

Photodon LLC	Michigan	USA	Ph: 847-377-1185		Email: sales@photodon.com	
Product Name:	9HO	Finished Material Type:	9H, oleophobic, abrasion resistant, clear finish		Date 9-15-2022	
Film Roll Size: 1040mm (nominally)						
Material						
	Tested Items	Thickness (µm)	Thickness (in)	Test Method	Notes	
Material	Top Liner	60	0.0023	Micrometer		
	Oleophobic Coating	-	-	-		
	9H Shatterproof Glass-like Coating	15	0.0005	Micrometer		
	Rainbow Free-Optical PET Film	125	0.0049	Micrometer		
	Silicone Backing	35	0.0013	Micrometer		
	Release Liner	50	0.0019	Micrometer		
	Total Thickness	285 ± 10	0.0112	Micrometer		
	Thickness without liners	175	0.0068	Micrometer		
Optical Properties						
	Tested Items	Unit	Spec	Result	Test Method	
Optical Properties	Total Light Transmittance	%	-	92.23	ASTM D1003-77 / JIS K 7361* Spectrophotometer(Konika CM-5)	
	Haze	%	-	0.61	ASTM D1003-77 / JIS K 7136*	
	Gloss Level @ 60°	Gloss Units	-	170.7	ASTM D2457-7*	
	Rainbow Moire	-	-	Pass	Attached to glass, no liners	
Thermal Properties	Curling	%	> 90	90.4	-	
	Thermal Shrinkage %	%	MD/TD < 1.0	0.13/0.15	-	
	Retentivity	mm/hr	-	< 3.0	KSA1107 500g/100°C	
	Temp/Humidity	°C/RH%	-	No Problem	85°C / 85% RH	
	Heat Cycle	-	-	No Problem	-40°C ↔ 80°C, 20 cycles	
Mechanical Properties	Contact Angle	°	± 5	110	Contact Angle Meter	
	Oleophobic Coating Durability	°	± 2	89	1500 cycles/Rubbing test stick@ 45°, 500g load/cm²*Rubber stick hardness:81 (Durometer A type)	
	Adhesion Stability	-	100/100	Pass	ASTM D3359 / JIS K 5600 Cross Cut Adhesion Test	
	Pencil Hardness	Film only	H	≥ 9	9H @ 45°, 500g load	ASTM D3363 / JIS K5600-5-4
		w/ adhesive	H	≥ 7	7H @ 45°, 500g load	ASTM D3363 / JIS K5600-5-4
	Scratch Resistance	-	-	No Damage	ASTM D1044 Steel wool (#0000)* 20 Laps @ 750g load/cm²	
Peeling Strength	gf/inch	-	5.6 / 30 min	LLOYD LS1 180° peel, g/25mm, 300mm/min		
Chemical Resistance	Resistant to:					
	Alcohols	Esters	No Problem	DIN 42 115		
	Dilute acids	Hydrocarbons				
	Dilute alkalis	Ketones				

*After peeling off liners