

# Certificate of Analysis Screen Protective Film - 9HO

Company	Photodon, LLC	Michigan	USA	Phone 847-377-1185	Email Sales@photodon.com	
Product Name	9HO - Glass-Like Oleophobic			Product Type	D/S HC-PET	
Film Roll Size	1040mm x 200 meters (41 inches x 656 feet)					
Test Condition						
<b>Test Items</b>		<b>Unit</b>	<b>Notes</b>	<b>Result</b>	<b>Test Method</b>	
<b>Material</b>	Top Liner		60µm	PET		
	Oleophobic Coating					
	9H Shatterproof Glass-Like Coating					
	Rainbow Free-Optical PET		130um	PET		
	Si-PSA		35µm	Silicone		
	Release Liner		50µm	PET		
	Thickness without liners		165 ± 10µm	.0065"		
<b>Optical Properties</b>	Total Luminous Transmittance		%		92.23	ASTM-D1003-77 *2
	Gardner Haze		%		0.61	ASTM-D1003-77 *
	Gloss Level @ 60°				170.7 Gloss Units	ASTM-D2457-70 *
	Rainbow Moire		-		Pass	** -
<b>Thermal Properties</b>	Curling		%	>90	90.4	
	Thermal Shrinkage %		%		0.13/0.15	MD/TD <10
	Retentivity		mm/hr	500g/100°C	<3.0	KSA1107
	Temp/Humidity				No Problem	85°C / 85RH%
	Thermal Shrinkage				No Problem	Heat Cycle - 40°C ->80°C - 20 cycles
<b>Mechanical Properties</b>	Contact Angle (Average)				103°±5	CONTACT-ANGLE METR
	Oleophobic Coating Durability				89°±2	1500cycles / Rubbing test stick @ 45°, 500g load/cm <sup>2</sup>
	Peeling Strength		gf/25mm	180° Peel Off	5.6 after 30 min.	GLASS with 2kg roller 180° peel, g/25 mm, 300mm/min
	Pencil Hardness	Film only	H	≥ 9	9H @ 45°, 500g load	ASTM D3363
		w/adhesive	H	≥ 7	7H @ 45°, 500g load	ASTM D3363
	Steel Wool Abrasion				No damage	ASTM D1044 Steel wool (#0000) *20 Laps @ 750g load/cm <sup>2</sup>
	Adhesion			100/100	Pass	Cross Cut Adhesion Test
<b>Chemical Resistance</b>	<b>Resistant to:</b>					DIN 42 115
	Alcohols	Hydrocarbons			No Problem	
	Dilute acids	Ketones				
	Dilute alkalis					
	Esters					

\* After pulling off liners

\*\* Attaching to glass no liners

\*2 Spectrophotometer (Konica CM-5)