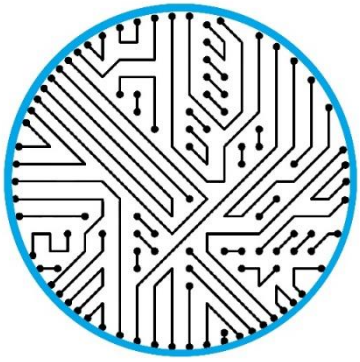
Data sheet Purocoat 17/04 UV

The Purocoat 17/04 UV surface coating is a ready-to-use, clear liquid of a fluoroacrylate polymer (fluoropolymer) which is dissolved in a Purosolve 71/00 hydrofluoroether solvent.
The coating creates a surface with good anti-moisture, anti-surface diffusion and anti-corrosion properties. With a surface energy of 8 to 12 mN/m, liquids such as water, heptane and toluene, but also lubricating oils and silicones, can run off the surface while the protective film remains intact.

Purocoat 17/04 UV contains tracers that are active in UV light, which enable the coating to be checked under UV light for parts that are partially dipped and partially coated.

Purocoat is not electrically conductive in the liquid or in the dried state, so even button cells can be coated without any problems under voltage.



The use of Purocoat coatings in body-invasive assemblies is not permitted! Purocoat must not be used for products that are introduced into the human body (for medical purposes), such as syringe needles.

Purocoat contains fluorine; Sale and use is only for professional, commercial users! Not intended for private use! Purocoat is a PFAS material.

Purocoat as liquid for application

Typical physical properties

Appearance	Clear, colorless, bright liquid
Fluoropolymer percentage	4% mass
Solvent:	HFE Purosolve 71/00
Specific density at 23 °C	1.47 — 1.52 g/cm³
Viscosity at 23 °C	0.66 — 0.91 cP (0.45 — 0.6 cSt)
Boiling point of the solvent	56 — 61 °C
Freezing point	-94 — -135°C
Vapor pressure at 25°C	26.8 — 31.4 kPa
Flash point	Not flammable
Solubility of water in Purocoat	95 — 900 ppm mass

Environmental properties

Ozone depletion potential[1] (ODP)	0.0 (for solvent Purosolve 71/00)
Global warming potential[2] (GWP)	297 — 540 (for solvent Purosolve 71/00)
Atmospheric lifetime	4.1 years (for solvent Purosolve 71/00)
Identification	No hazardous substance
Dangerousness	Not toxic
Exposure of people to solvent vapors in the air	max 750 ppm (8 hours average)

1 CFC-11 = 1.0
2 GWP 100 years integrated time horizon (ITH) Multiples of the CO_2 equivalent

Processing instructions

Method	Spraying

Preparation of the modules to be coated

In general, no special preparation of the modules is required. It makes sense to clean the modules before coating, as it increases the quality, but is not absolutely necessary. Purocoat's adhesion is good enough to adhere to almost any type of surface and form a coating.
However, avoid coating modules that contain lubricants (on mechanically moving parts), especially silicone lubricants, as these dissolve in Purocoat.

Purocoat as dried coating layer

Typical physical properties

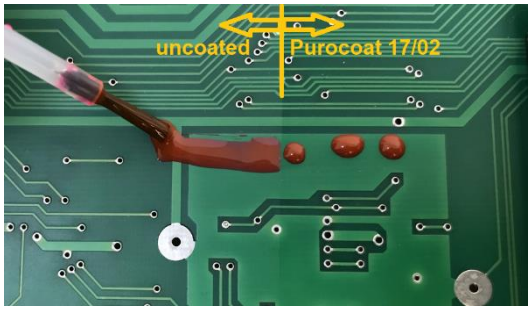
Heat stability of the dried coating	-50°C to **+175°C** Maximum 1 hour at 250°C
Surface energy of the dried coating	8-12 mN/m
Contact angle	115° (water), >55° (oil)
Glass transformation point *	+75°C
(*A layer with a thickness of only about 500 nm is nevertheless permanently flexible and does not break even when moved)	
Layer thickness /Coating thickness (dipping process)	~ 1000 nm
Dielectric constant at 30% RH, 25 °C at 1 kHz	3.0
Dielectric strength at 35% RH, 25 °C	0.0089
Electric breakdown strength	59 V/500 nm , 35% RH
Aging and UV resistance	Very good; minimum 10 years
Refractive index	1.34
Flammability according to UL-94	V-0 (listed E541242)

Handling of the coated modules

Modules coated with Purocoat 17/04 UV are covered with a thin protective film. This is permanently flexible and to a certain extent also mechanically resilient. After it has completely dried (a few minutes), the module can easily be touched by hand or held with clamping tools. Avoid scratching, vigorous rubbing and bulk material.
There is no curing or post-curing time, the assemblies can already be fully loaded after drying.

Test the coating layer

A simple test
been applied
ink. The test
surface energy
surface is
Use a test ink
order to have
the uncoated



of whether the coating has
can be made with a test
ink is set to a specific
and shows whether the
above or below this value.
with a value of 28mN/m in
a good distinction between
and coated surface.

Use the brush to apply some of the test ink to the surface.

- **If the test ink contracts and cannot form a closed film, the surface is coated**
- **If the test ink remains on the surface as a closed film, the surface is not coated**

The test ink can then simply be wiped off with a dry, soft cloth.

UL listing

Purocoat is as coating listed at UL under E541242.
Project:
4791391867 Testing, Final Certification - Recognition for Permanent Coating Grade […] **Purocoat […]**

UL Solutions ™

Repairability and re-coating

Coatings with Purocoat 17/04 UV can be soldered through without any problems. The strong heating of the soldering iron partially destroys the coating, the combustion products can be slightly toxic. Always use a suction device when soldering through.
To apply a new coating with Purocoat, use the same process as for the first coating, but increase the dipping time to at least 60 seconds, ideally 180 seconds. As a result, the existing coating layer dissolves again completely and a completely new, evenly thick coating layer is created when it dries.

Remove Purocoat

The coating is a polymer film and can be easily removed using fluorinated solvents. Purocoat coatings can be removed without leaving any residue by immersion or better by exposition to solvent vapor (ideally with Purosolve 71/00). Purosolve 71/00 evaporates at 61°C. The process is therefore not associated with high temperature stress.

General

Purocoat disposal

Liquid Purocoat 17/04 UV must be disposed of properly. It must not be discharged into sewage or water. Remnants, Purocoat mixtures without a sufficient fluoropolymer concentration and discharged solvents from the drying zone of the coating systems will be taken back by the supplier. The Purocoat mixtures can always be topped up. A complete replacement is not necessary, the material does not age. This means that there are no large amounts of material to be disposed of. Water from the water separator contaminated with Purocoat or solvents can be disposed of by evaporating it in an open container. Dried up Purocoat can be disposed of with the residual waste.

Packaging and bottles disposal

The packaging and bottles are recyclable. Please dispose of the outer cardboard packaging with the waste paper and the aluminum bottles with the aluminum or non-ferrous metal scrap.
Please note that Puretecs cannot refill the bottles. Unfortunately, the return transport, checking and rinsing of the bottles is uneconomical. However, the bottles can be used to store Purocoat 17/04 UV at a later date, e.g. when a machine is emptied.

Safe handling of the material

Before using the material Purocoat 17/04 UV electronics surface coating, please read the relevant current safety data sheet. Follow all precautionary information given there.
Before using the material, please make sure that it is suitable for your intended purpose.

Containers and storage

Name	Content	Amount (calibrated according to mass)
Purocoat 17/04 UV	4% Fluoropolymer solvent	7kg / 4.605ml / Aluminum security bottle

The bottles can be closed again.
It can be stored in the bottles.
The storage room should be ventilated.
The shelf life of the material is not limited in time.
Avoid heating above 55°C (boiling point).
Purocoat is not flammable!
No dangerous goods storage!

Shelf life of the container: 5 years (because of the seal)

If you have any questions about the material and its processing, please contact:

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