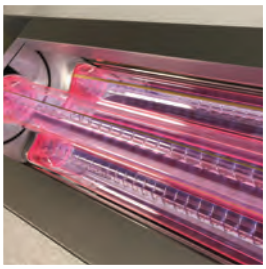
ExciRay

Excimer Curing System



Vacuum ultraviolet radiation for mattification and other applications

Designed and made in Britain

gewuv.com

GEW

...engineering UV

Custom Conveyor Lab Units
available for R & D applications

GEW ExciRay lamps

GEW's ExciRay lamp systems utilise dielectric barrier discharge (DBD) lamps to produce quasi-monochromatic vacuum ultraviolet radiation, typically at 172nm. This radiation is commonly used for mattification of surface coatings, modification of surface tension for improved adhesion or surface cleaning for semiconductor and medical industries.

GEW ExciRay lamps can be produced up to 255cm in length and can be custom integrated for your specific application, including provision for all required nitrogen inerting and control.

They are also seamlessly integrated into the wider GEW UV system which may be required for gelling or final cure so that GEW can provide a turnkey mattification solution for your process. Our experienced engineers also ensure rigorous adherence to international safety standards.

ExciRay can be incorporated into a GEW Custom Conveyor Lab Unit for quality control and R&D applications.

Any combination of GEW lamp, LED and Excimer are available with or without nitrogen inerting.

Lab Units are available in multiple widths and speed ranges.

Please contact GEW For more information.

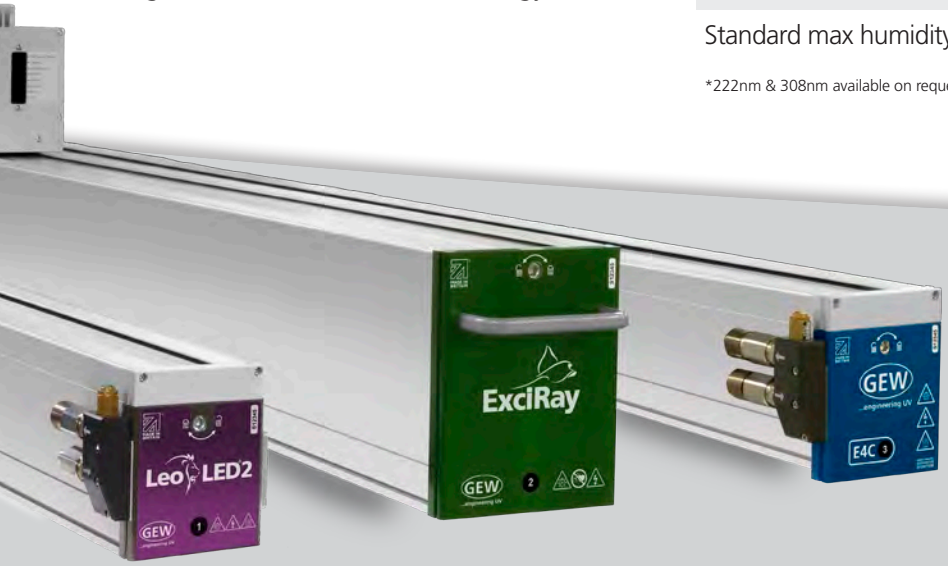
Mattifying
- Deep matt down to 1.2 G.U. @ 60°
- Soft touch finishes
- No matting agents for increased coating durability and process simplification
- On/off instantaneous matting
- Fully integrated into pre-gelling and final cure UV system
- Compatibility with electron beam coatings also possible

Surface modification
- Significant increase in surface energy

Specification

Max electrical power	5W / cm
Peak wavelength	172nm*
Max irradiance at focal point	65mW / cm^2
Max length	255cm
Standard cross section	145mm W x 425mm H
Cooling	N_2
Standard max operating temperature	40°C (104°F)
Standard max humidity	Non-condensing

*222nm & 308nm available on request.



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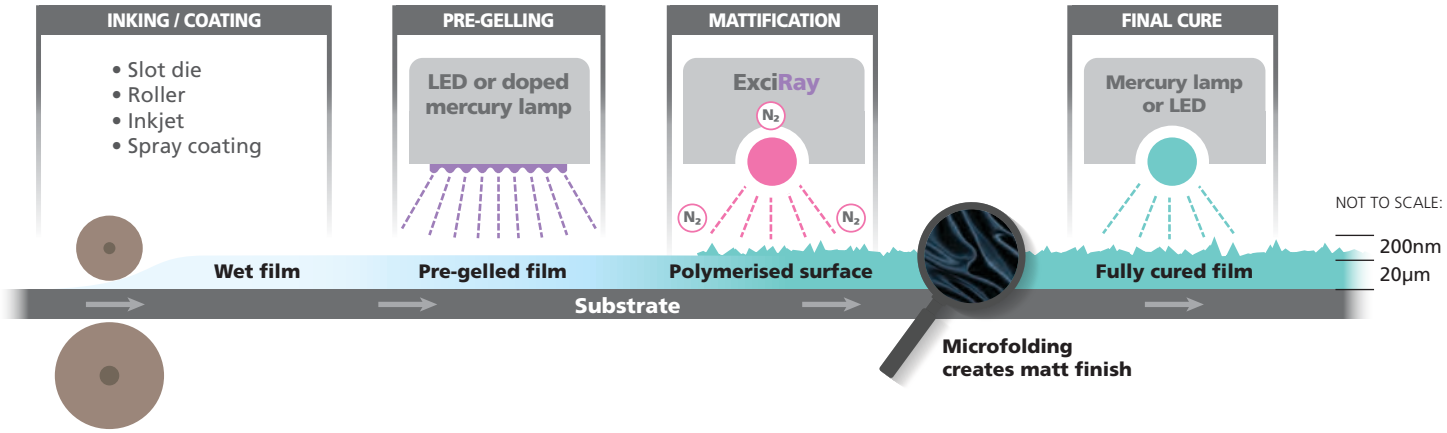
gewuv.com/exciray

ExciRay mattification process

Mattification of coatings for various applications, including decorative laminates for flooring and furniture, PVC flooring, wood panels, plastic parts, coil coating, etc.:

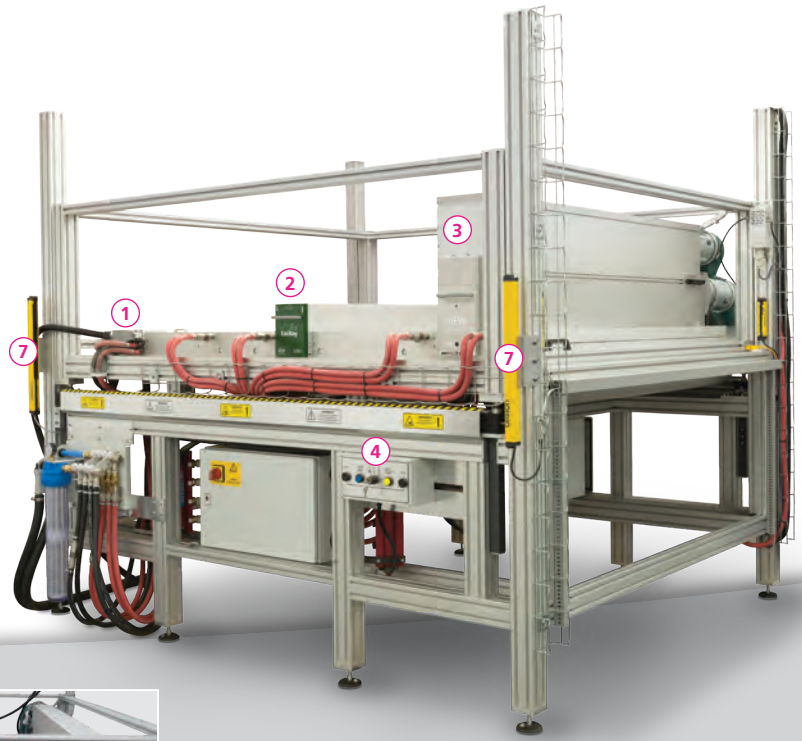
- **Gelling:** Partially cures the coating, increasing its viscosity to resist subsequent ExciRay microfolding. Changing gelling power can modify coating texture, 85° gloss level and soft touch properties. Typically not inerted.
- **Mattification:** 172nm radiation from the ExciRay lamp fully cures the top layer of coating and shrinkage causes microfolding, which results in a matt surface. This process must be inerted and is not instantaneous, requiring a dwell time before the final cure.
- **Final cure:** A powerful mercury or LED lamp cures the coating all the way through. This can optionally be inerted depending on application requirements.

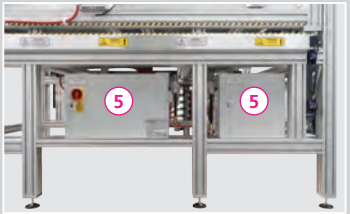


Typical integration

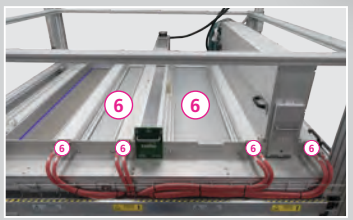
Each integration is fully customised to your machinery. Mattification applications can be flat (as pictured) or mounted on chilled rollers, depending on coating machine configuration.

1. Pre-gelling: 395nm LeoLED2
2. Mattification: 172nm ExciRay
3. Final cure: Mercury lamp NUVA2
4. Height adjustment control panel
5. Nitrogen control cabinets
6. Inert chamber
7. Safety light curtains





Rear view - Fully automated nitrogen control cabinets



Aerial view - Inert chamber with adjustable nitrogen injectors

Relax... you're in safe hands

GEW Remote Monitoring Service

Remote Monitoring is an IoT technology included as standard on every GEW RHINO/RLT UV system, and is Industry 4.0 approved.

All such systems are continuously monitored to ensure they are operating at peak efficiency, 24/7/365.

This also enables GEW to provide the **fastest and most precise service response in the industry**.

System performance reports

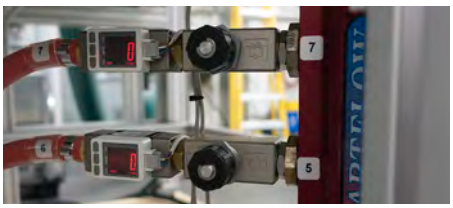
The Event Log continually records system use and regular reports are generated for the customer, detailing energy usage, press productivity and system performance.

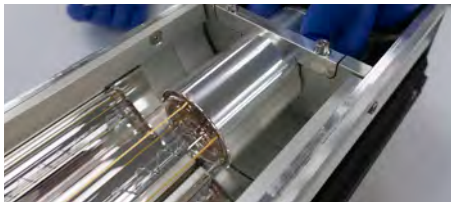
RHINO control

RHINO/RLT Power Supply Units (PSUs) provide correct current type for mercury or LED pre-gelling and final cure lampheads. The ExciRay transformer sits within the same RHINO cabinet and the entire system is controlled from a single touchscreen, providing an easy-to-use turnkey solution.

5-year warranty available

Using GEW's embedded service package gives total confidence in the reliability of GEW power electronics, and minimises unplanned maintenance costs. **GEW is the only UV supplier to offer this level of warranty on the full system.**





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