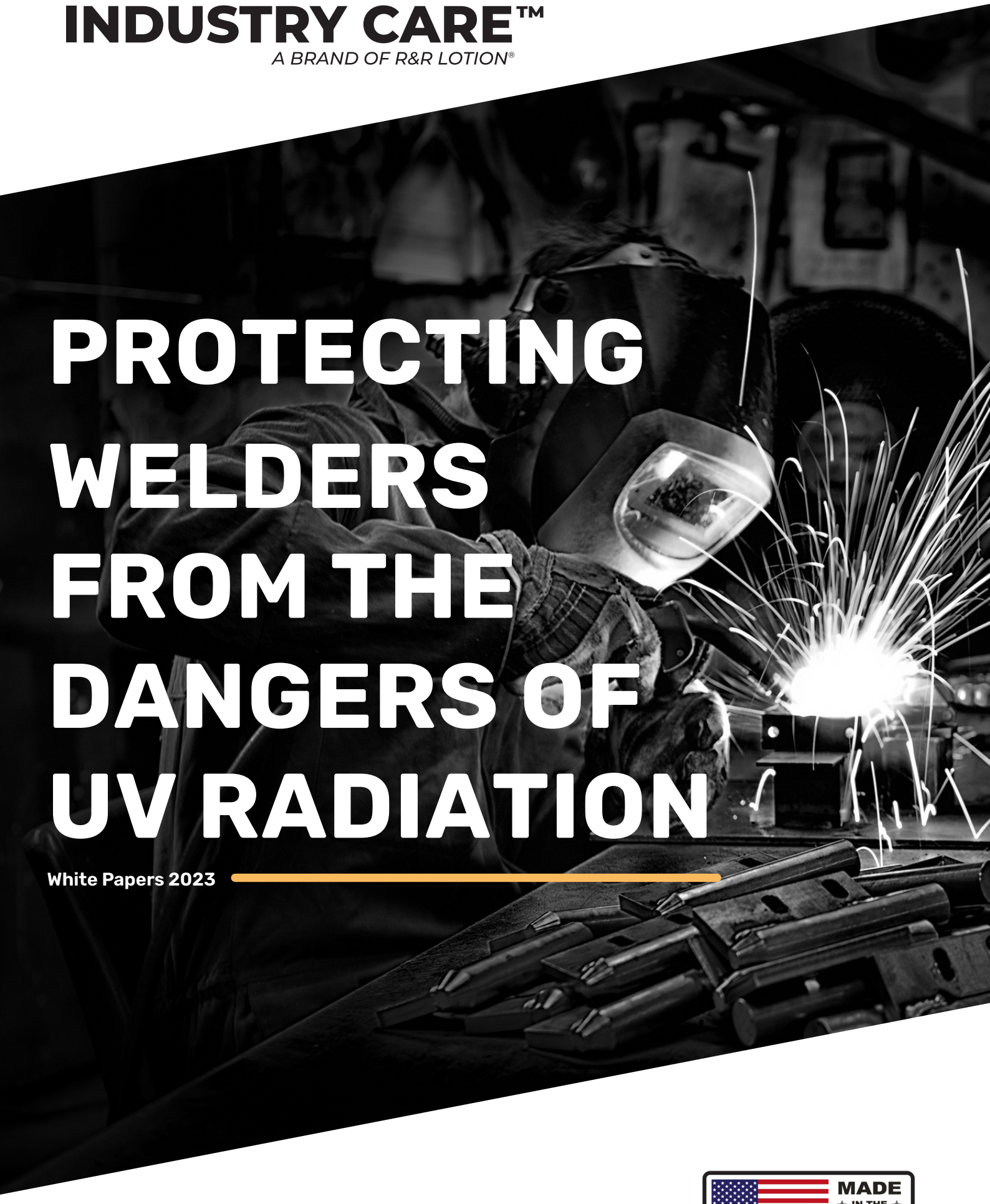
INDUSTRY CARE™

A BRAND OF R&R LOTION®



PROTECTING WELDERS FROM THE DANGERS OF UV RADIATION

White Papers 2023

MADE IN THE USA

Introduction

Ultraviolet (UV) radiation is a known carcinogen, and electric arc and laser welding give off UV radiation. When welding, you are exposed to direct UV radiation produced by the arc and the UV radiation that is reflected off hard and smooth surfaces around you. Exposure to UV radiation can cause various health issues, including eye melanoma, "welder's flash" or "arc eye" (painful inflammation of the cornea), cataracts (clouding on the lens of the eye), and burns to exposed skin.

What is UV Radiation

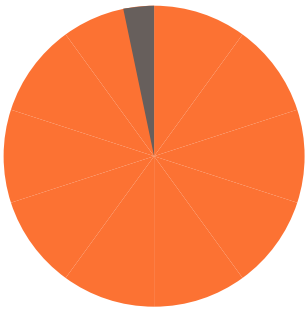
Ultraviolet (UV) radiation is a form of electromagnetic radiation that comes from the sun and man-made sources like tanning beds and welding torches. UV rays are in the middle of the electromagnetic spectrum, with wavelengths ranging from about 10 nm to 400 nm. Radiation is classified into different types based on their energy levels, with UV rays falling between visible light and X-rays.

There are also different types of UV rays, based on how much energy they have. UVC rays have the highest energy and shortest wavelength (10 nm to 280 nm), but fortunately, they are mostly absorbed by the ozone layer and do not typically reach the earth's surface. UVB rays have slightly less energy and a longer wavelength (280 nm to 320 nm) and are responsible for sunburn and most skin cancers. UVA rays have the lowest energy and longest wavelength (320 nm to 400 nm) and are mainly responsible for skin aging and contribute to some types of skin cancer. Welding arcs produce UV radiation in all three ranges, with the majority being UVA and UVB rays.

314,000

New Welding Professionals are projected to be needed by 2024

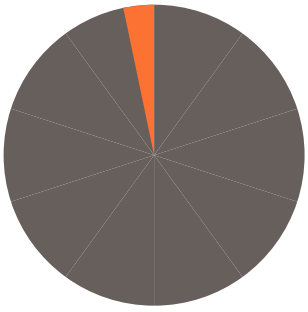
As of 2021, there are an estimated 750,000 U.S. welding professionals, and more than 160,000 are nearing retirement. Since 314,000 new welding professionals are projected to be needed by 2024, the Welding Workforce Data site is designed to answer questions people entering the welding industry need to know.



Men in Welding Industry

93.9%

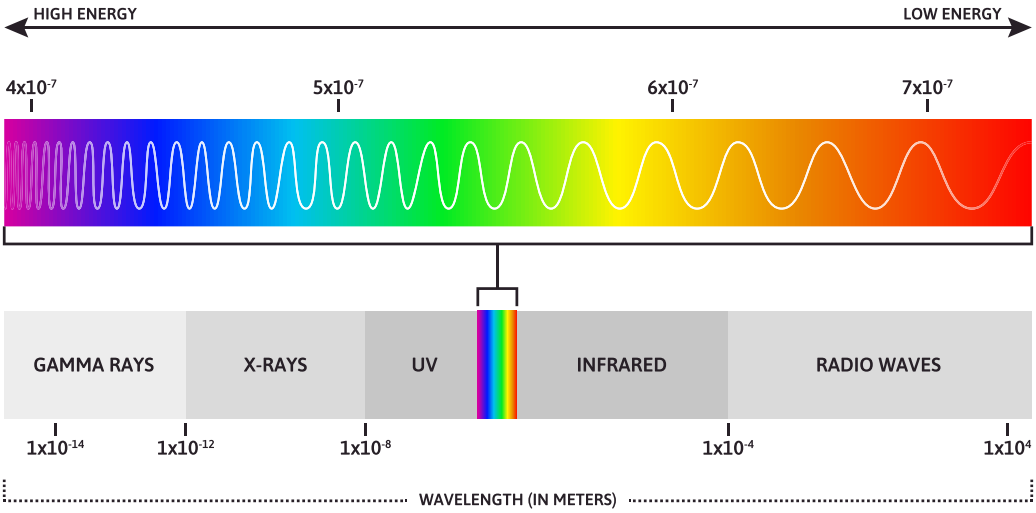
There are over 402,333 welders currently employed in the United States. 6.1% of all welders are women, while 93.9% are men. The average age of an employed welder is 40 years old.



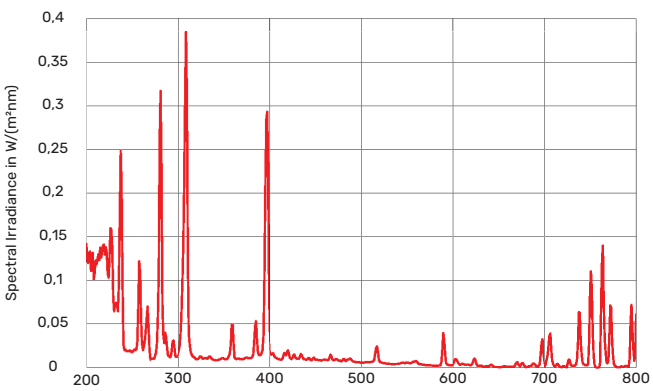
Women in Welding Industry

6.1%

UV Radiation & Welding



Welding arcs produce a bright glow, and this radiation comes from the arc. The visible light produced by the arc falls in the range of 400 to 700nm, while the infrared radiation falls in the range of 700nm to 1,400nm and produces heat. In addition, there is some UV radiation produced in the A, B, and C ranges of 200 to 400nm. Arc welding produces the full spectrum of UVR, and the short distance between the arc and the welder's skin may not be enough to absorb most of the UVB and UVC. This means that arc welders may be at a significantly increased risk of developing actinic skin and ocular damage, including malignancy, particularly if they have inadequate protection.

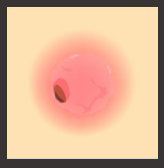


UV Wavelength of Welding Arc

Thermal burns from hot metal can also contribute to this risk. It is therefore crucial for welders to use adequate protection, including sunscreen that provides full broad-spectrum protection to minimize the risk of skin cancer and other health issues associated with UVR exposure.

Skin Cancer

UV radiation is a major contributor to the development of skin cancer. It damages the DNA in skin cells, leading to mutations that can cause cancer. Prolonged exposure to UV radiation can cause sunburn, premature skin aging, and cataracts. This is particularly relevant to welders who are frequently exposed to UV radiation from welding arcs.



Basal Cell Carcinoma

Frequently seen on skin that has been exposed to the sun, a growth, open sore, red patch, or pearly/shiny bump can develop. The edges of this growth may be raised or rolled, & it could have a central indentation or not. It may discharge fluids, leading to the formation of a scab or crust.

Squamous Cell Carcinoma

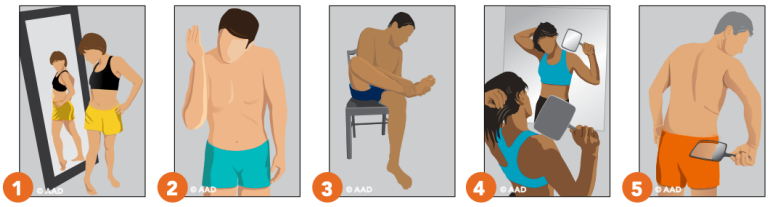
It can manifest as a scaly red patch or an open sore, or as rough, thickened skin that resembles a wart, or as a raised growth with a central depression. These skin abnormalities are likely to occur on areas of skin that are exposed to the sun, but they may also develop on less sun-exposed areas.

Melanoma

The typical presentation involves the emergence of dark spots, including moles or brown spots. The majority of these are benign, melanomas can be distinguished by their **A**symmetrical shape, irregular **B**orders, varied **C**olors within the same mole, **D**ark hue, large size, and tendency to **E**volve over time. These features are collectively summarized as the **ABCDE** method.

Skin Cancer Self-Examination

Checking your skin means taking note of all the spots on your body, from moles to age spots. Skin cancer can develop anywhere on the skin and is one of the few cancers you can usually see on your skin. Anyone can get skin cancer, regardless of skin color. Ask someone for help when checking your skin, especially in hard-to-see places.



1 Examine your body front and back in a mirror, then look at the right and left sides with your arms raised.

2 Bend your elbows and look carefully at your forearms, underarms, and palms.

3 Look at the backs of your legs and feet, the spaces between your toes, and the soles of your feet.

4 Examine the back of your neck and scalp with a hand mirror. Part your hair for a closer look at your scalp.

5 Finally, check your back and buttocks with a hand mirror.

UV Radiation and PPE

Personal protective equipment (PPE) is essential for welders to prevent exposure to harmful UV radiation. Welding helmets and shields provide effective protection against direct UV radiation produced by the arc, while protective clothing helps to shield the skin from reflected UV radiation. However, welders should also use sunscreen specifically designed for welders to protect other areas of skin exposure such as the neck and ears. This is particularly important for welders who work outdoors or in areas with inadequate ventilation, as they may be exposed to high levels of UV radiation for prolonged periods.

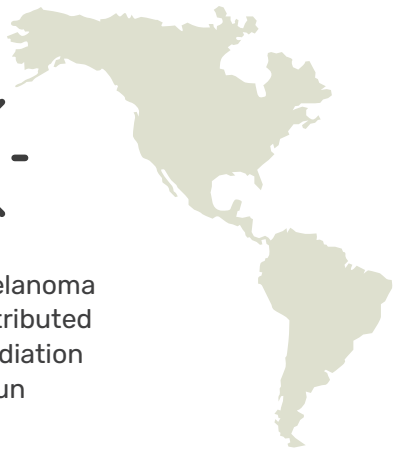
It's also important to note that even indirect UV exposure from other workers who are not welding can increase the risk of skin damage and cancer. This is why it's crucial for all workers in industries where welding is common to use sunscreen and other forms of PPE to protect themselves from UV radiation.

Welding helmets are also designed to block UV radiation and provide additional protection to the eyes and face. It's important to choose a welding helmet with a shade level appropriate for the welding job to ensure maximum protection against UV radiation. However, it's also important to remember that welding helmets do not provide protection for other areas of exposed skin, which is where sunscreen comes in as an important additional protective measure.

Skin Cancer Facts

1 in 5 Americans will develop skin cancer by the age of 70

Skin Cancer is the most common form of cancer in the United States



One person dies of Melanoma every hour

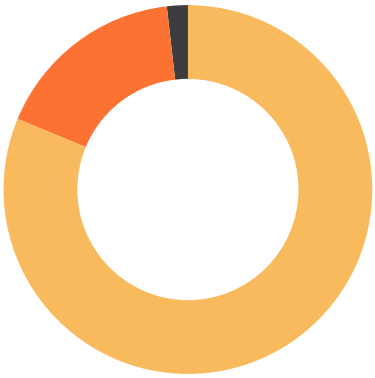
A persons risk for Melanoma doubles if he or she has had more than five sunburns at any age

About 65% of Melanoma cases can be attributed to ultraviolet radiation from the sun

Most commonly diagnosed type of cancer -

More than 3.5 million cases of skin cancer are diagnosed annually

80% Basal Cell
19% Squamous Cell
1% Melanoma



The annual cost of treating skin cancers in the U.S. is estimated at $8.1 billion: about $4.8 billion for nonmelanoma skin cancers and $3.3 billion for melanoma

Lifetime of UV Exposure

in the United States based on a 78 year lifespan

22.73%	46.53%	73.70%	100%
1-18	19-40	49-59	60-78

Regular use of an SPF 15 or higher sunscreen reduces the risk of developing Melanona by 50%

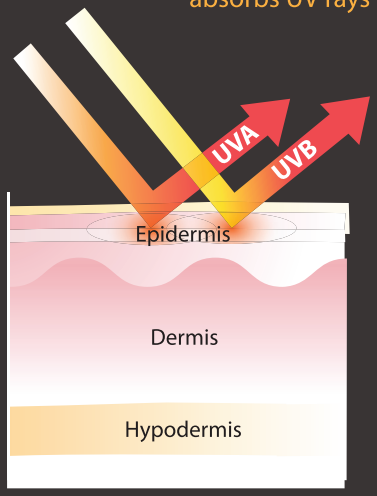
90% of skin aging is caused by the sun

From age 50 on, significantly more men develop melanoma than women. The majority of people who develop melanoma are white men over age 55. But until age 49, significantly more non-Hispanic white women develop melanoma than white men (one in 162 women versus one in 246 men). Overall, one in 28 white men and one in 41 white women will develop melanoma in their lifetime

Types of Sunscreen

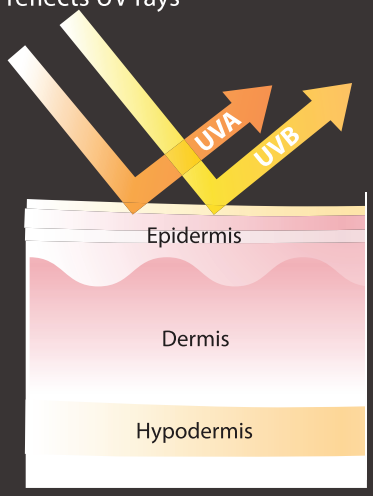
Sunscreen is a critical part of protecting against UV radiation, particularly for people who work in industries such as welding where prolonged exposure to UV radiation is common. Sunscreen works by absorbing and reflecting UV radiation, preventing it from penetrating the skin and causing damage. There are two main types of sunscreen: chemical and physical.

Chemical sunscreen
absorbs UV rays



Chemical sunscreens contain organic compounds that absorb UV radiation and convert it into heat, which is then released from the skin. These types of sunscreens are usually lightweight and non-greasy, making them popular for daily use.

Physical (Mineral) sunscreen
reflects UV rays



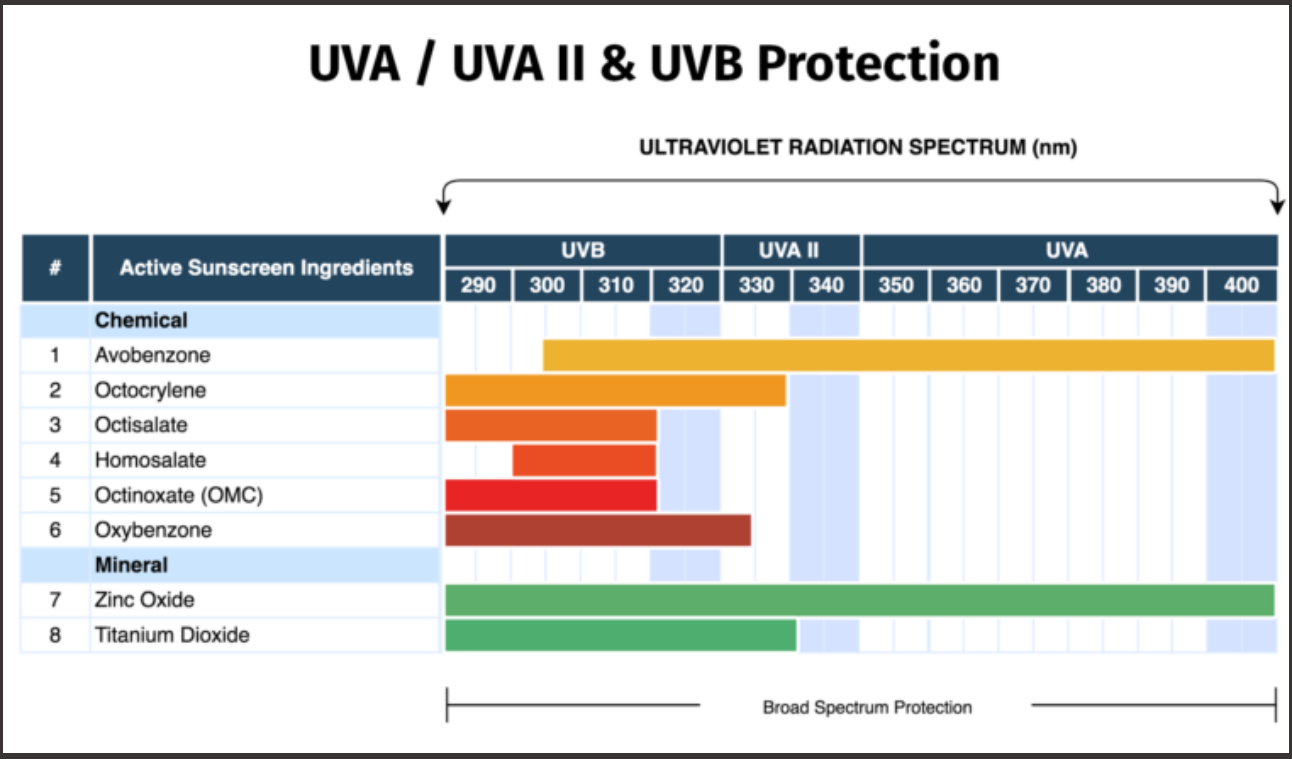
Physical sunscreens, on the other hand, contain inorganic compounds such as titanium dioxide or zinc oxide that create a physical barrier on the skin. This barrier reflects and scatters UV radiation away from the skin, preventing it from causing damage.

Both chemical and physical sunscreens can provide effective protection, but it's important to choose a sunscreen with an SPF of at least 30 and labeled "broad-spectrum" for maximum protection. By using sunscreen in conjunction with other protective measures, such as wearing protective clothing and taking regular breaks from prolonged UV radiation exposure, welders can reduce their risk of skin cancer and other health issues associated with UV radiation exposure.

Zinc Oxide for Welders

There are a number of active ingredients used in sunscreens that can effectively block out UV radiation, but not all of them cover the full range of the UV spectrum. This is why it's important to use a combination of active ingredients to ensure maximum protection. However, there is one active ingredient that covers the full spectrum of UV radiation, and that is zinc oxide.

Zinc oxide is a physical sunscreen that creates a barrier on the skin, reflecting and scattering UV radiation away from the skin's surface. It is the only active ingredient that provides complete protection against UVA, UVB, and UVC radiation, making it an ideal choice for welders who are exposed to the full spectrum of UV radiation from welding arcs.



110 Million

Estimated workers across the world are subject to some form of welding-related exposure, whether they are full-time welders or employed in other industries such as construction, farming, ship-building or vehicle servicing. Welders are exposed to a number of direct hazards including high heat and radiation, as well as respiratory, cardiovascular and reproductive hazards through inhalation of carcinogenic welding fumes.

I.C. Industrial Sunscreen

I.C. Industrial Sunscreen is a sunscreen specifically designed for welders who are exposed to high levels of UV radiation from welding arcs. It is an SPF 36 full broad-spectrum hybrid sunscreen that uses zinc oxide as its main active ingredient. By blending the best qualities of chemical and physical sunscreens, I.C. Industrial Sunscreen creates a seamlessly protective shield against harmful UV rays while remaining weightless, transparent, and non-greasy.

With 80 minutes of sweat and water resistance, the stay-put formula ensures that the sunscreen won't run into your eyes, providing uninterrupted protection. The sunscreen is specifically designed for welders, providing complete protection against the full spectrum of UV radiation, including UVA, UVB, and UVC radiation.

I.C. Industrial Sunscreen is formulated to meet the specific needs of welders, providing long-lasting protection that won't interfere with their work. It is the perfect choice for welders who are looking for a reliable sunscreen that provides complete protection against the full spectrum of UV radiation, without interfering with their work or causing any discomfort. By using I.C. Industrial Sunscreen, welders can ensure that they are protected from the harmful effects of UV radiation and reduce the risk of skin cancer and other health issues associated with prolonged UV radiation exposure.

Immediate Protection	Activates on application and begins protecting
Non-Zinc Oxide	Mineral mesh size is safely greater than 100 nanometers large
Dual UV Protection	Full Broad-Spectrum defends from both UVA + UVB Rays
Stay-Put Formula	Product remains planted onto skin and will not run into eyes
Clear Application	No visibility or streaks during or after application
Lightweight	Designed to be light and traceless
Non-Greasy	Dries instantly with no oil-tracking
Sweat & Water Resistance	Clings through 80 minutes of sweat and water
Non-Toxic	Lacks toxic ingredients or additives
Gear Safe	Lacks ingredients that cause long-term damage to gear

Part Numbers	Size	Case Quantity	UPC
ICSSF-30+FF-100	Single use Foil, Box of 100	1	666080848767
ICSSF-30+FF-200	Single use Foil, Box of 200	1	666080848866
ICSSF-30+FF-300	Single use Foil, Box of 300	1	666080849214
ICSSP-30+FF-50	Single use Packet, Box of 50	1	666080847418
ICSSP-30+FF-100	Single use Packet, Box of 100	1	666080848873
ICSSP-30+FF-300	Single use Packet, Box of 300	1	666080851583
ISSC-50ML-30+FF	50ML Airless Pump	16	666080847906
ISSC-2-30+FF	2oz. Bottle	24	666080847708
ISSC-4-30+FF	4oz. Bottle	24	666080847692
ISSC-8-30+FF	8oz. Bottle	24	666080847685
ISSC-32-30+FF	32oz. Bottle with Pump	12	666080847678
ISSC-GAL-30+FF	Gallon Bottle with Pump	4	666080847661

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