



# Aculon® NanoProof™ 5.0

## Hydrophobic/Oleophobic coating

**Aculon® NanoProof™ 5.0** is a surface treatment capable of imparting hydrophobicity and oleophobicity to a wide variety of surfaces in a simple, one-step process. It is designed for multi-surface treatment on metals, semiconductors, and polymers. Aculon® NanoProof™ 5.0 is typically applied by spray, dip, or flow coating and results in a hydro/oleophobic film that is resistant to chemical degradation.

Solids	Solvent	Color
<20% Proprietary Ingredient	Fluorosolvent	Clear liquid

Physical Properties of Formulation (all values @ 25°C)	
Viscosity*	< 5 cP
Boiling Point of Solvent	129°C
Flash Point	Not applicable
Environmental	Non toxic, non-ozone depleting
Shelf Life	2 Years (Unopened container)
Specific Gravity	1.66

\*Determined by Zahn Cup #1 testing

Physical Properties of Post Treatment Coating	
Coating Thickness (spray coating)	6 – 9 μM
Visible Light Transmission	90%
Water Contact Angle	118°
Oil Contact Angle	75°

### Features

- Creates moisture barriers on coated parts
- Repels water, oil, and other liquid organic materials
- Adheres to a variety of surfaces ensuring protection of PCBs.
- Push-through conductivity within 2 hours
- Easy to apply
- RoHS compliant
- Contains no REACH SVHC compounds

### Application Ideas

- Coat PCB's for water proofing
- Impart repellency to consumer electronics

### Chemical Compatibility

#### Recommendation for tubing and plastics via application equipment

- Compatible with: Polyethylene terephthalate (PET), Polytetrafluoroethylene (PTFE), Polypropylene, Viton
- Avoid (Not Tested for Compatibility): HDPE, LDPE, Polyurethane, PVC, Tygon, Noryl, ABS, PP, Polyphenol ethylene ether, silicone, neoprene, EPM, and natural rubber

## Application Techniques

### Surface Preparation/ Cleaning:

Ensure that the surface is free of any grease, fingerprints, adhesive residues or dirt. This can be accomplished by first degreasing the surface with solvents or by rinsing with IPA. Depending on the sensitivity of your part to liquids Kyzen cleaners like Ionox I3416 or Cybersolv 141-R may be most appropriate for removing surface contamination. Contact Aculon if you are unsure what cleaner to use and we will recommend one best suited for your application. Substrates should be coated after cleaning as soon as possible to minimize the potential for recontamination.

### Treatment Application:

**Dispense:** Dispense product over the surface. Apply enough material to coat the surface. Allow excess material to drain.

**Spray:** Spray the solution on the substrate, air dry. If the coating is too thick, reduce the amount applied by changing the settings on the spray gun or request a sample of diluent from Aculon. Spray Equipment Suggestions; PVA FCS300 Front Closing Spray Valve, typically used settings are 40 psi main pressure, 8 psi coating pressure, 12 psi atomization pressure, micrometer = 10, 6" distance to part being coated, and one double pass with the sprayer.

**Dip:** Immerse the substrate in the solution for 20 seconds, air dry till solvent evaporated. Recommended dip containers are stainless steel, glass or aluminum. Plastic containers are likely to contaminate the coating solution reducing performance.

**Drying:** Air dry at room temperature until the solvent evaporates. In some cases additional thermal curing (e.g. 100°C for 5 minutes) will speed solvent evaporation. Coating will be deformable by touch during solvent evaporation, thus care should be taken when handling the part so as to not disturb the coating in sensitive areas. After solvent evaporation coating will be rigid.

**Masking:** Expect all masks to be compatible. For example: Techspray WonderMASK PX Peelable Solder Mask (2222-8SQ), Kapton Conformal Coating Tapes, Mylar tape, Polyimide

### Testing For Hydrophobicity:

Allow droplets of water to fall onto the surface, they should bead up to a contact angle >90°. If the surface is not hydrophobic clean the surface again and reapply.

### Safety, Handling, Storage, Shelf Life:

Store in a cool (~25°C) and dry area, and keep away from direct sun light. See this product's MSDS for proper handling. This product does not contain any RoHS or REACH SVCH 168 compounds. When stored properly, product has a 2 year shelf life.

### For Additional Information:

To request additional product information or sales assistance, contact Aculon's Technical Team, at 858-350-9474. For information on other Aculon products, please visit our website at [www.aculon.com](http://www.aculon.com).

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