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Version #4 (0219)
Approved by J. S.



Product

REBEL X-treme RB528X

Product Description

RB528X is a 4 mil matte opaque white, PVC film designed for the production of **extremely permanent graphic applications**. The product is coated on one side with 3 mils of an extremely aggressive **permanent**, specially blended, clear pressure sensitive adhesive which bonds to most smooth and moderately rough surfaces. The adhesive is protected with a 90# polycoated 2-side SuperFlat™ liner.

The film face is 99% opaque and designed for excellent printability with solvent, eco-solvent, latex and UV-cured inkjet printers and is also printable with UV or solvent screen inks, UV offset and UV flexographic inks and is thermal transfer printable.

Typical Uses

Indoor and outdoor concrete surfaces like support pillars and smooth to slightly rough concrete or cinder block walls. Tough-to-adhere to applications including low surface energy plastics like polypropylene, polyesters and polyethylene, trash cans, storage bins, moderately pebbled surfaces, powder coated paint, stainless steel, name plates, and so much more!

Physical Properties

Property	Typical Values	Test Method
Quick Tack lb. /in² (N/25mm) Stainless Steel	6.5 (33)	PSTC-3
Peel Adhesion lb./in. (N/25 mm) Stainless Steel -30 min. - 24 hr.	7.0 (30) 10 (43.5)	PSTC-1 (CTM-25)
Dimensional Stability, inches (mm) 48 hours @ 158°F	Max. 0.05	Mactac CTM-21 10" x 10" Sample Bonded to aluminum
Shear, Hours to failure Stainless steel - 5# weight @ 72°F	300+	PSTC-7
Temperature Range Minimum Application: End Use:	40°F (4.4°C) - 30°F to 225°F (35°C to 107°C)	

Surface Burning Characteristics (Meets ANSI, NFPA, & IFC as class A) Flame Spread Smoke Density	10	ASTM E84-01 or ANSI/NFPA 255 or IFC 8-1
	25	
Opacity	96 - 99	X-Rite Densitometer

Color Properties

Whiteness and Brightness

Brightness	88.5
ASTM Whiteness	110.24
CIE Whiteness	106.7
CIE Tint	2.26

Durability

The outdoor durability of the unprinted film is 5 - 7 years on vertical surfaces.

Shelf Life

2 year from D.O.M. when stored at 60/77°F (15/25°C) and 50% relative humidity in the original package.

Removability

REBEL X is intended to be a Permanent application.

Approved Print Materials

Screen Printing:

UV Cured	<input checked="" type="checkbox"/>	HP Indigo	<input type="checkbox"/>
Solvent	<input checked="" type="checkbox"/>	Off-set	<input type="checkbox"/>
WF Digital: UV Inkjet	<input checked="" type="checkbox"/>	UV Off-set	<input checked="" type="checkbox"/>
Eco-solvent	<input checked="" type="checkbox"/>	Thermal Transfer	<input checked="" type="checkbox"/>
True solvent	<input checked="" type="checkbox"/>	Flexographic *	<input type="checkbox"/>
Canon UVgel 356	<input checked="" type="checkbox"/>	UV Flexographic	<input checked="" type="checkbox"/>
Latex	<input checked="" type="checkbox"/>	Narrow Web UV Inkjet	<input checked="" type="checkbox"/>

* **Flexographic Printing** requires a topcoat. WVG000113 has been approved by ACTEGA Coatings and Sealants (www.altana.com) as in-line coat-able ink primers.

To achieve the best possible print quality, please make sure that the correct ICC profiles or printer settings are used. Profiles can be obtained from our Distributors or can be downloaded from www.mactac.com. Printer and heater settings and ICC profiles can also be downloaded from some O.E.M. or software manufacturer's websites.

The ICC profiles are provided solely as a customer resource. Print environment, the individual nature of printing systems, inks and software can significantly affect output. It is the customer's responsibility to determine the suitability of any profile for use in their specific print environment.

Limitations

- 1) **REBEL X** will result in a **permanent application** and will not be easily removed from most surfaces. Always test first in an inconspicuous area.
 - 2) **REBEL X** on varnished surfaces and soft walls like stucco or drywall may **damage** the surface upon removal. Always test first in an inconspicuous area.
 - 3) **REBEL X** is not intended to be used as a conformable wall wrapping film.
 - 4) **REBEL X** is not intended as a vehicle wrap film.
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- 1) **The user is responsible for determining the product's suitability, including adhesion and if needed, removal characteristics when used in applications other than listed specifically in this Performance Guide.**
 - 2) **If there are any questions about applications, please contact your Mactac sales representative to discuss your requirements for recommendations.**
 - 3) **If this is a printed Performance Guide it is an uncontrolled document. Please check the Mactac website for the latest, most up-to-date version**

Recommendations

Always test your combination of REBEL print media, inks and laminating films prior to commercial use.

- 1) **Printing Conditions:** Print in conditioned pressroom at $\pm 73^{\circ}\text{F}$ (23°C) and 50% RH. The maximum allowable ink saturation is 270%.
- 2) **Drying Requirements:** Solvent, Eco-solvent and Mild-solvent inkjet prints require 24 - 48 hr. drying time - open to the air. Inks do not dry when printed media is rolled up. The prints must be dry prior to lamination.
- 3) **Laminating:** lamination of the inkjet-printed graphics with **PERMACOLOR**[®] will help maintain and in some cases extend, the life of your graphic.
- 4) **Transportation Conditions:** To allow for easy transportation, **REBEL X** can be rolled up, with the image out, with a minimum diameter of 6 inches (15cm). During transportation or storage, avoid exposing them to extreme temperature and humidity changes.
- 5) **Application Requirements:** The surface must be dry, clean and in reasonably good condition.
 - a) **REBEL X** must be applied in dry conditions at temperatures above 40°F (10°C). Heat helps the adhesive flow to the surface to create a faster bond.
 - b) Please refer to TA2032 for proper surface preparation.
 - c) Bridge graphics over seams if needed; do not force the graphic down into the seam.
 - d) Use the 'hinge' application method. Since this is an aggressive adhesive, make sure you have your alignment right the first time. Measure twice, apply once.
 - e) The rougher the surface the less contact the adhesive will have and the less chance your graphic has for success. So on moderately rough surfaces use heat and pressure to conform the graphic into the surface. Once complete go back over all the entire graphic to get as much adhesive contact as possible with the surface.
 - f) If possible trim sharp corners to a rounded radius to help minimize the potential of edge lifting.
 - g) If needed, use a 1" overlap to seam the graphic.

- *Values given are typical for unprocessed product and are not for use as specifications. Processing may change the values.*
- *Product reinforced with 2-mil polyester during adhesion tests.*

CALL 1-800-321-8834 for additional product information

IMPORTANT NOTICE: The information given and the recommendations made herein are based on our research and are believed to be accurate, but no guarantee of their accuracy or completeness is made. In every case, user shall determine before using any product in full scale production, or in any way, whether such product is suitable for user's intended use for their particular purpose under their own operating conditions. User assumes all risk and liability whatsoever in connection with their use of any product. The products discussed herein are sold without any warranty as to merchantability or fitness for a particular purpose, or any other warranty, express or implied. No representative of ours has any authority to waive or change the foregoing provisions, and no statement or recommendation not contained herein shall have any force of effect unless in an agreement signed by the officers of seller and manufacturer. Nothing contained herein shall be construed to imply the nonexistence of any relevant patents or to constitute a permission, inducement or recommendation to practice any invention covered by any patent without authority from the owner of the patent. The following is made in lieu of all warranties, express or implied: Seller's and manufacturer's only obligation shall be to replace or credit such quantity of the product proved to be defective at its discretion.

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