

HARDCOATS



Engineered Protection for Plastic Substrates

MARNOT™
PROTEK™
TERRAPIN™
CUSTOM COATINGS
OVERLAMINATES



HARDCOAT PRODUCTS

MATCHED TO YOUR APPLICATION

SUBSTRATE CHOICES

Tekra applies a variety of proprietary coatings to many types of plastic substrates on one or both sides. We can also toll coat customer supplied specialty substrates. Here are a few of the substrate types commonly coated at Tekra:

- Polyester
- Polycarbonate
- Vinyl
- Tri Acetyl Cellulose (TAC)
- Acrylic (PMMA)
- Polyethylene Naphthalate (PEN)

Since the installation of our first coating line in 1984, Tekra has brought value to our customers by placing a range of specially designed protective hardcoats on plastic substrates. Tekra's hardcoats include Marnot™ and Protek™ for nameplates, membrane touch switches and lenses; overlaminates for graphics and dry erase boards; and Terrapin™ for flat panel and LCD displays. Our product scope provides a wide range of matte levels, formability and other characteristics.

CUSTOM HARDCOATS

Tekra works hand-in-hand with customers to develop unique, high-end coating solutions that meet OEM needs. We have designed custom coatings for overlaminates and dry erase as well as numerous exclusive coatings for diverse OEMs.

Coatable film thicknesses range from less than 1 mil (25 microns) through over 35 mils (875 microns). We provide UV-cured or thermally cured coatings using solvent or water based technologies. We also offer in-line masking and corona treatment of plastic film to enhance one-step coating processes. And for maximum process integrity, our coaters are enclosed in white room and Class 10,000 clean room conditions.

MARNOT

A complete line of functional hardcoats designed for graphic arts applications.

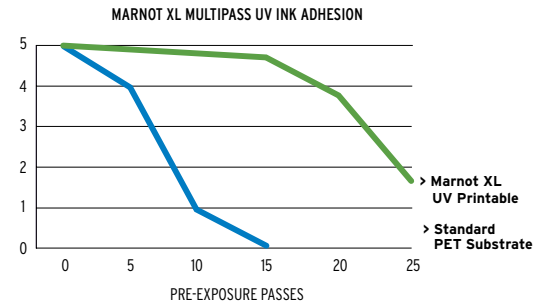
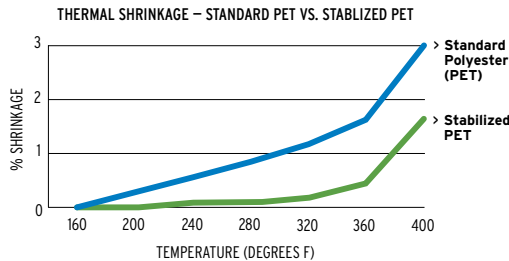


Surface testing with laser

Marnot XL is a protective hardcoat offering superior abrasion, scratch and chemical resistance. With one or two side coated, clear or matte coatings, Tekra meets the stringent requirements of the appliance, nameplate, membrane touch switch and lens markets. Uniquely designed matte levels are also available using our matting methods.

Marnot is commonly available on polycarbonate and polyester, although it can also be produced on tri-acetyl cellulose, PEN, polycarbonate blends and other specialty substrates.

Marnot XL UV Printable film, ultra-shrink-resistant polyester substrate, provides exceptional multi-pass printability – delivering at least 20 passes with adhesion scores of three or better.



PRODUCT NAME	KEY CHARACTERISTICS	MAJOR APPLICATIONS	RESISTANCE RATING		
			ABRASION	SCRATCH	CHEMICAL
Marnot XL Clear PET	<ul style="list-style-type: none"> • Excellent abrasion and scratch resistance • Outstanding embossability and diecuttability • Excellent chemical resistance to common household cleaners and many other substances • First and second surface printability with solvent and UV inks, including clearing inks 	<ul style="list-style-type: none"> • Nameplates • Membrane touch switches • Lenses 	●	●	●
Marnot XL Matte PET	<ul style="list-style-type: none"> • Available in 20, 35, 55, 75 and 90 GU matte levels • Excellent abrasion and scratch resistance • Outstanding embossability and diecuttability • Excellent chemical resistance to common household cleaners and many other substances • First and second surface printability with solvent and UV inks, including clearing inks 	<ul style="list-style-type: none"> • Nameplates • Membrane touch switches 	●	●	●
Marnot XL Clear PC	<ul style="list-style-type: none"> • Excellent abrasion and scratch resistance • Outstanding embossability and diecuttability • Excellent chemical resistance to common household cleaners and many other substances • First and second surface printability with solvent and UV inks, including clearing inks 	<ul style="list-style-type: none"> • Nameplates • Membrane touch switches • Lenses 	●	○	○
Marnot XL Matte PC	<ul style="list-style-type: none"> • Available in 20, 35, 55, 75 and 90 GU matte levels • Excellent abrasion and scratch resistance • Outstanding embossability and diecuttability • Excellent chemical resistance to common household cleaners and many other substances • First and second surface printability with solvent and UV inks, including clearing inks 	<ul style="list-style-type: none"> • Nameplates • Membrane touch switches 	●	○	○

KEY: ○ GOOD ● BETTER ● BEST



Specialty hardcoats designed to add functionality and enhance processing.



Mini coater allows coating tests on smaller scales

OEM demands are ever increasing, requiring higher optical quality or processing performance. This is what ProTek, a specialty protective hardcoat, offers. Designed to complement the Marnot line, ProTek films provide other options for functionality and appearance.

PROTEK PRODUCTS INCLUDE:

ProTek Textured Polyester

Abrasion, scratch and chemical resistant. Embossable and die-cuttable. Able to accept multiple passes of UV inks.

ProTek MaxDraw

A formable hardcoat offering depth of draw, as well as abrasion and chemical resistance far superior to that of uncoated substrates.

PRODUCT NAME	KEY CHARACTERISTICS	MAJOR APPLICATIONS	RESISTANCE RATING		
			ABRASION	SCRATCH	CHEMICAL
ProTek Textured Polyester	<ul style="list-style-type: none"> • Excellent abrasion and scratch resistance • Outstanding embossability and diecuttability • Excellent chemical resistance to common household cleaners and many other substances • First and second surface printability with solvent and UV inks, including clearing inks 	<ul style="list-style-type: none"> • Nameplates • Membrane touch switches 	●	●	●
ProTek Max Draw Formable	<ul style="list-style-type: none"> • Abrasion and scratch resistance far superior to uncoated substrates • Deep draw, abrupt geometry formability • Excellent chemical resistance to common household cleaners and many other substances 	<ul style="list-style-type: none"> • Nameplates • Lenses 	○	○	○

KEY: ○ GOOD ● BETTER ● BEST

TOTAL COATING SOLUTIONS



With a fully staffed R&D department of chemists and engineers, Tekra offers an unprecedented level of customization. Tailoring chemistries is not a service offered by most coaters, but at Tekra we continually leverage our research arm to meet unique challenges. Whether refining an existing coating to more specifically meet your needs, or developing specialty coating for your needs, if it is within the realm of possibility, we will work with you to design it.

Coatings Capabilities Details at a Glance

Coatings Applied	UV, solvent, waterbase
Coating Viscosity	1-500 cPs
Wet Coating Thickness	1-50 microns
Maximum Coated Web Width	61 inches
Maximum Web Width	63 inches
Minimum Web Width	25 inches
Maximum Film Gauge	35 mil
Minimum Film Gauge	1 mil
Maximum Roll O.D. on Rewind	40 inches
Core I.D.	3, 6 or 10 inches



Incorporates the latest advances in coating technologies to create the most advanced hardcoats in the industry.



Pencil hardness testing

The Terrapin family of coatings are premium hardcoats designed to be optically clear and highly resistant to scratching, primarily for opto-electronic use. They are designed to provide high clarity and excellent protection from chemical solvents and cleaners. They are excellent as the top layer of a flat panel or LCD display, due to the priority placed on scratch and chemical resistance during design.

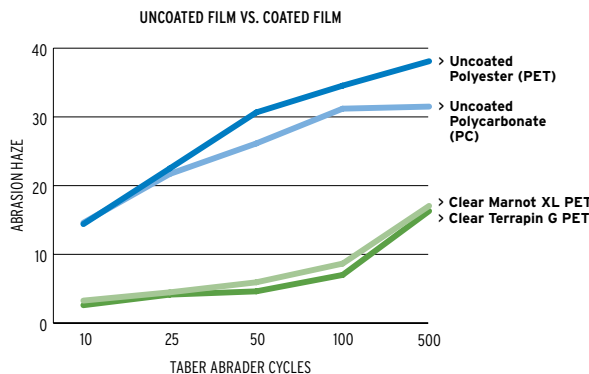
Terrapin provides maximum surface protection from abrasion and scratching, as well as maximum clarity. Slightly more flexible, Terrapin S is designed to be thermoformable, a useful quality in some touchscreen and lens applications.

Terrapin G, available on either polycarbonate or polyester film substrates, draws on nanotechnology to raise the bar for surface durability while retaining substrate flexibility and optical clarity. Terrapin G also offers improved resistance to common household and industrial cleaning chemicals as well as oils and food products, and exhibits superior adhesion to sputter coated metals and oxides.

PRODUCT NAME	KEY CHARACTERISTICS	MAJOR APPLICATIONS	RESISTANCE RATING		
			ABRASION	SCRATCH	CHEMICAL
Terrapin S	<ul style="list-style-type: none"> Flexible Enhanced pencil hardness Performance with affordability 	<ul style="list-style-type: none"> High-end overlays 	●	●	●
Terrapin Y 1088 R	<ul style="list-style-type: none"> Anti-glare matte finish Highest pencil hardness 	<ul style="list-style-type: none"> Signature capture devices Matte touchscreens 	●	●	●
Terrapin G	<ul style="list-style-type: none"> Nanotechnology based Top hardcoat performance Highest pencil hardness Highest chemical resistance Flexible 	<ul style="list-style-type: none"> Touchscreens Signature capture devices Displays High-end overlays 	●	●	●

KEY: ○ GOOD ● BETTER ● BEST

HARDCOAT ABRASION RESISTANCE



Tekra's hardcoats dramatically improve abrasion resistance compared with uncoated polyester or polycarbonate film.

Tekra's facility in New Berlin, Wisconsin houses two state-of-the-art coaters operating in white room and Class 10,000 clean room environments. By using our coatings, customers find they can frequently do more with plastic than they ever thought possible – whether it's a print receptive coating, a functional coating or a coating to enhance product appearance.



Tekra Corporation is a leading manufacturer of proprietary hardcoated and print-receptive plastic films, as well as a full-capability plastic film converter. Through its alliance partners DuPont Teijin Films, 3M and SABIC Innovative Plastics, Tekra also provides a complete range of plastic films and adhesives to printers and manufacturers worldwide.

Hardcoated polycarbonate and polyester films
 Digital films for HP Indigo and toner based presses
 Adhesives (3M)
 Polyester films (DuPont Teijin Films)
 Polycarbonate films (SABIC Innovative Plastics)
 Rigid vinyl
 Styrene
 Label stock
 Masking
 Banner materials (Tyvek®)
 Conductive inks (DuPont Microcircuit Materials)
 Other plastic films available
 Custom coatings for your application

FOR MORE INFORMATION:

800-448-3572

www.tekra.com

ISO 9001:2000 Certified

SABIC
 Innovative
 Plastics™

سابك
 sabic

Authorized Distributor

3M Authorized Converter
 Authorized Distributor

 DuPont Teijin Films™

North American Authorized Distributor
 Exclusive Distributor to the North American
 Medical Diagnostics Market



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BRANCH LOCATIONS

Charlotte, NC
 Orange, CA

Additional Shipping Point

Franklin, MA

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