

# KODAK 201 Film / ESTAR Base KODAK 202 Film / ESTAR Base

—Put a century of science in your hands—

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KODAK 201 Film/ESTAR Base and KODAK 202 Film / ESTAR Base are polyester (PET) films with high clarity, optical-grade surface quality for use in many industrial applications. These films are manufactured with a proprietary in-line process to control shrinkage and are coated with an acrylic adhesion-promoting primer and winding aid. 201 Film is coated on one sided; 202 Film is coated on both sides. Both films are available in a variety of thickness and shrinkage ranges.

The cost-effective, consistent quality of Kodak 201 and 202 Films is the result of 50 years of experience in manufacturing polyester (PET) film base. Stringent workforce standards for our Six Sigma Black Belt strategy standards include statistical modeling and design, rigorous change management, and unsurpassed manufacturing process control.

As just one example of how that knowledge has led to innovation, a cushion of air is used to transport 201 and 202 Films throughout the entire stretching section of the manufacturing process. This virtually eliminates contact that can compromise quality by creating micro scratches on the film.

## Features:

- Optical-grade surface quality — products are manufactured with minimal surface contact, then scanned to meet the stringent requirements for optical applications
- Coated with acrylic adhesion-promoting primer and winding aid. Standard thickness of primer is less than one micron (1  $\mu\text{m}$ )
- Shrinkage in both the machine direction (MD) and transverse direction (TD) of  $\leq 5\%$ ,  $\leq 3\%$ , or  $\leq 1\%$ , or  $\leq 0.2\%$
- Available in thicknesses of as low as 2.5 mil (63.5  $\mu\text{m}$ ) to as thick as 7.5 mil (188  $\mu\text{m}$ ) up to a maximum width of 1384 mm (54.5 inches)
- Greater than 90% transmittance with less than 1% haze

## Uses:

- Flexible electronic displays
- Membrane touch switches
- Metalization
- Labels and printing applications

## Physical Condition

### Roll Integrity

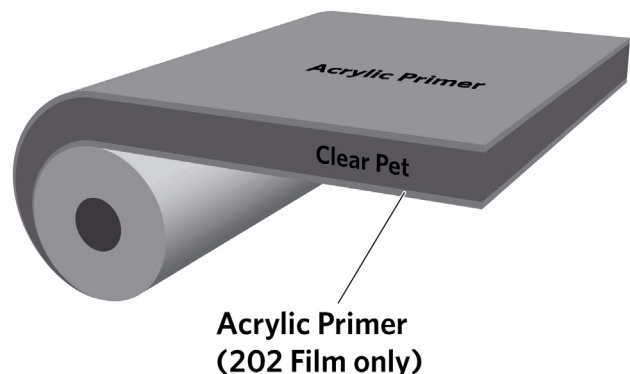
- The edge of the roll will be free of nicks, cuts or visible telescoping greater than  $\pm 6.3$  mm (0.25 inches)
- The roll will not contain gauge bands which will visibly distort the film surface
- There are no splices or cutouts in the roll

## Product Quality

Kodak inspects material during the manufacturing process using in-line scanners to detect, correct, and deliver material that meets or exceeds specifications. Kodak quality technicians consistently evaluate sample product quality using internal and external standards to confirm quality standards are met.

## Packaging

- Standard core; inside diameter 152mm  $\pm$  3mm (6 inches  $\pm$  0.04 inch)
- Each roll is suitably wrapped to seal the product
- Each roll is horizontal, supported on core ends
- Each container is labeled with product and roll identification



# KODAK 201 and 202 Films / ESTAR Base

| Typical Properties               | Value                         | Test Method  |
|----------------------------------|-------------------------------|--|
| <b>Physical</b>                  |                               |  |
| Width Tolerance                  | ± 3 mm                        | Kodak Inline Scanner                                   |
| Length Tolerance                 | ± 30 m                        | Kodak Inline Scanner                                   |
| Knurls — each side               | 12.5 mm wide                  |  |
| Planarity                        | < 0.5 mm                      | Kodak Planarity Method<br>(Max "flute" — 10 ft sample) |
| <b>Mechanical</b>                |                               |  |
| Tensile Strength                 | > 25,000 psi                  | ASTM D 882   |
| Break Elongation                 | > 70%                         | ASTM D 882   |
| Young's Modulus                  | > 500,000 psi                 | ASTM D 882   |
| <b>Thermal</b>                   |                               |  |
| Heat Shrinkage — Machine (MD)    | ≤ 0.2%, 1.0%, 3.0%, and 5.0%* | Kodak Method<br>(30 min @ 150°C)                       |
| Heat Shrinkage — Transverse (TD) | ≤ 0.2%, 1.0%, 3.0%, and 5.0%* |  |
| <b>Optical</b>                   |                               |  |
| VLT — with primer                | > 90%                         | ASTM D 1003  |
| Haze — with primer               | ≤ 1.5%                        | ASTM D 1003  |

\*There are three levels of shrinkage available, as noted in the table. They do not correspond to material thickness.

## SIZES AVAILABLE

The table below shows catalog numbers available at the time of publication. It is by no means inclusive, please contact us regarding your specific needs.

| CAT No.   | Class     | Thickness | Width (mm) | Length (m) | Shrink (%) |
|---|-----------|-----------|------------|------------|------------|
| <b>KODAK 201 Film / ESTAR BASE (coated on one side)</b> |           |           |            |            |            |
| 104 5947  | 6RF1-385E | 97        | 1384       | 2896       | 5.0        |
| 105 5592  | 6RF1-402R | 102       | 1372       | 3246       | 0.2        |
| 143 3739  | 6RF1-445E | 102       | 1384       | 3200       | 3.0        |
| 165 1611  | 6RF1-501M | 127       | 1372       | 2438       | 0.2        |
| 155 7818  | 6RF1-545E | 127       | 1384       | 2438       | 5.0        |
| 151 6590  | 6RF1-701R | 178       | 1384       | 1341       | 0.2        |

| CAT No.   | Class     | Thickness | Width (mm) | Length (m) | Shrink (%) |
|---|-----------|-----------|------------|------------|------------|
| <b>KODAK 202 Film / ESTAR BASE (coated on both sides)</b> |           |           |            |            |            |
| 800 7551  | 6RF1-406R | 101       | 1384       | 2134       | 1.0        |
| 810 5330  | 6RF1-406W | 101       | 1441       | 2438       | 1.0        |
| 136 0957  | 6RF1-436R | 102       | 1384       | 2134       | 3.0        |
| 800 3147  | 6RF1-507K | 127       | 1280       | 2347       | 1.0        |
| 167 6519  | 6RF1-502N | 127       | 1346       | 1341       | 0.2        |
| 117 8409  | 6RF1-506R | 127       | 1346       | 1341       | 1.0        |
| 153 6135  | 6RF1-500M | 127       | 1372       | 2438       | 0.2        |
| 817 9939  | 6RF1-711C | 178       | 1346       | 1333       | 3.0        |
| 190 4382  | 6RF1-700N | 178       | 1346       | 1341       | 0.2        |
| 173 1447  | 6RF1-706R | 178       | 1346       | 1341       | 1.0        |
| 191 1965  | 6RF1-751P | 188       | 1321       | 1333       | 3.0        |

## MORE INFORMATION

Kodak has many publications to assist you with information about KODAK Products, Equipment, and Materials.

For the latest version of technical support publications for KODAK Industrial Materials Group, please visit Kodak online at <http://www.kodak.com/go/img>.

To find out what PET Films can do for your business, please send us an email at [PETproducts@kodak.com](mailto:PETproducts@kodak.com).

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