonate:** with Black End Caps | EA | 1 | BX | 24 | 24 | 24 | Yes | 7 |
| **6-Foot T12 Tube Guard** | | | | | | | | | | |
| 17040 | 17040 | **Clear Polycarbonate:** with Black End Caps | EA | 1 | BX | 24 | 24 | 24 | Yes | 10 |
| **8-Foot T12 Tube Guard** | | | | | | | | | | |
| 17090 | 17090 | **Clear Polycarbonate:** with Black End Caps | EA | 1 | BX | 24 | 24 | 24 | Yes | 10 |

***Note:*** **1. Standard Tube Guards are sold ONLY in case quantities of 24 per Carton. We will not break case carton quantities! The exception is the T5 HD Series — Clear, which is available in carton quantities of 48 and 120 Units (P/Ns: 17183, 17184, 17185 and 17186).*

***2. T5 HD Series Tube Guards, Part Numbers 17185 and 17186 include the built-in T5 HD Heat Sink Screens.*

*†3. Indicates long lead time. Contact our Inside Sales Department (800.336.1976 or sales@engproducts.com) for more information.*

*4. Standard Tube Guards are not intended for use with HO or VHO Lamps! The exception is the T5 HD Series Tube Guard that is rated for use with a T5 HO Lamp.*

*5. Tube Guards, other than sizes and colors listed, can be special ordered. Contact our Inside Sales Department (800.336.1976 or sales@engproducts.com) for more information.*

## STANDARD TUBE GUARD END CAPS (BLACK)

| Catalog Number | UPC Number | Description | Order Unit | Unit Qty | Unit Pkg | Units/ Case | TL Case Qty | Min Order Qty | MM Req | Ship Wt (Lbs) |
|---|---|---|---|---|---|---|---|---|---|---|
| 17103 | 17103 | **Standard End Caps:** for T5 HD Series, "Vented" | BG | 48 | BG | 0 | 0 | 48 | Yes | 1 |
| 17100 | 17100 | **Standard End Caps:** for T8 Tube Guard | BG | 48 | BG | 0 | 0 | 48 | Yes | 1 |
| 17101 | 17101 | **Standard End Caps:** for T12 Tube Guard | BG | 48 | BG | 0 | 0 | 48 | Yes | 1 |

***Note:*** *End Caps for T5 HD Series, T8 and T12 Tube Guards fit inside the Tube Guard.*



STANDARD TUBE GUARD END CAPS

**UNITS OF MEASURE KEY**

**Order Unit:** The Unit to be ordered; **Unit Qty:** Number of pieces in each Unit; **Unit Pkg:** Unit Packages contained in the case - Packaging types - BG (Bag), BRL (Barrel), BX (Box), BN (Bulk), PKG (Package), EA (Each), RL (Roll), LB (Pound), C (Hundred), M (Thousand); **Units/Case:** Unit packages contained in the Case; **TL Case Qty:** The total number of items in each Master Case; **Min Order Qty:** The smallest Unit that can be ordered; **MM Req:** Must order multiples of the Unit in the stated quantities; **Ship Wt (Lbs):** Total weight of the units per Carton

Specifications subject to change without prior notice.

EPCO Standard Tube Guards are Made in the USA.
Complies with the American Recovery and Reinvestment Act – Buy American Provision.

# TUBE GUARDS

## UV FILTERING TUBE GUARDS

- Our UV Filtering Tube Guards provide the basic reduction of harmful UV energy by filtering 99% of harmful UV rays up to 390 nanometers.*
- Manufactured using thin-wall high tensile and impact resistant polycarbonate material that is flexible to grasp the lamp to facilitate lamp changes; does not easily crack.
- Special UV additive filters UV rays better than acrylic materials with comparable wall thickness (0.016" wall thickness).
- Minimizes premature color shifting (fading) and deterioration that can be detrimental to food products, paper, natural and synthetic textiles, paints, coatings, wood and polymer materials, inc.
- Provides years of protection from dangerous UV light.
- Can readily be "field-cut" to length if desired.
- Manufactured to the highest quality standards.
- Sizes: T5, T8, and T12.
- Available in nominal 4-foot and 8-foot lengths.

***Note:** Tested by two (2) independent light testing laboratories.*



UV FILTERING TUBE GUARDS

### TYPICAL APPLICATIONS:

- Food Service
- Commercial Kitchens
- Photography Studios
- Grocery Stores
- Fabric Stores
- Movie Theaters
- Book Stores
- Libraries
- Furniture Stores
- Warehouses
- Special lighting applications where UV protection is required

| Catalog Number | UPC Number | Description | Order Unit | Unit Qty | Unit Pkg | Units/ Case | TL Case Qty | Min Order Qty | MM Req | Ship Wt (Lbs) |
|---|---|---|---|---|---|---|---|---|---|---|
| **4-Foot T5 HD Series Tube Guard** | | | | | | | | | | |
| 17206 | 17206 | **Clear UV Filtering:** with "Vented" Green End Caps | EA | 1 | BX | 24 | 24 | 24 | Yes | 4 |
| **4-Foot T8 Tube Guard** | | | | | | | | | | |
| 17201 | 17201 | **Clear UV Filtering:** with Green End Caps | EA | 1 | BX | 24 | 24 | 24 | Yes | 7 |
| **8-Foot T8 Tube Guard** | | | | | | | | | | |
| 17202 | 17202 | **Clear UV Filtering:** with Green End Caps | EA | 1 | BX | 24 | 24 | 24 | Yes | 12 |
| **8-Foot T12 Tube Guard** | | | | | | | | | | |
| 17204 | 17204 | **Clear UV Filtering:** with Green End Caps | EA | 1 | BX | 24 | 24 | 24 | Yes | 15 |

***Note:*** *1. UV Filtering Tube Guards are sold ONLY in case quantities of 24 per Carton. We will not break case carton quantities.*
*2. UV Filtering Tube Guards are not to be used with HO or VHO fluorescent lamps! The exception is the UV Filtering T5 HD Series Tube Guard that is rated for use with a T5 HO lamp.*

## UV FILTERING TUBE GUARD END CAPS (GREEN)

| Catalog Number | UPC Number | Description | Order Unit | Unit Qty | Unit Pkg | Units/ Case | TL Case Qty | Min Order Qty | MM Req | Ship Wt (Lbs) |
|---|---|---|---|---|---|---|---|---|---|---|
| 17303 | 17303 | **UV Filtering End Caps:** for T5 HD Series, "Vented" | BG | 48 | BG | 0 | 0 | 48 | Yes | 1 |
| 17300 | 17300 | **UV Filtering End Caps:** for T8 Tube Guard | BG | 48 | BG | 0 | 0 | 48 | Yes | 1 |
| 17301 | 17301 | **UV Filtering End Caps:** for T12 Tube Guard | BG | 48 | BG | 0 | 0 | 48 | Yes | 1 |

***Note:*** *End Caps for T5, T8 and T12 Tube Guards fit inside the Tube Guard.*



UV FILTERING TUBE GUARD END CAPS

**UNITS OF MEASURE KEY**
**Order Unit:** The Unit to be ordered; **Unit Qty:** Number of pieces in each Unit; **Unit Pkg:** Unit Packages contained in the case - Packaging types - BG (Bag), BRL (Barrel), BX (Box), BN (Bulk), PKG (Package), EA (Each), RL (Roll), LB (Pound), C (Hundred), M (Thousand); **Units/Case:** Unit packages contained in the Case; **TL Case Qty:** The total number of items in each Master Case; **Min Order Qty:** The smallest Unit that can be ordered; **MM Req:** Must order multiples of the Unit in the stated quantities; **Ship Wt (Lbs):** Total weight of the units per Carton

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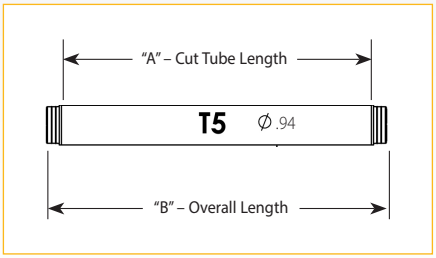
EPCO UV Filtering Tube Guards are Made in the USA.
Complies with the American Recovery and Reinvestment Act – Buy American Provision.

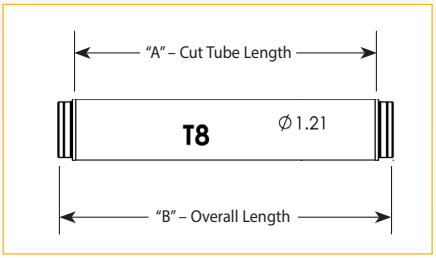
## STANDARD AND UV FILTERING TUBE GUARD DIMENSIONS

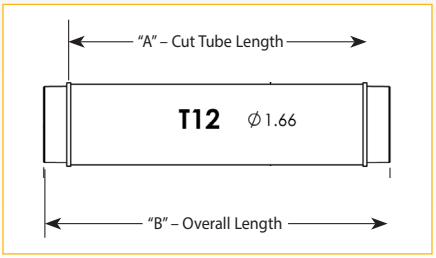
| T5 HD SERIES TUBE GUARDS | | |
|---|---|---|
| DIM. "A" | DIM. "B" | NOMINAL LENGTH |
| 44.68 | 45.27 | 4' |

| T8 TUBE GUARDS | | |
|---|---|---|
| DIM. "A" | DIM. "B" | NOMINAL LENGTH |
| 46.38 | 47.10 | 4' |
| 68.38 | 69.10 | 6' |
| 92.38 | 93.10 | 8' |

| T12 TUBE GUARDS | | |
|---|---|---|
| DIM. "A" | DIM. "B" | NOMINAL LENGTH |
| 45.97 | 47.10 | 4' |
| 67.97 | 69.10 | 6' |
| 91.97 | 93.10 | 8' |



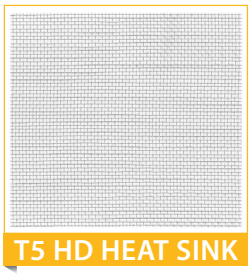



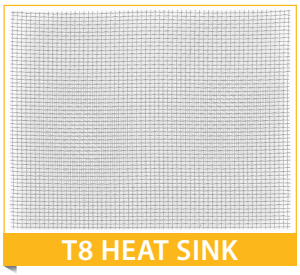

***Note:*** *Dimension "B" includes End Caps.*

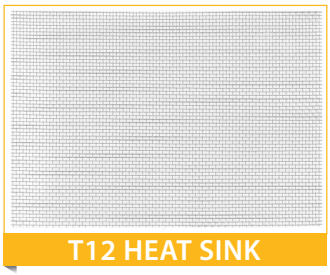
## HEAT SINK SCREENS

We recommend the use of Heat Sink Screens with all of our Tube Guards to aid in controlling heat that is generated by the fluorescent lamp. The primary function of our Heat Sink Screens is to distribute heat and lower the temperatures of the fluorescent lamp over a larger area at each end of the Tube Guard.

The Heat Sink Screens are available in sizes for the T5 HD Series Tube Guard, as well as T8 and T12 Tube Guards.


T5 HD HEAT SINK


T8 HEAT SINK


T12 HEAT SINK



HEAT SINK SCREENS

| Catalog Number | UPC Number | Description | Order Unit | Unit Qty | Unit Pkg | Units/ Case | TL Case Qty | Min Order Qty | MM Req | Ship Wt (Lbs) |
|---|---|---|---|---|---|---|---|---|---|---|
| 17893 | 17893 | **Heat Sink Screens:** for T5 HD Series Tube Guards | BG | 2 | BG | 0 | 0 | 2 | Yes | 1 |
| 17800 | 17800 | **Heat Sink Screens:** for T8 Tube Guards | BG | 2 | BG | 0 | 0 | 2 | Yes | 1 |
| 17860 | 17860 | **Heat Sink Screens:** for T12 Tube Guards | BG | 2 | BG | 0 | 0 | 2 | Yes | 1 |

***Note:*** *Heat Sink Screens are not for use with VHO Fluorescent Lamps.*

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# TUBE GUARDS

**Engineered Product Company (EPCO) Standard and UV Filtering Tube Guards Comply with the following Regulations:**

**FDA Plant Construction and Design ... 110.20 Section B, Part 5**
(5) Provide safety-type light bulbs, fixtures, skylights, or other glass suspended over exposed food in any step of preparation or otherwise protect against food contamination in case of glass breakage.

**FDA Food Code Chapter 6, Section 202.11**
"Light bulbs that are shielded, coated, or otherwise shatter resistant are necessary to protect exposed food, clean equipment, utensils and linens, and unwrapped single-service and single-use articles."

TITLE 21 - FOOD AND DRUGS; Chapter 1 - Food and Drug Administration Department of Health and Human Services, Subchapter B: Food for Human Consumption

**Subpart B - Building and Facilities: Section 110.20 Plant and Grounds**
(5) Provide adequate lighting … and provide safety-type light bulbs, fixtures, skylights, or other glass suspended over exposed food in any step of preparation or otherwise protect against food contamination in case of glass breakage.

**6-202.11 Light Bulbs, Protective Shielding**
(A) Except as specified in ¶ (B) of this section, light bulbs shall be shielded, coated, or otherwise shatter-resistant in areas where there is exposed FOOD; clean EQUIPMENT, UTENSILS, and LINENS; or unwrapped SINGLE-SERVICE and SINGLE-USE ARTICLES.

| Light Blocking Properties of EPCO Clear Tube Guards | | | | |
|---|---|---|---|---|
| **Lumens** | 280 | 289 | 224 | 236 Without Sleeve |
| | 269 | 274 | 213 | 229 With Sleeve |
| | 11 | 15 | 11 | 7 Difference |
| **% Reduction Average** | 3.93% | 5.19% | 4.691% | 4.25% |
| **Material** | Clear Polycarbonate | | | |
| | Extrusion grade; high viscosity; branched; UV stabilized | | | |
| | Optical Properties: Transmittance = 88% at .118" thick; 4.25% avg at .015" thick | | | |
| **Lamp** | F32 T8 run with Advance NBF Ballast | | | |
| | 4100K | | | |
| | Tested at 126 Volts input | | | |

## ⚠ WARNING

1. It is safe to use EPCO T5, T8, or T12 Tube Guards only in conjunction with electronic high efficiency ballasts designed to prevent an over-current condition to these fluorescent lamps during use and at the lamp's "end of life" (EOL).
2. We strongly recommend using EPCO Heat Sink Screens with all T5, T8, or T12 Tube Guards.
   - T5 HD Series Heat Sink Screens: Part Number 17893
   - T8 Heat Sink Screens: Part Number 17800
   - T12 Heat Sink Screens: Part Number 17860
3. The Installer must ensure the electrode bi-pin base end on the T5, T8, or T12 fluorescent lamps are firmly "placed, rotated a ¼ turn, and fully seated" in the luminaire's lamp holder for maximum lamp retention.
   **Note:** After the fluorescent lamp is installed, there should be no gap between the electrode bi-pin base end on the fluorescent lamp and the lamp holder. A gap between the electrode bi-pin base on the fluorescent lamp and lamp holder can create an "arcing" condition and cause a potential fire.
4. Do not misalign the electrode bi-pin base end on the fluorescent lamp and the lamp holder! Misalignment causes a poor electrical connection and subsequent "voltage drop" between the lamp holder contacts and the bi-pins of the lamp sufficient to cause an "arcing" condition that can start a fire.
5. EPCO does not recommend using its T5, T8 and T12 Tube Guards under any conditions where the surface temperature of the fluorescent lamp can or will exceed 225°F (107°C) or in "any" enclosed luminaire where normal venting is not available.
6. EPCO T5, T8, or T12 Tube Guards must not be used with any lighting system that includes dimming capability where power surges or voltage spikes can cause "arcing" or an over-current condition to the lamps.
7. We strongly recommend changing lamp(s) whenever there is "blackening" at the electrode bi-pin base end on the fluorescent lamp.

## PRODUCT WARRANTY

Unless otherwise noted, Engineered Products Company (herein known as EPCO) warrants that the products described herein, will be furnished free from defects in material and workmanship for one (1) year. Any exceptions to this Warranty Statement will be detailed within the respective warranty section in this product catalog, noted on the product itself, or the product packaging.

EPCO's sole obligation for any breach of warranty under the terms herein shall be, at our option, to repair or provide replacement for the Product to which such warranty is breached, or to return all payments made with respect to such product. Any product(s) that are deemed to be defective must be specified by the Purchaser in a written notice to EPCO's Warranty Department within one (1) year after receipt of such goods. Under no circumstances will EPCO be liable for loss of profits or incidental, indirect, consequential or special damages of any kind beyond the replacement cost of the defective merchandise.

EPCO shall not be liable for any losses arising from governmental action, an act of God, or the result of war, riot, strikes, civil commotion, sovereign conduct, or the act or conduct of any person or persons not party to or associated with EPCO.

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ENGINEERED PRODUCTS CO.

# TUBE GUARDS



STANDARD TUBE GUARDS

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Available Sizes: T5, T8, and T12.

- An efficient economical solution where fluorescent lamp breakage would be hazardous to personnel, product, equipment or animals.
- Slip over fluorescent lamps to retain shattered glass and control the release of mercury vapor and phosphorescent material.
- Constructed of unbreakable lexan polycarbonate.
- "Cut-to-order" custom lengths are also available.

## T5 HD SERIES TUBE GUARDS

Using T5 lamps is a cost-effective lighting systems solution for a variety of reasons. Unfortunately the average T5 lamp will dissipate about 73% of its total lamp power as heat. And when this lamp is used in combination with a tube guard, that heat must be properly dissipated from the lamp.

Our T5 HD (Heat Dissipation) Series Tube Guard takes into consideration two major factors; the temperature on the inside of the tube guard, and how close the T5 lamp is actually located to the tube guard.

- Our T5 HD Series Tube Guard's larger diameter and its "vented" End Caps allow a layer of air to absorb heat from the lamp and cool it before making contact with the inside wall of the tube guard. This results in a 25ºF (-4°C) temperature drop.*
- The larger diameter of the T5 HD Series Tube Guard allows it to accommodate Heat Sink Screens to control and distribute heat, in addition to lowering the temperatures over a larger area on the end of the tube guard. We strongly recommend using Heat Sink Screens with our T5 HD Series Tube Guards. Part Numbers 17185 and 17186 arrive with the Heat Sink Screens built into the Tube Guard.
- The combination of the T5 HD Series Tube Guard, "vented" End Caps, and Heat Sink lower the inside temperature of the tube guard approximately 30ºF (-1°C).**
- Together, these components provide a unique operational advantage over other competitors' T5 tube guards and still fit all T5 lamp applications.

| TEMPERATURE TESTING | |
|---|---|
| CONFIGURATION | TEMPERATURE* |
| Competitors T5 Tube Guard | 215ºF (102°C) |
| T5 HD Series Tube Guard and "Vented" End Caps | 190ºF (88°C)* |
| T5 HD Series Tube Guard, "Vented" End Caps and Heat Sink Screens | 185ºF (85°C)** |

***Note:** The temperature is measured on the inside surface of the Tube Guard. The ambient testing temperature was 72ºF (22°C) using a T5 F54 HO Lamp.*

## TYPICAL APPLICATIONS:

- Food Processing Facilities
- Commercial Kitchens
- Grocery Stores
- Laundries
- Industrial Facilities
- Storage Buildings
- Pedestrian and Road Tunnels
- Elevator Shafts
- Refrigerators and Freezers
- Locker Rooms
- And more...

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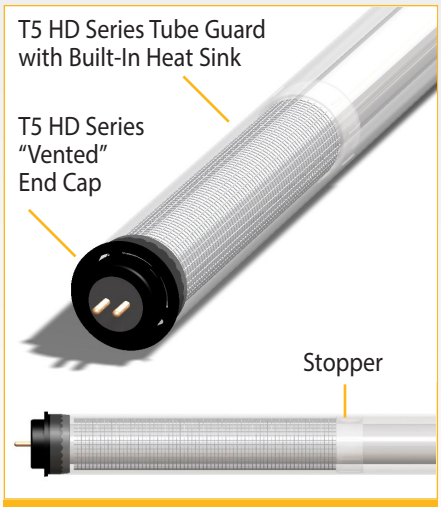
ENGINEERED PRODUCTS CO.

## T5 HD SERIES TUBE GUARDS (CONTINUED)

Heat Sink Screens help distribute excessive heat on both ends of the fluorescent lamp. But when installing a large number of tube guards and heat sink combinations, time is money.

High volume installers can now reduce their installation time by using our T5 HD Series Tube Guard with "pre-installed" Heat Sink Screens (Part Numbers 17185 and 17186). In addition to saving time and money, T5 HD Series Tube Guards with "pre-installed" Heat Sink Screens provide a convenient and economical solution to expedite the installation by eliminating the process of having the contractor pre-roll two (2) Heat Sinks (per tube guard).

Simply insert the lamp into the T5 HD Series Tube Guard, insert the "vented" end cap on each end of the tube guard and install the "tubed" lamp into the luminaire.




T5 HD SERIES TUBE GUARDS WITH BUILT-IN HEAT SINK

## YELLOW TUBE GUARDS — How do they work?

Insects and humans have different visual perceptions. Light sources that radiate ultraviolet energy and blue light are most attractive to insects. Light sources that insects have a difficult time seeing are "yellow" hues in the color spectrum. Our yellow tube guards will minimize the number of insects.



YELLOW TUBE GUARDS

### TYPICAL APPLICATIONS

- Commercial businesses that maintain night-time operations such as gas stations, fast food restaurants, etc.
- Commercial food preparation and serving areas
- Parking lots loading areas
- Building entrances
- Airport, Train and Bus Stations
- Decks and patios

## STANDARD TUBE GUARDS

| Catalog Number | UPC Number | Description | Order Unit | Unit Qty | Unit Pkg | Units/ Case | TL Case Qty | Min Order Qty | MM Req | Ship Wt (Lbs) |
|---|---|---|---|---|---|---|---|---|---|---|
| **4-Foot T5 HD Series Tube Guard** | | | | | | | | | | |
| 17183* | 17183 | **Clear Polycarbonate:** with "Vented" Black End Caps | EA | 1 | BX | 48 | 48 | 48 | Yes | 6 |
| 17184* | 17184 | **Clear Polycarbonate:** with "Vented" Black End Caps | EA | 1 | BX | 120 | 120 | 120 | Yes | 16 |
| 17194† | 17194 | **Amber Polycarbonate:** with "Vented" Black End Caps | EA | 1 | BX | 24 | 24 | 24 | Yes | 4 |
| 17195† | 17195 | **Red Polycarbonate:** with "Vented" Black End Caps | EA | 1 | BX | 24 | 24 | 24 | Yes | 4 |
| 17196† | 17196 | **Green Polycarbonate:** with "Vented" Black End Caps | EA | 1 | BX | 24 | 24 | 24 | Yes | 4 |
| 17197† | 17197 | **Blue Polycarbonate:** with "Vented" Black End Caps | EA | 1 | BX | 24 | 24 | 24 | Yes | 4 |
| 17199† | 17199 | **Yellow Polycarbonate:** with "Vented" Black End Caps | EA | 1 | BX | 24 | 24 | 24 | Yes | 4 |
| **4-Foot T5 HD Series Tube Guard with Built-In Heat Sink** | | | | | | | | | | |
| 17185** | 17185 | **Clear Polycarbonate:** with "Vented" Black End Caps and built-in Heat Sink | EA | 1 | BX | 48 | 48 | 48 | Yes | 7 |
| 17186** | 17186 | **Clear Polycarbonate:** with "Vented" Black End Caps and built-in Heat Sink | EA | 1 | BX | 120 | 120 | 120 | Yes | 17 |

**UNITS OF MEASURE KEY**
**Order Unit:** The Unit to be ordered; **Unit Qty:** Number of pieces in each Unit; **Unit Pkg:** Unit Packages contained in the case - Packaging types - BG (Bag), BRL (Barrel), BX (Box), BN (Bulk), PKG (Package), EA (Each), RL (Roll), LB (Pound), C (Hundred), M (Thousand); **Units/Case:** Unit packages contained in the Case; **TL Case Qty:** The total number of items in each Master Case; **Min Order Qty:** The smallest Unit that can be ordered; **MM Req:** Must order multiples of the Unit in the stated quantities; **Ship Wt (Lbs):** Total weight of the units per Carton

Specifications subject to change without prior notice.

EPCO Standard Tube Guards are Made in the USA.
Complies with the American Recovery and Reinvestment Act – Buy American Provision.

## STANDARD TUBE GUARDS (CONTINUED)

| Catalog Number | UPC Number | Description | Order Unit | Unit Qty | Unit Pkg | Units/ Case | TL Case Qty | Min Order Qty | MM Req | Ship Wt (Lbs) |
|---|---|---|---|---|---|---|---|---|---|---|
| **4-Foot T8 Tube Guard** | | | | | | | | | | |
| 17000 | 17000 | **Clear Polycarbonate:** with Black End Caps | EA | 1 | BX | 24 | 24 | 24 | Yes | 6 |
| 17005 | 17005 | **Amber Polycarbonate:** with Black End Caps | EA | 1 | BX | 24 | 24 | 24 | Yes | 6 |
| 17010 | 17010 | **Red Polycarbonate:** with Black End Caps | EA | 1 | BX | 24 | 24 | 24 | Yes | 6 |
| 17015 | 17015 | **Green Polycarbonate:** with Black End Caps | EA | 1 | BX | 24 | 24 | 24 | Yes | 6 |
| 17020 | 17020 | **Blue Polycarbonate:** with Black End Caps | EA | 1 | BX | 24 | 24 | 24 | Yes | 6 |
| 17025 | 17025 | **Yellow Polycarbonate:** with Black End Caps | EA | 1 | BX | 24 | 24 | 24 | Yes | 6 |
| **8-Foot T8 Tube Guard** | | | | | | | | | | |
| 17030 | 17030 | **Clear Polycarbonate:** with Black End Caps | EA | 1 | BX | 24 | 24 | 24 | Yes | 10 |
| 17031 | 17031 | **Amber Polycarbonate:** with Black End Caps | EA | 1 | BX | 24 | 24 | 24 | Yes | 10 |
| 17032 | 17032 | **Red Polycarbonate:** with Black End Caps | EA | 1 | BX | 24 | 24 | 24 | Yes | 10 |
| 17033 | 17033 | **Green Polycarbonate:** with Black End Caps | EA | 1 | BX | 24 | 24 | 24 | Yes | 10 |
| 17034 | 17034 | **Blue Polycarbonate:** with Black End Caps | EA | 1 | BX | 24 | 24 | 24 | Yes | 10 |
| 17035 | 17035 | **Yellow Polycarbonate:** with Black End Caps | EA | 1 | BX | 24 | 24 | 24 | Yes | 10 |
| **4-Foot T12 Tube Guard** | | | | | | | | | | |
| 17060 | 17060 | **Clear Polycarbonate:** with Black End Caps | EA | 1 | BX | 24 | 24 | 24 | Yes | 7 |
| **6-Foot T12 Tube Guard** | | | | | | | | | | |
| 17040 | 17040 | **Clear Polycarbonate:** with Black End Caps | EA | 1 | BX | 24 | 24 | 24 | Yes | 10 |
| **8-Foot T12 Tube Guard** | | | | | | | | | | |
| 17090 | 17090 | **Clear Polycarbonate:** with Black End Caps | EA | 1 | BX | 24 | 24 | 24 | Yes | 10 |

***Note:*** **1. Standard Tube Guards are sold ONLY in case quantities of 24 per Carton. We will not break case carton quantities! The exception is the T5 HD Series — Clear, which is available in carton quantities of 48 and 120 Units (P/Ns: 17183, 17184, 17185 and 17186).*

***2. T5 HD Series Tube Guards, Part Numbers 17185 and 17186 include the built-in T5 HD Heat Sink Screens.*

*†3. Indicates long lead time. Contact our Inside Sales Department (800.336.1976 or sales@engproducts.com) for more information.*

*4. Standard Tube Guards are not intended for use with HO or VHO Lamps! The exception is the T5 HD Series Tube Guard that is rated for use with a T5 HO Lamp.*

*5. Tube Guards, other than sizes and colors listed, can be special ordered. Contact our Inside Sales Department (800.336.1976 or sales@engproducts.com) for more information.*

## STANDARD TUBE GUARD END CAPS (BLACK)

| Catalog Number | UPC Number | Description | Order Unit | Unit Qty | Unit Pkg | Units/ Case | TL Case Qty | Min Order Qty | MM Req | Ship Wt (Lbs) |
|---|---|---|---|---|---|---|---|---|---|---|
| 17103 | 17103 | **Standard End Caps:** for T5 HD Series, "Vented" | BG | 48 | BG | 0 | 0 | 48 | Yes | 1 |
| 17100 | 17100 | **Standard End Caps:** for T8 Tube Guard | BG | 48 | BG | 0 | 0 | 48 | Yes | 1 |
| 17101 | 17101 | **Standard End Caps:** for T12 Tube Guard | BG | 48 | BG | 0 | 0 | 48 | Yes | 1 |

***Note:*** *End Caps for T5 HD Series, T8 and T12 Tube Guards fit inside the Tube Guard.*



STANDARD TUBE GUARD END CAPS

**UNITS OF MEASURE KEY**

**Order Unit:** The Unit to be ordered; **Unit Qty:** Number of pieces in each Unit; **Unit Pkg:** Unit Packages contained in the case - Packaging types - BG (Bag), BRL (Barrel), BX (Box), BN (Bulk), PKG (Package), EA (Each), RL (Roll), LB (Pound), C (Hundred), M (Thousand); **Units/Case:** Unit packages contained in the Case; **TL Case Qty:** The total number of items in each Master Case; **Min Order Qty:** The smallest Unit that can be ordered; **MM Req:** Must order multiples of the Unit in the stated quantities; **Ship Wt (Lbs):** Total weight of the units per Carton

Specifications subject to change without prior notice.

EPCO Standard Tube Guards are Made in the USA.
Complies with the American Recovery and Reinvestment Act – Buy American Provision.

# TUBE GUARDS

## UV FILTERING TUBE GUARDS

- Our UV Filtering Tube Guards provide the basic reduction of harmful UV energy by filtering 99% of harmful UV rays up to 390 nanometers.*
- Manufactured using thin-wall high tensile and impact resistant polycarbonate material that is flexible to grasp the lamp to facilitate lamp changes; does not easily crack.
- Special UV additive filters UV rays better than acrylic materials with comparable wall thickness (0.016" wall thickness).
- Minimizes premature color shifting (fading) and deterioration that can be detrimental to food products, paper, natural and synthetic textiles, paints, coatings, wood and polymer materials, inc.
- Provides years of protection from dangerous UV light.
- Can readily be "field-cut" to length if desired.
- Manufactured to the highest quality standards.
- Sizes: T5, T8, and T12.
- Available in nominal 4-foot and 8-foot lengths.

***Note:** Tested by two (2) independent light testing laboratories.*



UV FILTERING TUBE GUARDS

### TYPICAL APPLICATIONS:

- Food Service
- Commercial Kitchens
- Photography Studios
- Grocery Stores
- Fabric Stores
- Movie Theaters
- Book Stores
- Libraries
- Furniture Stores
- Warehouses
- Special lighting applications where UV protection is required

| Catalog Number | UPC Number | Description | Order Unit | Unit Qty | Unit Pkg | Units/ Case | TL Case Qty | Min Order Qty | MM Req | Ship Wt (Lbs) |
|---|---|---|---|---|---|---|---|---|---|---|
| **4-Foot T5 HD Series Tube Guard** | | | | | | | | | | |
| 17206 | 17206 | **Clear UV Filtering:** with "Vented" Green End Caps | EA | 1 | BX | 24 | 24 | 24 | Yes | 4 |
| **4-Foot T8 Tube Guard** | | | | | | | | | | |
| 17201 | 17201 | **Clear UV Filtering:** with Green End Caps | EA | 1 | BX | 24 | 24 | 24 | Yes | 7 |
| **8-Foot T8 Tube Guard** | | | | | | | | | | |
| 17202 | 17202 | **Clear UV Filtering:** with Green End Caps | EA | 1 | BX | 24 | 24 | 24 | Yes | 12 |
| **8-Foot T12 Tube Guard** | | | | | | | | | | |
| 17204 | 17204 | **Clear UV Filtering:** with Green End Caps | EA | 1 | BX | 24 | 24 | 24 | Yes | 15 |

***Note:*** *1. UV Filtering Tube Guards are sold ONLY in case quantities of 24 per Carton. We will not break case carton quantities.*
*2. UV Filtering Tube Guards are not to be used with HO or VHO fluorescent lamps! The exception is the UV Filtering T5 HD Series Tube Guard that is rated for use with a T5 HO lamp.*

## UV FILTERING TUBE GUARD END CAPS (GREEN)

| Catalog Number | UPC Number | Description | Order Unit | Unit Qty | Unit Pkg | Units/ Case | TL Case Qty | Min Order Qty | MM Req | Ship Wt (Lbs) |
|---|---|---|---|---|---|---|---|---|---|---|
| 17303 | 17303 | **UV Filtering End Caps:** for T5 HD Series, "Vented" | BG | 48 | BG | 0 | 0 | 48 | Yes | 1 |
| 17300 | 17300 | **UV Filtering End Caps:** for T8 Tube Guard | BG | 48 | BG | 0 | 0 | 48 | Yes | 1 |
| 17301 | 17301 | **UV Filtering End Caps:** for T12 Tube Guard | BG | 48 | BG | 0 | 0 | 48 | Yes | 1 |

***Note:*** *End Caps for T5, T8 and T12 Tube Guards fit inside the Tube Guard.*



UV FILTERING TUBE GUARD END CAPS

**UNITS OF MEASURE KEY**
**Order Unit:** The Unit to be ordered; **Unit Qty:** Number of pieces in each Unit; **Unit Pkg:** Unit Packages contained in the case - Packaging types - BG (Bag), BRL (Barrel), BX (Box), BN (Bulk), PKG (Package), EA (Each), RL (Roll), LB (Pound), C (Hundred), M (Thousand); **Units/Case:** Unit packages contained in the Case; **TL Case Qty:** The total number of items in each Master Case; **Min Order Qty:** The smallest Unit that can be ordered; **MM Req:** Must order multiples of the Unit in the stated quantities; **Ship Wt (Lbs):** Total weight of the units per Carton

Specifications subject to change without prior notice.

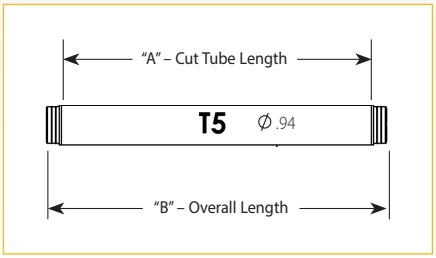
EPCO UV Filtering Tube Guards are Made in the USA.
Complies with the American Recovery and Reinvestment Act – Buy American Provision.

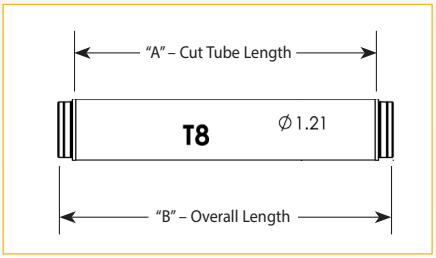
## STANDARD AND UV FILTERING TUBE GUARD DIMENSIONS

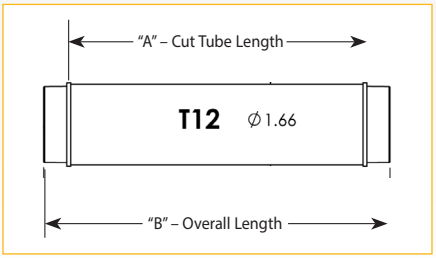
| T5 HD SERIES TUBE GUARDS | | |
|---|---|---|
| DIM. "A" | DIM. "B" | NOMINAL LENGTH |
| 44.68 | 45.27 | 4' |

| T8 TUBE GUARDS | | |
|---|---|---|
| DIM. "A" | DIM. "B" | NOMINAL LENGTH |
| 46.38 | 47.10 | 4' |
| 68.38 | 69.10 | 6' |
| 92.38 | 93.10 | 8' |

| T12 TUBE GUARDS | | |
|---|---|---|
| DIM. "A" | DIM. "B" | NOMINAL LENGTH |
| 45.97 | 47.10 | 4' |
| 67.97 | 69.10 | 6' |
| 91.97 | 93.10 | 8' |



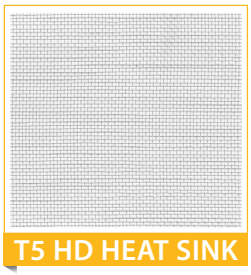



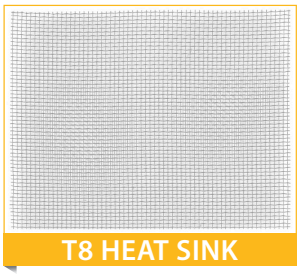

***Note:*** *Dimension "B" includes End Caps.*

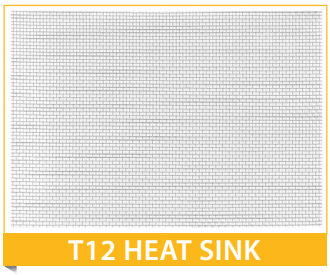
## HEAT SINK SCREENS

We recommend the use of Heat Sink Screens with all of our Tube Guards to aid in controlling heat that is generated by the fluorescent lamp. The primary function of our Heat Sink Screens is to distribute heat and lower the temperatures of the fluorescent lamp over a larger area at each end of the Tube Guard.

The Heat Sink Screens are available in sizes for the T5 HD Series Tube Guard, as well as T8 and T12 Tube Guards.


T5 HD HEAT SINK


T8 HEAT SINK


T12 HEAT SINK



HEAT SINK SCREENS

| Catalog Number | UPC Number | Description | Order Unit | Unit Qty | Unit Pkg | Units/ Case | TL Case Qty | Min Order Qty | MM Req | Ship Wt (Lbs) |
|---|---|---|---|---|---|---|---|---|---|---|
| 17893 | 17893 | **Heat Sink Screens:** for T5 HD Series Tube Guards | BG | 2 | BG | 0 | 0 | 2 | Yes | 1 |
| 17800 | 17800 | **Heat Sink Screens:** for T8 Tube Guards | BG | 2 | BG | 0 | 0 | 2 | Yes | 1 |
| 17860 | 17860 | **Heat Sink Screens:** for T12 Tube Guards | BG | 2 | BG | 0 | 0 | 2 | Yes | 1 |

***Note:*** *Heat Sink Screens are not for use with VHO Fluorescent Lamps.*

**UNITS OF MEASURE KEY**
**Order Unit:** The Unit to be ordered; **Order Qty:** Number of pieces in each Unit; **Unit Pkg:** Packaging types - BG (Bag), BX (Box), BRL (Barrel); **Units/Case:** Unit packages contained in the Case; **TL Case Qty:** The total number of items in each Master Case; **Min Order Qty:** The smallest Unit that can be ordered; **MM Req:** Must order multiples of the Unit in the stated quantities; **Ship Wt (Lbs):** Total weight of the units per Carton

Specifications subject to change without prior notice.

# TUBE GUARDS

**Engineered Product Company (EPCO) Standard and UV Filtering Tube Guards Comply with the following Regulations:**

**FDA Plant Construction and Design ... 110.20 Section B, Part 5**
(5) Provide safety-type light bulbs, fixtures, skylights, or other glass suspended over exposed food in any step of preparation or otherwise protect against food contamination in case of glass breakage.

**FDA Food Code Chapter 6, Section 202.11**
"Light bulbs that are shielded, coated, or otherwise shatter resistant are necessary to protect exposed food, clean equipment, utensils and linens, and unwrapped single-service and single-use articles."

TITLE 21 - FOOD AND DRUGS; Chapter 1 - Food and Drug Administration Department of Health and Human Services, Subchapter B: Food for Human Consumption

**Subpart B - Building and Facilities: Section 110.20 Plant and Grounds**
(5) Provide adequate lighting … and provide safety-type light bulbs, fixtures, skylights, or other glass suspended over exposed food in any step of preparation or otherwise protect against food contamination in case of glass breakage.

**6-202.11 Light Bulbs, Protective Shielding**
(A) Except as specified in ¶ (B) of this section, light bulbs shall be shielded, coated, or otherwise shatter-resistant in areas where there is exposed FOOD; clean EQUIPMENT, UTENSILS, and LINENS; or unwrapped SINGLE-SERVICE and SINGLE-USE ARTICLES.

| Light Blocking Properties of EPCO Clear Tube Guards | | | | |
|---|---|---|---|---|
| **Lumens** | 280 | 289 | 224 | 236 Without Sleeve |
| | 269 | 274 | 213 | 229 With Sleeve |
| | 11 | 15 | 11 | 7 Difference |
| **% Reduction Average** | 3.93% | 5.19% | 4.691% | 4.25% |
| **Material** | Clear Polycarbonate | | | |
| | Extrusion grade; high viscosity; branched; UV stabilized | | | |
| | Optical Properties: Transmittance = 88% at .118" thick; 4.25% avg at .015" thick | | | |
| **Lamp** | F32 T8 run with Advance NBF Ballast | | | |
| | 4100K | | | |
| | Tested at 126 Volts input | | | |

## ⚠ WARNING

1. It is safe to use EPCO T5, T8, or T12 Tube Guards only in conjunction with electronic high efficiency ballasts designed to prevent an over-current condition to these fluorescent lamps during use and at the lamp's "end of life" (EOL).
2. We strongly recommend using EPCO Heat Sink Screens with all T5, T8, or T12 Tube Guards.
   - T5 HD Series Heat Sink Screens: Part Number 17893
   - T8 Heat Sink Screens: Part Number 17800
   - T12 Heat Sink Screens: Part Number 17860
3. The Installer must ensure the electrode bi-pin base end on the T5, T8, or T12 fluorescent lamps are firmly "placed, rotated a ¼ turn, and fully seated" in the luminaire's lamp holder for maximum lamp retention.
   **Note:** After the fluorescent lamp is installed, there should be no gap between the electrode bi-pin base end on the fluorescent lamp and the lamp holder. A gap between the electrode bi-pin base on the fluorescent lamp and lamp holder can create an "arcing" condition and cause a potential fire.
4. Do not misalign the electrode bi-pin base end on the fluorescent lamp and the lamp holder! Misalignment causes a poor electrical connection and subsequent "voltage drop" between the lamp holder contacts and the bi-pins of the lamp sufficient to cause an "arcing" condition that can start a fire.
5. EPCO does not recommend using its T5, T8 and T12 Tube Guards under any conditions where the surface temperature of the fluorescent lamp can or will exceed 225°F (107°C) or in "any" enclosed luminaire where normal venting is not available.
6. EPCO T5, T8, or T12 Tube Guards must not be used with any lighting system that includes dimming capability where power surges or voltage spikes can cause "arcing" or an over-current condition to the lamps.
7. We strongly recommend changing lamp(s) whenever there is "blackening" at the electrode bi-pin base end on the fluorescent lamp.

## PRODUCT WARRANTY

Unless otherwise noted, Engineered Products Company (herein known as EPCO) warrants that the products described herein, will be furnished free from defects in material and workmanship for one (1) year. Any exceptions to this Warranty Statement will be detailed within the respective warranty section in this product catalog, noted on the product itself, or the product packaging.

EPCO's sole obligation for any breach of warranty under the terms herein shall be, at our option, to repair or provide replacement for the Product to which such warranty is breached, or to return all payments made with respect to such product. Any product(s) that are deemed to be defective must be specified by the Purchaser in a written notice to EPCO's Warranty Department within one (1) year after receipt of such goods. Under no circumstances will EPCO be liable for loss of profits or incidental, indirect, consequential or special damages of any kind beyond the replacement cost of the defective merchandise.

EPCO shall not be liable for any losses arising from governmental action, an act of God, or the result of war, riot, strikes, civil commotion, sovereign conduct, or the act or conduct of any person or persons not party to or associated with EPCO.

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