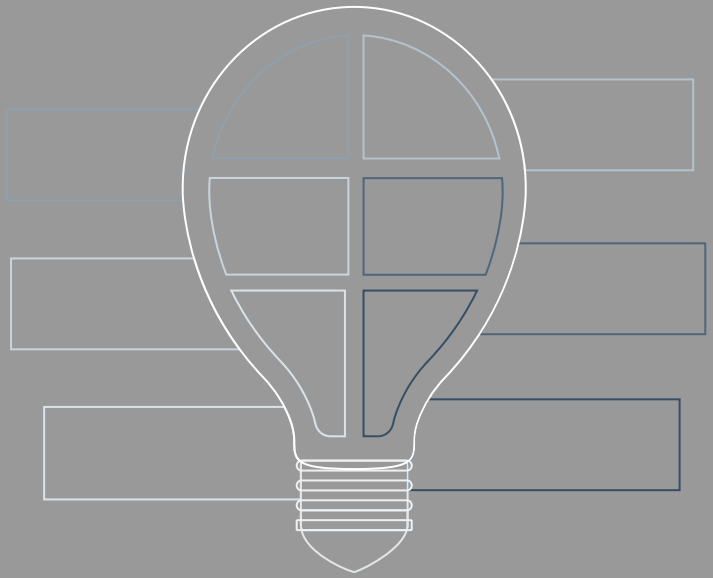
UV-C CLEAN SERVICES



Innovative UV-C Light Solutions for Confidence in the Workplace

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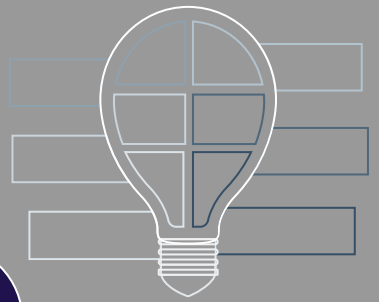
WHAT WE DO

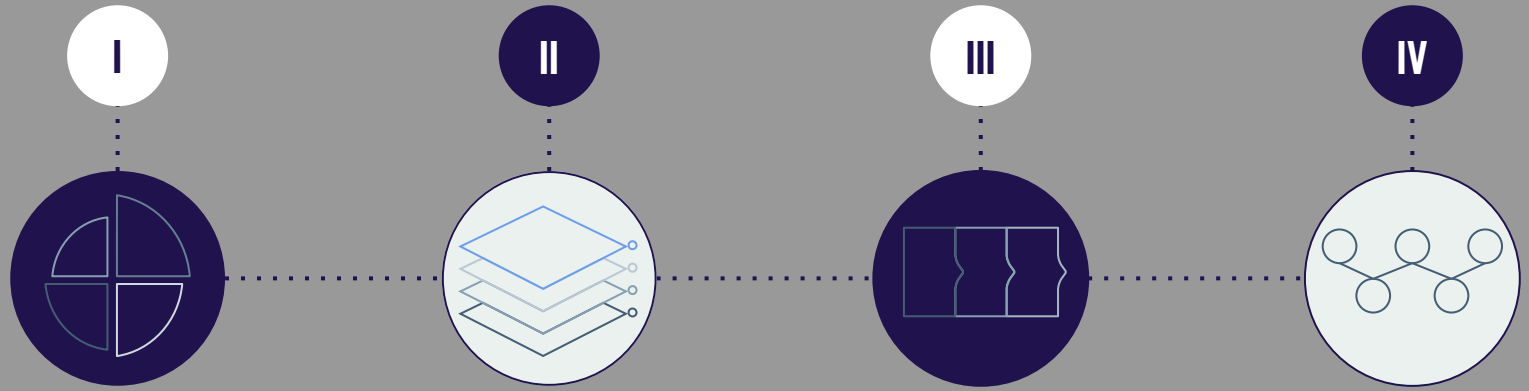


Following a collaborative approach to determine your decontamination needs, UV-C Clean Services designs and supplies decontamination units that reduce the risks of contracting and spreading life-threatening microorganisms and viruses such as COVID-19.

Our engineered UV-C light solutions are capable of killing 99.9% of germs and bacteria, thus providing peace of mind in the workplace.

Innovative UV-C Light Solutions for Confidence in the Workplace

OUR PROCESS

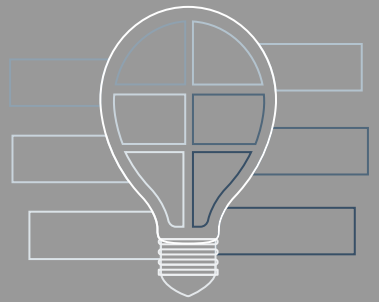


COLLABORATIVE ASSESSMENT

DESIGN

DELIVERY

OPERATION & SUPPORT



"You never change things by fighting the existing reality. To change something, build a new model that makes the existing model obsolete"

- Buckminster Fuller

01. SAFETY

Our services are rooted in safe use protocols for the end user.

02. HIGH QUALITY

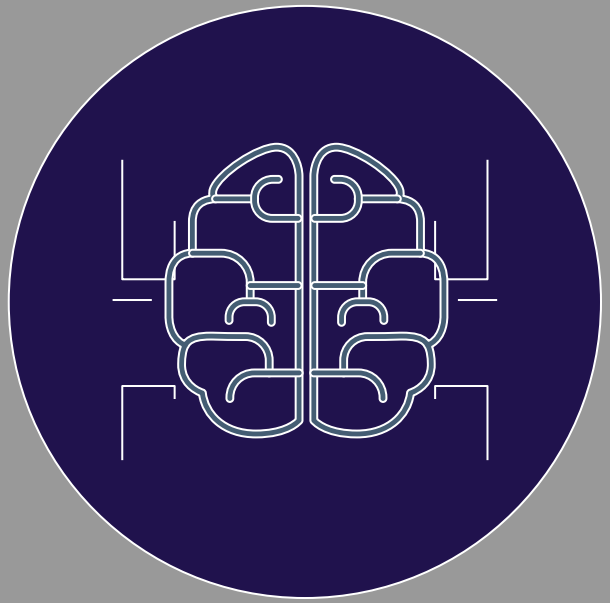
Quality systems and components.

03. SUPPORTED

From design to completion your needs will be safeguarded.

04. EFFECTIVE

Our system ensures peace of mind and assurance.



01.

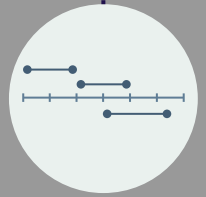
SAFETY

Our solutions and services are rooted in safe-use protocols

SAFETY IN THE FIELD

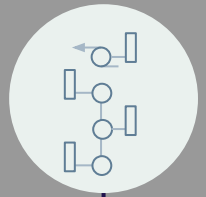
AT UVC CLEAN SERVICES, SAFETY IS OF THE UTMOST CONCERN. THIS IS NECESSARY DUE TO THE DANGERS OF UVC LIGHT EXPOSURE.

01



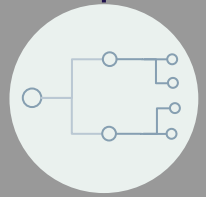
Our state of the art chambers have safety interlock door switches, which shut down the system upon the slightest opening of any door.

02



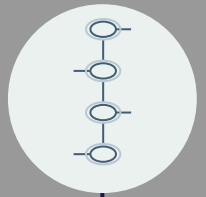
Mechanical ventilation is provided to ensure the temperature is controlled.

03

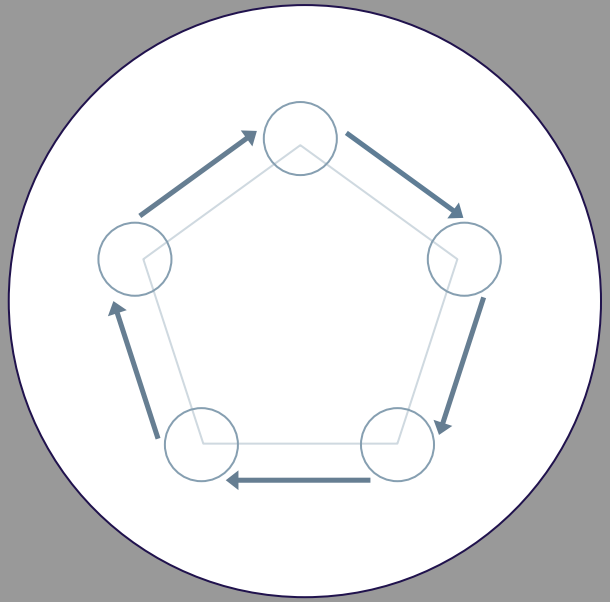


The system can only be operated safely through the controller from outside the chamber.

04



Users and Technicians are outfitted in full PPE when operating our equipment.



02.

HIGH QUALITY

Quality systems and components.

PROFESSIONAL GRADE

CUSTOM

Our units are fully customizable to customer requirements. This includes chamber size and light intensity, which in turn dictates required exposure time.

FLEXIBLE

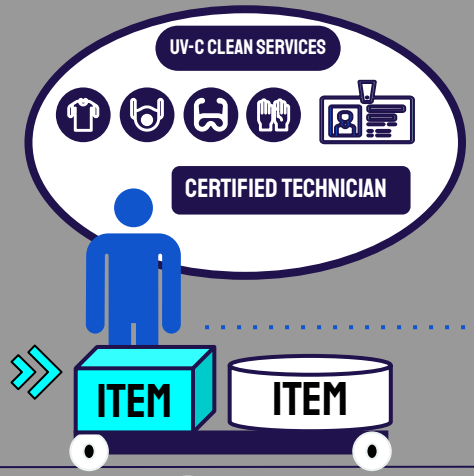
Units can be built to accommodate available power sources, from generator power to direct building connection. For short term use, generator power is an excellent and portable option.

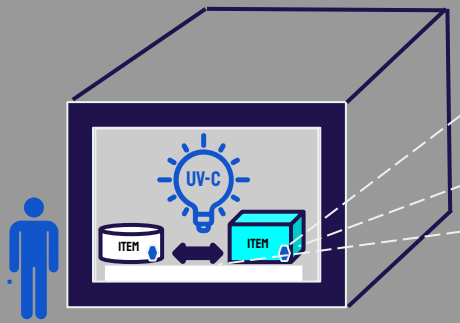
PROVEN

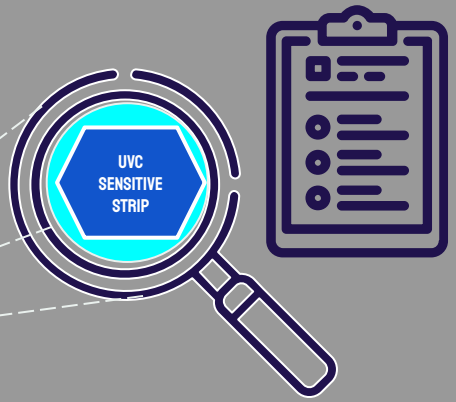
Our quality management system ensures that germicidal decontamination has occurred.

UV-C CLEAN SERVICES

STEP – BY – STEP







01

Contents prepped for decontamination by certified technicians.

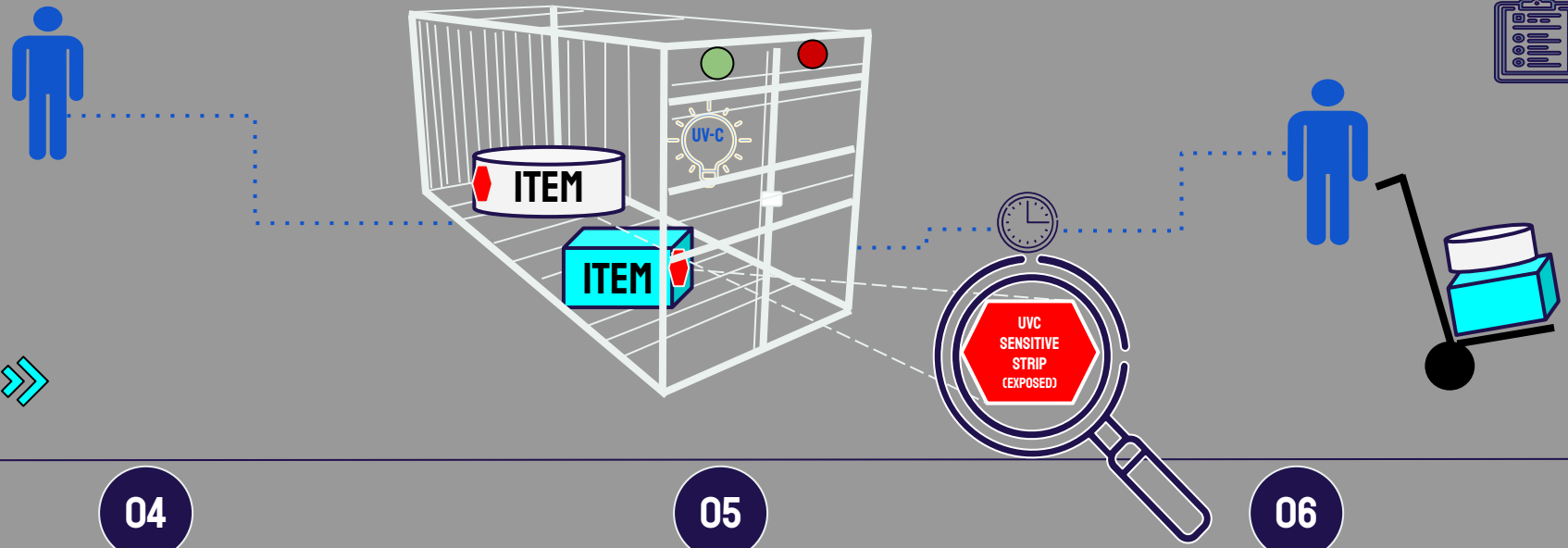
02

Effective treatment and exposure is assured through proper placement and spacing.

03

Items recorded upon entry of chamber. UVC light sensitive intensity strips are adhered to establish efficacy.

STEP – BY – STEP



04

Technicians evacuate the chamber, lock the doors, and energize the lights.

05

Technicians, in full PPE, verify the exposure time by inspecting the exposed UVC light intensity strips.

06

Verified exposure Data is logged and submitted to our clients for their records.

UV-C CLEAN SERVICES

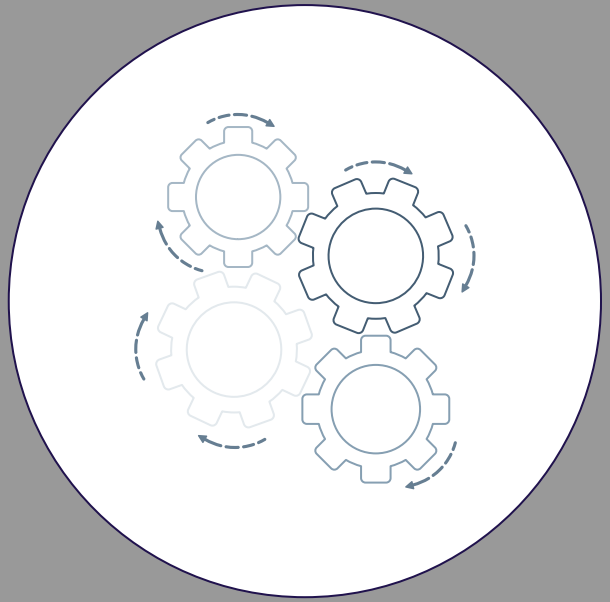
UV-C CLEAN
SERVICES

Exposition on UVC light intensity strips:

- An integral part of our quality system approach proving that UV-C light was present and sufficient during the decontamination cycle.

- Helps us continually improve our systems and rectify any performance issues with our equipment.

FOR MORE INFO ON UV-C LABEL:
https://www.uvprocess.com/uv-intensity-labels/1969-new-uv-intensity-labels.html



03.

SUPPORTED

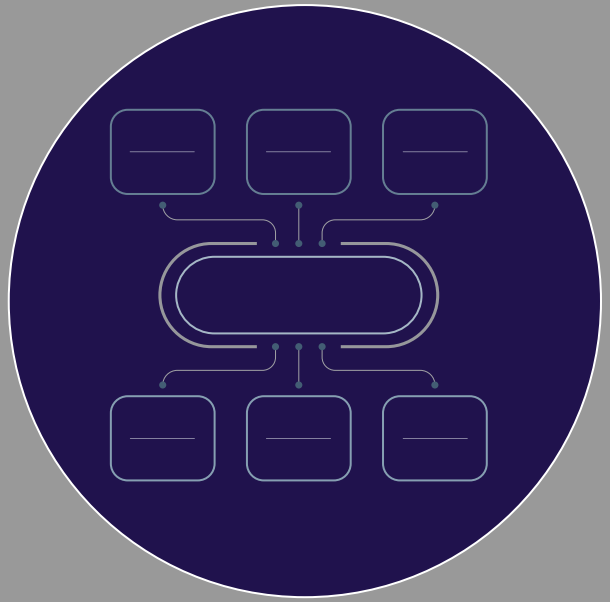
From design to completion your needs will be safeguarded.

TRAINED & OPERATED

Our technicians are trained to use our quality systems providing peace of mind and assurance to our customers.

- We provide 24 hr support to our customers.
- From start to finish we meet and exceed your businesses decontamination needs.
- Effective professional designs and systems that provides you peace of mind.
- Comprehensive service plans.

Innovative UV-C Light Solutions for Confidence in the Workplace

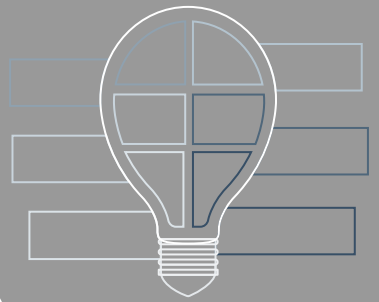


04.

EFFECTIVE

Our system ensures the desired effect and delivers peace of mind

PEACE OF MIND



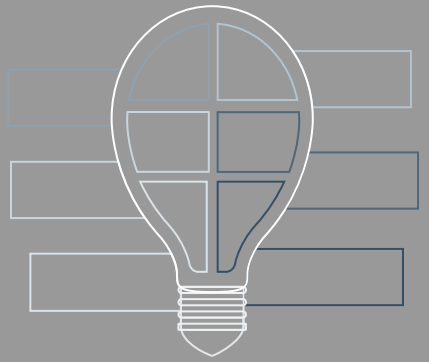
Items are tagged and catalogued, and a UVC sensitive strip is attached to the items, the color of which changes with UVC exposure.

Upon completion of the exposure cycle, this strip is inspected to confirm effective cleaning of the items.

Our quality management system also monitors the dosage output and life cycle of each bulb to ensure they are replaced as needed.

Innovative UV-C Light Solutions for Confidence in the Workplace

THANKS!



Do you have any questions?

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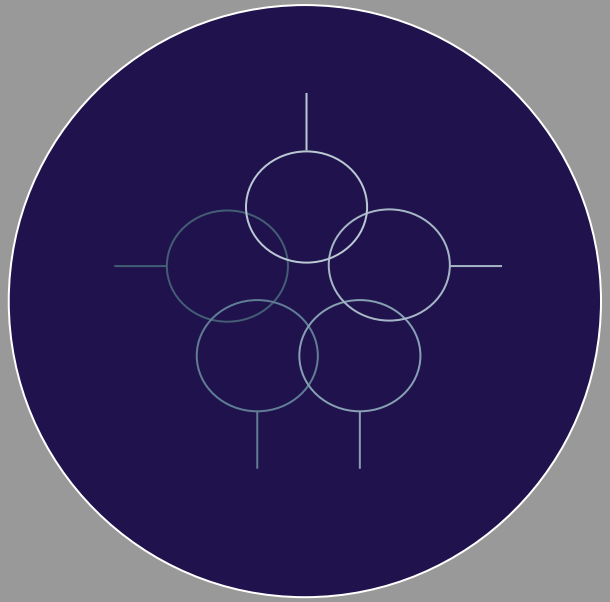
UVCcleanServices.com

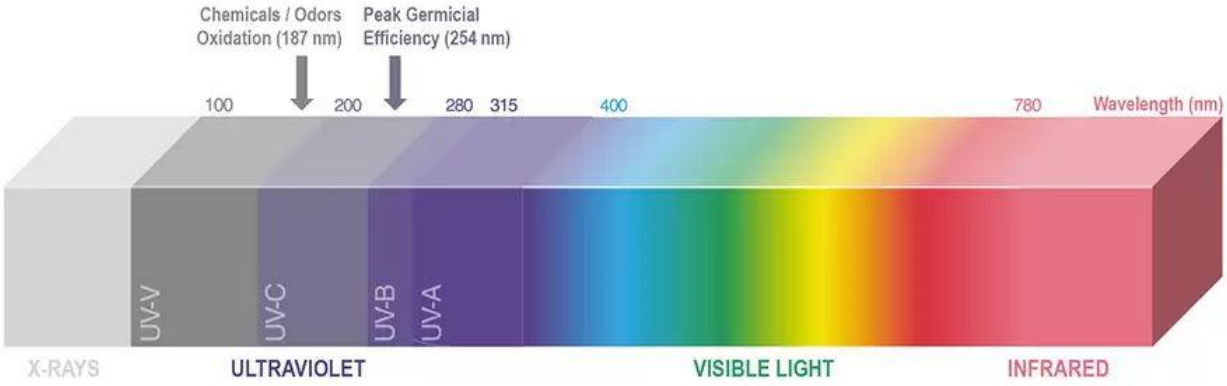


FREQUENTLY ASKED QUESTIONS

Additional UV-C germicidal light information

WHAT IS ULTRAVIOLET (UV) LIGHT?

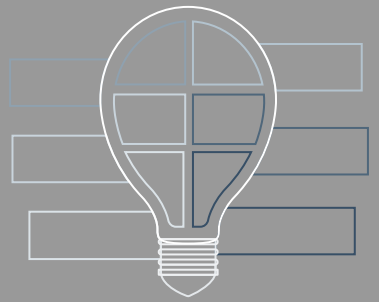
Ultraviolet light (UV) is a form of invisible light for the human eye. It occupies the part of the electromagnetic spectrum between X-rays and visible light. The sun emits ultraviolet light but most of it is absorbed by the Earth's ozone layer.[1]



Innovative UV-C Light Solutions for Confidence in the Workplace

[1] https://sanuvox.com/the-uv-process/

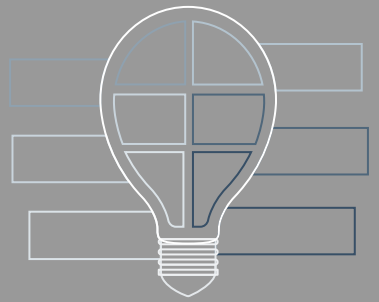
WHAT IS UV-C LIGHT AND HOW IS IT CREATED?



UV-C is one of many electromagnetic frequencies emanating from the sun with properties unique to its wavelength. The "C" frequency of the electromagnetic UV family has, amongst other things, germicidal effects. This was recognized by Westinghouse in the 1930s, and they quickly commercialized the low-pressure mercury vapor "germicidal" lamp at that time.[2]

To synthesize this frequency, a glass tube is evacuated and refilled with argon at far below atmospheric pressure, along with a small amount of mercury. When the mixture is energized it creates a glowing plasma of electrons that pass through the mercury vapor. As a result, a mercury electron is liberated at a frequency representative of mercury's spectral line, which is 253.7nm. The dominant emission (>90%) from these lamps is UV-C energy.[3]

[2,3] http://www.uvresources.com/resources/faqs



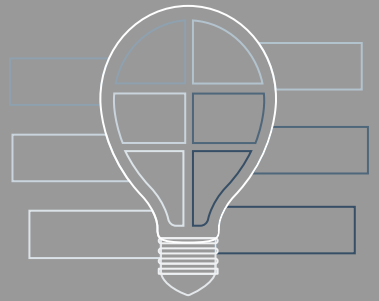
HOW DOES UV-C LIGHT WORK?

UV radiation works by emitting a wavelength that falls between 200 and 280 nanometers. When the UV-C light is shined on bacteria, viruses, and other pathogens, it deactivates their DNA as well as destroying their ability to multiply, ultimately killing them.[4]

[4] https://fusionuv-clean.com/faq/

IS UV-C HARMFUL ?

We're exposed to parts of the UV spectrum while outdoors. Generally, excessive UV exposure can produce adverse effects depending on wavelength, type and duration, and UV response differences between individuals. The three basic wavelengths:[5]

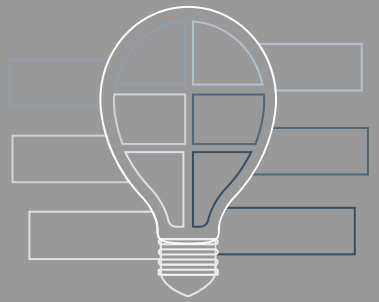


UV-C - includes the germicidal wavelength of 253.7nm and is used for air and water disinfection. Human overexposure causes temporary skin redness and harsh eye irritation.[6]

UV-A, B and C will damage collagen fibers and accelerate skin aging. Generally, UVA is least harmful; UVB contributes to DNA damage and cancer. It penetrates deeply but does not cause sunburn. Because of no reddening (erythema) it cannot be measured in SPF testing. There's no good clinical measurement of UVB blocking, but it is important that sunscreens block both UVA and B. UVC however, penetrates superficially and has not been associated with long term tissue effects.[7]

[5,6,7]http://www.uvresources.com/resources/faqs

IS UV-C SANITATION SAFE?

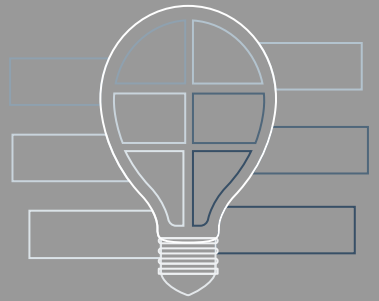


Like all disinfection systems, UV-C devices must be used properly to be safe. As mentioned, they all produce varying amounts of UV-C light in wavelengths of 200-280 nanometres. This light is much stronger than normal sunlight and can cause sun burns and eye damage if exposed incorrectly.

With all UV-C equipment general machine-human safety needs to be considered. These considerations should be addressed through documentation, user training, and appropriate safety compliance. UV-C Clean Services integrates safety and function by design.[8]

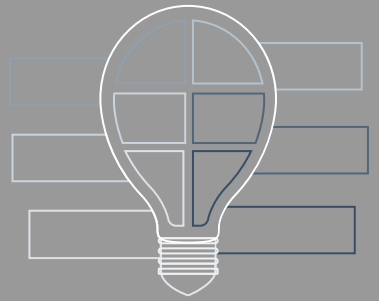
[8] https://fusionuv-clean.com/faq/

WHAT HAPPENS TO THE AREAS OF OBJECTS THAT AREN'T EXPOSED TO DIRECT UV-C LIGHT?



All outer surfaces of items inside our units are exposed to germicidal, UV-C light.

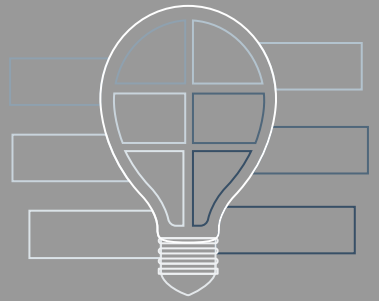
HOW DO YOU TEST THE EFFICACY OF THE UV-C LIGHT?



We use UV light activated strips to ensure the presence of UV-C light that is cross referenced to a UV light dosage chart. To ensure that the UVC light fixtures are running at the correct calibration set out by our manufacturer ,we also employ sensors to monitor UV intensity and bulb life. These two integral elements of our quality management system are monitored daily.

Every client's needs will be different. Once our client’s design and system is established, we take that specification to our trusted UV-C light provider; so the correct germicidal UV-C output model matches the unit design and dimensions.

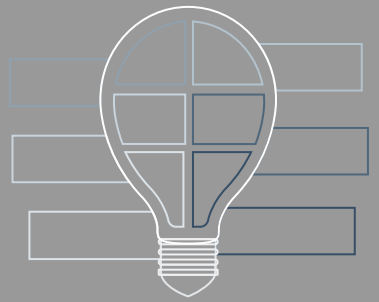
WHAT ARE THE BENEFICIAL USES OF GERMICIDAL ULTRAVIOLET?



Ultraviolet technology is a non-chemical approach to disinfection. In this method of disinfection, nothing is added which makes this process simple, relatively inexpensive and requiring of low ongoing maintenance.

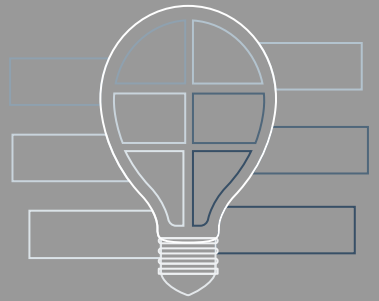
HOW DOES IT AFFECT GERMS?

Microorganisms are simple organic structures that readily absorb the UV-C wavelength, causing photo-disassociation – the microbes DNA is compromised due to its weak molecular bonds. The subsequent loss of genetic instructions causes cell death and/or the inability to replicate, rendering them harmless. Continuous exposure causes uninterrupted degradation, significantly faster than sun exposure.[9]



[9] http://www.uvresources.com/resources/faqs

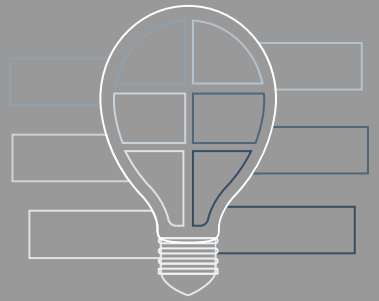
WHAT IS INACTIVATION?



For mold and bacteria, doses of UV-C energy may not cause immediate cell death but the microbe could be "inactivated". This means that while some biological activity may still exist, cell replication is eliminated - the microbe is no longer viable, rendering it harmless! What's more, small doses of UV-C over time have been shown to hasten cell death. As viral particles are not a life form, we depend solely on inactivation to avoid their harmful effects.[10]

[10] http://www.uvresources.com/resources/faqs

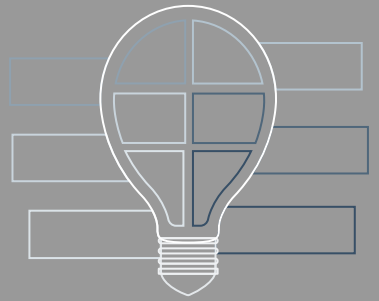
CAN UV-C PENETRATE SURFACES OR OBJECTS?



In short, no. The UV-C light only disinfects what it encounters and must be visible to all levels of a surface to fully disinfect. [11]

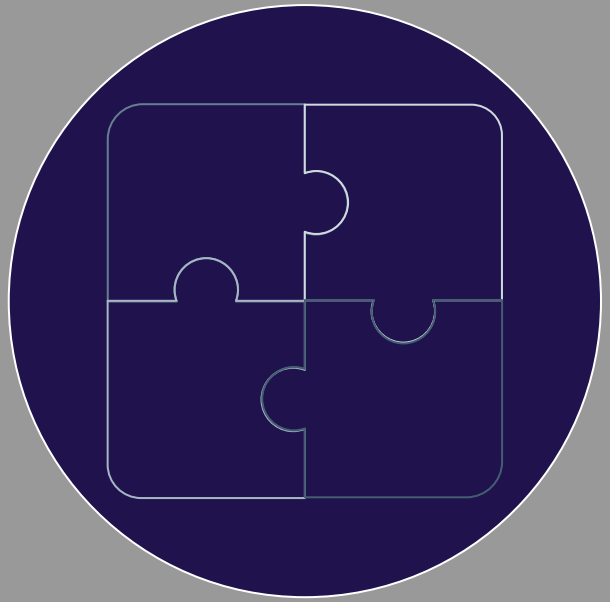
[11] https://fusionuv-clean.com/faq/

WHAT EFFECTS DOES UV LIGHT HAVE ON SURROUNDING MATERIALS?



Long term exposure to materials like plastic and rubber will shorten the life of the product by 10% - a product that typically has a ten-year life span will have a nine-year life span if disinfected regularly with UV-C light.[12]

[12] https://fusionuv-clean.com/faq/

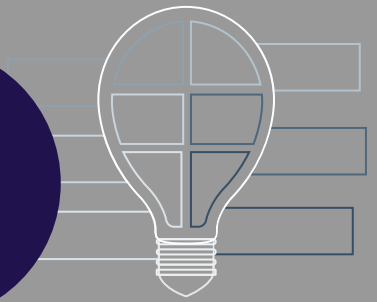


COMPLEMENTARY MATERIAL

PLASTIC TYPES - GOOD WITH UV-C

PLASTIC TYPES - GOOD WITH UV-C

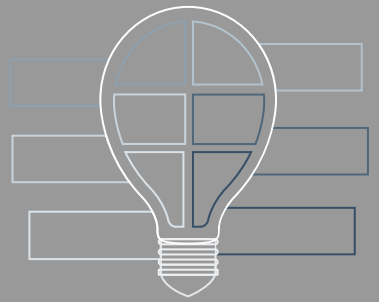
Fluoropolymers such as PVDF, PTFE, and PEEK are particularly good options



- They have extremely strong molecular bonds that can withstand UV light exposure. There is literally no place on earth with enough UV radiation to break their bonds. For this reason, fluoropolymers can last for decades.
- Dark pigments in the plastic will limit the penetration of UV rays. The darker and more opaque it is, the longer it will last.
- Polypropylene (PP) and low-density polyethylene (LDPE) are just two types of polymers at increased risk.[13]

[13] https://fusionuv-clean.com

APPROXIMATE UV LIFETIMES



Material	Life (approx.)
Geotextiles	3-5 months
RPE® 15	3 years
RPE® 25	5 years
PVC 30	5 years
Enviro Liner® (EL6000HD) 30 and 40 mil	25 years
Geoflex® 30	20 years
HAZGARD® 5000	10 years
Arctic Liner®, White 30 mil	10 years
HDPE 60	20 years
PP 36, 45 mil	20 years

table 1

Innovative UV-C Light Solutions for Confidence in the Workplace

table [1] https://www.layfieldgroup.com/Geosynthetics/Tech-Notes/UV-Resistance.aspx