

How Safe Are Your Eyeglasses? (and how safe do they need to be?)

When you fill a prescription at your local eyeglass store, your eyeglasses must meet certain safety standards, set by the FDA, to ensure that you will not be hurt by them during “dress wear” usage.

Your lenses generally must be capable of withstanding the impact test described in 21 CFR 801.410. There is an ANSI standard which applies as well, but the FDA measure is the one that is enforced.

What does this standard mean to you? Generally, it means that you do not have to worry about your eyeglasses causing additional injury in an accident. Batch testing has shown an incidence of less than one failure in 10,000 lenses. In the real world, dress wear lenses break even less frequently.

If your work exposes you to a greater risk of eye injury, then the stricter ANSI Z87.1 standard applies. This covers both the lenses and frame. The Z87.1 specifies minimum thickness for lenses and construction standards for frames. You will not usually find such eyewear at the local shop. Industrial safety eyewear is usually supplied through your union when required. You will be directed to the proper selection for impact, chemical, and dust protection.

This type of eyewear should not be confused with sport safety, as defined by the ASTM. While you might well match the safety requirements of work with a particular sport, the standards are different and based on both physics and ergonomics.

Your eye care practitioner should be well versed in the range of products available, but it is up to you to make sure he/she knows what your work and recreational needs are. It is not enough to take a dress wear frame and put “polycarbonate” lenses in them. Neither will meet any safety need or standard.

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References:

<http://www.fda.gov/cdrh/dsmica/guidance/23.html>

<http://www.aoa.org/x5546.xml>

<http://www.astm.org/>