

XTRABRITE ALPINEWITE[®] - BUILT BETTER, BRIGHTER, & LASTS LONGER

Maintenance Engineering's XTRABRITE ALPINEWITE[®] fluorescents are the best lamps on the market. No other lamp has all the features of ours. Some manufacturers may offer "full-spectrum lamps", but none have the complete package like our lamps. Lets look at some of the features of our F32T8 and F40T12 XTRABRITE ALPINEWITE[®] lamps that make them **Different and Better**.

EARTH-SAFE[®] DESIGN

XTRABRITE ALPINEWITE[®] lamps are built to be EARTH-SAFE[®].

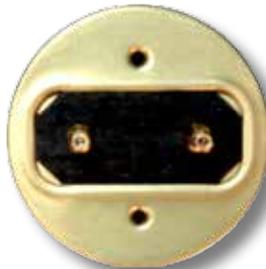
Their feature:

- **Long Life Construction**, the longest in the industry, which reduces waste, minimizes environmental impact, and reduces recycling.
- **Ultra-Low Mercury content**, reducing potential environmental impact. Many of our lamps are TCLP-Compliant, federally approved for landfills.
- **Energy Efficient Designs**, producing up to twice the light as standard lamps for the same amount of energy.



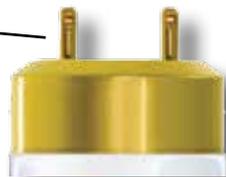
GOLD END CAPS[™]

The first thing a customer will notice when opening a box of our XTRABRITE ALPINEWITES[®] (4' AND 8') are our **bright, anodized Gold End Caps[®]**. Gold End Caps[™] immediately tell your customer that M.E. lamps are Different and Better than any lamps they have ever used!



BRASS END PINS

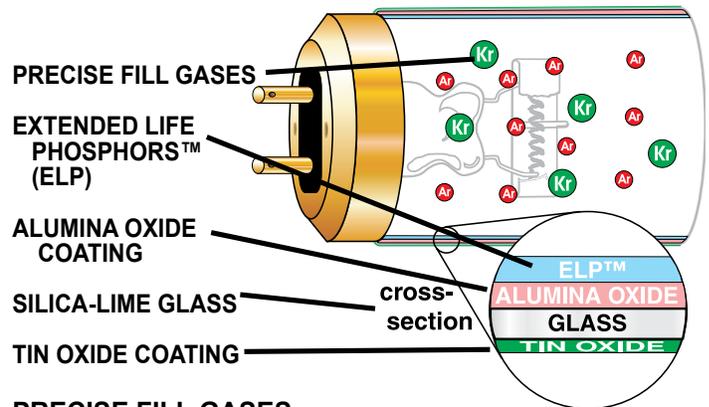
Maintenance Engineering uses **mechanically-clinched brass end pins, and high-grade copper wire**, for a sure and positive electrical connection from lamp to fixture. We use this method instead of soldering or welding. **Our method eliminates hazardous materials** (one of our EARTH-SAFE[®] requirements) such as lead solder from the lamp. M.E.'s environmentally-friendly design is an extra step we take, maximizing electrical efficiency while minimizing potential environmental impact.



PREMIUM QUALITY GLASS

Our lamps are made with a **new, proprietary silica-lime glass mixture**. Our glass is made using the tightest quality

controls in the industry. Close watch is kept to make sure there are no bubbles or contamination. Contaminants and bubbles can weaken the glass, eventually causing microscopic cracks and "dead" lamps. We have also added a new process of applying a **coating of Tin Oxide, which makes the glass six times stronger**. A Premium Quality Glass tube is important, as it is the foundation on which to build the rest of the lamp...a lamp that will remain in operation for many, many years.



PRECISE FILL GASES

Our lamps use **special mixtures of chemically-inert fill gases, unique to each lamp**. Our T8 Xtrabrite uses a blend of pure Krypton and Argon gas; our T12 Xtrabrite uses 100% pure Argon gas. These gases are precisely dosed at low pressure, and help provide:

- **95% Lumen Maintenance**, by suppressing sputtering and evaporation of the cathodes.
- **Easier Starting**. Some shortlife lamps use gases such as Neon to boost brightness, but it makes starting more difficult, and can shorten lamp life.

EXTENDED LIFE PHOSPHORS[™]

Maintenance Engineering XTRABRITE ALPINEWITE[®] lamps use a **unique blend of rare earth Extended Life Phosphors**. These phosphors are much, much more expensive than standard lamp halophosphors, but they help provide:

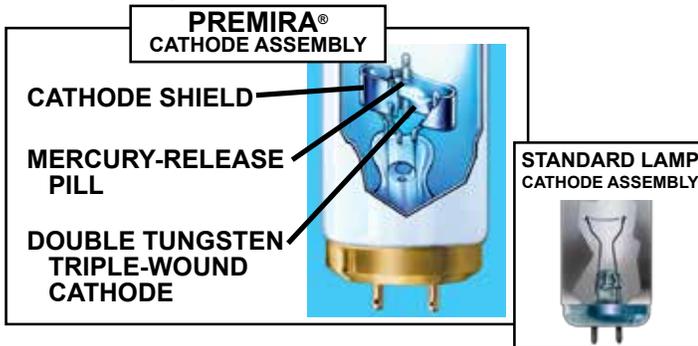
- **Reduced Color Shift**, resisting breakdown over time more than standard lamp halophosphors.
- **95% Lumen Maintenance**, staying brighter longer. Standard lamps typically provide only 60% maintenance.
- **Balanced Spectrum Output**, similar to Natural Sunlight.
- **Up to 69% more seeable lumens** than new standard lamps. They can provide a customer twice the light for their energy dollar when compared to old standard lamps.



ALUMINA OXIDE INTERNAL COATING

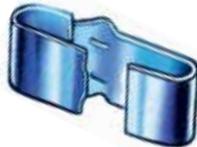
The inner walls of our Premium Quality Glass Tubes receive a special coating of Alumina Oxide. This coating:

- **Extends lamp life**, by preventing mercury from absorbing into the glass. This allows us to use very small quantities of mercury without shortening lamp life. Without this coating, mercury absorbs into the glass and is no longer available for the arcstream; this shortens lamp life.
- **Maximizes brightness**, by reflecting unused energy in the tube back through the phosphors for maximum efficiency.



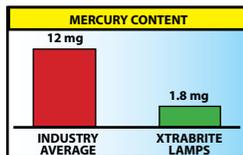
CATHODE SHIELD

Maintenance Engineering uses a unique Cathode Shield that surrounds the cathode at each end of the lamp. This shield helps our lamps achieve **95% Lumen Maintenance**. It blocks any material that may sputter off of the cathode from coating the phosphors and reducing light output. The cathode shield helps the lamp stay bright over its entire life. Most standard lamps have bare cathodes, which causes end-blackening and light loss.



MERCURY-RELEASE PILL

Maintenance Engineering was the first in the industry to use a special mercury-release pill to precisely dose mercury into the lamp. Our pill uses much less mercury than the standard industry method of pouring it in via mechanical pump. Because of this, **our fluorescents average 70% less mercury than standard lamps**. This is one of the reasons our lamps are EARTH-SAFE®, using less hazardous materials whenever possible. In fact, many of our Premira® lamps are TCLP-Compliant, meeting Federal Guidelines for acceptable mercury levels.



DOUBLE TUNGSTEN TRIPLE-WOUND CATHODES

Maintenance Engineering Premira® cathodes use not one, but **two wires of pure tungsten, triple wound to create a larger, stronger surface**. More surface means it can carry **more starting oxides**. These oxides provide the extra electrons for starting the lamp. Translation, **more oxides mean more starts, which means longer life**.



SILICONE COATING

All XTRABRITE ALPINEWHITE® Premira® lamps have a **special coating of environmentally-friendly silicone solution**.

This coating aids in the **starting of the lamp, and ultimately extends lamp life**.

Without this coating, poor starting could occur in humid conditions, and shorten lamp cathode life.



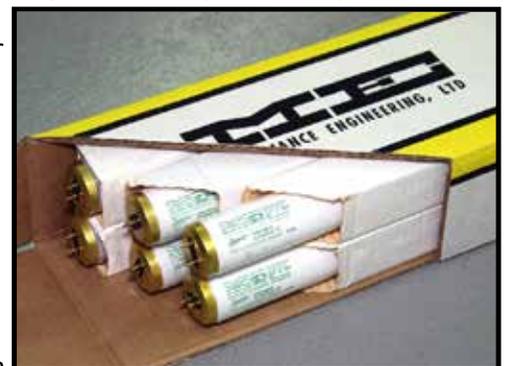
MULTIPLE QUALITY CHECKS

Every run of our Premira® lamps is continuously monitored, with extra personnel, checking product and adjusting the equipment for best possible quality. Lamps are pulled and fully tested at different times throughout the run for color, brightness, and electrical performance. And every single lamp is lit up before leaving the factory, ensuring only working lamps are shipped. Our Chicago facility tests each production to verify the factory test results. Any production that fails to meet our specs is immediately rejected and returned. **We are the only lighting company that triple-checks our products to ensure only the best is shipped to the customer!**



RUGGED. PROTECTIVE PACKAGING

All Maintenance Engineering product is shipped out in **rugged 275lb. double-wall white-and-yellow boxes, developed with the help of UPS**, to protect the product from today's demanding shipping. Our design protects the lamps much, much more than the typical single-wall boxes used by competitors. Plus, **our lamps are individually sleeved**, to provide maximum protection. In addition, 48-pack 4' boxes and all 8' boxes add **heavy-duty cornerguards and styrofoam end inserts** to provide yet another layer of protection for our lamps. These measures ensure that our customers will receive lamps that will be trouble-free for many years.



Maintenance Engineering's XTRABRITE ALPINEWHITE® lamps are the best lamps made: built Different and Better, designed for longer life, made at the best manufacturing plants in the world, triple-checked for quality, shipped in the best packaging, and providing customers with up to twice the light for their energy dollar. **Maintenance Engineering has been providing the best lighting products and service since 1974.**