The CleanVue PRO™ Series of Protective, Repelling and Oleophobic products are optical abrasion resistant coatings that repel dirt, dust, water, grease and oil to enhance display glass performance and longevity. The resulting coated surfaces are easy-to-clean and maintain, do not stain, allow repeated removal of fingerprints, all while maintaining their optical properties.

The PRO-AR399 is a severe abrasion resistant coating from this series, with anti-reflective performance of < 0.5% photopic reflectance. It is ideal for harsh and heavy use environments and enhanced glass performance and longevity.

PRO-AR399 Key Benefits include:

- **Optically Clear**: Provides mechanical protection and repelling properties while achieving < 0.5% photopic reflection and high throughput.
- **Resistant to Severe Abrasion and Scratches**: Low coefficient of friction makes it rugged and durable, protecting the surface from scratches even in harsh or frequent use environments.
- **Easy-to-Clean**: Non-stick surface resists picking up dust and dirt contamination from the surrounding environment and is easy to clean and maintain.
- **Fingerprint & Smudge Resistant**: Oil resistant (Oleophobic) coating reduces adherence of fingerprints and smudges to help maintain pristine image quality even after repeated cleaning.

Applications:

The CleanVue PRO™ Series by Abrisa Technologies® is ideal for industrial and commercial needs of OEMs (original equipment manufacturers) and CMs (contract manufacturers) where glass as soda-lime float, Borofloat®, mixed alkali silicate or fused silica are specified in heavy use or harsh environments.*

CleanVue PRO™ products can be applied to substrates as thin as 0.2mm, and thicker than 100mm.

Typical applications include:

- LCD cover glass
- Vehicular instrument control panels
- Control room display panels
- Projected capacitive (PCAP) touch screens
- Portable handheld devices
- Industrial equipment control panels
- Biometric measurement devices
- Public space and retail digital signage
- Teleprompter and projector optics
- Virtual reality devices
- In-flight and vehicular entertainment screens
- Indoor kiosks and dispensers

*Not suitable for high UV exposure environments. Borofloat is a registered trademark of SCHOTT Glass

To discuss your custom OEM application needs, contact your Abrisa Technologies representative:

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Web: www.abrisatechnologies.com • E-Mail: info@abrisatechnologies.com
CleanVue PRO™ Series PRO-AR399 Performance Testing

PRO-AR399 has been tested* in a controlled environment in order to demonstrate its ability to protect the surface of a glass component from damage or degradation caused by frequent handling and cleaning or by use in harsh environments.

Test Conditions for PRO-AR399: Test results are characterized by the retained water contact angle (WCA) after each test as a percentage of its WCA before each test. Testing included thermal cycling, abrasion and salt solubility testing. Performance was also compared to that of a commercially available industry standard alternative tested under the same test conditions.

- **Optical Performance**: When compared to the industry standard alternative with a broad band average Reflection of < 0.5%, PRO-AR399 showed superior performance, and post testing, exhibited no measurable degradation of optical performance for reflection or transmission.
- **Thermal Performance**: PRO-AR399 showed a <5% change in its WCA over 400 hours of elevated temperature of 121°C. During heating/freezing cycles (4 hrs at 71°C followed by 4 hrs at -54°C) it again showed negligible change in WCA after 4 cycles.
- **Mechanical Performance**: PRO-AR399 was subjected to a number of mild to harsh abrasion tests to demonstrate robustness.
  - Cheesecloth Abrasion Testing per ISO 9211-4: After 500,000 cycles, PRO-AR399 retained > 95% of its CWA compared to the alternative which retained < 75% of its CWA.
  - Eraser Severe Abrasion Testing (30cpm, 2.2lb wt) per MIL-C-675C: PRO-AR399 out-performed the industry standard sample by retaining >90% of its WCA after 40 cycles, compared to the alternative’s < 80% WCA under the same conditions.
  - Steel Wool Extra-Severe Abrasion Testing: (60cpm, 2.2lb wt, 0000 steel wool). Only the PRO-AR399 maintained its original high CWA level performance for well over 12,000 cycles, out-performing the industry alternative which had dropped to less than 70% CWA by 8000 cycles.
- **Salt Solubility Testing** (per MIL-PRF-13830B paragraph C.4.5.7): The PRO-AR399 sample showed no performance degradation after 72 hours of salt solubility testing.

The PRO-AR399 is a more rugged and durable protection solution than the industry standard.

Abrisa Technologies’ extensive testing of CleanVue PRO™ Series PRO-AR399 concludes that the reflectance, transmittance, oleophobic and hydrophobic (water-repelling) and severe abrasion resistance performance of the CleanVue PRO™ product is superior to the performance of the industry standard alternative product and able to maintain its CWA performance for >12,000 cycles of severe steel wool abrasion testing, over twice that of the alternative.

For more Information:
Contact our applications engineers to determine how CleanVue PRO™ Series products can enhance the performance of your cover glass or display application.

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