



Employee Safety

4 Awesome Welding Helmets Every Welder Wants to Flex

James Langford | Mar 31, 2022

These aren't your grandfather's welding helmets, torpedo-shaped contraptions with narrow viewports so dark they blocked out everything but the sun and the electrical arc in front of your face. Today's successors to those early models layer style and convenience on top of safety features, offering touchscreen controls, wider auto-darkening faceplates and flamboyant graphics worthy of Comic-con or a motorcycle rally.

While welding itself is an ancient craft, with artifacts dating at least to the Bronze Age, from 3300 to 1200 BCE, welding helmets are a more recent innovation, with the earliest modern device featured in Popular Mechanics magazine in 1937.

Auto-darkening filters arrived in the 1980s, allowing welders to see their work without removing their headgear, a significant advantage in more hazardous environments.

Producers have been improving technology ever since for the personal protective equipment, which is mandated by the U.S. Occupational Safety and Health Administration to protect eyes from arcs brilliant enough to impair vision as well as from sparks and metal spatter.

Read more: Not Your Grandpa's Welding PPE and Gear

The agency requires lenses to comply with American National Standards Institute provision Z87.1, with shades that vary in strength based on the type of job and the individual's needs.

"It's all about the wavelength of the light," says Kevin Beckerdite, global product manager for PPE at ESAB Welding & Cutting Products. "We try to knock out the types of light that strain your eyes: blue light and excessively bright light, for example."

Older welding helmets accomplished that by filtering out everything except green light, but equipment-makers have since found ways to tune auto-darkening filters so that welders can see a broader spectrum through the helmet and have more accurate visibility into their work.

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Kevin Beckerdite

ESAB Welding & Cutting Products

“The improved passive technology means that when you’re not welding, you get a very clear view of your environment, and when you are welding, you get a really nice view of the welding pool so that you can see exactly what you’re doing,” Beckerdite says.

Read more: 21st-Century Welding PPE and Gear

If the dizzying array of options now available from industrial suppliers is a bit overwhelming, we’ve assembled a list of important points to consider before making your purchase and identified some of the more unique products on the market today, identifiable by their hyper-cool designs, high-tech features or wearability and comfort.

“Welders are very particular people,” Beckerdite says. “They take a ton of pride in their work and tend to shoot for the very highest-quality outcome. If they’re not using the right type of welding helmet, they won’t feel like the work is at the top level.”

Choosing the Right Helmet

The optimum helmet varies depending on the job, of course, but there are four criteria that can help you choose:

Auto-darkening filter versatility: Lower-priced helmets are designed for higher-amperage work such as metal inert gas, or MIG, welding and stick welding, Beckerdite says. MIG welding melts a continuous wire electrode fed through the welding gun onto a metal base to form a strong connection, protecting the process from contaminants with a shielding gas that is also fed through the welding gun. Stick welding uses a removable rod as its electrode. TIG, or tungsten inert gas, welding, on the other hand, can have a wider range of amperages, so welders using that process will want a filter with greater range.

Filter features: Filters have variable sensitivity options, enabling them to darken or lighten more quickly based on user preference, so you can choose the systems that work best for your jobs.

Work location: If you’re in a tight workspace, for example, you’ll want a sleeker, more compact helmet, Beckerdite says. In an industrial setting that requires hard hats, you’ll need a helmet that can be adapted to that protective headgear, whether with a special ring that fits atop the hard hat or through accessory slots.

Style: In addition to shape and size variations, some helmets feature eye-catching graphics that let wearers flex their personal style on the job. You can choose designs from serpents to flames, skulls and comic book superheroes such as Spider-Man.

Read more: How Advances in Welding Glove Technology Are Improving Comfort, Dexterity and Safety

Safety in Style

Here’s a look at some standouts on the welding helmet market today and the features that make them unique.

Biker Vibe



ESAB Sentinel A50

Users often say ESAB's best-selling model, the Sentinel A50, reminds them of a motorcycle helmet or virtual-reality headgear. Its adjustable 5-point headgear provides comfort and balance while the low-profile design allows maximum head clearance when the helmet is up. A color touch-screen control panel has eight memory settings, and a hard hat option is available.

Fierce Fangs



Save Phace "Kannibal" 40Vizl2

The Kannibal, a brightly colored fang-laden helmet from Save Phace, features an auto-darkening filter with Shades 4 and 9 through 13, as well as a 3.82-by-1.85-inch window that's a quarter of an inch thick.

Flexibility



3M Speedglas Heavy Duty G5-01

Built by 3M, the Speedglas Heavy Duty Welding Helmet G5-01 offers natural color technology for heightened realism through the viewplate as well as features including a duct system that lets wearers direct airflow to their face or visor and control the amount of air from the top outlet and the two side outlets. There's also an optional helmet-mounted task light.

Snake Eyes



Jackson Safety "Serpent" HLX W60 Truesight

From Jackson Safety, this auto-darkening helmet features a 3.25-by-4-inch window that's a quarter of an inch thick and a serpent graphic with maroon skin and smoldering yellow eyes.

What's your favorite welding helmet? Tell us what makes it unique in the comments below.

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