TFL PERFORMANCE COATING

Automotive Interior Trim Innovative & Diversified

» Brilliant, sustainable solutions for coating leather-like synthetic materials for car interiors

TFL – Great chemicals. Excellent advice.

TFL PERFORMANCE COATING

Better air quality and durability in car interiors

Nowadays, the car interior has become one of most important parts of the car. Being in close contact with the passenger, not only should it be beautiful and have a nice surface touch, but there should not be any vapours or odours emitted from the materials, so that the air quality in this airtight room is safe and pleasant. In addition, materials in the interior of the vehicle should last as long as the exterior; which makes it highly challenging!

The Performance Coating Division of TFL provides solutions to the above challenges. Below we discuss three categories of these materials which are specified by their location in the car and their usage.

Car Seat

- Material: Microfiber
- Coating dry thickness: About 70 micron
- Coating process: Three coats in transfer coating system
- Release paper: Matt (polypropylene type)
- Top finish: Optional
- Main resins: Water based polyurethane PeVit® XPU 7471 & 7475

Test	Condition	Result
Adhesion	Dry/Wet	3.3/3.0 kg/cm
Rub fastness	Dry/Wet/IPA	5,000/1,000/300 cycles
Resistance to hot water	60°C, 5 days	Pass
Resistance to 10 % NaOH	24 hrs.	Pass
Hydrolysis	95 % humidity, 70°C, 7 weeks	Pass
Heat resistance	100°C-168 hrs. /120°C-48 hrs.	Pass/Pass
Light fastness	SAE J 2412, 488 KJ	Pass
Tabor test	CS-10, 1 kg load	5,000 cycles
Flexing	Room temperature	300,000 cycles
Cold flexing	-30°C	100,000 cycles

Steering Wheel

- Material: Microfiber
- Coating dry thickness: About 80 micron
- Coating process: Three coats in transfer coating system
- Release paper: Matt (polypropylene type)
- Top finish: 12 g/m² dry add on, matt top coat based on PeVit XPU 5440
- Main resins: Aqueous polyurethane based on PeVit® XPU 7471 & 7475

Test	Condition	Result
Adhesion	Dry/Wet	3.3/3.0 kg/cm
Rub fastness	Dry/Wet/IPA	10,000/5,000/600 cycles
Resistance to hot water	60°C, 5 days	Pass
Resistance to 10 % NaOH	24 hrs.	Pass
Hydrolysis	95 % humidity, 70°C, 7 weeks	Pass
Heat resistance	100°C-168 hrs. /120°C-48 hrs.	Pass/Pass
Light fastness	SAE J 2412, 488 KJ	Pass
Tabor test	CS-10, 1 kg load	10,000 cycles
Flexing	Room temperature	100,000 cycles
Cold flexing	-30°C	30,000 cycles

Decorative

Option A

- Material: Textile about 0.4–0.5 mm thickness
- Coating dry thickness: 400–500 micron
- Coating process: Three coats in transfer coating system, Pre-skin and adhesion water base and skin is 100 % solid system
- Release paper: Matt (Ultracast type)
- Top finish: Optional
- Main resins: 100 % solid polyurethane based on PeVit® HSPU 5562 & 5564

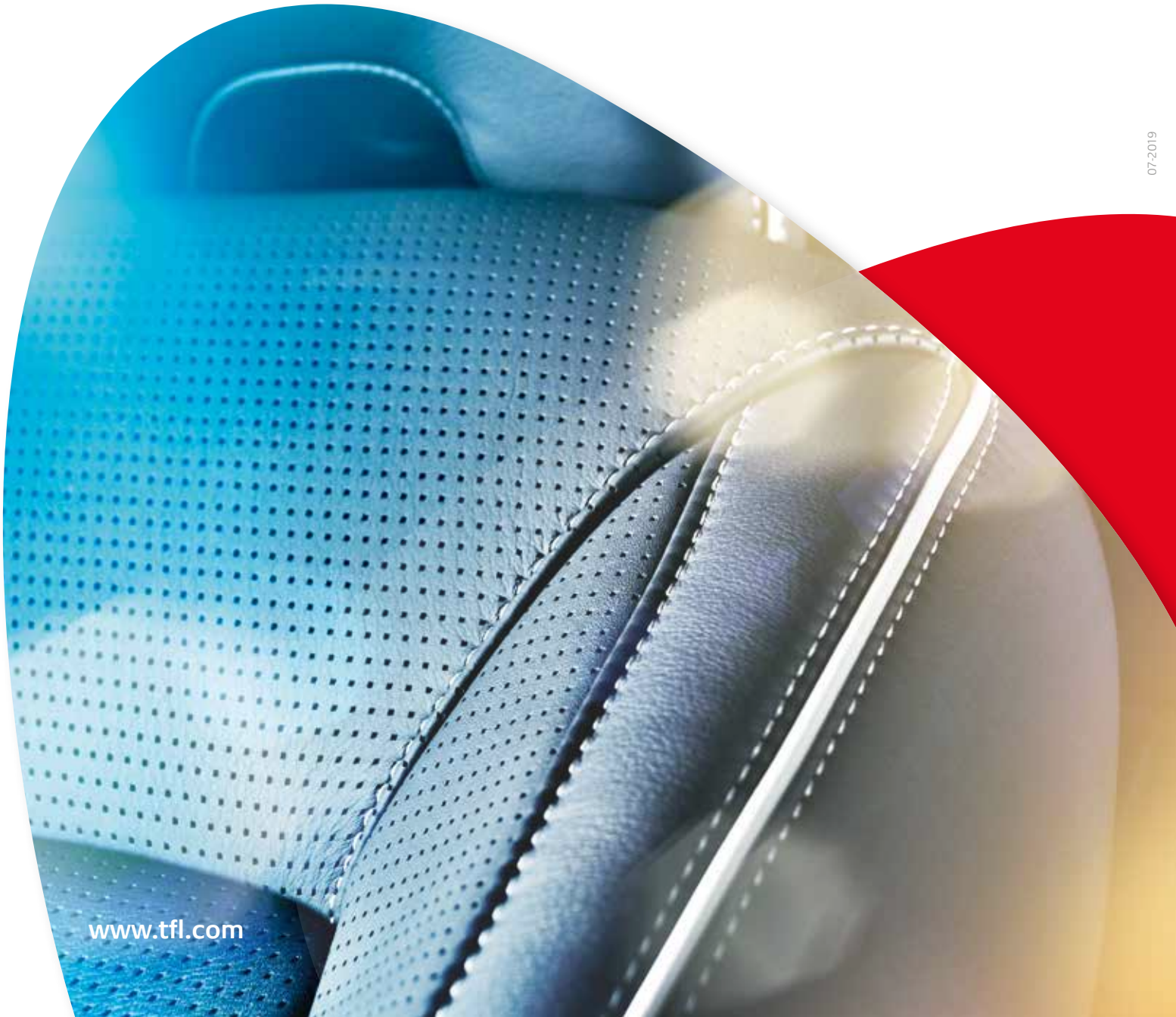
Option B

- Material-Textile about 0.8 mm thickness
- Coating dry thickness: About 50 micron
- Coating process: Two or three coats in transfer coating system
- Release paper: Matt (Polypropylene type)
- Top finish: Optional
- Main resins: aqueous polyurethane based on PeVit® XPU 7471 & 7475

TFL PERFORMANCE COATING – significant reduction of VOC and odour

We have tested the above material for VOC and odour as below:

Test	Substance	Limit(ppm)	Result
	Formaldehyde	50	Pass
TSM 0508G-2009	Acetaldehyde	50	Pass
bzw. ISO 12219-2	Acrylaldehyde	10	Pass
10 L Bag	Benzene	20	Pass
Sample Size:	Toluene	50	Pass
10 cm x 10 cm	Ethylbenzene	50	Pass
Temperature: 65°C	Xylene	50	Pass
Time: 2 hrs.	Styrene	50	Pass
	TVOC (C6-C16)	300	Pass
Test		**Acceptable level**	**Result**
Smell, Grading 0 to 5 with increments of 0.5		Less than 2.5	Pass



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