

SURFACE PROTECTION

GENERAL PRODUCT INFORMATION:

- Industry leading “adhesiveless” masking film with natural cling adhesion, provides easy on/easy off performance
- ForceField™ 1165 is a stiffer film compared to ForceField™ 1035, allowing higher web tensions during lamination
- Specialty materials, state of the art equipment, and controlled processes deliver ultra-low gel films
- ISO Class 7 & 8 cleanroom production delivers cleaner film suitable for sensitive substrates
- Available in roll form with core ID of 150mm (6 inches) / 76mm (3 inches) and widths up to 2.8 meters (110 inches)
- Excellent roll construction up to 13,800 meters (15,100 yards)

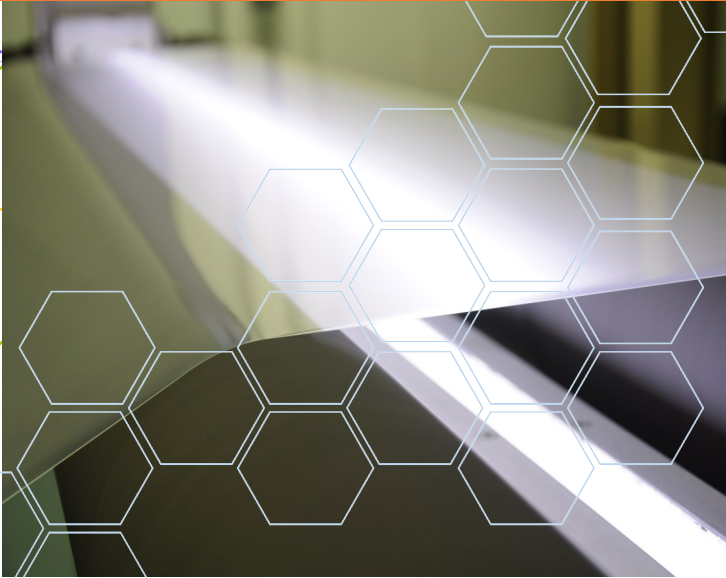
APPLICATIONS:

Smooth surface substrates

- COP (Cyclic Olefin Polymer)
- Acrylic
- Polycarbonate
- PET

Smooth and sensitive high performance optical films

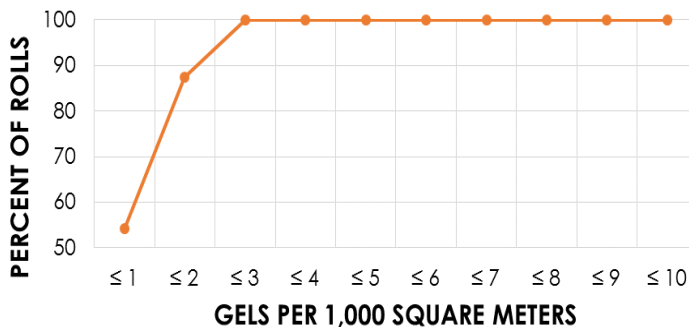
- Barrier films (QDEF, OLED, Solar)
- Brightness enhancing films
- Polarizer films
- Reflector films
- Retardation films
- And more...



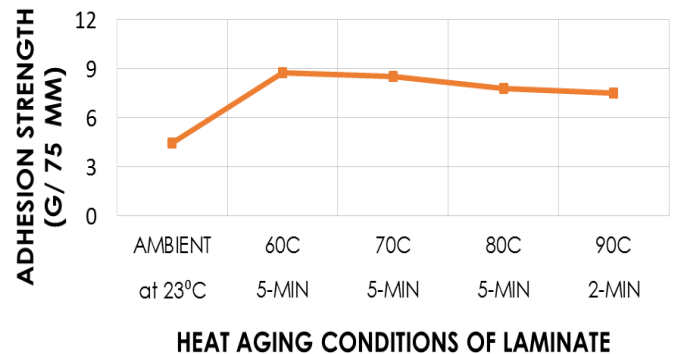
FEATURES:

- Excellent roll confirmation
- Consistent adhesion strength throughout the roll length
- No interlayer blocking throughout the roll, enabling customers to use entire roll length
- Easy on / easy off without damaging soft and sensitive substrate film
- “Adhesiveless” film with natural cling adhesion
- Industry leading ultra-low gel films (See graph below to the left)
- Uniform and controlled matte side surface roughness
- Contamination free film produced in ISO Class 7 & 8 cleanroom environment
- Excellent adhesion stability with time and temperature (See graph below to the right)
- Quality controlled with 100% inspection by multiple in-line defect cameras

**CUMULATIVE FREQUENCY
CAMERA GELS 0.3 to 1.0 MM**



**ADHESION STRENGTH STABILITY
AT ELEVATED TEMPERATURES**



SURFACE PROTECTION

DIMENSIONS:

Thickness

Width

Yield

VALUE:

28.4 microns

up to 2.8 meters
(110 Inches)

37.8 m²/kg

TEST METHOD:

*QETM -00014

PHYSICAL PROPERTIES:

MD Ultimate Tensile Strength

22 MPa

*QETM-1

TD Ultimate Tensile Strength

18 MPa

*QETM -1

MD Ultimate Elongation

540 %

*QETM-1

TD Ultimate Elongation

640 %

*QETM-1

MD Elmendorf Tear

260 grams

*QETM-3B

TD Elmendorf Tear

260 grams

*QETM-3B

MD 1% Secant Modulus

320 MPa

*QETM-1B

TD 1% Secant Modulus

360 MPa

*QETM-1B

Haze

65

*QETM-7B

180° peel force 75mm (3 inches) wide PC

7 grams

*QETM-169

*QETM (Quality Evaluation Test Method)

All above values are typical but not standard values.

SAMPLES AVAILABLE UPON REQUEST IN DIPLOMA ROLL FORM.

Diploma rolls - 210mm wide by 30 meters long on a 30mm core ID. These samples are similar to the roll stock we provide.

Customized product widths available.

For general questions, inquiries, and customization requests—please contact:

USA / EUROPE

KAPIL BHURA

kapil.bhura@tredegar.com

804-330-1456

KOREA / JAPAN

SUKWOO PARK

sukwoo.park@tredegar.com

+82 (2) 871-5673

TAIWAN / CHINA

WILL HA

sangjae.ha@tredegar.com

+82(2) 871-5673

UNLESS OTHERWISE AGREED TO IN WRITING, TREDEGAR MAKES NO REPRESENTATION OR WARRANTY, EXPRESS OR IMPLIED, CONCERNING THE ABOVE PRODUCTS OR THE RELATED INFORMATION AND RECOMMENDATIONS, INCLUDING BUT NOT LIMITED TO ANY REPRESENTATION OR WARRANTY OF NON-INFRINGEMENT, MERCHANTABILITY OR FITNESS FOR A PARTICULAR PURPOSE. THE USER OF THE ABOVE PRODUCT(S) IS EXPECTED TO TEST AND INVESTIGATE THE SAFETY AND SUITABILITY OF SUCH PRODUCTS(S) OR PRODUCT COMBINATIONS FOR USER'S INTENDED USE AND USER IS RESPONSIBLE FOR ITS DECISION TO USE THE ABOVE PRODUCT(S). USER ACKNOWLEDGES AND AGREES THAT (A) THE ABOVE INFORMATION, RECOMMENDATIONS AND ANY SAMPLES OF THE ABOVE PRODUCT(S) HAVE BEEN PROVIDED TO USER AT USER'S REQUEST AND AS AN ACCOMMODATION TO USER, (B) TREDEGAR IS NOT LIABLE FOR CLAIMS ARISING FROM USER'S OR ANY THIRD PARTY'S USE OF OR RELIANCE ON SUCH PRODUCTS OR THE RELATED INFORMATION OR RECOMMENDATIONS, REGARDLESS OF THE ACCURACY OR THE COMPLETENESS THEREOF, AND (C) USER ASSUMES RESPONSIBILITY FOR ALL SUCH CLAIMS.