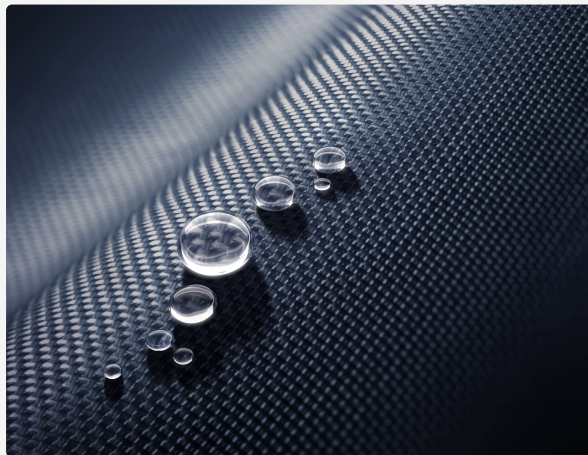


INTRODUCTION

Per- and polyfluoroalkyl substances (PFAS) are a class of thousands of substances that have been produced since the 1940s and the discovery of polytetrafluoroethylene (PTFE). Due to their **highly stable carbon-fluorine bonds** and **unique physicochemical properties** (anti-adhesion, water-proofing, heat-resistance, etc.), PFAS are widely used in a **broad range of consumer products** and **industrial applications** such as textiles, anti-adhesive coatings or food packaging.



However, with growing concern about the **impact of PFAS on human health and environment**, **regulations for their use and production** are becoming increasingly stringent. Thus, replacing PFAS with fluorine-free solutions has become a key requirement for the market. At **SPECIFIC POLYMERS**, we use our expertise in polymer chemistry to develop **innovative PFAS-free solutions** for **coating applications**. **SP-3494_V3** is a **solvent-based polyurethane top-coat** specifically designed to substitute PFAS in **antiadhesive and repellent coatings**. **SP-3494_V3** can be used as a **protective and self-cleaning coating** in different applications, such as textiles, solar panel, wind blade, etc. In fact, beyond water and oil repellency, **SP3494_V3** provides **light and thermal stability**. Furthermore, its **high flexibility** allows it to be suitable for various substrates. Thanks to its **good adherence** to metallic substrates, **SP-3494_V3** can also provide an effective barrier **against corrosion** and **protect metal surfaces** from environmental damage.

KEY FEATURES

1. Fluorine-free polyurethane-based formulation
2. Water and oil-repellent
3. High flexibility (Tg -25°C)
4. High thermal stability (> 300 °C)
5. Good adhesion on metallic substrates
6. Suitable for application by spray-coating

MAIN CHARACTERISTICS

Coating properties	
Glass transition temperature Tg	-26 °C
Degradation onset temperature	307 °C
Recommended dry film thickness	15-30 µm
Coating aspect	Glossy, transparent coating

Crude formulation	
Initial mixed viscosity (ISO Cup #4, 20°C)	15-20 sec
Pot life (20°C)	> 3h
Gel time (20°C)	> 5h

Surface properties	
Surface tension (mN/m)	36.6
Polar component (mN/m)	1.2
Dispersive component (mN/m)	35.4

	Water	Diiodomethane	Hexadecane	Sunflower oil
Contact angle	89°	43°	12°	19°
Roll-off angle	48°	11°	26°	46°

PROCESSING PARAMETERS

Mix ratio (by weight)	
Component A (Base)	100 parts
Component B (Hardener)	23.2 parts
Component C (Activator)	1.6 parts

Surface preparation and pre-treatment

Apply to a suitably prepared surface: the surface must be clean, dry and intact. Acetone can be used as a cleaning solvent.

Application method

The formulation can be applied by spray-coater.

Instructions for use

Before mixing the components, stir thoroughly or shake each part until smooth uniform solutions are obtained. Then, add the hardener (component B) and the activator (component C) to the base (component A). Stir thoroughly until a homogeneous mixture is obtained.

Recommended curing cycle

A flash off time of 30 min at room temperature is required before curing 4h at 100°C.