

| <b>Photodon LLC</b>                       | Michigan                           | USA                            | Ph: 847-377-1185   |  | Email: sales@photodon.com  |                            |
|---|------------------------------------|--------------------------------|--|--|--|----------------------------|
| <b>Product Name:</b>                      | <b>9HO</b>                         | <b>Finished Material Type:</b> | 9H, oleophobic, abrasion resistant, clear finish               |  | Date 8-23-24   |                            |
| <b>Film Roll Size: 1040mm (nominally)</b> |                                    |                                | Country of Origin: Korea - Customized and Processed in the USA |  |  |                            |
| Tested Items                              |                                    | Thickness (µm)                 | Thickness (in)   | Test Method                            | Notes  |                            |
| <b>Material</b>                           | 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   |  |  |                            |
| Tested Items                              |                                    | Unit                           | Spec   | Result                                 | Test Method  |                            |
| <b>Optical Properties</b>                 | 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   |                            |
| <b>Thermal Properties</b>                 | 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  |                            |
| <b>Mechanical Properties</b>              | 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 |  |                            |
| <b>Chemical Resistance</b>                | <b>Resistant to:</b>               |                                |  |  |  |                            |
|   | Alcohols                           | Esters                         | No Problem   | DIN 42 115                             |  |                            |
|   | Dilute acids                       | Hydrocarbons                   |  |  |  |                            |
|   | Dilute alkalis                     | Ketones                        |  |  |  |                            |

\*After peeling off liners