



PU 8591 E

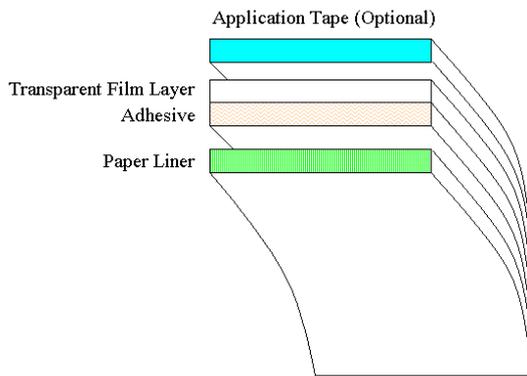
3M™ High Performance Protective Film

Technical Data Sheet

General Description

3M™ high performance protective film portfolio is specially designed to protect painted automobile surfaces, improving functionality and allowing the conservation of visual appearance for long periods. The range of protective films allows customised adjustment to application needs regarding improved chemical and mechanical resistance (like stone chip), long-term durability against environmental exposure and conformability to complex shapes and wrap-arounds.

General Construction



Special Characteristics

PU 8591 E is a high performance protective film which can be used in a wide range of exterior applications where protection against limited chemical and mechanical attack is needed like on the sun roof, between bumper and car body, on the door edge or under the door handle.

The film is characterized by high thickness and a transparent, medium gloss surface. It is resistant against scratching and high temperature exposure and suitable for painting processes. Moreover the film provides excellent features to reduce noise and protect surfaces against shattering, splintering and gravel attack and has a very good conformability to complex shapes and wrap-arounds. The adhesive provides a reliable bond under environmental stress like changing temperatures or moisture.

General Properties

Colour	transparent
Application Tape	paper tape for easy recycling
Film	specially formulated PUR
Adhesive	Pressure sensitive modified acrylic adhesive which provides high and reliable bond to a wide variety of automotive surfaces under all environmental conditions
Liner	paper liner for easy recycling
Shelf Life	1 year from date of receipt by customer when stored in original packaging at 22 ± 4 °C and at maximum moisture of 60 %

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Physical Properties (Typical Values)

Characteristics	Results	Test Method
Nominal Thickness (film+adhesive)	360 µm	3M LS 034
Weight per unit (film+adhesive)	415 g/m ²	3M LS 041
Tensile Strength, Elongation	6091 N/cm ² , 683%	3M LS 005,006
Dimensional Stability (Shrinkage) after 7d 80 °C, 30 min. 120 °C	Down web /cross web 0 % / 0 %	3M LS 026

Performance Properties (Typical Values)

180° Peel Adhesion (Aluminium)	Results	Test Method
30 min. at SLC	5,3 N/cm	3M LS 007
72 h at SLC	7,9 N/cm	3M LS 007
7 d at 80 °C	12,3 N/cm	3M LS 008
7 d at 38 °C, 98 % moisture	12,0 N/cm	3M LS 010
Thermal Cycling	15,9 N/cm	3M LS 009
Surface Appearance	Results	Test Method
7 d at 80 °C	no changes	3M LS 019
30 min. 120 °C	no changes	3M LS 019
7 d at 38 °C, 98 % moisture	no changes	3M LS 019
Thermal Cycling	no changes	3M LS 019
Resistance to Wax and Dewax	no changes	3M LS 024
Resistance to Fluids (25 rub cycles) - 1% Dishwashing gel solution - Antifreeze - Oil	no changes no changes no changes	3M LS 023 3M LS 023 3M LS 023
Gasoline Resistance (dip test / 6 rub cycles) - Unleaded Super Fuel - Diesel Fuel	no changes / no changes no changes / no changes	3M LS 015 3M LS 015
Abrasion Resistance (Taber Abraser: 1000 cycles CS 17)	no rub through	3M LS 028
Impact Resistance	no chipping or cracking	3M LS 112
High Pressure Cleaning	no surface damage or adhesion loss	3M TMAE 002

Additional Information

This data sheet contains specific information about the product. General characteristics and application rules of high performance protective films are available separately.

Important notice to purchaser

All statements, technical information and recommendations herein are based on tests we believe to be reliable, but the accuracy or completeness thereof is not guaranteed. Please ensure before using our product that it is suitable for your intended use. All questions of liability relating to this product are governed by the Terms of Sale subject, where applicable, to the prevailing law.

