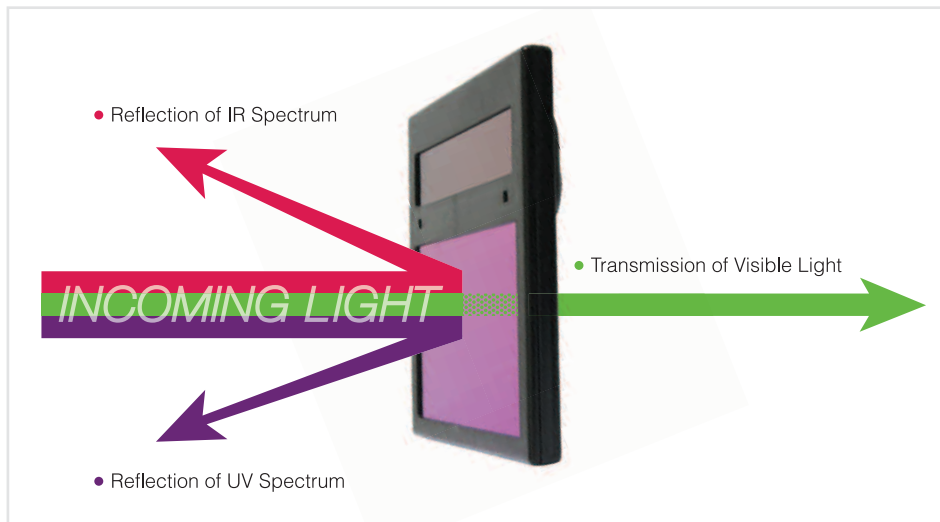


Angular Dependence Compensation (ADC)

Compared to passive filters, high quality Auto Darkening Filter lenses (ADFs) offer better vision during non-welding periods, eliminate the need to raise the filter or helmet between welds and improve quality of work. This all leads to fewer reworks and less grinding. The use of ADFs has contributed to welding productivity improvements as high as 30% to 50% while reducing injuries and injury costs. Results would be even more impressive but for angular dependence, a characteristic inherent in the Liquid Crystal Displays (LCDs) used in ADFs.



What is Angular Dependence?

Angular dependence requires that welders view their work at an angle perpendicular to the center of the lens within a very limited range. If they are unable to maintain the proper viewing angle, they experience a “halo” effect of visible light around the periphery of the lens. (Figure 2) Because ADFs have an interference filter that blocks IR/UV radiation up to a shade 13 level, these light areas do not cause welders “flash” but they are annoying, distracting and can cause eye discomfort and headaches over the course of a work day. Having to assume a rigid work posture to maintain the required viewing angle can also cause ergonomic discomfort and injuries.

What is Angular Dependence Compensation (ADC) Technology?

Recent advancements in LCD technology have resulted in a new generation of ADF lenses free of the angular dependency that has plagued ADFs since their inception. The proprietary ADC Plus technology, offered exclusively in Fibre-Metal® ADFs, provides consistent shading throughout the entire viewing area of the lens. For the first time a welder using an ADF lens can move freely about the job, with the widest possible field of vision, without sacrificing optical quality or risking discomfort. In addition to the elimination of angular dependence, Fibre-Metal ADC Plus ADFs are lighter and thinner than traditional ADFs, consume less power and allow a welder to see in more natural colors from layup to finishing.

What Does the DIN Marking Represent?

ADF switching speed (from light to dark) and switching reliability (switching only in reaction to a welding arc) are important performance characteristics, but no characteristic is as important to a welder as optical quality. Because of the nature of the work environment, a welder needs a clear, unobstructed view of the work to maximize productivity and minimize the risk of injury. The DIN markings on an ADF indicate optical quality. To meet standard certification, ADF lenses are tested for four optical performance characteristics: optical clarity, lack of distortion, the transmission of visible light and angular dependence. Collectively, they rate the optical quality of the lens. Each optical performance characteristic is rated from 1 to 3 (1 being the highest). ADFs not performing at least to the level of a 3 rating do not comply with the standard. The Fibre-Metal ADC plus ADFs are the only ADFs on the market with a perfect 1/1/1/1 DIN optical quality rating.



Figure 1: Perpendicular view (top); Angled view (bottom). Demonstrates LCD screens variability in shading when viewed at different angles.



Figure 2: A view through an ADF to a light source perpendicularly (90° - top) through the viewing area and under a slant angle (30° - bottom).

Fibre-Metal® ADC Products

Since 1905, with our invention of the welding helmet, Fibre-Metal has been the acknowledged quality leader in the industry. Over the years we have maintained that position through continuous innovation resulting in today's high performance models.

Tigerhood Futura® XXL with ADC (Wide View)

2090XXLBV913SR

110x110mm Lens, ADC Plus Shades 9-13, Sensitivity and Delay Adjustment, 3-C Headgear, Silver

42090XXLBV913SR

110x110mm Lens, ADC Plus Shades 9-13, Sensitivity and Delay Adjustment, Quick-Lok® Cups Headgear, Silver

52090XXLBV913SR

110x110mm Lens, ADC Plus Shades 9-13, Sensitivity and Delay Adjustment, Speedy® Loop Headgear, Silver

Tigerhood Futura® with ADC

2999BVADCSR

90x110mm Lens, ADC Shades 9-13, Sensitivity and Delay Adjustment, 3-C Headgear, Silver

42999BVADCSR

90x110mm Lens, ADC Shades 9-13, Sensitivity and Delay Adjustment, Quick-Lok® Cups Headgear, Silver

52999BVADCSR

90x110mm Lens, ADC Shades 9-13, Sensitivity and Delay Adjustment, Speedy® Loop Headgear, Silver

Tigerhood® Classic with ADC

999BV913DS

90x110mm Lens, ADC Shades 9-13, Sensitivity and Delay Adjustment, 3-C Headgear, Silver

ADC ADF Filter Lenses

FMXXLBV913

110x110mm ADC Plus ADF Filter, Shades 9-13, Sensitivity and Delay Adjustment, Fits 2090

FMPBV913DSADC

90x110mm ADC ADF Filter, Shades 9-13, Sensitivity and Delay Adjustment, Fits 2999, 999, FMX, 2090



Tigerhood Futura® XXL with ADF:
2090XXLBV913SR



Tigerhood® Futura® with ADF: 2999BVADCSR
(top) and Classic with ADF: 999BV913DS (bottom)



ADF Filter Lens: FMPBV913DSADC



ADF Plus Filter Lens: FMXXLBV913



by Honeywell

Honeywell Safety Products

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