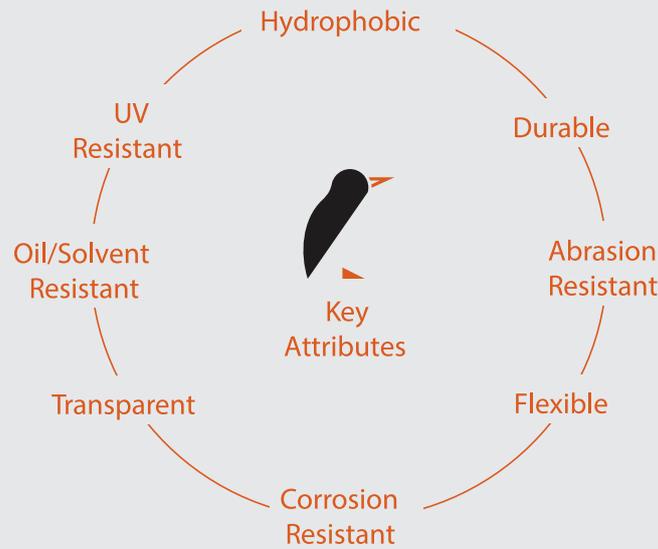


ADVANCED CLEAR HYDROPHOBIC COATING

Gentoo is the next generation of corrosion-resistant and easy-cleaning coatings. With its combination of high performing abrasion resistance and very low sliding angle, Gentoo excels where other coatings have fallen short.

Traditional hydrophobic coatings are clear and abrasion resistant, but do not shed fluid easily. Superhydrophobic coatings are generally great at shedding water, but are not clear, and are easily removed. Whether it's abrasion resistance, oil repellency or visual clarity, conventional coatings have their limitations. Gentoo changes that.

Gentoo is a clear coating that not only repels water but most oils and solvents. It is also able to withstand significant abrasion without sacrificing performance.



HOW DOES IT WORK?

Gentoo is a dense polymer system that forms a barrier against corrosion initiators. This is due to its low surface energy, high density, and low porosity. The system is conformal, pinhole free, and very thin (4-6 microns) compared with traditional polymer coatings but far more dense and durable. The higher density of the system provides an excellent barrier to water and corrosive ions.

ADHESION & DURABILITY

Gentoo has robust adhesion to painted, plated, and bare metallic substrates, as well as glass and surface primed plastics. The coating has demonstrated excellent resistance to salt spray, UV exposure, and chemical exposure – significant improvements over traditional hydrophobic coatings.



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CORROSION RESISTANCE

When used on top of other qualified systems, Gentoo further reduces corrosion and extends the lifetime of the barrier system and therefore the coated substrate. This is due to its excellent water and salt shedding properties and impact resistance. These properties also significantly reduce the effects of galvanic corrosion of dissimilar metals.

EASY CLEANING

The low sliding angle combined with the high dirt and solvent resistance of the coating allows for easy cleaning of many surfaces with less water.

CHEMICAL RESISTANCE

Offers superior resistance to most oils, solvents, and acids.

APPLICATION

Gentoo is a two-part coating that is mixed together and then applied as a single coat. It can be flow-coated, dip-coated, HVLP sprayed, or painted on with a brush or roller. It provides a lightweight, thin (4-6 microns) coating with minimal surface preparation.

HYDROPHOBIC DATA

	Contact Angle	Watershedding (50µl)
Acrylic	68°	21°
Polycarbonate	77°	13°
Polyurethane	99°	26°
Gentoo	116°	4°

TRANSPARENCY DATA

	Transparency	Haze
Untreated Acrylic	94	0.7
Gentoo Coated Acrylic	94	0.4
Untreated Glass	94	0.9
Gentoo Coated Glass	94.1	0.2

TABER ABRASION TEST AFTER ABRASION (500 CYCLES)

	Transparency	Haze
Untreated Polyurethane	89.2	18.8
Gentoo Coated Polyurethane	90.6	5.9
Untreated Acrylic	93.3	29.4
Gentoo Coated Acrylic	93.8	4.2

ADVANCED CLEAR HYDROPHOBIC COATING

GENTOO ADHESION/CURED TESTING

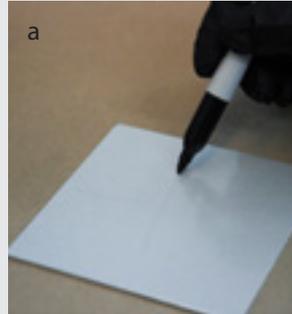
Through extensive testing, UltraTech has determined there are three simple tests that can be performed to determine if Gentoo is adequately hydrolyzed and cured to yield optimum performance.

1. SHARPIE® MARKER TEST

Place the fully cured Gentoo coated item on a clean, flat surface with good lighting.

- (a) Draw one horizontal line and one perpendicular line on the item to be tested using a fine point Sharpie® Permanent Marker.
- (b) Attempt to wipe off the two marks using a dry cloth or paper towel.

The marks will be completely removed from a properly coated and cured item.

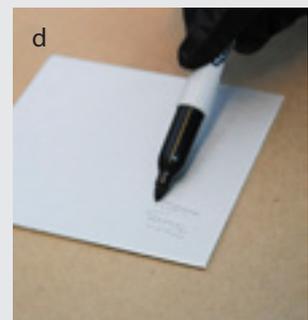
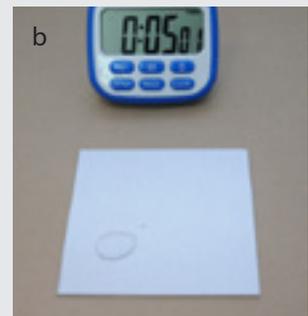
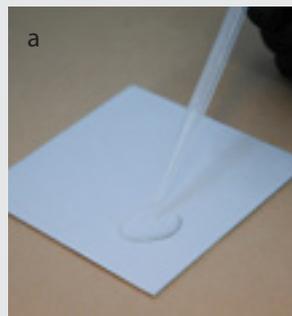


2. ACETONE TEST

NOTE: This test is best performed on a flat item coated with Gentoo.

Place the fully cured Gentoo coated item on a clean, flat surface with good lighting.

- (a) Use a disposable pipette to place a droplet of pure Acetone about 1 cm in diameter, on the surface of the item to be tested.
- (b) Set a timer for 5 minutes. After 5 minutes has elapsed, tip the item at a 90° angle to allow the acetone to run off.
- (c) Gently wipe the item dry and rub a fine point Sharpie® Marker over the area where the acetone was applied.
- (d) On a properly coated and cured sample the Gentoo coating will not be removed by the acetone and the marks can easily be wiped away with a dry cloth or paper towel.



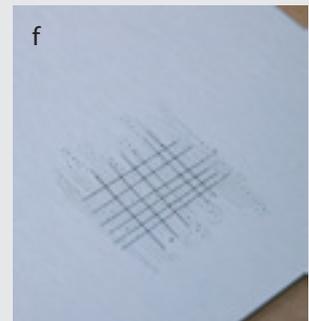
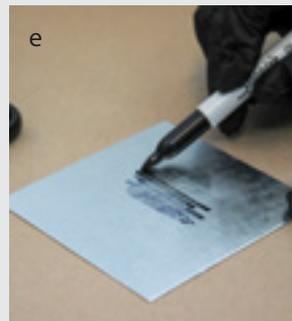
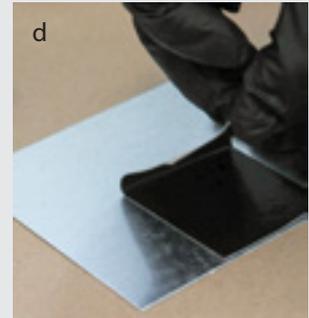
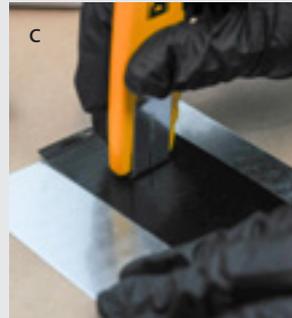
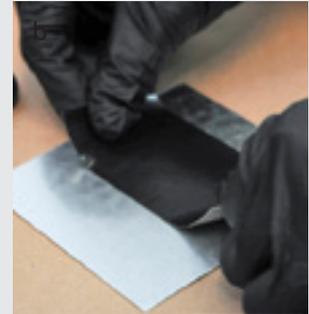
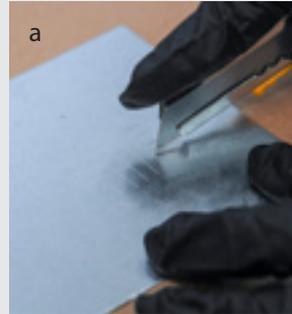
ADVANCED CLEAR HYDROPHOBIC COATING

3. TAPE ADHESION TEST

This is a modified version of ASTM D3359 "Measuring Adhesion by Tape Test".

Place the fully cured Gentoo coated item on a clean, flat surface with good lighting.

- (a) Use a cutting tool such as a sharp razor blade, scalpel or knife to make 6 horizontal cuts through the coating to the substrate. Each cut should be approximately $\frac{3}{4}$ inch long and about $\frac{1}{8}$ inch apart. Make 6 vertical cuts of the same length and spacing through the horizontal cuts to form a 5 by 5 grid of squares. Lightly brush away any loose flakes of coating.
- (b) Cut a piece of strong tape such as Black Gorilla Brand tape or high quality duct tape of sufficient size to extend over all of the cuts in every direction.
- (c) Center the tape over the cut area and use a pencil eraser or flat object to smoothly and firmly press the tape down over the cut area.
- (d) Remove the tape by pulling one end smoothly and rapidly (not jerked) back upon itself
- (e) Rub a Sharpie Marker over the entire cut area. If the Gentoo coating has been removed, dark patches will appear between the cuts.
- (f) Compare the test pattern on the item being tested to the chart on the next page, and rate the adhesion. A properly coated and cured item should yield a 5B rating. Some substrates may need a pre-treatment to attain a 5B adhesion. This is detailed in the preparation and coating instructions.



LOCATION

