

**KL-PLUS-PPF Excellent Yellow Resistance**

- ✓ Super Glossiness
- ✓ Excellent Soft Top Coating
- ✓ Perfect and easy installation
- ✓ Excellent Long Durability
- ✓ Better Yellow Resistance

Properties		Value	Test Method
Physical Properties	Thickness (Substrate)	175±10 $\mu$ m	Thickness gauge
	Thickness (Overall)	270±15 $\mu$ m	Thickness gauge
	Elongation at Break	287%	ASTM D412
	Tensile Strength	6.87kgf/inch	ASTM D412
Adhesion	Adhesion Force	306gf/inch	JIS K 6854-2
	Type of PSA	Acrylic PSA	-
	Residual Adhesive	None	Put on painting plate then peel off with reverse direction after exposing to 80C for 24hr, -4C for 24hr, 20C for 12hr in sequence
Optical Properties	Gloss	96.8%	Glossmeter (@60° )
	Surface Uniformity	No deformation (crater, pin-hall, fish-eye)	Put on orange peel test plate / Sensory Tester
	Transmittance	Blackish	Put on black acrylic plate /Sensory Test
		Transparency	Put on transparent acrylic plate /Sensory Test
Surface Properties	Anti Scratch (5pt)	2pt	Copper brushing @RT (20°C)
	Self-Healing @RT (1hr, 5pt)	1.5pt	Copper brushing @RT (20°C) Stand-alone under RT (20°C)
	Thermal Recover (70°C, 5pt)	5pt	Copper brushing @RT (20°C) Exposure to hot water (70°C)
	Chemical Resistance	No damaged for 45 seconds	DMF (Dimethylformamide)

		No damaged for 110 seconds	Carburetor cleaner (CARB CLEANER)
	<b>Hydrophobicity</b>	R9~R10	JIS P-8137
	<b>Anti-Fouling</b>	Easily Erasable	Permanent pen
	<b>Stickiness @80C</b>	Smooth not sticky	After aging under 80°C for 1hr.
<b>Durability</b>	<b>For Self-Healing</b>	Recover to 70% @20C 25~35min. at 1st year 30~40min. at 3rd year	Measure Self-Healing performance with time on stream
	<b>For Surface Enthalpy</b>	No any drop	After immerse in 70C water-bath for 12hrs
	<b>For Anti-Fouling</b>	No any drop	After immerse in 70C water-bath for 12hrs
	<b>Discoloring</b>	$\Delta E < 0.5$	QUV Tester (6500W) 2000hrs Measure Lab
	<b>Guarantee Period</b>	10 years	for Yellowing, Crack, Residual Adhesive