

From the Windshield Experts

Only from ZTechnik!

The VStream® Windshield



How Does VStream® Work?

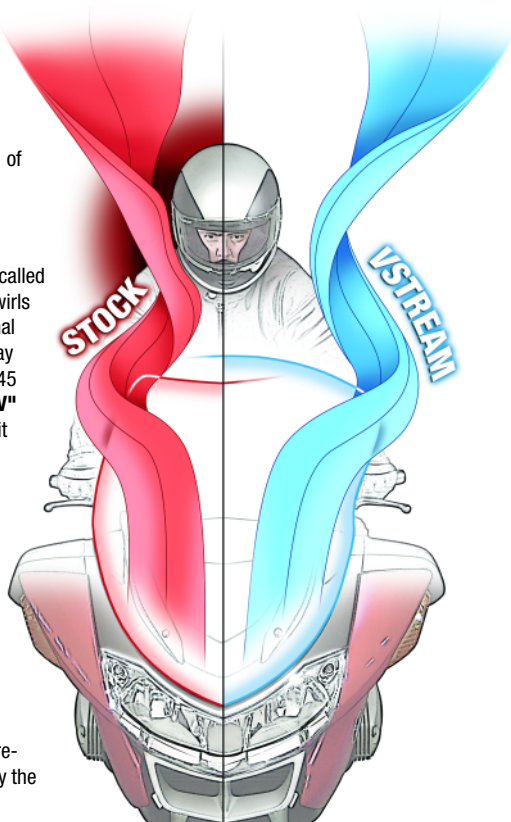
ZTechnik revolutionized windscreen performance with their **VStream®** windshields. They are well known not only for superior wind-deflecting comfort but also for a riding environment that is calm and quiet. In order to create a more comfortable ride, other manufacturers offer extra-tall windshields or spoiler tops to try to lift the air stream. But ZTechnik designed, for the first time ever, a windshield with contours calculated and adjusted to manage the riding environment. No other windshield even comes close to VStream's level of **quiet** and **comfort**.

Quiet

The airflow pattern of the wake from most windshields is called a *van Karman vortex*. At speeds of 50-90 mph, the air swirls off the windshield in an approximate 90-degree rotational vortex. It then hits the bottom of the rider's neck on the way up, and curves off the shoulders at approximately 45 degrees. The VStream is named for its **unique patented "V" shape**. This design is so outstandingly **quiet** because it pushes the vortex out and away more than four inches from the side of the rider's head. The rider then resides in an environment virtually free of irritating wind noise. The passenger's environment is greatly improved as well.

Comfort

The VStream's advanced "V" profile, unique three-dimensional contours, and smooth radiused edges all contribute to calmness and **comfort** in the riding environment. Unsettling wind turbulence is effectively pushed aside, and this fatigue-reducing experience is greatly appreciated by the rider and passenger. The VStream is definitely the most comfortable windshield you can ride behind.



Durability and Optical Clarity

In addition, VStream windshields have an outstanding level of **durability** and **optical clarity** that is available only through the **4.5-6.0mm thick Lexan® polycarbonate** with **Quantum™** or FMR hardcoating.

Experience the VStream windshields at a dealer near you and see why they are the most comfortable windshield you can ride behind on a BMW® motorcycle.



VStream windshields are designed specifically for each model motorcycle to ensure optimum performance and perfect fit using the stock mounting hardware.

INNOVATION in Windshield Materials

A QUANTUM Leap Forward

First Use of Lexan® Polycarbonate

In 1975, National Cycle was the **first company in the world** to introduce and use GE's Lexan® FMR hardcoated polycarbonate material for motorcycle windshields. Using polycarbonate durability and advanced windshield design, the first modern styled, optically clear, custom windshield was made by our company. We called it the **Heavy Duty™**.

What are the Benefits of Polycarbonate?

Outstanding impact strength! No other thermoplastic comes close to matching the impact strength of polycarbonate, making it the ideal material for motorcycle windshields. It is **20X more impact resistant** than acrylic plastic (Lucite®). You can check the data from the Free Falling Steel Dart Test and the IZOD Notch Test but **real world testimonials**, like the one from a customer who met a ball peen hammer at 75MPH attest to the outstanding impact strength of polycarbonate. So whether it is birds, bugs, stones or a ball peen hammer, for the serious rider, a strong windshield is very important.

Why Hardcoat Windshields?

Many riders agree that strength is an important benefit, but ask, "What affects the transparency of a windshield?" However tough polycarbonate is, it's routinely subjected to surface deterioration from abrasion. **Polycarbonate must be hardcoated to be optically clear enough for use as a motorcycle windshield.**

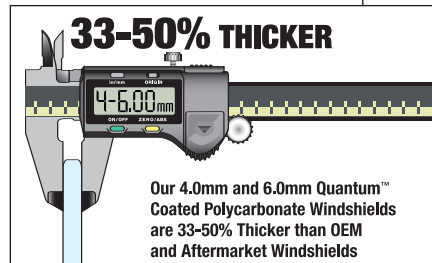
Introducing Quantum: the New High Standard

FMR is a good polycarbonate hardcoating and was the industry standard until National Cycle made a "quantum" improvement in the surface characteristics of motorcycle windshields exposed to years of use and wear.

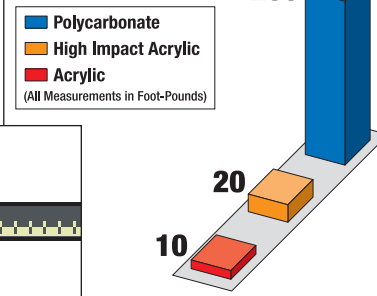


We start with a polycarbonate sheet, but it is our **exclusive Quantum™ hardcoating** that has **defined the new state-of-the-art standard** in windshield scratch resistance and optical clarity.

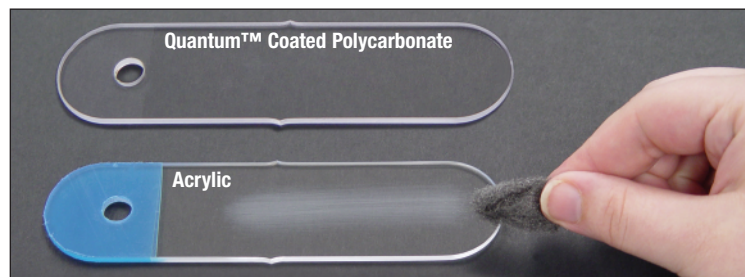
POLYCARBONATE STRENGTH



Polycarbonate Strength Impact Resistance



We applied a ball peen hammer at full force to one of our polycarbonate shields (left) and to a competitor's acrylic shield (right). We're professionals – don't try this at home!



We use a steel wool scratch test to demonstrate the abrasion resistance of Quantum coated polycarbonate (top) against acrylic (bottom).

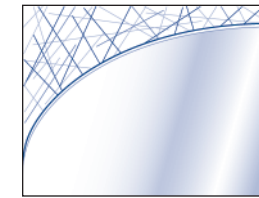
Polycarbonate vs. Acrylic... YOU Decide!



Watch our video, "Polycarbonate vs. Acrylic: YOU Decide!", and see how our hardcoated polycarbonate windshields withstand the kind of abuse that reduces typical acrylic windshields to little pieces!

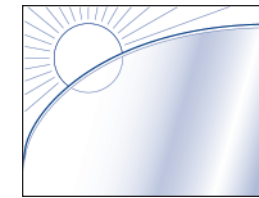
www.nationalcycle.com/newsvideo

What Makes Quantum Coated Windshields Better Than All the Others?



Superior Scratch Resistance

30X more scratch resistance than typical acrylic windshields is saying a lot! Think of it as 30X more miles per windshield. FMR hardcoated polycarbonate is a big improvement over acrylic, yet Quantum has **10X better** scratch resistance than FMR. That's the kind of performance and strength you need from a motorcycle windshield!



Glare-Free Optics

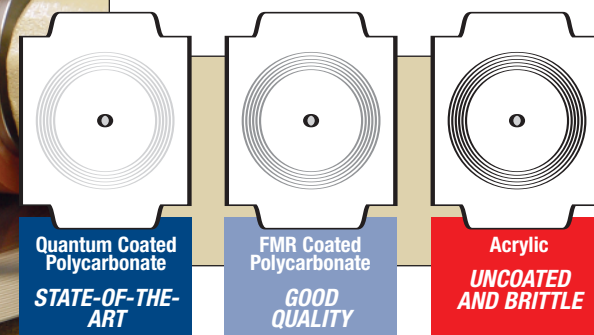
Think about riding into the sun or at night and not having to look through the glare of fine scratches that eventually show up on your screen. **Quantum coating gives your windshield much better optical definition and clarity**, and your windshield will stay that way a lot longer.



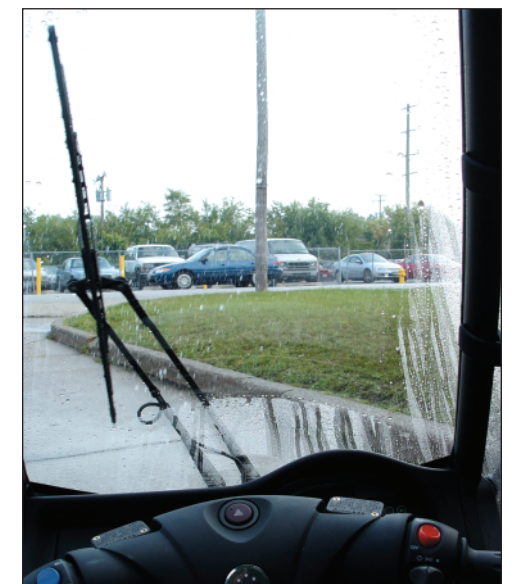
Here we see a motorcycle windshield with typical surface wear and abrasions. This is NOT what you want in front of you when facing oncoming traffic!



Scientific laboratory monitoring and measurement instruments test the surface wear on both hardcoated and uncoated windshield materials.



National Cycle's Quantum coating technology was awarded Honda's prestigious INNOVATION Award.



Award-winning Quantum coating is used in many tough applications. Our Quantum coated polycarbonate has withstood over one million windshield wipes on the windshield of the fully enclosed Benelli Adiva scooter.



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