Clear paint protection film

Transparent TPU film for automotive exterior surfaces, supplied on Lubrizol, BASF and Covestro material platforms.

DOCUMENT **QW-TDS-PPF-01** ISSUE DATE **26 October 2026** REVISION **1.0**

1 · PRODUCT DESCRIPTION

A clear, high-gloss thermoplastic polyurethane film with a self-healing top coat and a pressure-sensitive adhesive, applied to painted body panels to absorb stone chips, abrasion and light scratching. The film is supplied on rolls for professional installation and for private-label programmes.

Three material platforms are offered. The figures in this sheet describe the **SM301** programme on Lubrizol ESTANE® ALR CLC93A-V. BASF and Covestro platforms are quoted with their own finished-film documentation per project.

2 · MODEL RANGE

MODEL	FINISH	NOMINAL TOTAL THICKNESS	CONVERSION
SM301 · Lubrizol	Gloss	7.5 mil	190.5 µm
SM301 · Lubrizol	Gloss	8.5 mil	215.9 µm
SM301 · Lubrizol	Gloss	9.5 mil	241.3 µm
SM301 · Lubrizol	Matte	7.5 mil	190.5 µm
SM301 · Lubrizol	Gloss black	7.5 mil	190.5 µm

Values in µm are conversions of nominal thickness, not measurements. Matte and gloss black thickness variants other than 7.5 mil are confirmed at order.

3 · BASE MATERIAL · TYPICAL RESIN VALUES

PROPERTY	TEST METHOD	TYPICAL VALUE
Hardness, 5 s	ISO 868 · ASTM D-2240	85–90 Shore A
Specific gravity	ISO 2781 · ASTM D-792	1.10 g/cm³
Tensile strength	ISO 527-2 · ASTM D-412	65 MPa
Ultimate elongation	ISO 527-2 · ASTM D-412	410 %
Tensile stress at 100 % / 300 %	ISO 527-2 · ASTM D-412	7 / 16 MPa
Melt flow index, 175 °C / 2.16 kg	as stated by supplier	1–10 g/10 min

Source: ESTANE® ALR CLC93A-V Technical Data Sheet, 2020.02.17, Issue 5. Specimens conditioned at 23 °C for 24 hours before testing. These are typical resin values, not finished-film data or guaranteed specifications, and the source does not establish a link between the resin grade and any individual finished-film model.

4 · REFERENCE TEST RECORD · SM301 SAMPLE

PROPERTY	TEST STANDARD / CONDITION	UNIT	RESULT
Total film thickness	GB/T 6672	μm	311
Tensile strength	QC/T 1171-2022	MPa	17
Elongation at break	QC/T 1171-2022	%	417
Gloss	QC/T 1171-2022	GU	153
Puncture resistance	QC/T 1171-2022	%	139
Water contact angle	GB/T 30693-2014	°	98
Adhesion, 20 min	Steel panel	N/in	18
Adhesion, 168 h	Steel panel	N/in	23.8
Self-healing	Copper brush, 110 g/cm², water at ~70 °C	s	≤ 5
Stain resistance	Oil-based marker, wiped after 1 min at 25 °C	—	Pass
Corrosion resistance	Carburettor cleaner, 2 min on self-healing layer	—	Pass
Ageing / weather resistance	QC/T 1171-2022	—	Pass
Stone-chip resistance	QC/T 1171-2022	—	Pass

Reference sample data, not a specification for every model. The source lists a total thickness of 311 μm, which differs from the nominal conversions above; the thickness definition and the corresponding model remain unverified. Puncture resistance retains the source unit of %, also unverified.

5 · SUPPLY FORMAT

- Roll width: **1.52 m** standard; other widths to order.
- Roll length: confirmed per order — 15 m standard for most programmes.
- Finished rolls, private-label cartons, printed cores and application accessories available under ODM programmes.
- Colour matching against physical samples for colour film; batch standard locked before launch.

6 · LIMITATIONS

This sheet consolidates supplier technical data and a reference test record for one sample. It is not a certificate of conformity and does not guarantee that a production batch reproduces every value. Application requires a trained installer working to the installation instructions supplied with the roll. Performance depends on substrate condition, preparation and curing environment. Confirm the applicable specification, warranty terms and test reports for your market before ordering.

QINGWEI Automotive Technology Co., Ltd.
Paint protection film, colour film and window film by QINGWEI
qingweippf.com · info@qingweippf.com · WhatsApp +86 131 2758 4610

Values are typical and indicative.
Confirm the specification for your order in writing.
© 2026 QINGWEI. All rights reserved.