



## Next Generation Spectacle Frame Materials

Frame designers and manufacturers are constantly seeking new and innovative materials to enhance the appearance and durability of spectacle frames. Titanium has been a staple for frame construction, due to its lightweight, strength and chemical resistance for many years now but there is a limit to its aesthetic diversity.

NXT is a next generation polymer; a material that was originally used as an optical lens material because it has impressive ballistic-type impact resistance. It was originally designed for military use, being created to protect chopper pilots and combat troops from harmful situations like shrapnel from a hand grenade. It is remarkably thin and lightweight. Early demonstrations of the material used a block of the material with shotgun pellets embedded in it to illustrate the kind of impact resistance it had.



NXT material is also chemically resistant so is not affected by common solvents found in the office, home, and recreational environments, which can damage some other materials. As a lens material it inherently absorbs UV radiation so no dye or coating is needed to obtain this protection.

It has now been manufactured in 2mm sheets that are being used for spectacle frames. It imparts a very modern, architectural feel to the end product that is a welcome relief to all of the chunky acetate frames of late. It's trickier to work with but gives a fresh take on eyewear. An added bonus is that it can be tinted and mirror coated like a spectacle lens, to produce eye catching finish.

Its chemical and UV resistance means it does not react to skin oil, sweat etc. and therefore does not age in the same way as conventional plastics and makes it totally biocompatible. NXT is also incredibly light in weight, weighing in at 1.11g/cm<sup>3</sup>. All of these properties make it an exciting new material for producing extremely strong, lightweight and vibrant plastic frames that do not degrade over time.

If you're interested in this article and have any questions regarding it, then please do get in touch either for a chat by phone, or feel free to email me.

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