

## Welding & UV Burns

No. The welding arc is not hotter than the surface of the sun. However, it does give off UV radiation the same as the sun: UVA, UVB, & UVC.

Unlike the sun, the UVC rays are not filtered out.

However, UVC rays are very weak and are blocked by most materials. Welders, particularly those in a manufacturing environment, should take into account indirect exposure to UV radiation and wear a broad spectrum sunscreen.

## Reflection & Amplification

UV rays can be reflected off of many surfaces, shiny or not, and cause burns. Common examples are water, snow, sand, and asphalt. Additionally, certain materials can amplify UV rays dramatically decreasing the time required to cause damage

### **Cloudy days cause damage too!**

**Certain cloud cover can actually create higher UV levels than a perfectly cloudless sky. Called ‘The Broken Cloud Effect,’ studies have shown that partially cloudy skies can magnify UV-B rays by 25% and increase DNA damage by up to 40%. Always wear sunscreen, even on overcast days!**



## National “Don’t Fry- Day” Preventing Sunburn

### ***Spray Sunblock Is Great, As Long As You Get Full Coverage!***

The National Council on Skin Cancer Prevention has designated the Friday before Memorial Day as, “Don’t Fry-Day”. In Safety, we stress the importance of heat-related illnesses; mainly heat cramps, heat exhaustion, and heatstroke. However, sunburns are just as important! Depending on the severity of the burn, side effects can be minor (sensitive skin and annoyance), to severe (sun poisoning – flu-like symptoms that can keep you out of work).

First, what exactly is a sunburn? A sunburn is an overexposure to the sun’s ultraviolet (UV) rays. UV rays are one spectrum of light waves emitted by the sun, and they are full of energy. UV comes in three types: UVA, UVB, and UVC. All three types cause burns and damage skin; UVB and UVC can cause skin cancer.

**UVA** - This wavelength is the longest, and has enough energy to reach past the outer layer of skin deep to the lowest layer, called the dermis. It is associated with aging and causes “sun spots,” and wrinkles.

**UVB** – This wavelength is shorter than UVA and has less energy; it is not able to penetrate the skin. Therefore, it is absorbed entirely by the outermost layer of skin causing sunburns.

**UVC** – This is the shortest wavelength, and potentially the most dangerous for causing cancer. Thankfully though, it is not strong enough to reach the Earth’s surface and is filtered out entirely by the O-Zone layer.

Fortunately, UV exposure is pretty easy to reduce: wear sunscreen!

Here’s what you need to know about sunscreen:

- There are two types: physical and chemical. **Physical sunblock** is thicker and mineral based (zinc oxide is the most common). It prevents UV rays from reaching the skin. These are great for quick application because they don’t need to be absorbed by the skin; plus they are water-resistant! (Great for kids too!) **Chemical sunscreens** work by absorbing UV rays, converting them to non-damaging light or heat, and dissipating them through the skin. These are most common in cosmetics.
- **SPF** – Sun Protection Factor. This number is often misunderstood to mean “the amount of additional time” you can stay in the sun. *This is wrong.* This number actually tells you the amount of additional solar energy it takes to make you burn. UV exposure at 9am is drastically different from UV exposure at 1:30pm. SPF does not account for UVA damage. You will need to reapply sunblock more frequently at times of higher exposure.
- **PA (+ to ++++)** – This rating applies specifically to the amount of UVA protection a sunscreen has.
- **Broad Spectrum** – Most people only wear one type of sunscreen. If that’s you, it should state “Broad Spectrum” on the bottle. This means that it contains both physical and chemical sunscreens, protecting against UVA & UVB damage.